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**Global Strategies For A Resilient And Sustainable Post
Pandemic World Towards A Better Future**

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Chief Editor

Mr. Pramod P. Tandale

Editor

Smt.Sheetal M. Chougule

**Shripatrao Chougule Arts and Science College,
Malwadi-Kotoli**

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Chairman's Desk



Hon. Dr. K.S. Chougule

Pretendent, Dnyanganga Shikshan Prasarak Mandal, Malwadi.
Tal-Panhala, Dist-Kolhapur

On behalf of the management of Dnyanganga Shikshan Prasarak Mandal, Malwadi, Tal-Panhala, Dist-Kolhapur and faculty members of Shripatrao Chougule Arts and Science College, Malwadi-Kotoli, Tal-Panhala, Dist-Kolhapur. I am very much delighted to extend warm regards on the occasion of one day Multidisciplinary National Seminar on “Global Strategies for a Resilient and Sustainable Post Pandemic World Towards A Better Future”. We are currently going through one of the most unprecedented historical changes ever experienced in the recent decades. The COVID-19 pandemic has made rapid changes in our lives. It is the phase where we need to be vigilant and cautious about the impact of the pandemic on various sectors. It is needed to be resilient to create new ways to overcome the situation and explore opportunities of re-shaping the post pandemic world. Considering the significance and relevance of the topic the college arranged the seminar which is a commendable gesture to bring forth views of academicians and scholars from different perspectives. On this occasion I wish all the best to the organizers and contributors.

From the Editorial Desk...



Smt. Sheetal M. Chougule

Convenor

It gives us immense pleasure to publish the special issue of Aayushi International Interdisciplinary Research Journal (AIIRJ) on the theme “Global Strategies for a Resilient and Sustainable Post Pandemic World Towards a Better Future” While going through traumatic experience of the corona pandemic the world is heavily shaken and is still unstable. It is the prime concern of every sector how to overcome this unprecedented situation. The COVID-19 crisis has long-term and far-reaching impact on all the human beings and the various sectors we are connected with. It is quite obvious that the world will not be the same as before. In times of deep instability and uncertainty we are carrying many doubts and also have many hopes at the same time. Hence it is need of the time to communicate with each other our ideas on the burning issue, today. We ardently feel that it is an opportune time to have a rational discourse on how to react to the current global crisis and better cope with various challenges and finally reshape better tomorrow. The researchers have enriched the journal with their scholarly contributions in the form of research papers. The research papers from Humanities, Social Sciences, Science and other fields have represented various aspects related to the theme and many of the researchers have suggested sound remedies to the crisis. On this occasion I express my sincere gratitude to Hon. Dr.K.S.Chougule President, Dnyanganga Shikshan Prasarak Mandal, Malwadi for the invaluable guidance and encouragement to realize the event. I am also thankful to Hon. Shri. Shivaji Patil, Secretary of the Dnyanganga Shikshan Prasarak Mandal for his strong support. My sincere thanks to Dr.A.M.Gurav I/c Director, Department of Life Long Learning and Extension ,Shivaji University Kolhapur for kindly cooperation. My thanks to Dr.Vandana Patil , Principal, Shripatrao Arts and Science College for her timely suggestions and support. I am thankful to all the contributors for their overwhelming response. I am thankful to the faculty and non-Teaching Staff for making the webinar successful. My special thanks to Mr. Pramod Tandale for shouldering the responsibility of publication of the special issue of Aayushi International Interdisciplinary Research Journal (AIIRJ) on “Shaping the Post Pandemic World –A Multidisciplinary Approach”

Preface



Prof. (Dr.) A. M. Gurav

I/c Director,
Lifelong Learning and Extension,
Shivaji University, Kolhapur

It gives me great pleasure in writing this preface of this National Conference on “Global Strategies for a Resilient and Sustainable Post Pandemic World Towards A Better Future” which is considerable contribution made by the research paper writers. I am an instrument and motivator to all researchers, paper presenters, participants and the organizing college to think, write and contribute in the field of Global Strategies, Resilient, Sustainability in Post Pandemic for Better Future. The authors have studied employability, entrepreneurship, past and present pandemic, geographical analysis of fishery in Kolhapur district, women empowerment, ortho - aminocarbonitrile, COVID impact of Indian economy, yoga, suryanamaskar, bodybuilders, impact of lockdown on family life, innovations, technology, social change, health related opportunities after COVID-19, human resource management in the post pandemic world, expected changes after COVID in education, jaggery production and marketing, natural fruits and health etc. The National Conference has focused on art, culture, media, and education, innovations, technology, and social change, human development, gender studies including women, youth, public policy, laws and economic development etc. This National Conference based publication provides a platform for an intellectual dialog on the crucial topics related to post-pandemic crisis risks, impacts, and mitigation efforts. More extensive mitigation efforts are taken in this conference outcome. The research papers have achieved alertness to prepare ourselves for possible future pandemics and create a more resilient world for everyone. Finally, this event has also bridge and strengthen national, international networking and collaboration among the participants and collaborating among the colleges. It is specially achieved interaction for better future.

This publication has covered 76 research papers on Global Strategies For A Resilient and Sustainable Post Pandemic World Towards A Better Future. The researchers and paper writers has focused and contributed on various areas. I believe that, this research outcome will be great interest for college students, teachers, jog seekers, job providers, universities, business people and policy makers. The authors have written empirical, experimental, secondary data based and observation based papers.

I am specially appreciating the affords taken by the Management of Dnyanganga Shikshan Prasarak Mandal Malwadi, Principal Madam and Teaching-Non Teaching Staff. I specially thank to Prof. Sheetal M. Chougule and her organizing team.

From the Principal's Desk



Dr.Smt.V.P.Patil

I/C Principal, Shripatrao Chougule
Arts and Science College,
Malwadi-Kotoli.

It is great pleasure and pride to publish research papers which have been presented in the one-day Multidisciplinary National Seminar on “Global Strategies for a Resilient and Sustainable Post Pandemic World Towards a Better Future” organized by our college, in a form of research Journal. The outbreak of COVID-19 worldwide reveals the challenges of managing the whole system. The pandemic crisis not only challenges our survival but may also have long-term and far-reaching impacts on living in future. It is but obvious that the world will look different after the crisis. In times of deep uncertainty, all the sectors are brooding over re- shaping the future and to flank a rational discourse about how to react to the current global crisis. Since this challenge is genuinely multidisciplinary, this Seminar has proved a rich pool to fish for visionary ideas and scholarly observations on the theme. We are very happy that on this platform a number of distinguished experts, scholars, researchers, and academicians from various fields have an intellectual discourse on the selected theme. Our college is Affiliated with Shivaji University, Kolhapur and recently college reaccredited with B+ Grade (CGPA 2.73) by NAAC. This seminar is conducted in collaboration with Department of Lifelong Learning and Extension, Shivaji University, Kolhapur. On this occasion I wish to express my heartfelt thanks to Hon. Dr.K.S.Chougule , President, Dnyanganga Shikshan Prasarak Mandal, Malwadi who is the driving force behind all the achievements. He has kept the educational pace of the institution abreast of time with his noble vision. The institution is going ahead in the direction of excellence under his able guidance. I express my sincere gratitude to Hon. Shri. Shivaji Patil, Secretary of the Dnyanganga Shikshan Prasarak Mandal, who is our strong supporter in every venture. Due to their inspiration the Seminar proved fruitful in every sense. It is my great pleasure to appreciate the efforts taken by Smt. Sheetal Chougule, Convener of this Seminar, Faculty and non-Teaching Staff for making the webinar successful. I express my sincere gratitude to the editor of Aayushi International Interdisciplinary Research Journal for their timely assistance.

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A Study on Impact of Covid-19 Pandemic on the Indian Economy and a Road Map Ahead

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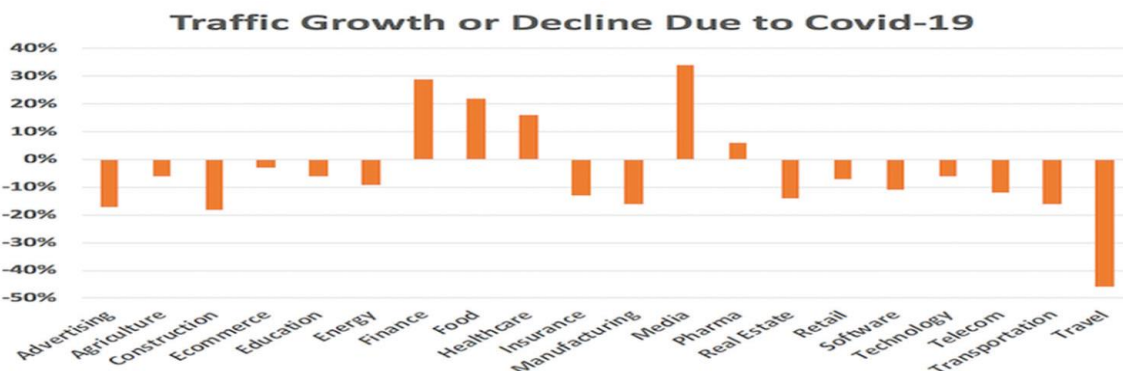
Abstract:

The outbreak of the Covid-19 pandemic is an unprecedented shock to the Indian economy. In order to build a country's economy, it needs to have sufficient resources to strengthen its means of income. Once the economy is established, all the income factors in those countries have to be reconciled with the expenditure. It would be wrong to say that the country has only an abundance of money and that the economy is strong. However, the economy is boosted by the resources purchased using this money, like infrastructure, complementary tools for the service sector etc. Only when the cycle of income-generating resources is running smoothly is it possible to adjust the situation elsewhere in the country. The situation in the country is somewhat uncertain. Uncertainties like earthquakes and tsunamis cause huge damage to the country. But if the scale is globally dire, the means of earning an alternative income will be shut down. Currently the same situation has arisen in the year 2020. This situation has hardly hit the economy of an agrarian and developing country like India. This paper seeks to examine the factors on which the country's economy is based, the means of earning a living, and the impact it has had on human life. It also studies how the deadly corona virus, which has spread across India, is affecting the economy. In this research paper we tried to investigate the economic issues in India especially due to Covid – 19 stands for novel corona virus.

Keywords: Lockdown, Losses, Impact, pandemic, curfew etc.

Introduction:

Corona viruses have been infected in 215 countries over the world. Born in the Chinese city of Wuhan, the virus has created a dangerous situation around the world. On December 31, 2019, the Wuhan city of China was informed the outbreak of the Novel Corona virus. On January 7, 2020, it was discovered that the virus had spread worldwide. Then on January 31, 2020, this virus entered in India. At the time, it was temporarily renamed 2019 – nCov. Many people in the country were affected by this giant and many of them came from abroad. The government had to take drastic steps to prevent the spread of the virus. After the virus spread to India, it became clear that the virus was spread through human contact. Moreover, the government had to take tough decisions like lockdown in the situation as there was no concrete treatment or medicine to eradicate the virus. The decision was taken to lay off work mainly on workers working in industries and businesses required to run the country's economy. The closure also put restrictions on taxes, and hence the government's main sources of income get locked. Along with industry, there were personal crises for workers in the service sector. India, which has an agrarian economy, used its income from agribusiness to take steps towards progress. However, due to the outbreak of this novel corona virus, a decision like a curfew was taken in the country. As a result, agricultural laborers were restricted from coming to work. However employees in the service sector, such as banks, had to work hard to exchange money. Due to this pandemic, huge losses were incurred in various sectors.



(Source adopted from <https://ssrn.com/abstract=3562570> authored by Ozili and Arun (2020))

On March 22, 2020, the Union Finance and Corporate Affairs Minister announced a few significant help estimates taken by the Government of India, particularly on legal and administrative consistency matters identified with a few divisions, in order to limit the economic impact caused by the COVID - 19 episodes. The Central Government, among others, declared truly necessary alleviation quantifies in zones of Income Tax, GST, Customs and Central Excise, Corporate Affairs, Insolvency & Bankruptcy Code (IBC) Fisheries, Banking Sector and Commerce, proposed to help the economy.

Need of the Study:

The Covid-19 pandemic has now spread to all corners of the globe. It broadens its horizons to include the entire planet. To safeguard people from the Covid-19 epidemic, the entire planet has been placed on lockdown. To disrupt the Covid-19 chain, the World Health Organization encouraged governments to maintain the Lockdown. WHO is certain that the only way to solve the situation is to put the country on lockdown. By implementing the lockdown in countries it leads to some problems also. Even there is an advantage to break Covid-19 chain; there are some problems to be faced while implementing the lockdown. The financial position of the each and every country irrespective of the development is destroyed. The developed countries, developing countries and least developing countries also facing the financial crises. Because, the Economic Cycle has been broken due to this lockdown. The organized and unorganized sector has been facing the financial crises. The companies, businesses, industries and self-employment is following the lockdown. The Agricultural sector, Industrial Sector and Service sector functions have stopped. So that, the employment cannot be created, money cannot be generated by them. The Covid-19 is not only impacted on the economically but also on the Social events. The educational activities, political activities also stopped. The Migrants Workers condition is very serious and critical. The relationship among the people is damaged. To know the detail analysis regarding to the Economic and Social impact of Covid-19 pandemic this study is needed.

Objectives of the Study:

- 1) To introduce the impact of other countries to India due to covid-19.
- 2) To study the impact of various income gaining sector.
- 3) To analyze the financial impact of COVID -19 in India.
- 4) To analyze the various sectors affected due to COVID-19.
- 5) To suggest some measures to balance the economy.

Review of Literature:

Mr. Mayur D. Bhirud, 2019, the growth of Indian economy had been predominated by consumption inclusive both Private Final Consumption Expenditure (PFCE) as well as the Government Final Consumption Expenditure (GFCE), International Multidisciplinary E-research Journal, ISSN:2348-7143 pp. 96, this paper I'm trying to determine dependent of Indian economy on actual consumption by public and industry recently from 2018-19.

Sanjiv Kumar (2017), stated that India has a financial system that is controlled by self-governing regulators in the sectors of banking, insurance, Capital Market, opposition and various service sectors.

Dr. D. Suresh Babu, the capital Market, money market along with the foreign exchange market and government security Market enable businessman, industrialist as well as government to meet their credit requirements, role of financial system in economic development of country, International Journal of multidisciplinary research and development.

Research Methodology: For the purpose of the research the secondary data method has been applied. Various articles, newspapers and website, online webinars have been used to collect information. Also professional books like academic syllabus has been collected to gathered information.

Impact of covid-19 (pandemic) on Indian Economy:

1. **GDP Estimates:** In April 2020, Credit rating offices and World Bank has minimized India's development for the financial year 2021 with the most minimal figures, India has been ever found in three decades since India's New Economic Policy in the year 1991. On 12 April 2020, a World Bank report concentrating on South Asia said that India's economy is relied upon to become 1.5% to 2.8% for FY21. In mid-April the International Monetary Fund projection for India for the FY21 of 1.9% GDP improvement was up 'til now the most raised among G-20 nations. Confederation of Indian Industry (CII) evaluated that India's GDP for FY21 will be somewhere in the range of 0.9% and 1.5%. On 22 May the RBI Governor Mr. Shaktikanta Das additionally said India's GDP development will stay negative in FY21.
2. **Consumption Slowdown:** Employment in all sectors has been curtailed to prevent the spread of the corona virus. People stopped getting the means of income. Closing in income led to a decline in consumption of luxury goods beyond essentials. Even those who maintained a high standard of living were forced to adopt a simple standard of living, lack of employment. Consumption rates have plummeted due to the ban on food shops such as malls and hotels. In some areas, it is time for employees to work for lower wages in shops that supply essential commodities, such as groceries and drug stores, to industries that follow government policies. As a result, despite having half the means of income available, consumption had to be kept low to cope with future viral situations.
3. **Agriculture & food processing:** The corona virus also affected the poultry business, which is considered an ancillary business to agriculture. India is the third largest egg producer in the world. It is also the fifth largest producer of broilers. The lockdown, announced in the country to curb the spread of the corona virus, forced the sale of goods brought to entrepreneurs at half the purchase price. The prices of several commodities including soyabean and Chana have fallen. In rural areas, the majority of employment is the main device of employment spreading the roots. It was time to sit in the house. Considering the whole of India, the agricultural sector and food and manufacturing companies had to bear a loss near of Rs. 150-200 crore per day. In rural areas, especially in summer, onion and paddy are widely grown. For agricultural work at this time, a large number of laborers are required. However, workers were banned from working together to prevent the spread of the corona virus. As a result, entrepreneurs along with traders had to close their businesses due to shortage of raw materials from agriculture. Literacy rate is low in rural areas. At the same time, it is not considered how true the news coming through media likes Face book and WhatsApp. In the early days of the lockdown, rumors spread everywhere that the outbreak was coming from animal birds, especially those produced on poultry farms. Believing it, more than 50 per cent of the rural population banned meat. In such a situation poultry entrepreneurs had to bear huge losses by selling at a price lower than the purchase price.
4. **Tourism:** Another important element in strengthening the Indian economy is tourism. Many people of many countries are traveling to domesticities for which reasons. Considering India, the number of passengers traveling from one state to another is higher than other countries in the world. Also, due to the rich natural resources of the rural areas, many travelers come for the purpose of tourism. Along with tourism, small scale businesses like local eateries and auto rickshaws also get employment. The curtain law was implemented across the whole country to prevent the inferiority of Corona virus. The movements of tourists were stopped from one country to another country or from one state to another. With all of these, the boundaries of income available to the government's tax get stopped. There has been drop in inbound and outbound tourism of about 67% to 52%. Transportation is a large scale for domestic travel. Apart from one place to another, the trains, state transport corporation, including traffic services like train, state transport corporation. All these traffic services have arranged online booking to take advantage of services. However, this time around nearly 90% booking of hotels and flights for the peak time have been cancelled. The statistics of the booking held in the railway and bus service were huge. The entire result was affected on tourism Industry and also employees working in Industries. Many employees were removed from work for a period of time. Due to Lockdown, the speed of the overall tourism business slowed down the economic strength of the country.
5. **Hospitality:** Hospitality sector the meeting, conference and exhibition are popularly known as MICE segment. India is a developing country. In the year, progressing development phase of improvement, taking advantage of various opportunities, making the benefit of various opportunities. Whenever we go on tour be it a business tour or family trips the most thing that we look for or rather expect is good hospitality Services in in India. Starting with the hotel we stay in a restaurant we go to dine in or any amusement park that we

visit. Hospitality Services include several services like housekeeping providing at restaurant, bars, travelling and so on. Hospitality Service industry is one of the most flourishing industry and can never wither away. Tourism can never be put to halt. That's why this industry is rising and changing continuously. Enterprises like restaurant, hotels, cafes, inn and travel agencies continuously strive to provide better services to its customers so that they can get good words out about their facilities and establishment. This gets them more customers and a better reputation among their competitors. However, due to the global outbreak of the corona virus, celebrations, birthdays, and company meetings were banned. This has led to restrictions on companies providing hospitality services. Hospitality services play an important role in huge crowded places like various hotel, malls in India. However, in the current lockdown situation, the hospitality industry has also reached a recession due to the influx of people of any kind. At the same time, many three and five-star hotels in India employ people from rural areas. These workers were given work leave to prevent outbreaks. As a result, their livelihood was lost. Planning for large business meetings was disrupted. A number of entrepreneurs had organized seminars to increase annual sales, and had to cancel due to this situation.

- 6. Share Market and Capital Market:** The parties are seen as a current capital source for the company. The company is building a business in the money that is sold by selling shares. Dividend given to investors as a refund of investment. Many shareholders in India are developing their own business on returns from shares. However, the business of the companies taken by the government has closed. It results to shortage of raw material to various industries. The whole result occurs on decline in profit of the company. Simultaneously the price of each share decline. Stakeholders began to suffer. At the same time, the Nifty and the Sensex fell sharply. Many shareholders sold their shares as the Nifty plunged to 7500 points. Selling parts of portfolio at the lower prices arose in shareholders. The prices of the shares are shown to be sold for more rapidly.
- 7. E-commerce:** With a view to prevent community spread of covid-19, the government has issued advisory for social distancing and isolation by asking corporate to allow work from home to their employees. Several State Government have impose city lockdown as a preventive measure. There is need to ensure safety of all citizens. It is suggested that unintended consequences of any lockdown on the E-Commerce industry be looked into. No one knows exactly how long the pandemic will last or how many lives will be lost. The SARS outbreak of 2003 was much smaller and it cost the global economy a whopping 40 billion dollar and China several month of economic contractions. However pandemic also affected on buying strategy of customers, wholesalers and retailers. As they postponed their current buying commodity due to lockdown and some measures for actions taken over by government of India. Due to policy of lockdown the phone customers and businessman even producer cannot dealing with each other. There were huge losses in manufacturing, also weekly Bazaar or market which organize especially in rural area get ban his wholesaler in situation how to bear losses, because of decrease in sales.
- 8. Entertainment/Events/Sports:** India is a country steeped in diverse traditions. People of many castes and religions live in this country. Festivals, weddings, etc. are celebrated according to their customs. However, a curfew has been enacted to curb the spread of the corona virus in India and the rest of the world. Therefore, especially in western India, summer festivals like Yatra were banned. Cinema theatres, shopping malls and gyms are the most income source factor of the government as imposing taxes. But lacks of pandemic situation cinemas, shopping malls, where people come together in huge coverage area has been banned to overcome transformation of corona virus. Also small shops likes hotels in shop nearby the shopping mall get losses. This loss is difficult to calculate presently. But some estimates suggest that theatre in Delhi alone may have to incurs loss of rupees 2 to 10 lakh per week. The nationwide lockdown has also adversely impacted the television and Film Industry several sports events have been either postponed or cancelled and this brings huge losses for the sport industry for instance cancellation of IPL matches alone could mean a loss of rupees 10,000 crores for the industry.
- 9. Electricity Consumption:** Before lockdown period many more functions as like marriage, festival etc. had arrange. Between pandemic situations all the events and festivals get cancelled and electricity consumption by them reduced. On the other hand source of consumption of electricity is industry. Also industry get shutdown which lead to result in lower electricity consumption. Due to banned in manufacturing process, industry consume lower electricity as compared with earlier of lockdown. Because of all situation Government of India could not get revenue and hence economic balance get disturb.
- 10. Financial services and Fintech:** Fintech is emerging as a backbone for the banking industry and can play increasingly important. Financial technology is the technology and innovation that aims to compete with the

traditional financial method in the delivery of financial services. As banking industry and fintech are the two sides of same coin because technology contributes more shares in banking industry when any person or any industry require small amount of capital and apply through online channel by website. Instead of presenting physically in bank, one can easily apply through website. Around the World the covid-19 pandemic has changed the way. We think about life and work. India remains in lockdown field operation have been shut down and work from home is implemented across-the board. Much of the fintech startup ecosystem will have to wait and watch to see how the situation unfold after the official lockdown is over. The covid-19 pandemic will affect the income and mode of payment to farmers in India. Agricultural practices are largely labour incentive and manual. This applies to you tilling, plowing, sowing and harvesting. Due to the restrictions imposed because of the pandemic money lenders will embrace the idea of digital payment and farmers will does the aligned to do so as well. In the coming months digital payment collection should see large scale adoption in rural area through methods such as UPI, IMPS and auto debit facility. Especially at a time when RBI is laying focus on promotion of a digital banking. Measures are required to support the fintech sector to enable players to provide support to the banking sector at the current juncture.

- 11. Saving ability of people:** The most important source of government to get finance from people living in rural and urban area is saving schemes. Before covid-19 Pandemic, the ability of people to save the money in various profitable saving scheme where more. People saved their extra income through insurance, postal lifesaving schemes and so on. Furthermore as government announce global lockdown over the world, people could not get income for even their family's daily needs. Due to unemployment in pandemic saving ability of people in various insurance schemes decline. As the people ability decline on account of savings, the Government of India could not get finance to provide loans to the entrepreneurship development, MUDRA schemes etc. Lacks of low money generation in the financial sector, Government suffer huge losses while organizing various development program and hence, overall balance of economic get disturb.
- 12. Supply chains and logistics:** Following the lockdown, certain essential supply chains fasten broke. Britannia Industries, supporting the lockdown, encouraged the administration to guarantee between state developments of the crude material for the food handling industry was not hampered. The Managing chief of Britannia expressed that "if even one connection in the flexibly chain is broken, the nation could come up short on supplies of bundled food in the following 7-10 days." Although between state travel has been restricted, it doesn't make a difference to fundamentals, and in places like Maharashtra the state police are yet to smooth out the procedure, upsetting gracefully chains. Vidya Krishnan writes in The Atlantic that because of the lockdown even development of clinical products were influenced.
- 13. Foreign Trade:** China has been India's biggest wellspring of imports since 2004-05, shows information from the Center for Monitoring Indian Economy (CMIE) database. In 2018-19, the most recent time frame for which yearly information is accessible, it had a portion of 13.7% in India's all out imports. Any significant interruption in the Chinese economy can disturb these imports and henceforth both creation procedures and flexibly of purchaser products in India.

A Road Map Ahead:-

It is absolutely uncertain, how long we will have to live with corona. The post-corona economic recovery is going to be a herculean task for most of the countries including India. The present 'corona period' has to be dealt with on a war-footing level. Economic activism and human safety have created a massive dilemma in all the countries. Yet a lot of innovation will have to be used with caution to support the down - trodden people. For India, I have spelled out the remedies as immediate, short term and long term. The long-term remedies are strategic in nature. A brief account of these remedies is presented as follows:

Immediate Remedies

- Create a 'national fund' to pay the unemployed for six months (50% of funds of temples, churches & mosques may be used)
- Offer 'cash credit' to SMEs @ 3% interest
- Offer special credit to Kiranawalas

- Give interest free cash loans to small farmers
- Levy 'Corona Cess' @ 1% on profitable corporates
- Finance 'public health infrastructure' 100%
- Introduce around 20% cut in the salaries of government officials, at least for the Corona period
- Engage youngsters to manage schools through double or triple shifts
- Create direct connect between farmers & consumer groups
- Spend special budget on public transport
- Facilitate the movement, shelter & jobs of the migrant labour

Short term Remedies

- Raise cheaper funds from Japan to improve the health of public sector banks & scheduled banks
- Concentrate on those commodities, which can be 'import substitutes' for Chinese products
- Finance small & medium size non-banking finance companies (NBFCs) for their short-term health
- Consolidate 'micro financing agencies' through mergers
- Arrange a complete value-chain of farmers, Kiranawalas & consumers
- Promote public health centers
- Arrange insurance for covering the revenue losses of MSMEs, farmers & unorganized labour

Long Term Strategic Remedies

- Build-up National Calamity Fund (NCF)
- Create Farmers' Cooperative Confederation
- Create Kiranawalas' Cooperative Confederation
- Create Consumers' Cooperative Confederation
- Design & build-up 'Cluster Civilization' to promote local economies
- Agriculture & agro-based industry to be the focus of local economies
- 'Make In India', a high priority to replace China globally
- New Socio-Economic Alliances in the global market
- Skill & ethos-based free education to all types of backward communities
- Rebuilding of all public sector enterprises & banks, keeping common man at the center of the economy.

Suggestions and Recommendations:

Like its partners over the globe, the Indian government has declared a huge number of measures to forestall all out breakdown. In any case, it isn't sufficient. This attempts to mitigate a portion of the agony, not counter it. My feedback (or one barrel of oil) on what the administration should do:

- Slacken its tote and burn through cash on framework improvement – 'Remake India, Rejuvenate India'.
- Public part budgetary foundations should be additionally promoted and bumped by the RBI to loan out low-ticket advances underneath INR 1 Crore through working cash-flow to guarantee that liquidity returns into the framework.
- Banking division should be bumped to give rate slices instigated by RBI to the borrowers
- Individual tax breaks and expense occasions for 6 – a year can be embraced to restore utilization, which will help prod financial development.

Conclusion:

There are a few scenes like coronavirus pandemic, which stay engraved in one's memory for a life expectancy, for its effect isn't confined to a specific geography nor is it restricted to a specific bit of society, yet covers roughly every aspect of people life. India revealed the main affirmed instance of the coronavirus disease on 30 January 2020 in the condition of Kerala. From that point forward, COVID-19 cases in India have crossed one lakh with loss of life of more than 3000. In any case, the lockdowns are additionally pushing one of the quickest creating economies for example India to the skirt. The monetary effect of the coronavirus pandemic in India has been fundamentally upsetting. For any lucrative movement there must be a gracefully side and a related interest side.

Covid-19 has posed an unprecedented challenge for India. Given the large size of the population, the precarious situation of the economy, especially of the financial sector in the pre-Covid-19 period, and the economy's dependence on informal labour, lockdowns and other social distancing measures are turning out to be hugely disruptive. The central and state governments have recognized the challenge and have responded but this response should be just the beginning.

From this, it can be concluded that even the smallest factor in the country is responsible for strengthening India's economy. The government has taken concrete steps to overcome the crisis in the country. However, considering every sector that strengthens the economy, the losses are increasing at the same rate. If every citizen strictly adheres to the rules laid down by the government like lockdown, curfew, it will not take long for the economy to recover, alternatively for the creation of industries and jobs.

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Fishery in Kolhapur District: A Geographical Analysis (2019-2020)

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Abstract

Fishing and hunting are the age old occupations which date back to pre-historic period. There is a need of research and concrete step of efforts for fishery development in Kolhapur district. By taking into account the essence of the theme the present research paper focuses on the geographical study of fishery in Kolhapur district. The present research paper is entirely based on the secondary data. Inland fishery is there in Kolhapur district due to its inland location. There is better opportunity for the development of fishery in Kolhapur district, accordingly.

Key words: fish production, Fish Seeds, Fishery Co-operative Societies.

1. Introduction

Fishery is an important sector in India it provides employment to millions of people and contributes to food security of the country. With a coastline of over 8,000 km, an Exclusive Economic Zone (EEZ) of over 2 million sq km, and with extensive freshwater resources, fisheries play a vital role.

The fisheries sector contributes to the socio-economic developments of the Maharashtra. The fisheries sector is one of the major sources of livelihood for the economically backward population. Maharashtra is an important maritime state in the west coast with a coastline of 720 km and potential coastal aquaculture area extending to 10,000 hectares. The state also has 16,000 km of rivers and canals, 2.73 lakh hacters of reservoirs, and 53,000 hacters of ponds and tanks. The annual fish production in state is 5.45 lakh tonnes, and has potentials to enhance this through Mariculture, coastal Aquaculture, fresh water aquaculture and reservoir varieties of fish produced in this state.

In order to know the real position of fish production in Kolhapur district, varieties of fish obtained in this region and constraints relating to them, the researcher has selected this topic for the study.

2. Origin of the Research Problem

The coastal area of Maharashtra is carrying large share in fish production, the other regions of state having no much significance regarding fish production. Kolhapur district is one of the developed districts in Maharashtra on the grounds of agriculture, industry, service sector and so on. However, fisheries have not much developed in Kolhapur district. In order to know the situation of fish production, present topic is related to "Fishery in Kolhapur District: A Geographical Analysis (2019-2020).

3. The Region

The region selected for present study is Kolhapur district of Maharashtra. The topography, drainage pattern, climatic conditions, ecological and infrastructural factors have given good environment for fishing in the region.

Fish farming is mainly concentrated along with the river as well as large and small scale water bodies in 12 tehsils of Kolhapur district. The culture and capture both type of fisheries are practiced in the region. Besides that, prawn (*Micro Brachium Rozenburgi*) is also cultured as a mixed culture with Indian major carp's like Catala, Rohu and Mrigal respectively. The fish production of the region is supplied to the local market. The culture of prawn is mainly concentrated in large water bodies like dams and also in small tanks prepared in saline affected and water logged soils.

4. Objectives

The present research work is dealing with to study of fish production in the Kolhapur district. However, the objectives are as given below.

1. To study the situation of fish production in Kolhapur district.
2. To suggest constraints, remedy and SWOT analysis for the development of fishery in the study region.

5. Research Methodology and Data Collection

The present research work is based on secondary data. The secondary data is obtained from various books, articles, thesis, Government reports, unpublished documents, newspapers and websites, etc.

The collected data is processed, tabulated, and analyzed with the help of various statistical techniques.

6. Fisheries Development in Kolhapur District during (2012-13 To 2016-17)

Sr.No.	Schemes	2012-13	2013-14	2014-15	2015-16	2016-17	Total
1.	Construction/Renovation/Modernization of Fish seed Farm/Rearing Unit	1.00	1.30	0.70	1.00	1.25	5.25
2.	Assistance to Fisheries co-op. Societies (Fish Farming impounded water-Fish seed stocking)	2.36	2.00	0	1.50	1.50	7.36
3.	Fish Farmers Development Agency	0	0	0	0	0	0
4.	Assistance for Fisheries requestis	5.00	5.28	3.69	4.00	5.00	22.97
5.	Managerial subsidy and share capital for Fishries co-op.Societies	0	0	0.20	0.10	0.10	0.40
		8.36	8.58	4.59	6.66	7.85	35.98

Source: Assistant Commissioner Fishery, Kolhapur District.

The present table reveals that the expenditure of Government schemes of fishery in Kolhapur district is increased from 2012-13 to 2013-14 on various aspects such as construction of fish seed production centre, fish conservation in blocked water, purchase of fishing tools, etc.

The government provides grants to fishermen so that they can motorize their traditional craft to increase the range and frequency of operation, with a consequent increase in the catch and earnings.

7. Fishery in Kolhapur District

The following table reveals the position of fishery.

Sr. No.	Tehsil	Favourable area for Fishery (lakes, ponds and reservoirs)		Area under Fishery (ha.)	Inland Fish Production (tonnes)	Price Obtained to Producer (Rs. Lakh)	Seeds used for fishery area (in Lakh)	Fishermen Cooperative Societies	
		Number	Area (ha.)					Number	Members
1	Shahuwadi	39	879	879	492	369	7.20	08	460
2	Panhala	17	141	141	84	63	2.25	03	406
3	Hatkanagale	18	92	92	55	41	2.60	01	355
4	Shirol	04	16	16	15	11	1.00	04	312
5	Karveer	45	245	245	136	102	8.10	04	1442
6	Gaganbavada	04	344	344	212	159	4.45	03	164
7	Radhanagari	12	3845	395	237	178	3.20	04	319
8	Kagal	35	234	234	140	105	6.70	04	267

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9	Bhudargad	11	510	510	311	233	3.80	04	388
10	Ajara	15	420	420	239	179	2.00	01	83
11	Gadhinglaj	28	231	231	145	109	3.50	06	344
12	Chandgad	30	1262	1228	270	203	10.20	07	303
	Total	258	8219	4735	2336	1752	55.00	49	4843

Source: Socio- Economic Review Kolhapur District (2020), p.44.

Kolhapur district as not a coastal area, therefore, there is inland fishery. The total length of all rivers in the district is 676 km and the favourable areas for the fishery are 258. The number of reservoirs, ponds, lakes is highest in Karveer tehsil (45) followed by Shahuwadi, Kagal, Chandgad, Gadhinglaj, Hatkanagale, Panhala, Ajara, and Bhudargad.

On the other hand, Shirol (4) and Gaganbavada (4) are the lowest capacity to having various reservoirs, ponds and lakes. The various kinds of fish local varieties observed in the district such as *Wam* (Eels), *Khavali* (White Sardines), *Tamb* (Red Snapper), *Shingada* (Cat Fish), *Kaliwanj*, *Katarna*, *Kulshi*, and *Maral* etc.

7.1 Favourable Area for the Fishery in Kolhapur District

The total favourable area for the fishery is 8219 ha. The highest favourable area is situated in Radhanagari (3845 ha) followed by Chandgad, Shahuwadi, Bhudargad, Gaganbavada, Karveer, Kagal, Gadhinglaj, Panhala and Hatkanagale. Whereas the lowest favourable area for the fishery is situated in Shirol (16 ha).

7.2 Area under Fishery in Kolhapur District

There is 4735 ha area under fishery in Kolhapur district. The highest area is situated in Chandgad (1228 ha) tehsil where such area is fully utilized. The inland fishery finds in this tehsil on Shahuwadi, Kadavi, Kasari etc. project and rivers. The lowest area under fishery is in Shirol (16 ha).

7.3 Inland Fish Production in Kolhapur District

The total fish production in Kolhapur district was 2336 tonnes during the year 2019-20. The highest fish production is in Shahuwadi (492 tonnes) followed by Bhudargad tehsil (311 tonnes) and Ajara tehsil (239 tonnes). The lowest fish production is in Shirol (15 tonnes) and Hatkanagale tehsil (55 tonnes). The production of fish in Shahuwadi tehsil is high, because the fish farming is developed there rapidly and properly. Whereas the Shirol tehsil has lowest fish production because the ratio of vegetarian people is very high.

The total fish price obtained to producer in Kolhapur district was Rs.1752 lakhs during the year 2019-20. The highest fish price is in Shahuwadi (Rs. 369 lakhs). The lowest fish price obtained to producer is in Shirol (Rs. 11 lakhs) tehsil.

7.4 The Fish Seeds Used for the Fishery in Kolhapur District

The increasing trend in fish production leads to more utilization of fish seeds. There are 55 lakh fish seeds used for the fishery in Kolhapur district during the year 2019-20. The highest utilization of fish seeds in Kolhapur district is in Chandgad (10.20 lakh) and Karveer tehsil (8.10 lakh) followed by Shahuwadi (7.20 lakh). The lowest utilization of fish seeds is in Shirol one lakh.

7.5 Fishermen Cooperative Societies in Kolhapur District

The cooperative sector has spread and developed massively throughout the district. There are 11345 various cooperative societies functioning in the district. However, the number of fishermen cooperative societies is only 49 which is 0.43 per cent to the total. The highest number of fishermen cooperative societies is in Shahuwadi (8), Chandgad (7), Gadhinglaj tehsil (6) and Shirol, Karveer, Radhanaari, kagal and Bhudargad i. e. 4 for each tehsil followed by Panhala (3) and Gaganbavada (3). The lowest number of such societies is in Hatkanagale (1), tehsil.

The total number of members in all fishermen co-operative societies in the district is 4843. Out of them, the highest members are in Karveer tehsil (1442) and the lowest members are in Ajara tehsil (83).

8. Fisheries Development in Kolhapur District

In Kolhapur district fisheries plays an important role for the betterment of rural economy through better use of land and water resources. More efforts are required to develop technologically based commercial Fish farming.

The foremost task is to develop and refine new technologies to support the field of aquaculture. Aquaculture is practiced in intensive, semi-intensive, extensive and improved extensive modes.

Intensive culture system entails high investments towards water and bottom soil management which includes periodical monitoring of biological conditions, linked to feeding and growth of fishes under farming.

The intensive farming system may yield high incomes but it involves heavy investments apart from several risks, Chief among which are the incidences of disease, lack of un-interrupted aeration due to interrupted power supply and to some extent, problems of marketing of the harvested catches at remunerative prices. Another aspect is that there are limited domestic marketing facilities and there is absence of export demand for major carps, which constitute a predominant part of the cultured fish produce. The exceptions are the cultured prawns, which have an on-going export demand.

There is requirement of larger areas to yield viable income to a farmer. Small tanks and ponds brought under culture do not yield a comfortable income for fisherman to make both ends meet. To generate the aimed level of returns, consistent with environmental safety and sustainability should be adopted.

Fast growing species of Indian Major Carps, which are mainly inhabitant of freshwater riverine systems. Indian major carps seed viz. catla, labeo rohita and cirrhinus marital and common carp syprinus carpio are made available to fish farmers.

Fish farming is in demand as it is contributing towards porteinous food to human beings on cheaper rates and employment to rural people and unemployed youth.

Fish farming has the flexibility to keep pace with growing and changing consumer demand and reducing stern on the natural resources.

Fish Farming which has to be environment friendly is not only adequate retune but also net profits at a comfortable level.

9. Constraints

1. Unavailability of fish seed - presently the demand of fish seed cannot fulfill completely.
2. Impact of water pollution on fisheries – because of river water pollution there is setback to riverine fish production.
3. Some newly constructed ponds/ reservoirs are not available for fisheries development.
4. There is no proper marketing channel in fisheries, and also preservation facility is inadequate.

10. Remedy

1. To fulfill the demand of fish seed of the district, the construction of fish seed rearing ponds is required.
2. To enhance the fish production in reservoirs by stocking with suitable number of fish seed of required size.
3. To bring newly constructed ponds, irrigation tanks/ reservoir under fish farming.
4. To establish Fisheries shops/ molls.
5. To give assistance or subsidy for fish preservation, transportation and marketing facility.
 1. Ice factories.
 2. Cold storages.
 3. Transport vehicle.
 4. Retail outlets.

11. SWOT Analysis

A) Strengths

1. Total water spread area 4449 ha. available for fish culture.
2. Stretch of 955 km. riverine portion is available for capture fishery.
3. Water spread area of farm ponds, ponds and tanks below 20 ha. can be brought under intensive mixed fish and prawn farming.

B) Weakness

1. Fish seed of finger lings size (more than 50 mm) is not available in adequate quantity.
2. Hatchery produced prawn seed is not available in required quantity.
3. Fish and prawn marketing system is unorganized in the district.

C) Opportunities

1. Baby fish seed (Spawn) is available which can be reared up to fingerlings for stocking of farm ponds, ponds, tanks and reservoirs.
2. There is a scope to enhance the fish production in the reservoir by adopting cage-culture technology.
3. Follow lands are available which can be brought under farming by constructing fish seed rearing ponds and farming ponds.
4. Expert fishermen are resident of the district to fish in the rivers, tanks and reservoirs.

D) Threats

1. Increasing riverine pollution.
2. Occurrence of natural calamities like flood, Famine, storm etc.
3. Poaching of fish from unsecured fish ponds, tanks and reservoir

12. Conclusions

Fishery in the region was developed in co operative sector than the public sector in the region. The relative importance of water resources shows that, the western part of the region has great potential for the culture fishery in the region. The western part of the region provides good location for natural water storage, whereas the eastern part needs artificial construction of water bodies for fish farming. The relative importance of the water resources shows that, the Radhanagari tehsil, are leading for storages of surface water resources in western part of the region. No doubt the 47 per cent of water area has been utilized for fish farming but actual water area as compare with the total geographical area in the remaining tehsils has not satisfactory so it needs to be strengthened. The saline and waterlogged soils have also become new potential for fish farming along to the River Panchaganga and its tributaries of Kolhapur district.

In western part of the region, water bodies provided large potential for culture fishery. The central part of the region provides river water for capture fishing whereas eastern part of the region is suitable for culture fishery in large perennial reservoirs. There is a need of proper training to increase the fertility of the water bodies and knowledge about fishing and marketing activity to the fishermen. The analysis reveals that the areas of larger water bodies have indicated low productivity due to inadequate feeding and fertilization. Presently inadequacy of water, unskilled fishermen, lack of modern fishing tools, storage facility, transportation, capital and fish seeds are some of the constraints in its further development. To overcome these difficulties co operative sector and Government as well should take initiative, which will bring a bright future to inland fish farming in the region.

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Farm Mechanization in India

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Abstract:

Farm mechanization means the use of machines for agriculture operation replacing the traditional ways which involved in human and animal labour. There are the three main methods through mechanization of agriculture sector .India in the leading country in world for the tractor manufacturing and agriculture implements and equipment.

Key words: Farm mechanization, human, agriculture

Introduction:03

Mechanization of agriculture sector ,is the use of power , operated machines in irrigation , plugging , sowing or harvesting in place of human and animal power .

B. Bhattacharjee defines mechanization of agriculture and farming process as “ application of medium power to work on land ,usually performed by bullocks, horses and other draught animals or by human labour”. So mechanization of agriculture in that part of farm technology land preparation to marketing of produce. The farm mechanization in tremendous impact on economy ; and also bound to have considerable bearing on future development of agriculture and agro-industry.

Farm mechanization means the use of machines for agriculture operation replacing the traditional ways which involved in human and animal labour.

There are the three main methods through mechanization of agriculture sector in given below.3

- 1) Mechanization in the sowing to the harvesting stage .
- 2) Rationalization of the application of science in agricultural production.
- 3) Farm through irrigation projects.

Overall mechanization of agriculture achieve on increase in the per man as well as per acre productivity.

Types of mechanization: - 03

The types of farm mechanization in India's given below

- 1) Tractors :- Completely dispenses wooden plough and bullock cart
- 2) Seed cum fertilizer drill :- performs sets of operation of sowing and putting fertilizer simultaneously
- 3) Combined Harvester :- performs the work of reaping and threshing into a joint process.
- 4) Power sprayers :- events spraying of insecticides and weedicides . sometimes aeroplane are used for the purpose if there in contiguous block of crop .
- 5) Oil / Electric pumps :- used for irrigation purposes .
- 6) Sugar-cane harvester :- cuts the canes and loads it.
- 7) Paddy trans planter:- transplanting paddy crop with machines . all these machines may be categorized as used for .
 - a) traction work
 - b) for stationary operations such tractor , combine harvester oil electric pump. 03

Progress of mechanization :-

In India farm mechanization has been identified as a key role to increase the agricultural production. The table No. ut shows that the share of agriculture in GDP (Gross Domestic production) and farm mechanization level in different countries in world.

Table no.01

Agricultural GDP and level of farm mechanization in different countries 01

Sr. No	Country	Agriculture GDP %	Level of mechanization %
01	India	14	40
02	Western Europe	<5	95
03	USA	01	95
04	Russia	04	80
05	China	10	48
06	Brazil	05	75

Source :- world Bank indicators CIA fact book, mechanization and farm Technology Division at Department of Agricultural and cooperation, Trading Economics FAO Year book 2013.

In this table shows that the India is a top countries in agricultural production but in terms of farm mechanization, India is behind the world average . It's means that the India has been depended on cheap labour for the long time. Agricultural Sectors part of GDP is 14 percent and level of, mechanization is only 40 percent in India. And in USA agricultural GDP is only only of percent and his level of mechanization 95 percent. And over As also you see that the overall farm mechanization in India has been lower to 40 percent Compared to other countries such as USA (95 percent), western Europe (95 percent) , Russia (80 percent), Brazil (75 percent).

India in the leading country in world for the tractor manufacturing and agriculture implements and equipment

Table no.02

Status of farm mechanization industry in India

Equipment manufacture	Number of units
Agriculture tractors	22
Power tillers	05
Irrigation pump	600
Plant protection equipment	300
Combine Harvesters	48
Reapers	60
Threshers	600
Seed drills and planters	2500
Diesel oil engines	200
Plough,cultivators,Harrows	500

Source :-Presentation by Dr.kanchan K,singh, ADG [Engg.] ICAR in 2nd Regional forum an sustainable Agriculture Mechanization at Serpong , Indonesia,9-11. Sept.2014.

Table no.02 shows that the , status of farm mechanization Industry in India. The medium and large scale industries manufactures tractors,power tillers,diesel engines , electric motors , land development machinery field preparation equipment , weeders , sprayers and dusters, irrigation pump , post-harvest , processing machinery and dairy equipment . in India there are 22 agriculture tractors , 05 Power tillers ,600 Irrigation for pumps, 300 plant protection equipment, 48 Combine Harvesters, 60 Reapers, 6000 threshers, 2500 Seed, Drills and planter, 200 diesel oil Engines, plough machinery manufactures units in India. The marketing of these machinery is done their the through their network of dealerships, so these dealer are able to provide effective sales service to the users and farmers.

Table no.03
Aspects of Indian agricultural (1960-2010)01

Sr. no	Item	1960	1990	2000	2010
01	Agriculture land (Mha)	133	143	143	142
02	Irrigated pumps (million)	0.4	12.9	19.5	25
03	Irrigated area (old)	19	33	34	35
04	Cropping intensity	1.15	1.30	1.33	1.39
05	Fertilizer use (kg/ha)	02	88	125	150
06	Grain Yield	700	1300	1600	1900
07	Tractors(Thousands)	37	1200	2600	4000
08	Area per tractor(ha)	3600	120	55	36
09	Power Tillers (Thousands)	0	31	100	155
10	Draft Animals(Million)	80.4	70.9	60.3	50

Source: Sigh (2015)

The table No. as shows that the Aspects A Indian agricultural. The role of tractors in Indian economy reveals .The increasing trend of tractorization .In the country 1960, tractors is 37000 and then increasing 2010 is 4000 thousands.

As is seen from the above table No 03, the Irrigation pumps 0.4 million in 1960 and then increased 1960 .In 1960 fertilizer use is 02 kg/ ha is increased 150 kg/ ha in 2010, and also the power tillers in 1960is nil but in 2010 is 155 thousands . It means that the Irrigation pumps,Irrigated area ,Fertilizer use Grain yield ,tractors ,power tillers is significantly increasing.

And also Indian tractor industry is the largest industry in the world, and this is accounting that the one-third of total global production. 2 And also a Significant share of India's tractor production is also exported. Indian economy on an average 79000 tractors export annually, the primary markets being the African Countries and ASEAN Countries.02

Arguments for farm mechanization :-03

The main points favoring mechanization given below.

1. Increase in productivity

Farm mechanization leads to increase in agriculture productivity

2.Reduction & cost of production

In farm operations are mechanized as it saves labour both human and bullock 3.Risk of Non-Availability of labour in Reduced

In form the work done by machines faster which helps to keep time schedule of intact.

4.Helpful to make the Agricultural commercial

In operation of machines in farm is Creates good scope of commercialization. 5.Employment Oriented

The use of farm mechanization the employment opportunities increases in agricultural sector and agro.industry.

6) Technological Improvement in Agricultural

The use of from mechanization to help improvement in agricultural technology.

Arguments Against farm Mechanization:-03,04

The farm mechanization has shown good results as to improve the agricultural production and the standard of living of cultivators. But a number of arguments against farm mechanization is given below,

1. Small Holding
2. Paucity of capital
3. Surplus Cattle production.
4. fear of Unemployment.

5. lack of technical knowledge.
6. shortage of petrol and Diesel
7. Poor Repair facilities
8. Technical limitation.

Scope of farm mechanization:-03,04

The farm mechanization has been important to bring about a significant improvement in agricultural productivity. The factors that justify the scope of farm mechanization is given below,

- Timeliness of operation
- Better Quality and precision of operations
- Higher intensity of cropping
- Higher power availability for higher yields
- Higher productivity of land and labour
- Enlargement of employment
- Small and fragmented land holdings
- The high cost of farm equipment ownership

Causes for slow progress of mechanization:-03,04

According the study of Verma, Singh and with Mittal. the chief bottlenecks of farm mechanization Can be cited under three heads namely.

- 1) Research development and testing.
- 2) Manufacture, standardization and quality control.
- 3) Education, training and popularization of farm equipment

Suggestions to promote farm mechanization: -03,04

The following Suggestions can go a long way to promote farm mechanization in the country.

1. The purchase of farm mechanization and for repair. the loan facility be provided.
2. The technical information be provided to the farmers to farm machinery's proper use.
- 3 In Country established a standardization and quality making cell for farm equipment
4. Government provided the regular supply of diesel, petrol and oil.
- 5.The farm machinery manufactured for suitable for different types of soil.
- 6.Government imported the selected farm equipment and expenditure on research activity.
7. Government reduced excise duty and taxes on tractors and machinery.

Conclusion: -

The agricultural sector is important role in Indian economy. So the farm mechanization has been well developed throughout the country. And also, very large scope the for development of farm mechanization. The farm mechanization has direct impact on land, labour and agricultural productivity In India agricultural land is small farms, so agricultural machines also design a Suitable design.

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An analysis of Reverse migration issues during pandemic and strategies adopted for post pandemic revival.

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Abstract-

During COVID-19 pandemic, the economies of the world witnessed a lot of consequences and had a rethink of the existing strategies to deal with the pandemic situation and how to make them more capable to resist the future shocks. The situation was more severe in rural economies. The consequences of the pandemic such as mass reverse migration changed the production pattern of especially the manufacturing sector in India. To capitalise the excess work force and reduce migration trend, major investment plans to be introduced in Indian states.

Keywords: *Pandemic, Reverse migration, manufacturing sector, Investment plans*

Introduction-

The spread of Covid pandemic started in India since the last week of March 2019. Since then, the economy witnessed the complete lockdown declared by the central government from March 23rd 2019. The month-long lockdown and ambiguity created a lot of issues and the life of migrant daily wage workers became miserable. They felt insecure and started going back to their native home town in vast numbers. All city centers of India witnessed this trend known as Reverse migration. It was a revelation to most of the state governments to think about the increased migration of workers and why the people move to other states and how to rehabilitate them in their own states. In this research paper the researcher analyzed the trend of reverse migration we have witnessed during pandemic, the measures to reduce migration trend and the correlation between rehabilitation of migrant population and rural development.

Objectives-

1. To analyses the trend of reverse migration in India during Covid 19.
2. To study the prospects of post Covid revival through rehabilitation of migrant population in own states.
3. To study the strategies adopted by the state governments to reduce the migration trend.

Review of literature-

Asma Khan & H.Arrokyaraj- Lack of preparedness and planning was the main reason for reverse migration. Economic policy should be well structured to accommodate the internal and external migrants by creating jobs according to their skill. State governments can play a key role in reducing migration by mobilizing community welfare funds not only during pandemic but also in reducing the migration costs for international migrants.

Retina D'souza- UP and Bihar governments need to revive industrialization and adopt strategies to revive rural development. The ease of doing business is very low in both states led to increased migration. Atmanirbhar Bharat Abhiyan can fast-track investments may help these states to upgrade industrial infrastructure, create more opportunities, and reduce migration.

Research Methodology-

This research is based on secondary data collected from published sources like research articles, government websites newspaper articles etc.

Reverse Migration- Meaning-

The concept of reverse migration as we learned during Covid pandemic was at a very negligible level in India in Pre Covid period. We often discuss about reverse migration that the people go back to their native places after retirement to lead a peaceful life or due to some family emergency. But the internal forward migration or economic migration is extremely high in India due to the gap between rural and urban wages and limited employment opportunities in the rural areas. The sudden and unexpected lockdown initiated in March 2020 revealed the story of insecurity faced by the migrant daily wage earners in cities, leading them to return to their native places. This was the second largest mass migration India witnessed after the partition of the country affected 14 million people. This time it exposed the real working condition of the migrant workers.

Rural-Urban Migration-

Rural to urban migration is common in India in all states. The young male members migrate to urban developed towns of other states in search of a job or other means of livelihood. They used to keep close relation with their villages and also provide monetary support to their relatives. Sometimes this takes the form of distress migration also as the male member left with no option to support the family.

The high rate of rural urban migration is affecting the urban areas with high unemployment rate, increasing slum areas, scarcity of resources etc. Similar way the movement of people from rural area also leads to imbalance in the process of rural development. This trend affects the infrastructure development and further development prospects of rural villages.

The rate of internal migration of daily worker are very high from the states of UP, Bihar, West Bengal and Orissa. The middle Gangetic plains of India characterised by large population, with UP (237.9 million) being the most populous state in India followed by Bihar (125 million). The standard of living of the people in these states are low as compared to other states. The rate of growth of population also is extremely high. There is a slight improvement in the situation of these states as per the recent survey. The CMIE report citing data from September to December 2021 showed that the rate of joblessness in Bihar has come down to 13.3 per cent. But the situation on the ground is quite different. According to the same report, there are currently 38.84 lakh unemployed job-seekers in the state while the number of unemployed job-seekers all over India is around three crores. In terms of absolute numbers, Bihar has the second largest population of unemployed youth after Rajasthan, which has 66.19 lakh unemployed looking for a job.

The maximum number migrant laborers are from UP and Bihar. The pandemic consequent lockdown and the uncertainty forced them to leave their opportunity and go back home. These figures imply that the huge population pressure and the lack of urbanisation is responsible for lack of employment opportunities compelling out-migration from these states. Landlessness, seasonal nature of farming, underemployment, lack of educational facilities, low wages etc are significant drivers of out-migration of people. The pandemic situation witnessed an unending flow of migrant labours back to these states.

Rehabilitation measures

Several policies adopted by the central and state governments to support reverse migrants during the lockdown period on an immediate basis. The measures undertaken by the government are classified into:

1. On March 26, 2020, Under PMGKP the prime minister announced Rs.1.7 lakh crore to adopt some important programmes aimed to support the poor.

These include:

- a) Cash transfer programme under PM Jan Dhan Yojana for women, to serve Free food for migrant workers with an allocation of Rs. 3500 crores.

- b) Rs. 3000 crore allocation for cash transfer towards ‘senior citizens, ‘widows’ and ‘physically handicapped’.
- c) Allotment of Rs. 17,500 crore packages for PM-KISAN as a ‘frontloading expenditure’ (although the total allocation in budget 2020-21 was Rs. 75000 crore)
- d) Another Rs. 13000 crores towards Ujjawala Scheme to distribute 50 million LPG connections to women of Below Poverty Line families.
- e) An enhancement of Rs. 40000 crores for MGNREGS, Rs. 6000 crores towards employment for tribals/ Adivasis (CAMPA), and Rs. 2500 crore for Employees’ Provident Fund (EPF) also introduced.
- f) A free food distribution to poor unemployed for 3 months during lockdown under the public distribution systems (PDS).
- g) Also introduced health insurance for health and related workers for their self-less service in health sector by ignoring the safety of them and their family.
- h) Rs. 31000 crores for construction workers and Rs. 35925 crores for District Mineral Fund also announced to support the people as an immediate relief measure.

2. On May 12, 2020, 48 days after the announcement of nation-wide lockdown, Prime Minister announced about a package of Rs. 20 lakh crores with the proper description of funding sources. Rs. 20,97,053 crores under the Atma Nirbhar Bharat Abhiyan by combining with RBI package. Rs. 1.70 lakh crore were announced from the Union Budget.

The remaining came from collateral-free loans for micro-small and medium enterprises (MSMEs) to the tune of Rs. 3 lakh crores, and through Kisan Credit Card around Rs. 2 lakh crore ‘concessional credit’, RBI liquidity infusion for around Rs. 8 lakh crore, Infrastructure fund of Rs. 1 lakh crore from NABARD, and around Rs. 1.9 lakh crore from other liquidity measures. Consequently, several independent studies have shown that the actual cost to the government is significantly lower than the announced figures. For instance, Barclays Research calculated cost to Government as only Rs. 1.5 lakh crore, SBI Research Group considered it as Rs. 2.03 lakh crore, CARE Rating as Rs. 2.8 lakh crore, Ernst & Young as 3.08 lakh crore. The fact is that the major part of the financial resources is in connection with the RBI fiscal stimulus package. So, the projected amount is larger than the actual amount.

3. Government of India has introduced a pension scheme for unorganised workers namely **Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM)** to ensure old age protection for Unorganised Workers. The unorganised workers mostly engaged as home-based workers, street vendors, mid-day meal workers, head loaders, brick kiln workers, cobblers, rag pickers, domestic workers, washer men, rickshaw pullers, landless labourers, own account workers, agricultural workers, construction workers, beedi workers, handloom workers, leather workers, audio- visual workers and similar other occupations whose monthly income is Rs 15,000/ per month or less and belong to the entry age group of 18-40 years. They should not be covered under New Pension Scheme (NPS), Employees’ State Insurance Corporation (ESIC) scheme or Employees’ Provident Fund Organisation (EPFO). Further, he/she should not be an income tax payer. Many people from the marginalised sectors benefitted from this initiative by the government.

4. **Features of PM-SYM:** It is a voluntary and contributory pension scheme, under which the subscriber would receive the following benefits:

- (I) **Minimum Assured Pension:** Each subscriber under the PM-SYM, shall receive minimum assured pension of Rs 3000/- per month after attaining the age of 60 years.
- (ii) **Family Pension:** During the receipt of pension, if the subscriber dies, the spouse of the

beneficiary shall be entitled to receive 50% of the pension received by the beneficiary as family pension. Family pension is applicable only to spouse.

(iii) If a beneficiary has given regular contribution and died due to any cause (before age of 60 years), his/her spouse will be entitled to join and continue the scheme subsequently by payment of regular contribution or exit the scheme as per provisions of exit and withdrawal.

State Government initiatives-

Several state governments also announced their own one-time income support to the migrant population in their states as well as their migrant workers stranded in other parts of the country during lockdown.

One-time cash support of Rs. 1,000 provided by Andhra Pradesh. Bihar & Haryana announced for a transfer of Rs.1,000 to registered migrant workers. Tamil Nadu government announced a support of Rs 500 to all migrant workers in the state. Similar step was taken by Jharkhand also.

For the 'reverse migrants' of Odisha, the state government announced an income support of Rs 2000 per migrant worker subject to completion of quarantine period. Punjab Government initiated income support to the tune of Rs. 3,000 to each registered construction worker. Bihar and some other states developed emergency apps, and collected data for e-ration card (temporary), which can be used by inter-state migrant workers.

The limitation was that the targeting may not be effective. This is because the benefits (state and union level) are to be transferred through Jan Dhan Bank account thereby excluding individuals who are out of these databases or do not have bank account or do not have access to bank. Some state governments not in favour of central government discouraged the people from being a part of Jan Dhan Yojana. They found it difficult during the pandemic.

The most challenging aspect of the lockdown-induced crisis has been the urgent need for the Union and state governments to ensure employment generation for those have lost their jobs. Although, no proper estimates have been found about the number of jobless workers from the part of central government. The entire focus was to save the lives of the people. But some gross estimates are about 122 million on April, 2020 (CMIE). According to the CMIE statistics on unemployment, the national unemployment rate in the week ended 16 August 2020, reached to 9.1 percent, which is higher than unemployment rate during the week ended August 9 2020, of 8.67 percent. The highest unemployment rate during these lockdowns and unlock periods, was 11.6 percent in the week ended June.

Post Covid revival with rural development-

Post Covid revival of Indian economy depends on rural development. Food security was the main concern of the people during lockdown. After the relaxation of lockdown, the farmers went to the land holdings and with the support from state governments resulted in a considerable increase in the crop.

The recent data announced by the Ministry of Agriculture and farmers welfare has shown a 21% increase in the sowing of Kharif crop across India, compared to the same time last year, along with an increase in the acreage of other crops. The pandemic-related uncertainty has made even the smallest landholders cultivate their lands to earn. Some of which have also solved the labour shortages that rural India was facing because of economic migration to cities. Under the Pradhan Mantry Kisan Samadhan Nidhi (PM-KISAN) scheme, facilitating cash transfers has also catalysed a lot of migrant farmers' interest in farming. Several economists have stated that an increase in harvest will automatically result in higher income for farmers leading to higher consumption. It will also improve the consumption of fast-moving consumer goods, motorcycles, tractors, and this boost in consumption is likely to revive the national economy.

The achievement of the urban cities used to get more importance till the time. But the potential of rural villages revealed during this pandemic. Now we must look after these marginalised farmers and create job opportunities for them in rural areas. This can be implemented by ensuring more financial inclusion.

The Jan Dhan accounts are a cornerstone for financial inclusion, and with JAM – Jan Dhan, Aadhar and Mobile integration, the possibilities for uplifting the people in the rural areas and ensuring that they have access to credit and other financial services is an excessively big opportunity. This is especially so with the migrant people moving back and looking at alternatives for various livelihood and employment opportunities at their native place.

Role of Micro, Small and Medium Enterprises (MSMEs)

MSMEs are another pillar of economic growth for promoting equitable development and employment supporting the rural development process. The labour intensity of the MSME (micro small and medium enterprises) is much higher than that of large enterprises. They constitute over 90 per cent of the total enterprise in most of the economies and are credited with generating the highest rates of employment growth and accounting for a major share of industrial production and exports. They have been severely affected due to an unprecedented demand crash because of the extended coronavirus-led lockdown. Most of them have exhausted their funds or are on the verge of closure. The government has barred e-commerce companies from selling non-essential goods because of the pandemic. While it has allowed standalone shops to begin operations in a limited way, the extent to which this will help business revive will depend on individual States. Many units have paid their workers’ wages till March and these units are facing problems to pay their electricity and water bills. There is a government mandate to keep paying salaries and wages to staff, but without revenue or substantial government support, there is no way they would be able to survive in future. But the downward trend in MSMEs was only a short run phenomenon. With the assistance from the respective state governments these small firms are back to the normal state. There is an urgent need to provide them with assistance for skill development. The support for the MSMEs must be in the form of low-priced loans with at least six months moratorium. The Micro finance institutions, Self-help groups and NGOs can do better in this regard. The introduction of MUDRA loan by the government also facilitated the small units.

The multiplier effect of the investment in MSMEs is immense as they are the engines of economic growth of developing India. Many MSMEs who had to close due to the lockdown will also need a one-time capital injection in the form of grants to restart their unit. This can increase the employment rate considerably. The migrant started a forward migration again to the states like Maharashtra anticipation a speedy recovery after the unlock process.

Suggestions-

- The potential of Indian rural villages is yet to be explored. There is much scope to have improvement in agricultural and allied sectors. Now it is time to set up export-oriented processing industries in rural areas.
- Infrastructural development should be the prime concern of the government.
- Development in Small scale industrial sector has a wider scope in rural areas it can create employment opportunities also.
- There is greater need of Microfinance and MUDRA loans initiate development in rural areas to motivate the entrepreneurs.

Findings –

1. Provision of direct finance to farmers and unemployed youth got implemented through fiscal measures.

2. Many rural migrants availed these provisions but the results are awaited in coming months.
3. The pandemic and reverse migration exposed the alarming increase in the rate of internal migration of the labours.
4. Expansion of NREGA with government funding and MSMEs in rural economies are getting implemented.
3. There is a much more requirement of Export promotion units to be initiated in rural areas by supporting the actual beneficiaries

Conclusion-

Even though the unexpected situation caused a lot of damage to the economy, especially during the lockdown, the Indian economy started the revival now even extremely fast. The introduction of Covid vaccine also going to give much confidence to the people of the country. The introduction of fiscal measures can protect both lives and livelihood. The norms of social distancing, avoiding or cancelling gatherings, and use of masks and sanitisers should be the way of life for the people of the country. The migrant workers can start a new beginning with the support from the respective state governments. However, every crisis always brings about a unique opportunity to rethink on the path undertaken for the development of a humanity and the economy. The COVID-19 pandemic has a clear message for the Indian economy to adopt sustainable developmental models by incorporating villages, which are based on self-reliance, inclusive frameworks and are environment friendly.

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Overview on Factors Influencing Preference of Online Shopping

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Abstract –

Online shopping is a phenomenon that is growing rapidly nowadays. A look at the industry's leading firms' exponential development shows that e-commerce still has a lot of scope to grow. Online shopping has become very important in the 21st century because most people are busy in their work schedule. In such a situation, online shopping became the most convenient and appropriate form of shopping for them. The popularity of internet purchasing has prompted retailers to concentrate their efforts in this sector. This study will be helpful to find out the factors that affect the online shopping, their confidence and the factors that motivate them to buy. This study relates to customer behaviour in online shopping through e-commerce. The conclusion may usefulness can be seen to have a significant positive effect of online shopping.

Keywords – Online Shopping, E-Commerce, Internet

Introduction –

New technology has radically changed the tradition of doing online shopping business. Online shopping has evolved into a new kind of retailing. Online shopping strengthens their sales base financial resources by developing their own e-products and services to meet the changing needs of consumers. Advances in technology have opened up new avenues for online shopping. With the internet opening up new possibilities, it's vital to understand the factors that contribute to Indian buyers' faith in the online purchasing system. The most notable variables are web-based shopping trends, motivation, Trusts, risks; socio-economics, sites, etc. are investigated in detail. The purpose of this study is to find out the factors that affect the youth online shopping, their confidence and the factors that motivate them to buy. This study relates to the perception and key factors about online shopping, through e-commerce.

Significance of study –

Online shopping is a type of virtual shopping that allows customers to shop across numerous markets 24 hours a day, seven days a week over the internet. It facilitates the consumers to shop at online stores by simply clicking at the tip of a mouse. Now a day's online shopping has great popularity for a variety of reasons, such as convenience, availability of products at consumers' doorsteps, gift vouchers, maximum discount, cheap price, diversity of products, easy payment methods, security and so on.

Objective –

1. To study the concept of customer buying behavior towards online shopping.
2. To understand factors responsible for online shopping.
3. To provide suggestion and recommendation towards online shopping.

Research Methodology:

For the purpose of the research the secondary data method has been applied. Various articles, newspapers and website, online webinars have been used to collect information. Also professional books like academic syllabus has been collected to gathered information.

Buying Behavior towards online shopping :

Online shopping is a virtual shopping system that enables consumers to make purchases from multiple markets on a 24x7 basis via the Internet. Consumers can buy any product online. Online

shopping gained momentum for a variety of reasons, for example, convenience, availability of goods, gift vouchers, discounts, home delivery, low prices and variety of products etc.

The availability of online information has revolutionized shopping. Anything that can be bought in a merchandise store can be easily purchased through e-commerce; even perishable items like groceries are becoming readily available online. Consumers around the world have embraced this possibility. E-commerce is another great way to streamline business practices and bring about a complete overhaul of traditional business practices. The change in business revolution is causing huge growth in the world and India is no exception. Furthermore, e-commerce curbs pollution and has a significant impact on the environment. Increasing access to the Internet and mobile, increasing acceptance of online payments and favorable demographics have made it a unique opportunity for companies to connect with their customers. Mobile commerce, on the other hand, is fast emerging as a stable and secure complement to the e-commerce industry.

Factors responsible for Online Shopping :

1. Competitive Price –

E-commerce companies are especially appealing to young customers due to their attractive offers and affordable prices. The influence of China has made it possible for consumers to get the goods at the lowest prices at home with the best product quality.

2. Convenience –

Online stores offer the customer the opportunity to shop 24/7 and also offer a 'pollution free' shopping experience. There is no need to help the customer in shopping, waiting or payment and you can easily make your purchase in minutes.

3. Wide Variety -

Almost any brand or product will be easily available to the customer anywhere. Customers can access the latest international trends without having to pay for airfare. Customer can purchase products from retailers in the state, country or other parts of the world without being limited to their own geographical area.

4. Easy Price Comparison –

It is very easy to compare and research products and their prices online. You can find customer reviews and product comparisons for all options in the market with links to the best prices. We can research actual experiences, ratings and reviews for most products and retailers.

5. No Crowd Environment –

Customers hate crowds when shopping. This can be a big headache, especially on holidays, festivals or weekends. You can avoid all of these problems when shopping online. Online shopping allows customers to purchase products from anywhere they want. Also, customers don't have to struggle for parking space.

6. No Pressure –

Often when a customer accepts a traditional shopping for a purchase, he or she buys things that he does not really need, because shopkeepers or sales agents put pressure on the customer or use their sales skills to force them to buy the products.

7. Comparing price in different site -

It is very easy to see and inquire about online items and their prices. If you are looking for the latest equipment, customers can find buyer surveys for all available options, including the connection of the best prices.

8. Refurnished Products –

Some retailers on the Internet offer customers repairs of old or damaged items in a very good way. And they sell at a very low price. It also allows the customer to get the product what they want and customer wants to pay very less price.

Findings–

1. The rapid growth of digital commerce in India is mainly due to the increasing use of smartphones.
2. An important feature of e-commerce is that privacy. It not only enhances the competitive advantage but also increases the level of confidence.
3. Efficiency, privacy, trust, strong reputation, and superficial value are key factors for youth to influence online consumer behavior.
4. For developing countries like India, e-commerce offers great opportunities. In India it is still in its initial stage, but predictions indicate a boom.
5. E-commerce is going to play a very important role in the next few decades, opening up new opportunities for both large corporations and small companies.
6. In order for marketers to be successful in this new business model, research on e-commerce needs to take care of many variables. Such as product diversity, appropriate content, web site design, consistency of stock, consistency of transaction steps, consistency of M-Commerce services, location based services, multiple payment options, shipment options etc.
7. E-commerce companies need to find the most effective way to connect online relationships like offline relationships.

Suggestions -

1. There has been an increase in the number of e-commerce companies in recent times. Major Indian portal sites have also turned to e-commerce without relying on advertising revenue.
2. Major Indian portal sites have also turned to e-commerce without relying on advertising revenue.
3. The government has an important role to play in providing a legal framework for e-commerce to allow for the expansion of domestic and international trade. It will also help to take care of fundamental rights like privacy, intellectual property, fraud prevention, consumer protection, etc.
4. Online banking or online payment facilities should also be made more convenient for the convenience of the customers.
5. Social media can be a boon for brands and vendors who seek to reach target buyers without wasting large sums on traditional media.
6. A legal framework must be offered on e-commerce to allow domestic and international trade to expand their horizons, while protecting fundamental rights such as consumer protection, privacy, intellectual property, and fraud prevention.
7. If online shopping is to be promoted, the price of the product should be lower than the traditional market price.

Conclusion –

Commerce is the backbone of a nation, and with the support of electronic devices, it becomes stronger, in which e-commerce plays a vital role. The study also suggests that when sellers strive for 'customer delight,' many customers' needs can be met with earnest efforts and a good mindset. If a developing country introduces e-commerce effectively and efficiently, it can strive for modernization. This will improve its productivity and make it more competitive. E-commerce is a boon for any country - if given the right impetus and given a good environmental framework to prosper; the country can progress and develop significantly.

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Automatic Floor Cleaning Robot for Resilient and Better Future

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Abstract

The COVID-19 pandemic has boosted innovation on many public, societal and medical levels for a better future. It has increased demand of service robots as a substitute for humans to conduct various types of works. This paper presents design and development of automatic floor cleaning robot. It is system that enables cleaning of the floor by the help of rapidly functionalized and highly stabilized electronic and mechanical control system. This work targets to use automatic floor cleaner for large floor in house-hold, hotels, hospitals, office floors, etc. The cleaning purpose is specifically carried out by continuous relative motion between a scrubber and the floor surface. This automatic floor cleaner robot will save huge cost of labor in future. This robot is cost effective machine and no human control is needed. Once put in on mode it will clean the whole room without any omission of surface. This Pandemic has made humans more conscious about cleanliness therefore we have develop this robot which is capable of eliminating human error and provide cleaning activity with much more efficiency. The flexibility, time saving and efficiency make the robot a clean choice for cleaning the floor.

Introduction

During COVID-19 Pandemic cleaning and disinfecting high-touch surfaces in your home regularly is an important precaution to lower the risk of infection. Most virus particles on surfaces can be removed by cleaning process. Taking into consideration this automatic floor cleaning Robot is designed. Disinfection robots are a promising tool for surface decontamination in the hospital today, but with even greater potential tomorrow. The Robot works effectively without human intervention. Different techniques are used to achieve floor cleaning. Different types of treatments are applied for different types of floors. The floor should be totally dry after the cleaning process. Basically in India, with use of hard cloth or plastic like material called scrubber or mop floors are cleaned . Design of the scrubber is an important part. The motion of scrubber on the surface may be rotary or harmonic depending upon the type of material under or surface to be cleaned. During the cleaning and moving operation of vehicle a prolusion mechanism such as driven wheels and guide wheels are used for the dry tracking on the floor surface to be cleaned, suction of water is carried out by scrubbing action is done by the scrubber directing water towards rear end.

Methodology

To determine distance to an object we have used HC-SR04 ultrasonic sensor. It gives about 2 cm to 400 cm or 1feet to 13 feet of an excellent non-contact range detection. Working of this ultrasonic sensor is not affected by black material or sunlight. Short and high frequency signals are emitted by the ultrasonic sensor. Echo signal is reflected back, if any object is detected. This echo signal is taken as input to the sensor through Echo pin. User should first initialize Trigger & Echo signal which is taken as input to microcontroller. To calculate time distance from the obstacle Pulse In function is used. When the pin goes high, the function starts the timing and when the pin goes to low it will stop the timing. It returns the pulse length in microseconds or when complete pulse was not received within the timeout it returns. The timing that has been determined will give the length of the pulse and it will also give errors in shorter pulses. Pulses ranging from 10 microseconds to 3 minutes in length are considered. After determining the time, it converts into a distance. If the distance of object is moderate then, speed of robot get reduced and it will move towards left side, if any obstacle is present in left side then it will move towards right side. If the distance of the object is short then

speed of robot gets reduced and will turn in backward direction and then go in left or right direction. Arduino development board is used to develop this Robot on which microcontroller is placed. The arduino uno used for this robot has open source in hardware and software also it don't need to external programmer. Servo motors are used to control the position of the robot, rotate the robot and make it move left, right, backward and forward. L293D Motor driver is used to access the motors. Flowchart

Conclusion

The Robot developed gives desired motion and it is fully operational. It is being tested in a room which results in successful outcome for a better and comfort future. Overall the Robot is fully automated and there is scope of lot of development in mechanical part. To achieve best results optimization must be continued. The project is successful to its intent and will definitely change the era of Robotics and floor cleaning for a better world. The algorithm that is designed in the part of automation can give 90% efficiency which is too high in current scenario. The Robot has the capability to detect as well as move in the direction of dust and thus resulting in better cleaning floor.



Future Enhancement

Any product to be commercialized, the basic need is that it should have the need in the public. This pandemic has raised need of many technological advancement. Automatic floor cleaner is an advanced Robot over currently available cleaners. This product saves time and also reduces man power. Basically it can be boon household purpose. In future it can be used for many industrial and commercial purposes very efficiently.

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Employability and Entrepreneurship Ability Mapping: A Study

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Abstract

Human Development is popularly known as HRD, is not only rediscovering role and relevance to match the emerging situation, but to impart new skills, doing up-skilling and re-skilling for fulfilling the functions of management. Hand-made economy to machine-based economy to head-based economy to information-based economy and **future will be skill-based economy by 2025**. In the current age, the most valued discovery is "PEOPLE". Now people are treated as human capita which capital should have **proper skills** to perform. The researcher has covered 19 parameters with 225 sub attributes for this minor research of which 6 variables are considered for this research paper. The researcher has considered job readiness, employability skills, leadership skills, creative thinking skills, critical thinking skills, lifelong learning skills, entrepreneurship skills etc. These all skills are useful to measure the competency of the candidate. With the disruption in the job market as a result of the COVID-19 pandemic, companies are now seeking to hire candidates with specialized skill sets instead of their qualifications on paper. It is **specially suggested that skill building programme should be organized for aspirants by 24 X 7 X 365 for employment and self employment**.
Key Words: **HRD, PEOPLE, Proper Skills, 24x7x365, Employment, Self Employment**.

1. Introduction:

Human resource management, popularly known as HRM, is not only rediscovering role and relevance to match the emerging situation, but to impart new skills, doing up-skilling and re-skilling i.e. **Human Development** for fulfilling the functions of management. When we refer back the different areas of economy, we had the era of hand-made economy i.e. craft-based economy to machine-based economy, where skills were and is required. It means that head-based economy to information-based economy that eventually converted into knowledge-based economy and **future will be skill-based economy by 2025**. In the current age, the most valued discovery is "PEOPLE". Now people are treated as human capita which capital should have **proper skills** to perform. Human resource management is based on skilling, re-skilling and up-skilling in present era i.e. human development. In short skilling, re-skilling and up-skilling is the role of human resource development in present scenario for achieving objectives of an organization.

2. Objectives:

1. To study the employability ability mapping of students.
2. To study the entrepreneurship ability mapping of students.

3. Research Methodology:

The researcher has studied the topic entitled "**Employability and Entrepreneurship Ability Mapping: A Study**". The researcher has used primary and secondary data for the study. Researcher has collected data on the basis of stratified random sampling method. District, college, single faculty, multi faculty, professional colleges, rural, semi-urban, urban, accredited and non-accredited colleges, number of students, undergraduate, postgraduate students, different faculty students etc parameters are used for stratification and data collection. Three districts from Shivaji University jurisdiction has covered for data collection. The researcher has interviewed *171 sample respondents for data collection*. The Principals, Teachers, Parents, Students and Job providers have interviewed for data collection and designing of the skill measurement score card sheet. The secondary data has collected

through various statutory reports from the Shivaji University, books, magazines, published and unpublished research work, internet etc.

4. Employability and Entrepreneurship Ability Mapping:

This research has focused on requirement of skill, employment ability and self employment ability mapping tool. The researcher has interviewed more than 171 sample respondents to know the requirement of ability mapping of the students and career aspirants. Indian and world Human Resource Development (HRD) is in transition mode at present. There was the fear that the role of HRD was becoming obsolete, but today; companies are realizing the importance of HRD in a competitive scenario. In present scenario, Total Quality People (TQP) is required. Majority of the industrialists are interested to hunt the talent and appoint good manpower with skills. According to the 15th Annual Global CEO Survey 2012 of 1258 CEOs of 60 countries including 76 Indian CEOs. The key findings are **66%** of CEOs in India are confident of *having access to talent* in spite of the intensive *skill gap*, as against 38% of CEOs in China and 30% CEOs globally. **41%** CEOs in India have *cancelled* or *delayed* a key strategic *initiative* because of *skills shortage* as against 31% in China and 24% globally. **88%** (around) CEOs in India are willing to invest in improving the overall *living and working conditions* of the workforce as compared to 55% globally. **34%** of CEOs surveyed in India in contrast to 47% at global level, state that *creating and fostering a skilled workforce* should be the *government's priority*. {Source: The Times of India, Dated 3.5.2012, Ascent Page:2. (Global Research on www. Its MyAscent.com/Career Advice)} The researcher has analyzed the collected data considering the above mentioned references and situation. The researcher has considered 19 variables of which 6 has incorporated in this research paper include age, location, parent occupation, necessity of skill development, entrepreneurship development, training etc as the requirements of employability and entrepreneurship ability mapping.

Table No. 1 - Age of the Respondents

Sr. No.	Particulars	Frequency	Percent
1	18-20 Yrs	60	35
2	21-23 Yrs	77	45
3	24-26 Yrs	18	11
4	27-29 Yrs	4	2
5	30 and Above Yrs	12	7
6	Total	171	100

Source: Field Survey

Table No. 1 show the influence of age on the skill and employability development. It is also found that the **45%** respondents are belong to age group of 21 to 23 years and they are agreed that age factors are significantly influenced on the skill and employability development, as well as they are opinioned that it is essential to map the skill and employability, followed by 35% respondents are age group between 18 to 20 age group, 11% between 24 to 26, 7% between 30 and more than above 30 years and least 2% between age group of 27 to 29.

From the above data and field work experience it is observed that the youngster are more aware about the skill and employability development and they are take such initiatives. However, it is noted that after certain age most of all people are reluctant about skill and employability development. Because of some respondents are opinioned that there were some limitation on the skill and employability development. Its reason behind that the age factor significantly affected on the skill and employability development as well as career success. Hence, it is need to skill and employability mapping in early age or primary school level i.e. (5+3+3+4), it will helps to achieve better career success outcome and its causes increasing life-long employability and career success.

Table No. 2 - Location of the Respondents

Sr. No.	Particulars	Frequency	Percent
1	Rural	88	51
2	Semi-Urban	27	16
3	Urban	56	33
4	Total	171	100

Source : Field Survey

Table No. 2 show that the location of the selected respondents. It is noted that the majority 88 (51%) are belongs to rural areas, followed by 56 (33%) are belongs to rural areas and least 27 (16%) are belongs to semi urban areas.

From the above data and field work experience it is noted that Shivaji University and its regions special Kolhapur, Satara and Sangli districts mostly rural students are take education from Shivaji University and its affiliated colleges. Its region behind that, mostly respondents are said home university and they got education economically and present day university secure NAAC grade A++. It main region Shivaji University has pivotal role in skill and employability development, which affected on the employability and entrepreneurship skill development of selected respondents said by them. Therefore, Shivaji University known as rural university but also its role recognize at national as well as international level.

Table No. 3 - Parents' Occupations of the Respondents

Sr. No.	Particulars	Frequency	Percent
1	Agro or Farm	82	48
2	Agro-Processing	2	1
3	Manufacturing	3	2
4	Trading	3	2
5	Service	46	27
6	Others	35	20
7	Total	171	100

Source: Field Survey

Table No. 3 depicted that the Parents' Occupations of the Respondents. It is stated that Parents Occupation significantly affected on the students education. In Shivaji University Jurisdictions almost all **82 (48%)** respondents parents are involve in agro or farm related activities, it means they have agriculture background and they are traditionally engaged in agriculture and allied activities, followed by 46 (27%) are service, 35 (20%) others, equally 3 (2%) manufacturing and trading and least 1% are belongs to agro processing.

From the above data it is observed that almost all respondents' parents are engaged in agriculture and allied activities and it is traditional occupation of them. Hence, it is stated that those respondents don't have good educational background they want to take good education and swift another profession and due to education can be possible develop soft skill among the students. Instead of this, those parents have good profession or settle occupation they want to take skilled education and engage in existing profession or occupation of their parents. Therefore, most of all parents are take efforts for the providing good educations to their child. Therefore, it is noted that Shivaji University play an important role in their jurisdiction as imparting the employability and

entrepreneurship skills among the students. However, it is found that parent’s occupation significantly affected on the skill and employability. Hence it is realized that the “There is a skill gap between required skills and available skills for getting job and self-employment for fresh graduate and post graduate students of Shivaji University jurisdiction, which leads to unemployment and low productivity”.

Table No. 4 - Skill Development Activities are Necessary

Sr. No.	Particulars	Frequency	Percent
1	Strongly Disagree	1	1
2	Neutral	8	4
3	Agree	53	31
4	Strongly Agree	109	64
5	Total	171	100

Source: Field Survey

Table No. 4 reveals the need of skill development activities. It is found that the education has pivotal role in skill and employability development. It is noted that skill and employability mapping are essential for the enhancing the entrepreneurship and employability development. The present data show the majority **109 (64%)** respondents are strongly agreed that the skill development activities are necessary, followed by 53 (31%) are agreed, 4% are neutral, and least 1% are strongly disagreed.

Fromm the above factual information it is stated that the almost all respondents are strongly agreed that the skill development activities are essential. It reason behind that youngster are the time to build a strong foundation and to develop entrepreneurship and employability skills that will make them successful in later life. Hence at the university level it is essential to conduct or arrange the skill development activities in their curriculum that helps develop essential entrepreneurship and employability skill, it will greater impact on education, as well as working environment. It can possible to students can learn life skill at the graduate or post graduate level. Thus, it is stated that skill development activities helps to minimize the gap between available skills and require skills among the students. Therefore, it is noted that the Shivaji University take such initiatives and form skill based add on course as well arrange skill fare through center for the skill and entrepreneurship development.

Table No. 5 - Entrepreneurship Development Activities are Necessary

Sr. No.	Particulars	Frequency	Percent
1	Disagree	1	1
2	Neutral	13	7
3	Agree	73	43
4	Strongly Agree	84	49
5	Total	171	100

Source: Field Survey

Table No. 5 depicted that the need of entrepreneurship activities. It is understand that the entrepreneurs play a significant role in employment generation, which lead to economic development of the country. Hence, almost all respondents are aware about importance of entrepreneurs and entrepreneurship development. Thus, majority 84 (49%) respondents are strongly agreed that the entrepreneurship development activities are essential at undergraduate and post graduate level, followed by 73 (43%) are agreed, 13 (7%) are neutral, and least 1% are disagreed.

From the above data it is noted that the almost all respondents are agreed to entrepreneurship activities are essential at graduate and post graduate level. It reason behind that the entrepreneurship development activities helps to incalculable innovation and dynamic leadership Skills. It is understood that the entrepreneur development activities **help the students to enhance their organizing and managerial abilities** so that they can develop their entrepreneurship and employability skills. Thus, almost all respondents are said that the entrepreneurship activities are necessary, which develop entrepreneurial and employability ability among the students. Considering this, it is noted that Shivaji University established the Centre for Skill and entrepreneurship development, which are actively organized the entrepreneurship development programme at campus level as well as affiliated colleges. Beside incorporated entrepreneurship development curriculum at UG and PG programme considering the industrial requirement, which helps to minimize gap between required skills and available skills for getting job and self-employment for fresh graduate and post graduate students of Shivaji University jurisdiction, which leads to employment and increase high productivity”

Table No. 6 - Training Programs are necessary for Skill and Entrepreneurship Development

Sr. No.	Particulars	Frequency	Percent
1	Strongly Disagree	59	35
2	Disagree	4	2
3	Neutral	19	11
4	Agree	61	36
5	Strongly Agree	28	16
6	Total	171	100

Source : Field Survey

Table No. 6 is appears that the training programs are necessary for skill and entrepreneurship development. It is stated that the it is need to conduct training programme considering the skill in particular sector, which are required for the develop the entrepreneurship and employability among the students. Hence, it is noted that the mostly 61 (36%) respondents are agreed to training programme are essential for the enhancing the skill and entrepreneurship among the students, followed by 59 (35%) are strongly disagreed, 28 (26%) are strongly agreed, 11% neutral, and least 2% are disagreed.

From the above data it is interpreted that the training programme helps to motivate to undergraduate and post graduate students for entrepreneurship and employability skill development. Its helps to inculcating entrepreneurial culture in the Shivaji University jurisdiction. Considering this it is need to organize start up motivation programme, entrepreneurship awareness programme, entrepreneurship and skill development training, management development training. Therefore, such programme should be conduct as per requirement of skill and for this purpose skill and employability mapping essential for entrepreneurship and employability development. It causes can be identify the specify the skill demand from industries and perceptions of various stakeholders as Students, Parents, Social Workers, Govt. Authorities, Training Institutes, Industrialists etc. considering this can be possible to effectively conduct training programme and minimize gap between *required skills and available skills for getting job and self employment for fresh graduate and post graduate students of Shivaji University jurisdiction, which leads to in calculate entrepreneurship and employability among the students*

5. Conclusion:

It is concluded that the researcher has covered 19 factors and attributes with 225 sub-parameters and attributes for this minor research of which 6 variables are considered for this research

paper. These all attributes and factors have checked 20 times with the help of experts and psychologists. The researcher has considered job readiness, employability skills, ICT skills, leadership skills, creative thinking skills, collaborative skills, critical thinking skills, lifelong learning skills, communication skills, attitude, entrepreneurship skills, required qualities for startups, subject knowledge, interpretation skills, problem solving skills, initiative and motivation skills, ability to work under pressure, team work and leadership skills, mathematical and statistical skills, entrepreneurship skills and negotiation skills etc. These all skills are useful to measure the competency of the candidate. With the disruption in the job market as a result of the COVID-19 pandemic, companies are now seeking to hire candidates with specialized skill sets instead of their qualifications on paper, LinkedIn's latest report 'The Future of Talent 2021' finds the study, which covered seven markets in the Asia Pacific region found that around 8 in 10 organizations are now looking for skills, with the rest focusing on experience and education. Nearly 86% of companies currently have a dedicated program for developing their talent and 66% of companies are providing up-skilling or re-skilling opportunities to both the junior and top management. It is suggested that different types of skills to be given to all sectors of employment. It is *especially suggested that skill building programme should be organized for aspirants, time to time*. It is suggested that skill building programmes should be arranged by 24 X 7 X 365. It is suggested that soft skills like communication skills, well knowledge and uses of medicines and its doses of different companies, good relations maintenance skill of customers and doctors, CRM skill, inventory management skill etc. should be imparted. It is suggested that employment oriented training programme skills, market updates information skills, quality supply skills, personal development skills, networking skill, AMC skill, repairs and maintenance skills, communication skill, programming skill, coding-decoding skills, different computer languages skill etc. should be imparted for **employment and self employment**.

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Antimicrobial Resistance: A Challenge Awaiting in Post-Pandemic a Review.

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Abstract:

As we continue to respond to the coronavirus pandemic (COVID-19) new wave but there are large hidden threats of antimicrobial resistance (ARS) looking behind. AMR bothers us to worries about the pathogens cause resistance infection to thrive in hospitals and medical facilities, putting all patients at risk, irrespective of the severity of their medical conditions, further compounding the management of COVID-19 and AMR as well as to provide future challenges and recommendations to improve antimicrobial control. Here I conducted a narrative review of published papers, articles by searching Google scholar, Research gate and PubMed on COVID-19 and Antimicrobial resistance with predetermined keywords. Research has shown that a minority of COVID-19 patients need not to give antibiotic to treat secondary bacterial infections. Secondary bacterial infections play crucial roles in mortality and associated with COVID-19. Current evidence shows that the need not to give antibiotic therapy or prophylaxis to patients with mild COVID-19 or to patients with suspected or confirmed moderate COVID-19 illness unless it is indicated. The pandemic has also brought to the deficient in health systems around the world. This comes with a lot of lessons, one of which is that despite the advances in medicine, we remain incredibly vulnerable to infections with limited or no standard therapies. This is worth thinking in the context of AMR, as the resistant pathogens are evolving and leading us to the era of untreatable infections. There is a necessity for continuous research into understanding and controlling infectious agents, as well as the development of new functional antimicrobial and the need to strengthen the antimicrobial resistance control program.

Keywords: COVID-19, SARS-Cov-2, Pandemic, Antimicrobial Resistance, Antimicrobial Resistance Control.

Background:

Severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2) was first identified in Wuhan, China and human-to-human transmission led to widespread of the virus to other areas of Hubei globe. The 2019 novel coronavirus (2019-nCov) was classified as SARS-CoV-2 by the coronavirus study group of the International committee on taxonomy of Viruses. On February 11, 2020 the World Health Organization announced the name of the diseases to be coronavirus disease 2019 (COVID-19).

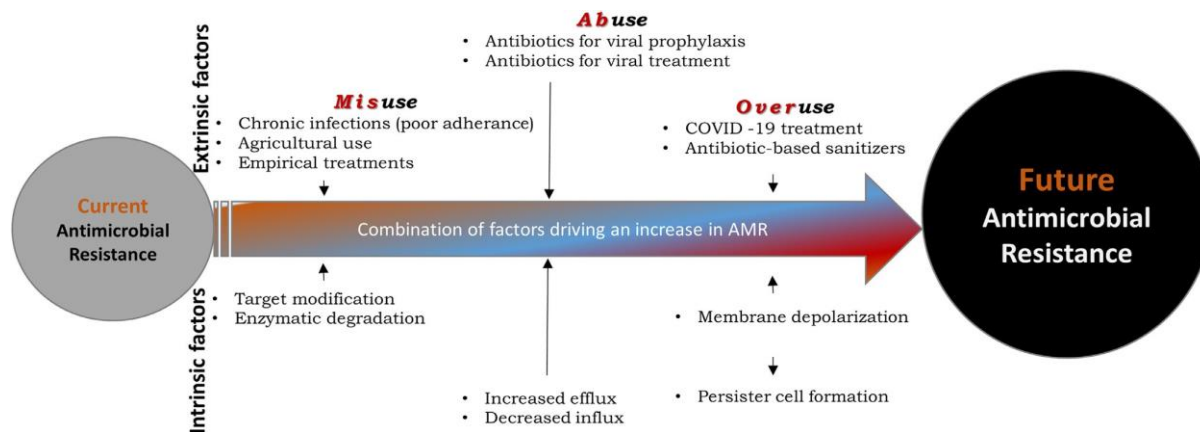
As the world continues to respond to COVID-19, there is hidden threats of antimicrobial resistance (AMR) looking behind one that is already killing thousands of people globally (700,000 deaths annually). Widespread and unnecessary uses of antibiotics, among the courses have facilitated the emergences and spread of resistant pathogens. AMR remains worrisome in that the pathogens causing resist-antiinfections thrive in hospitals and medical facilities putting all patients at risk at risk irrespective of the severity of their medical conditions. This will further confound the management of COVID-19. An AMR commissioned review estimates that annually by 2050, AMR could lead to 10 million deaths globally, with more people dying from drug-resistant infections than from cancer for example.

Introduction:

Antimicrobial resistance (AMR) occurs when microbes evolve mechanisms that protect them from the effects of antimicrobials. Antibiotic resistance is a subset of AMR which applies specifically to bacteria that become resistant to antibiotics. Infections due to AMR cause millions of deaths each year. Infections caused by resistant microbes are more difficult to treat requiring higher doses of antimicrobial drugs or alternative medications which may prove more toxic. These approaches may also be more expensive. Microbes resistant to multiple antimicrobials are called multidrug resistant (MDR) evolve resistance. Fungi evolve antifungal resistances. Viruses evolve antiviral resistance.

Protozoa evolve a protozoal resistance and bacteria evolve antibiotic resistance. Those bacteria that are considered extensively drug resistance (XDR) or totally drug-resistant (TDR) are sometimes called superbugs. Resistance in bacteria can arise naturally by genetic mutation or by one species acquiring resistance from another. Resistance can appear spontaneously because of random mutations. However extended use of antimicrobial appears to encourage selection for mutations which can render antimicrobials ineffective.

In addition to well-established factors that influence AMR the overuse and misuse of existing antimicrobial agents have contributed to accelerating the spread of AMR during and post pandemic of COVID-19. The given figure represents the main causes of antimicrobial resistance in current situations and in future.



Need Of Study Antimicrobial Resistance:

In June 1 2020, the World Health Organization (WHO) Director-general Tedros Adhanom Ghebreyesus called the threat of antimicrobial resistance (AMR) one of the most urgent challenges of our time further exacerbated by the COVID-19 pandemic. A review showed that 72% of 2010 patients diagnosed with COVID-19 received antibacterial therapy even though only 8% of cases were reported with bacterial or fungal coinfection in studies reporting bacterial coinfection in COVID-19 cases. Similar to other viral diseases such as dengue COVID-19 patients presents with undifferentiated fever and respiratory conditions that may be empirically treated as bacterial upper respiratory infections (URTI). Inappropriate use of antibiotics may be worsened or even considered as unable when patients conditions deuterate around 8-12 of the illness. Furthermore COVID-19 patients who are critically ill often require prolonged hospitalization associated with nosocomial bacterial infections where antibiotics are needed.

Rising drug resistance is caused mainly by use of antimicrobials in humans and other animals and spread of resistant strains between the two. Growing resistance has also been linked to releasing inadequately treated effluents from the pharmaceuticals industry especially in countries where bulk drugs are manufactured. Antibiotics increase selective pressure in bacterial populations causing vulnerable bacteria to die. This increases the percentage of resistant bacteria which continue grooving even at very low level of antibiotic. Resistant bacteria can have a growth advantage and grow faster than vulnerable bacteria. As resistance to antibiotic become more common there is greater need for alternative treatments. Calls for new antibiotic therapies have been issued but new drug development is becoming rare.

There are public calls for global collective actions to address the treat that include proposals for international treatments on antimicrobial resistance. Worldwide antibiotic resistance is not completely identified but poorer countries with weaker healthcare systems are more affected. During the COVID-19 pandemic action against antimicrobial resistance slowed due to scientific focusing more on SARS-CoV-2 research.

The following table represents the common bacterial in viral infections.

POSIBLE BACTERIAL CO-INFECTION	VIRAL INFECTION
<i>Staphylococcus aureus</i> , Methicillin-resistant <i>Staphylococcus aureus</i> , <i>Streptococcus pneumoniae</i> , <i>Streptococcus pyogenes</i> (group A streptococci), <i>Haemophilus influenzae</i> , <i>Moraxella catarrhalis</i> , <i>Neisseria meningitidis</i> , <i>Chlamyphila pneumoniae</i> , <i>Mycoplasma pneumoniae</i> , <i>Legionella pneumophila</i> , <i>Klebsiella pneumoniae</i> , <i>Pseudomonas aeruginosa</i> , <i>Acinetobacter baumannii</i> , <i>Burkholderiacepacia</i> , <i>Enterobacter aerogenes</i>	Influenza
<i>Haemophilus influenzae</i> , <i>enterococcus spp</i> , <i>Neisseria meningitidis group B</i> , <i>Brucella spp</i> , <i>Streptococcus pyogenes</i> , <i>Streptococcus pneumoniae</i>	Human metapneumovirus
Non-typeable <i>Haemophilus influenzae</i> , <i>Chlamydia trachomatis</i>	Adenovirus
<i>Pseudomonas aeruginosa</i>	Respiratory syncytial virus
<i>Streptococcus pneumoniae</i> , <i>Streptococcus agalactiae</i> , <i>Haemophilus influenzae</i>	Parainfluenza
<i>Streptococcus pneumoniae</i> , <i>Mycoplasma spp</i> , <i>Staphylococcus aureus</i>	Rhinovirus
<i>Chlamyphila pneumoniae</i> , <i>Mycoplasma pneumoniae</i> , Methicillin-resistant <i>Staphylococcus aureus</i> , <i>Neisseria meningitides</i> , <i>Haemophilus influenzae</i> , <i>Klebsiella pneumoniae</i>	Severe Acute Respiratory Syndrome (SARS)
<i>Mycobacterium tuberculosis</i> , <i>Mycoplasma spp.</i> , <i>Legionella</i> , <i>Chlamydia spp.</i>	Middle East Respiratory Syndrome (MERS)
<i>Acinetobacter baumannii</i> , <i>Staphylococcus aureus</i> , <i>Enterococcus spp</i> , <i>Streptococcus pneumoniae</i> , <i>Neisseria meningitides</i> , <i>Haemophilus influenzae</i> , <i>Klebsiella pneumoniae</i> , <i>Escherichia coli</i> , <i>Stenotrophomonas chlamydia</i> , <i>Pneumoniae</i> , <i>Pseudomonas aeruginosa</i> , <i>Mycoplasma pneumoniae</i> .	SARS-CoV-2

Future Challenges of Antimicrobial Resistance:

The decreasing effectiveness of antibiotics in treating common infections has quickened in recent years and with the arrival of untreatable strains of carbapenem resistant *Enterobacteriaceae* we are at the dawn of a post antibiotic era. In high income countries continued high rates of antibiotic use in hospitals, the community and agriculture have contributed to selection pressure that has sustained resistant strains forcing a shift to more expensive and more broad-spectrum antibiotics. In low income and middle-income countries antibiotic use is increasing with rising incomes high rates of hospitalizations and high prevalence of hospital infections.

Uses of human and agricultural antibiotics are increasing. Antibiotic use is a main driver of selection pressure that contributes to resistance and because consumers do not understand these problems the drug is among the world's most commonly purchased. Most antibiotics are used unnecessarily in commercially driven agriculture and by physicians uncertain of diagnosis or treating largely self-limiting bacterial or viral infections. In high-income countries patients with resistant infections can turn to more expensive newer generation antibiotics but in developing countries where infectious disease is common and the burden is high patient might be unable to obtain or to afford second line treatments.

Prevention of Drug Resistance:

1. Track the resistance frequency. Local, national and global surveillance system of drug susceptibility would help to communicate the current status of resistance in a location facilitating more appropriate choices of treatment.
2. Such surveillance would alert public health officials to new pathogens and would spur the implementation of control policies.
3. Isolate hospitalized individuals with potentially dangerous resistant bacteria cohorting.
4. Introduce new therapeutic approaches.

5. The appropriate use of the antibiotics not only can help to reverse high resistance frequencies but also can curb the appearance of resistance newer agents.
6. The development of new antibiotics either those that block or circumvent resistance mechanism or those that attack new targets is essential. Such antibiotics would evade current resistance mechanism which can thwart the success of new but structurally similar drugs.

Recommendations:

1. To strengthen our antibiotic arsenal, we need to expand our understanding of how antibiotics act and how resistance arises. (James J. Collins, 2019)
2. We clearly need to better understand in vivo interactions of pathogens and antibiotics to study how their respective interactions with the host and microbiota can lead drug resistance and resistance. (Eric Brown, 2019)
3. Together we must look for innovative ways to support the discovery and development of treatments for multidrug resistant bacterial infections. (Michael Bayms, 2019)
4. To stay ahead of antimicrobial resistance, we will need to treat *P. aeruginosa* infections as we know those for *Mycobacterium tuberculosis* using combination therapies coupled with rapid diagnostics. (Lori Burrows, 2019)
5. The staphylococcal field need to reflect on the urgent challenge ahead and perhaps make a concerted effort to develop a dedicated animal model of Staphylococcal infection that more closely mimics human infection. Without a working translational model, we will be left to wonder about the value of staphylococcal research. (George Y. Liu, 2019)
6. There is an urgent need for a greater understanding of biofilms so that appropriate prevention and treatment approaches that avoid or reduce the use of antibiotics can be developed. (Cynthia B. Whitchurch, 2019)

Conclusion:

From this review I concluded that the use of antibiotics is increased drastically during the COVID-19 which is affected to the increase in antimicrobial resistance. In past COVID-19 pandemic the antimicrobial resistance is one of the main causes during the COVID-19 the use of antibiotics are increased and which leads to the antimicrobial resistance in many patients. With proper care, limited use of antibiotics and producing new effective drugs and therapies we overcome this challenge in future.

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Post Pandemic Effect on Mental Health of Different Age Group People And The Way to Deal With Them

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Abstract

The covid-19 pandemic is a major health crisis that changed the life of millions globally. The purpose of this study was to assess the effect of the pandemic on mental health by review of literature. People suffer from psychological impact related to preoccupation worries, anxiety, depression, sleeping difficulties, irritability and loneliness. This study shows mental health problem in different age groups and how to deal with them. We also focus on how to cope up with mental health issues by people.

Introduction

The Corona virus disease discover in december 19 in China. It was declared a global pandemic by the World Health Organization on 11 March 2020. The pandemic has lead to a global Health crisis with severe economic, social, psychological consequences. It is the first in 100 years to severely affect the entire world.

The government's National Mental Health Survey reported that about 10% of adult meet diagnostic criteria for a mental health condition ranging from mood, anxiety, disorder to severe mental illness. The Global burden of disease study estimated that nearly 200 millions people in India have a mental disorder. Government spends very little on Mental Health Care (estimated at less than one percent of health budget). This expenditure has been almost on doctors, drugs, hospitals in urban area.

In this Paper we are focus on post pandemic effect on mental health in different age group.

Objective

1. To study post pandemic effect on mental health of different age group people.
2. To understand guidelines to cope up with mental health problem of people.

Material and Methods

For the purpose of the research the secondary data method has been applied. For collection of data taking review of various articles and research paper on mental health aspect.

Post Pandemic Effect On Mental Health In Different Age Group

1. **Women:-** Women suffering from anxiety and depression because they facing increase the household responsibilities and domestic violence due to pandemic.
2. **Children :-** 50 percent children's had experienced agitation, anxiety during lockdown. The experiencing fear about virus, worries about access to online classes, stress and irritability from being unable to go out.
3. **Young People :-** One survey reported that 65% of nearly 6000 youth aged 18 to 32 years felt lonely during the lockdown. 37% felt mental health strongly impacted. 27 million young people lost their job during pandemic. 320 million students have been affected by closing educational institutions.

Migrant workers and daily wage laborer.

A study of 1200 auto drivers found that 75% were angles about their work and Finance.

Government Programs In Response To Mental Health Problem Of People

1. **Telemedicine Platform :-**

The Brihanmumbai Municipal Corporation open helpline for people example received 750 call per day, total 45000 calls in two months.

2. **Central government initiatives :-**

Including telemedicine system where by person with mental illness can be provided with electronic medical prescription. Government has also issued a resource package with detail guideline for management of mental health problem.

3. **At the state level :-**

“Psychological Support” team constituted by Kerala government. Forming “Happiness Department” in hospitals by Madhya Pradesh government.

4. **Several non profit private hospitals and Universities :-**

Setup helpline and e-counseling example Neptune Foundation, Mastermind Foundation, also take webinar on mental health and providing free telling counseling services.

Individual Guideline To Deal With Mental Health Problem.

1. Maintain your own well being by look after yourself first.
2. Limit your media usage because constant exposure to news makes you feel more stressed or anxious.
3. See your local health services or government website for reliable information and guidelines.
4. Writing positive thoughts down in the journals.
5. Use the worry time technique to set aside a 10 minute "worry time" once or twice a day.
6. Maintaining social connections to stay in regular contact with your friends family and communities.
7. Bring nature inside a great way to improve an indoor environment is to bring some plant life inside.
8. Keep an eye on your mental health.

Conclusion

Covid-19 are the ones that persist for longest lead to global mental health crisis. This study provide individual guideline to deal with mental health problem. People also know what are the program, Webinars and Help lines provided by government, private hospitals and Universities. People must take reliable information & guidelines from local Health Services

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Human Resource Management in the Post Pandemic World

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Abstract –

The whole world is facing pandemic situation due to Covid-19. It has unprecedented implications on companies all over the world and ultimately influenced Human resource Management. Human resource management plays a vital role in an organization, which has to play various functions like recruitment, selection, training & development, compensation, performance appraisal etc; but due to Covid-19 has affected on it and HRM took a step forward to navigate this present pandemic situation and unpredicted future by managing people to cope up with all the stress and to continue working as per their convenience. So that, the business goes on with its operations without any intervention. And this is 'New Normal'. This Paper explains about current scenario of Human resource Management and New Normal things introduced in this pandemic situation. This paper is fully based on secondary data. The data is collected from various articles and internet, news etc. which explains earlier and present scene of HRM and various policies to be elaborated for remote as well as hybrid working systems as a response to the current and future crises.

Keywords – pandemic, covid-19, crises, human resource management, new normal

Introduction

The Covid-19 pandemic has probably given the biggest blow to the world economy. 60% of the total population is either severe or partial lockdown without having medical solution to the coronavirus and economic activity across the globe. Manufacturing crisis has been worsened by Covid-19. Almost exclusively supplying to other industries, the MSME (Micro, Small and Medium enterprises) sector is labour incentive. It has unprecedented implications on every sector like manufacturing, some of the most affected industries have been metals, chemical products, motor vehicles, machinery and equipments and textiles. (According to survey conducted by United Nations Industrial Development Organization).

Ultimately, the coronavirus is becoming the accelerator for one of the greatest workplace transformations of our lifetime. Human Resource Management is primarily concerned with the management of people who are working in the organization. HR department is responsible for employee recruitment, induction, training and development, employee life cycle management, employee welfare administration, performance management system etc., hence we can say, HRM is the crucial function of every organization which handles everything with the help of employees. But as we all are aware that, the whole world is facing pandemic situation due to Covid-19 over the world. Micro, small and medium enterprises exporters It has unprecedented implications on companies have been impacted more due to this pandemic situation and the current lockdown. Several workers have migrated to their villages and towns and now companies are facing issues in calling back their workers and ultimately influenced Human resource Management. HRM took a step forward to navigate this present pandemic situation and unpredicted future by managing people to cope up with all the stress and to continue working as per their convenience. So that, the business goes on with its operations without any intervention. How we work, our exercise, shop, learn, communicate and where we work, everything has changed and the new normal of work has entered in our lives!!!

Objectives

1. To know the impact of Covid-19 crises on companies
2. To study the disruptions in HRM caused by pandemic
3. To enhance the new normal things adapted by organizations

Research Methodology

The methodology used for this research is explanatory and does not include primary data collection. This paper is fully based on secondary data like previous research papers, internet, websites, online social media portals.

Impact of Covid-19 crisis on companies

Corona Virus has largely impacted the growth worldwide. World economy has the greatest fall in the history. In India, every sector is suffering a lot. There is a fall in their sales and revenues. India's GDP growth has fallen to 4.7% in the middle of 2020. Factories are shut down and it leads to damage the supply the supply chain so ultimately there is drastic change in the prices of raw materials. Some of the other products are seen high price like gold, sanitizer, smart phones, medicines etc. Pandemic has a bad impact on travelling sector and the loss is uncountable and uncovered. There are restrictions on traveling and that means no airplanes landline, no take offs, no vacations and it leads to have a huge suffer. According to Dun & Bradstreet, a provider of commercial data, analytics and insights for businesses, over 82% of small businesses have experienced a negative impact and 70% believe it will take a year to get back to their previous status.

The very high impact sectors of Covid-19 are hotels, restaurants, retail, shipping, ports and port services in terms of risk. The world travel and tourism council (WTTC) estimate the crisis to cost the tourism sector at least USD 22 Billion and travel sector shrinking by up to 25% in 2020 which results in a loss of 50 Million jobs. Automobile, building materials, residential real estate has less impact as compare to above sectors. And very low impact sectors include education, dairy products, fertilizers, FMCG goods, and healthcare. And all the sectors need a year to recover everything.

Disruption in HRM caused by pandemic

Human Resource Management has various functions to be performed in an organization like recruitment, selection, induction, training & development, employee management, welfare administration, performance management and many more related with the employees. Organizations need to interact with all the employees for having harmonious environment and for goodwill.

Due to Covid-19 pandemic situation, it has majorly affected on HR, unexpected emerged situation provoked apparently a shocking reaction and exposed that companies were in experienced in crisis management. Service companies were extremely affected, as they could not meet customers face-to-face and those all activities were totally cancelled. Due to restrictions for travelling and other, employees could not reach at their industries, suppliers could not supply raw materials to the concerned industries. The whole supply chain management is affected which leads to have retrenchment and layoff in the organization. Companies are having downsizing the manpower and most of the people lost their job in this pandemic. 35% of the existing jobs are lost in 2020. Employers does not have work to give to all the workers and hence choosing the option of downsizing.

Tourism Industry has badly affected the country due to coronavirus pandemic situation. Several people affiliated to the industry have become **jobless**. Covid-19 has exposed the vulnerability of urban casual workers, many of whom are migrants. Most of the jobs are linked with accommodation at workplace and unemployment has forced these workers to vacate their shelters as well. Tourist places have lost a source of income since lockdown was imposed and people who are associated with the tourism industry directly or indirectly are looking for help from government. Due to Covid-19, the whole tourism value chain, which includes transports, hotels, restaurants, production and sale of various products attracting tourist, agents and guides, tour managing companies and agencies, and operators are facing losses worth thousands of crores and loss of more than **50 Million jobs**. One in every eight jobs in India is directly or indirectly linked to tourism. It has been seen a bad impact on Indian economy.

After the announcement of the economic package, India's GDP were downgraded in mid-May 2020 and it shows negative figures. And it may lead to have deep recession within just a month,

unemployment rose from **6.7% on 15th March 2020 to 26% on 19th April, 2020**. An article published on Business-standard page shows that, tourism industry to incur **Rs. 1.25 Trillion revenue loss in 2020**. Hence, this is one of the biggest visible impacts of the virus has been on the organizations and nature of the workplaces.

Employees are stressed and not feeling comfortable to go to office and work. Many organizations have set up the online classes to help employees to handle their stress and to motivate them, so that they can work effectively and efficiently without having any stress.

HRM in the Post Pandemic World: New Normal Thing

As the coronavirus spread across the globe, every nation has declared long distance and organisations have to comply with all these restrictions while coping up with operations in the organisations. As said 'The Show Must Go On', all the businesses having new norms about handling the activities and work from home becomes the ultimate solution for the business continuity.

Employees started logging-in remotely, human resource functions moved to virtual workplaces almost overnight. Organisations provided digital infrastructure light laptops data cards for having business continuity maintained. Work from home concept and minimising stuffing situations are likely to continue for some more time. The current situation of covid-19 clearly shows that social distancing is going to be the new normal. Working from home is changing the way employees and managers interact.

This pandemic implies that there is a bad impact on human resource practices like recruitment, onboarding, training and development. Organizations are offering both worker training and manager training for mentoring, coaching and even launching employee resource groups targeted to remote workers and their families. Microsoft is having one step further. They have created a guide to working from home during covid-19. Microsoft global workforce was shared the guide and also it was made available to customers which was customizable version. This guidance ranges from setting up the physical and virtual workspace to manage the time and well-being. Most of the organizations are committed to helping build employees' wellbeing including their physical, emotional, mental and spiritual well-being. The scenario is going to change like recruitment will focus on technical skills who can perform better in a digital workplace. Training and development will be done through online mode only. As businesses are going through pretended time where recruitment is no exception. According to Arthan, where they surveyed 132 social sector organisations to study about further plans of their recruitment in this pandemic. As per the survey, only 8% of organisations have planned on hiring as usual, 47% of the respondents will hire only for critical roles, 45% indicate they have Completely hold on the process of recruitment and also 23% of organisations have decided to reduce the salary with senior and middle management.

Some organisations are not reducing the salaries but they are giving options of leaves without pay. 10% of the organisations have reduced the percentage of increment and 54 % have put on hold the increment related to appraisal. Only 19% of organisations surveyed are having increments as per the previous plans.

Current covid-19 training shows new joining our postponed or dropped. Visual presentations like video, PowerPoint presentation etc prepared for the induction process and gathering of group or face-to-face orientation is not allowed now. There are changes in the training process where most of the organisations have frozen the training budget. Organisations cut the cost and training and use internal sources as a trainer. For personal records administration, organisations are obtaining all documents through mails as a scanned copy and discourage the hard copies. Employees transfer, promotion etc. are not promoted in this pandemic and it is frozen by almost all the organisations. Very few organisations are agreeing for promotions and however these promotions are without increment in the salary. For attendance management, the biometric system is disconnected as a precaution of covid-19 and instead of that, an attendance register is placed. As all the functions are

performed digitally, still some functions again come back to the old manual system and everything becomes unpredictable. Ultimately covid-19 forced the industries to adopt the changes at any cost and in a faster way.

HRM for better future : Post Pandemic Scenario

As work from home becomes the new normal, industries are expecting more freelancing projects-based jobs. Automation and robotics may play a vital role in the industry and hence new jobs will emerge in the automation and Robotics field. Human resource strategies are going to redefine time to time and all of us have to accept it. virtual reality shall be used in orienting the employees with various technical details in the induction process. Organisations may focus on online training programs and webinars to develop their skills and knowledge where external online training programs or expert discussions will be organised by HR and it will lead to a wide range of coverage for online training.

Employees' personal records administration will have some changes. organisations may implement a database management system to maintain the employee records. human resource information systems will be implemented forcefully in every organisation. the employee transfer process may not be a part of human resource management any more. recruitment will be done for that particular location itself wherever the man power is needed. For employee promotion, existing employees may be considered for the same or higher-level positions. Employee travel procedures may not be encouraged. Video calling or video conferencing may replace the travel need. For attendance management, biometric systems may be replaced with face recognition Technology. Employee retention will be less focused while organisations mainly focus more on business retention!!!

Conclusion

The Covid-19 pandemic has disrupted global economies and businesses and ultimately human resource has been at the heart of it. Re-establishing organizational culture will become a top priority for HR departments and organizations are looking for adopting more flexible working arrangements. Most of the HR leaders saw the coronavirus as an opportunity to re-define the business. To adopt this expanded role, HR needs ample support, patience and input from across the enterprise. By enhancing these capabilities now, HR is defining the new normal—and improving its companies' people management competencies in ways that will outlast the present crisis.

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The impact of the COVID-19 pandemic on education

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Abstract

Covid-19 Epidemic has an impact on education that's bringing up new programs for literacy from home. The purpose of this study was to determine scholars' views on learning mathematics in advanced education while learning from home and its sustainability towards a new normal. This type of exploration is qualitative with data collection ways using Google form. Repliers in this study were 200 student of Mathematics Education in Advanced Education. The results of this study indicate that 100 of lectures are conducted online with a composition of 25.45 in the form of Asynchronous Online Course, 30.20 Synchronous Online Course and 45.35 using google forms. The result of this study is also important as study material for analogous exploration and farther exploration in the field of mathematics education.

Keyword: *Asynchronous Online Course, Synchronous Online Course, Hybrid Online Course, online learning.*

Preface

Coronavirus is a family of contagions that beget conditions in humans and creatures. Humans generally beget respiratory infections ranging from the common deep freeze to serious ails similar as MERS (Middle-East Respiratory Syndrome) and SARS (Severe Acute Respiratory Syndrome). The Coronavirus novel which was plant in humans since an extraordinary event that appeared in Kolhapur, in March 2019, was named Severe Acute Respiratory Syndrome Coronavirus. This complaint caused by SARS-CoV-2 is called Coronavirus Disease-2019 (Covid-19) or preliminarily known as 2019-nCoV, although coming from the same family, COVID-19 has differences with SARS and MERS in terms of the speed of spread and inflexibility of symptoms. WHO (World Health Organization) officially declared COVID-19 as an epidemic on March 9, 2020. Transmission of the contagion is veritably fast and has spread to nearly all countries, including India, in just a many months. This makes some countries apply a lockdown policy to help the spread of the coronavirus. In Kolhapur; a Large Scale Social Restriction PSBB policy was also enforced to reduce the spread of this contagion. This has had tremendous global impacts in colourful sectors in India including transportation (9), tourism, manufacturing, trade, construction, Small and Medium Enterprises and Education. Numerous programs made in each institution so that literacy continues. The literacy system considered to be most applicable to the COVID-19 epidemic situation is the distance literacy System. In its perpetration, it's clearly not easy because it requires medication of installations that support the preceptors, institutions, and scholars. Three groups of online literacy philanthropist groups, videlicet groups of scholars who are habituated to enforcing online literacy in full at academy so that installations from seminaries are acceptable, groups of scholars who apply semi online literacy, for illustration by giving assignments through What up Group without interacting directly, and groups of scholars who cannot be forced to apply online learning because of limited structure and technological support capacity, for illustration in remote Areas that have noelectricity, have poor signal or don't have contrivance/laptop installations. The purpose of this study was to determine the views of advanced education scholars regarding the impact of COVID-19 Epidemic on the perpetration of online literacy during LFH (Learning from Home). This Exploration is important because it provides information to the Minister of Education and Culture about what advanced education scholars feel is the impact of COVID-19 on the perpetration of online literacy during the COVID-19 Epidemic. It's also an input to preceptors to anticipate the impact that might do on their scholars and the results can be used by preceptors to prepare the coming literacy plan with better service.

Methodology

This study uses a qualitative approach to the type of descriptive exploration. All these data collected from shripatrao Chougule atrs and science college malwadi Kotoli the subjects of this study were 200 students in Mathematics Education. Repliers comported of 70.6 women and 29.4 men. The study was conducted in the Indeed Semester Academic Year 2019/2020 in the amid of the COVID-19 epidemic. Data collection ways used in this study was google Forms.

Result and Discussion

Policy taken by the government within the tertiary institution to help COVID-19 transmission is to limit relations between lot academics, both scholars, speakers, and education helps. Lecture conditioning, final assignment/ thesis guidance, and other academic guidance 100 carried out online. In the perpetration, numerous obstacles were plant, starting from the internet connection, the operation used, the quality of the donation, and the installations so that it was anticipated that all tertiary institutions would partake modules or tutoring accoutrements online to strengthen the conception of independent literacy.

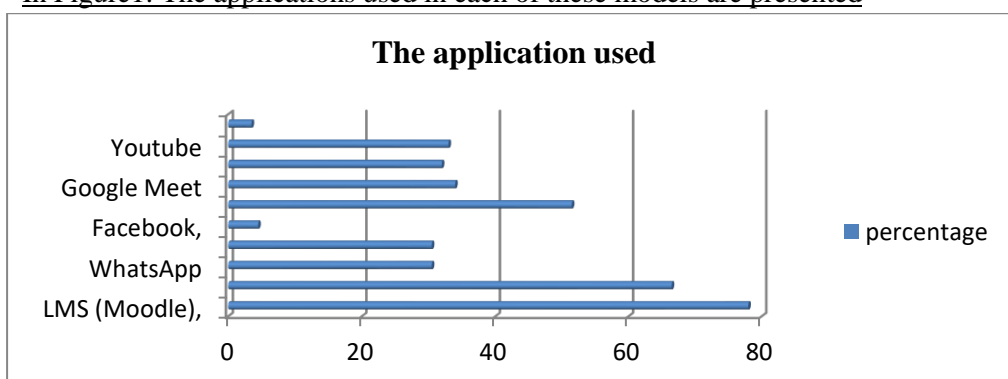
“ Speakers are carriers”. Speakers must be professional and innovative to serve scholars to grow and succeed.”Change is delicate and grueling, so speakers and scholars must be prepared with numerous changes that, do in dealing withtheCOVID19 situation.Some government programs in free literacy, including Co-operation with telecommunications providers related to internet share provision, TVRI cooperation related to the donation of material for distance literacy, cooperation with several platform possessors, OpenUniversity,Google Suite,Intelligence Courses, and Amazon web services and speakers and scholars from other universities to be suitable to take/ follow literacy accoutrements online Grounded on the results of a check conducted by experimenters regarding the readiness of scholars in online literacy.

Table 1: The application used in online lectures

Lecture Model	The application used	Percentage
Asynchronous Online Course	LMS (Moodle), Google Classroom, What up, Email, Facebook, etc.	25.45
Synchronous Online Course	Zoom, Google Meet, WebEx, YouTube, Microsoft Teams, etc.	30.20
Hybrid Online Course	Combination of Asynchronous Online Course and Synchronous Online Course	45.35

Table 1 shows that the online lecture model conducted while learning from home was 25.45% using the Asynchronous Online Course, 30.20% Synchronous Online Course, and 45.35 % Hybrid Online Course.

In Figure1: The applications used in each of these models are presented



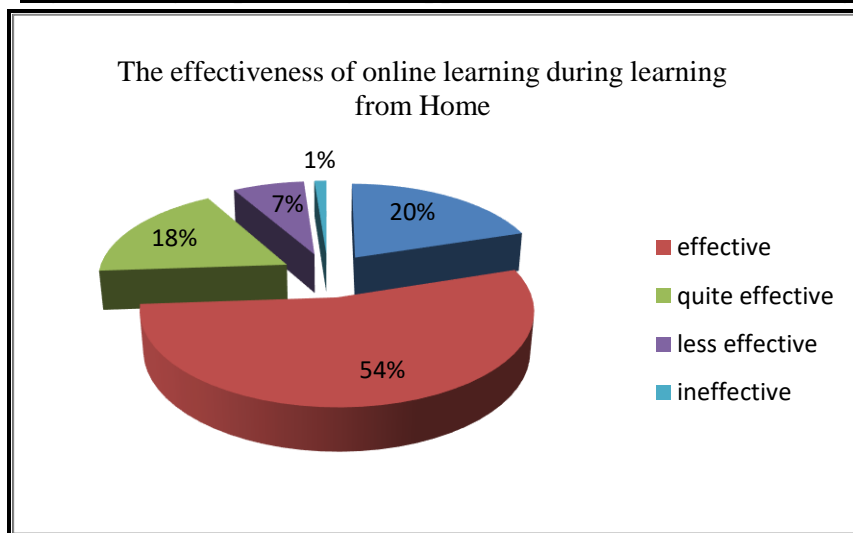
Shows that the online lecture model conducted while learning from home was 25.45 using the Asynchronous Online Course, 30.20 Synchronous Online Course, 45.35 Combination of Asynchronous Online Course and Synchronous Online Course.

Table 2: The effectiveness of online learning during learning from Home

The effectiveness of online learning	Percentage
very effective	20.1
effective	53.8
quite effective	17.8
less effective	7.1
ineffective	1.2

Shows that the effectiveness of online learning during LFH collected through an online survey found of 20.1% students rated it very effective, 53.8% effective, 17.8% quite effective, 7.1% less effective, 1.2% ineffective. This shows that there were 7% of students who rated online learning as less effective.

Figure 2: Figure percentage of applications used in online learning



Therefore, researchers also make open questions for students who judge less effective about the obstacles encountered while attending online learning. Based on the results of surveys and online interviews through Google forms and Google meetings to find out what students think about online learning that has been done, some of the advantages of online learning are practical (easy to use), flexible (can be done anywhere and anytime), and can be done casually (while lying down, eating, drinking, etc.). Besides these advantages, many complaints and obstacles experienced by students while studying from home. Some of the obstacles encountered by students in online learning during LFH are shown in table 2.

The new normal period the blended learning method is still applied, including,

- ✚ agreed-upon schedule of lectures and major holidays,
- ✚ The composition of online learning is not more than 50%,
- ✚ The time for assignment is given an appropriate deadline,
- ✚ If learning is still done online the material should be explained in advance both through video and audio media.

To implement Blended Learning, agencies need to prepare things that must be met, one of which is running a health protocol. Entering the new era of normal behaviour changes occur to continue normal activities coupled with implementing health protocols to prevent COVID-19 transmission, including

- ✚ Maintaining hand hygiene by washing hands,
- ✚ Avoiding touching the face,
- ✚ Covering mouth and nose when coughing and sneezing,
- ✚ Wearing a mask,
- ✚ Keeping a distance by adjusting the seating position in class,
- ✚ Doing independent isolation if feeling unwell, and
- ✚ maintaining health with adequate rest and eating nutritious food 4 healthy 5 perfect

Minister of Education and Culture, Nadiem Makarim, in a press conference, gave several requirements that must be met by agencies to be able to hold face-to-face learning, including

- ✚ Being in the green zone,
- ✚ Getting permission from the regional government/ regional offices/ offices of the Ministry of Religion,
- ✚ The education unit has fulfilled all checklists and is ready to conduct face-to-face learning and
- ✚ Approval from parents. If one of the four conditions is not met, then the student continues to learn from home in full

Conclusion:

Students' views on online learning collected through online surveys and interviews concluded that 100% of the lectures had been carried out online with a composition of 25.45 % in the form of Asynchronous Online Course, 30.20% Synchronous Online Course, and 45.35 % using Hybrid Online Course. The effectiveness of online learning that has been carried out was obtained 7.1% very effective, 20.1% effective, 53.8% sufficient, 17.8% less effective, and 1.2% ineffective. Through open-ended questions in a questionnaire to allow students to convey the constraints/ difficulties experienced during LFH, including network constraints, health problems, costs, the environment, course constraints, and time.. This research is a reflection of learning to achieve better learning success. As a further consideration, an online survey should also be conducted for teachers to find out their competencies in the field of technology and information.

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Medicinal Tablets Analysis During COVID -19 Pandemic in India

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Abstract :-

*covid – 19 Facts and literature are discussed into Chemical Science intuition highlighting the direct role of Chemistry to the ongoing global pandemic by covering and uses of tablets in pandemic situation and their present in contain (drugs) that particular tablet analysis Virus, Chemical Preventive and uses of tablets in pandemic situation and their present in contain (drugs) that particular tablet analysis ,we reviewed four most promising repurposed tablet (durg) which are presently being investigated in mass clinical trials on covid 19- infected persons and synthetic routes of these drugs with their recent advancement .chemical preventing measures such as , like tablet azimax 500, HCOS 200, and Dolo 650 , Zincovit, covifor injection , MP4 tablet and Health ok , etc then all tablets effects on human body . Like **Azimax 500 tablets** it works by preventing synthesis of essential proteins required by bacteria to carry out vital functions they another tablet is **HCQS 200**.Tablet It works by suppressing the overactivity of the immune system that causes inflammation (swelling) and pain in the joints.Then the **Dolo 650**tablet it works by blocking the release of certain chemical messengers that cause pain and fever.Then the **Zincovit**Tablet works by acting on megaloblastic bone marrowthen the another tablet is analysis Covifor injeccation cipremi injeccation works by inhibiting on RNA. **MP4 tablet** then theTake this medicine in the dose and duration as advised by your doctor. Then tablet **Health Ok**Health ok tablet restores the body'swork in human body.use of tablet in pandemic situation and data analysis in which is durg present in that tablet.*

Keywords: - tablets, drugs, pandemic, Virus, Chemical.

Introduction:-

The coronavirus disease, COVID-19, was identified first in the Wuhan, city of China at the end of December 2019. At the onset of the disease a series of pneumonia incidents were reported to China National Health Commission on 7 January 2020. Latterly, analogous cases spread fleetly throughout the world, and the World Health Organization (WHO) declared the situation a global epidemic on 11 March 2020.

Clinical trials of antiviral and they work in human body , such as tablet and drugs, such as **Azimax 500 tablets** drugs, (**Azithromycin**), **HCQS 200 table** (Hydroxychloroquine), **Dolo 650** Paracetamol 650 mg, **Zincovit** tablet (folic acid), **Covifor injeccation** (remdesivir) (Beigelet al., 2020), **Health Ok**(zincpowde,)hydroxychloroquine and azithromycin (Gautret et al., 2020), (Hung et al., 2020), **MP4** (methylprednisolone) and ongoing in China, India ,US, UK, and several European countries. Among them, Remdesivir is effective against CoVs related to SARS, MERS (Amanat and Krammer, 2020), and Ebola contagion, although comparatively lower effective than other treatments (Mulanguetal., 2019). Likewise, Chloroquine and hydroxychloroquine, which promote antiviral conduct against mortal immunodeficiency contagion (HIV) and acquired vulnerable insufficiency pattern (AIDS), are on trial to treat COVID-19 cases (Rosa and Santos, 2020). Also, lopinavir, ritonavir, arbidol, and favipiravir are under trial phases each over the world, but their efficacy is yet to be verified, and some of the trials have been terminated due to failure in cases. There are 16 vaccines in mortal trials (biorender.com), including some that have been used preliminarily and patented.

Objective: -

- 1) To study the causes of corona infection.
- 2) Review how coronary outbreaks can be reduced.
- 3) To study measures to prevent corona epidemic.

Research Methodology: - The primary and secondary tools were used for this dissertation.

It is used tablet, newspaper, internet website data etc.

Definition Medicinal Tablet:- In pharmacy, a medication, usually mixed with a binder powder, molded and pressed into the form of a tablet, traditionally circular or disk-shaped, but more recently also oblong or differently shaped. From the French *tablette*, little table.

1) Name of Tablet: - Azimax 500.

Contain: - Azithromycin (Anhydrous) 500 mg, Azithromycin Dehydrate IP

Benifites:- Azimax In Treatment of Bacterial infections. Azimax 500 Tablet is an antibiotic drug that can be used to treat numerous different infections caused by bacteria. These include infections of the blood, brain, lungs, bones, joints, urinary tract, stomach, and bowel. It can also be used to treat sexually transmitted conditions. It stops the growth of the bacteria causing the infection and clears the infection.

How Azimax Tablet works: - Azimax 500 Tablet is an antibiotic. Workshop by precluding conflation of essential proteins needed by bacteria to carry out vital functions. Therefore, it stops the bacteria from growing, and prevents the infection from spreading.

2) Name of Tablet: - HCQS200.

Contain: - Hydroxychloroquine , sulphate 200mg,

Benifites:-In Treatment of Rheumatoid arthritis

Rheumatoid arthritis is an autoimmune condition where your body's immune system (which usually fights bacteria and viruses) attacks your body's own cells. HCQS 200 Tablet stops that from happening and can relieve the symptoms of this condition such as swelling, pain, and stiffness in your joints.

How HCQS Tablet works: HCQS 200 Tablet is a Disease Modifying Anti-Rheumatoid Drug (DMARD). It works by suppressing the overactivity of the vulnerable system that causes inflammation (lump) and pain in the joints.

3) Name of Tablet: - Dolo 650

Contain: -paracetamol 650 mg.

Benifites: -In Pain relief

Dolo 650 Tablet is a common painkiller for treating aches and pain It's extensively used and infrequently causes any side goods if taken duly. To get the most benefits, take it as specified. Don't take more or for longer than demanded as that can be dangerous.

How Dolo Tablet works: - Dolo 650 Tablet is an analgesic (pain reliever) and anti-pyretic (fever reducer). It works by blocking the release of certain chemical couriers that beget pain and fever.

4) Name of Tablet: - Zincovit

Contain: -vit B 1.4 , vit B6 1mg , vit A 600 ug , manganese 250 follic acid 100ug,copper 30mg, selenium 30 ug ,chromium 25 ug vitamin D3 5 ug , vitamin B12

Benefits:-Strengthens the immune system and helps fight immune deficiency disorders Treatment and prevention of vitamin and mineral deficiencies Helps in the formation of red blood cells and enhances the absorption of iron in the body Useful during pregnancy and after surgeries Important for the proper functioning of the nervous system Improves general health and overall well-being

How Zincovit Tablet works: *Zincovit Tablet works* by acting on megaloblastic bone marrow to produce a maintaining many tissues *of the body* to prevent vitamin B2 deficiency...

5) Name of Tablet: -Covifor injection.

Contain: - Remdesivir injection

Benefits: -cipremi injection is a broad – spectrum antiviral medicine, it used for the treatment of suspected or laboratory coronavirus diseases 2019 (covid _19) in adults and children hospitalized with severe disease. The medicine decreases the viral load in the body and speed up the recover process.

How Covifor injection works: - cipremii injection works by inhibiting on RNA- dependent enzyme called RNA polymerase that helps the SARS – Cov -2 virus makes more copies of itself it's given as

an injection into modes under the supervision of a croaker. Take it only as per the cure and duration suggested by your croaker. You should not self – medicine this medicine .

6) Name of Tablet: - MP4

Contain: - Methylprednisolone

Benefits: - In Treatment of Rheumatic disorder.

Rheumatic disorder is an autoimmune condition where your body’s immune system (which usually fights bacteria and viruses) attacks your body’s own cells. MP 4 mg Tablet stops that from passing and can relieve the symptoms of this condition similar as pain, swelling, and stiffness in your joints. It can also decelerate down common damage, reduce disability, and enable you to be as active for as long as possible. It can take several weeks or months to notice the effect of the drug. You should continue taking it until your croaker says it's okay to stop using the drug.

How MP4 Tablet works: Take this medicine in the dose and duration as advised by your doctor. Swallow it as a whole. Do not chew, crush or break it. MP 4 mg Tablet is to be taken with food. Avoid MP 4 mg Tablet with salutary sodium.

7) Name of Tablet: - Health Ok.

Contain: -Multivitamin, carbohydrates amino acids with caffeine, ginseng extract and zinc powder .

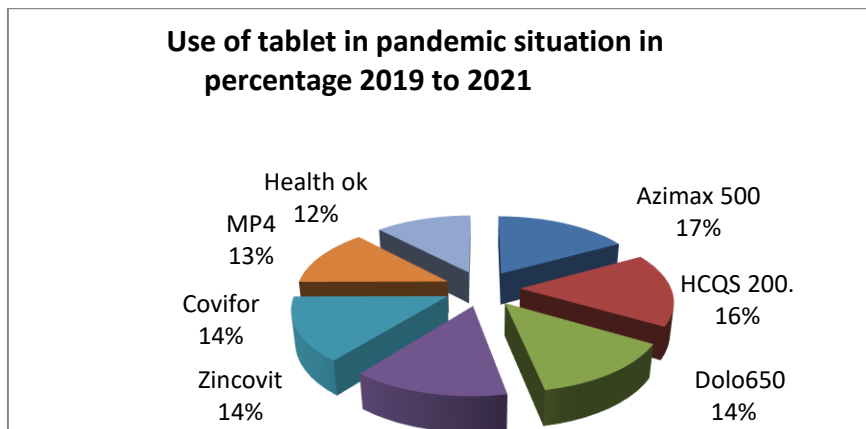
Benefits:- Health Ok by Mankind helps you regain vitality and strength that you lose due to your hectic lifestyle or age Contains all the essential vitamins and minerals to improve your overall health and keep you strong Also contains zinc and vitamins C and D which help strengthen immunity and overall health

How Health oks Tablet works: - Health ok tablet restores the body's essential minerals and vitamins and helps in healing wounds, boosting.

Use of tablet in pandemic situation in percentage 2019 to 2021

Sr. No.	Name of tablet	Contain	Use of tablet in pandemic % 2019 to 2020	Location
1	Azimax 500.	Azithromycin (Anhydrous) 500 mg, Azithromycin Dehydrate IP	98%	India
2	HCQS 200.	Hydroxychloroquine , sulphate 200mg,	95 %	India
3	Dolo 650	Paracetamol 650 mg.	78%	India
4	Zincovit	vit B 1.4 , vit B6 1mg , vit A 600 ug , manganese 250 follic acid 100ug,copper 30mg, selenium 30 ug ,chromium 25 ug vitamin D3 5 ug , vitamin B12	80 %	India
5	Covifor injection	Remdesivir injection	82%	India
6	MP4	Methlyprednisolone	75%	India
7	Health Ok.	Multivitamin, carbohydrates amino acids with caffeine, ginseng extract and zinc powder.	70%	India
8	Total use of tablet :- 525/100 = 5.25			

Use of tablet in percentage



Use of tablet in pandemic situation so, more and less effective tablet (drugs) in COVID-19 is,

- I) **More effective:** -- 1) Azimax 500. (Azithromycin)
2) HCQS200. (Hydroxychloroquine)
- II) **Effective :-** 1) Dolo (paracetamol 650 mg)
2) Zincovit (D3 5 ug, vitamin B12)
3) Covifor injection (Remdesivir injection)
- III) **Less Effective:** - 1) MP4 (Methlyprednisolone)
2) Health Ok. (Carbohydrates amino acids)

I) **Name of Durg:- Azithromycin**

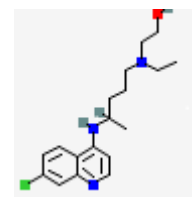
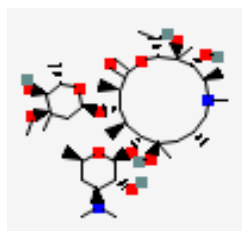
II) **Name of Durg: - Hydroxychloroquine**

Molecular Formula:- C₃₈H₇₂N₂O₁₂

Molecular Formula:- C₁₈H₂₆ClN₃O

Molecular Weight: -749.0

Moleular Weight: - 335.9



Structure:-

Structure:-

Despite its small sample size, our check shows that hydroxychloroquine treatment is significantly associated with viral cargo reduction/ exposure in COVID-19 cases and its effect is corroborated by azithromycin.

Conclusion: -

During pandemic lots of patients gets adminated into the hospitals. For covid -19 treatment. Various medicinal tablets was given to the patients to get completely cures. but some patients got exposed allergies conduction during tratment .

After analysis, it was found that, to due to another abnormality into the COVID patients show cross rection with medicine. and hences, that particular tablets, get omitted form treatment tablets

like azithromycin and Hydroxychloroquine are resiliently added into the treatment of COVID patients so as to get clearly cure of from the diseases.

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Impact of Covid-19 Pandemic on Fisheries Sector and Sustainable Development of Fisheries and Aquaculture Food Systems

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Abstract

The COVID-19 epidemic has been the world's most serious humanitarian crisis since World War II. In India, the Covid-19-induced lockdown wreaked havoc on the economy. It began on March 24, 2020, and continues to this day, with varying limits, across the country. The impact of a total shutdown on the seafood, freshwater, and brackishwater sectors of the fisheries industry, as well as the majority of fishery-dependent related industries, which are coping with a poor demand outlook and a host of supply issues. The industry has risen at an annual pace of about 8% on average, with aquaculture growing at a rate of more than 10% on an annual basis. The Gross Value-Added of the sector has been steadily increasing, accounting for around 7.28 percent of Agriculture GDP. Exports of marine products totaled 12.9 lakh metric tonnes in 2019-20, worth 46,662.85 crores (6.68 percent billion USD). However, following the COVID-19 outbreak, all fisheries sectors, including Fisheries production, Aquaculture (inputs, production, Post-harvest, market and trade, Vulnerable groups, working conditions, health & safety and gender, Fishery and aquaculture research and development, and so on, have taken a number of measures to control the spread of this deadly virus, including social isolation directives through lockdown, limiting transportation service for essential services, restriction of business, and so on. Strict measures like Protecting fish production and income of fishermen, Maintaining aquaculture productivity and welfare of fish farmers, and Protecting fish production and revenue of fishermen, Aid to Processors, Markets, and Traders in Adapting to Demand Shifts as well as Management and Policy Implications would help the sector recover for sustainable development

Key words: COVID-19 epidemic, humanitarian crisis, fisheries industry, aquaculture, sustainable development

Introduction

Since World War II, the COVID-19 epidemic has posed the world's largest humanitarian problem. The virus has spread widely, and the number of cases is increasing every day while governments try to contain it. India had acted quickly, enacting a proactive 21-day nationwide shutdown with the intention of flattening the curve and allowing sufficient time to prepare and resource solutions. Overseas, India's efforts to combat the COVID-19 virus have been lauded. The lockdown, on the other hand, came at a financial cost and had a cascade effect across society. In India, the Covid-19-induced lockdown caused a severe economic shock. It began on March 24, 2020, across the country and continues to this day, with various restrictions. It brought the economy to a halt by forcing businesses in all sectors to shut down completely. Despite the fact that agricultural activities were exempt, the agriculture value chain was severely disrupted in the early stages of the lockdown. This has a significant negative impact on the rural Indian economy. At the same time, it's critical to consider the impact of a total shutdown on the fishery industry, which includes the seafood, freshwater, and brackishwater sectors, as well as the majority of fishery-dependent allied industries, which are dealing with a bleak demand outlook and a slew of supply challenges.

According to the Department of Fisheries' Handbook on Fisheries Statistics, 2020, the fishing industry is a promising sector that plays an essential role in the country's economic development. The sector has grown at an annual rate of roughly 8% on average, with aquaculture rising at a rate of more than 10% on an annual basis. The sector's Gross Value-Added has been steadily increasing, accounting for around 7.28 percent of Agriculture GDP. During 2019-20, marine products exports totaled 12.9 lakh metric tonnes, valued at 46,662.85 crores (6.68 percent billion USD). Fish and fish

products account for over 17% of our country's agricultural exports. The country is well on its way to realizing the sector's enormous potential. Fish output climbed from 0.75 MMT (million metric tonnes) in 1950-51 to 14.2 MMT in 2019-20, indicating that the country is well on its way to harnessing the potential of fisheries.

But after the COVID-19 outbreak all fisheries sectors such as Fisheries production, Aquaculture (inputs, production, Post-harvest, market and trade, Vulnerable groups, working conditions, health & safety and gender, Fishery and aquaculture research and development, etc. have taken several measures to control the spread of this deadly virus, including social isolation directives through lockdown, limiting the transport service for essential services, restriction of business opening hours, and so on. The reason is that the operations necessary to convey fish and fish products from the point of production to the ultimate customer are extensive. The technologies used around the world range from handmade to highly industrial. Local, regional, and worldwide markets are all part of value chains. Fishing, aquaculture production, processing, input transit, distribution, wholesale, and retail marketing are all important aspects of a fisheries or aquaculture supply chain. Each of these operations is equally important to the supply chain's performance. Impacts resulting from COVID-19 have the potential to disrupt or stop each stage of the chain. If the disease or containment measures break one of these buyer-seller relationships, the result will be a cascade sequence of disruptions that will harm the economy.

Impact of COVID-19 on different sectors of Fisheries Industry

1. **Impact on Fisheries production-** Many fishing fleets have come to a standstill or restricted activity as a result of the drop in demand, which has resulted in price cuts of fish and fish products in some situations. Fleets that rely on export markets (such as the United Kingdom and Ireland) and higher-value species (such as lobsters) are more likely to be affected. Fishing is becoming more difficult due to sanitary measures (physical distance between crew members at sea, facial masks, etc.) and a shortage of appropriate equipment (e.g. masks and gloves). Another restraint on the fishing business is a lack of input supplies (such as ice, gear, and bait) due to suppliers closing or being unable to offer inputs on a credit basis. The current level of fishing effort has been influenced by a lack of clarity about ship owners' legal responsibilities in the event of activity resumption, the crew's eligibility for aid measures (e.g. partial unemployment, temporary closures), and the support systems and mechanisms available to maintain this primary activity. Because fish production is seen as an important source of revenue, household resilience, trade, and food security in many countries, farmers are expected to continue to care for their fish and not give them away as gifts or sell them (Le Télégramme, 2020). However, due to the present lockout and economic downturn, the industry may struggle to maintain its activity or maintain its scheduled production cycles, as markets, supplies of production inputs (e.g. seeds, feeds), as well as access to finance, may be disrupted or drastically restricted (Zhang, 2020).
2. **Impact on Availability of Inputs** – Due to the present lockout and economic downturn, the industry may struggle to maintain its activity or maintain its scheduled production cycles, as markets, supplies of production inputs (e.g. seeds, feeds), as well as access to finance, may be halted or considerably restricted. Shortages on seeds, lack of feeds and of some other items that need to be imported (e.g. vaccines) have been reported and could affect the industry more significantly on the medium-term.
3. **Impact on Post-harvest Industry-** Fresh fish processing is hampered by worker illness and related personnel shortages as a result of COVID-19 infection and subsequent employee quarantining. Workers' demands for better health and safety conditions may also cause processing activities to be disrupted. As a result, processing capacity and output are reduced.
4. **Impact on market and trade-** As people attempt to store up on non-perishable food, demand for packaged and frozen goods has increased. Meanwhile, suppliers and processors are dealing with a slew of logistical issues, including business closures all throughout the supply chain. Road and sea transportation must struggle with blocked or limited borders, customs and health inspection

delays, and large-scale flight cancellations have had a direct impact on trade in some high-end fresh products transported by air. All of these factors have resulted in higher transportation costs. In the area of international trade, the heads of FAO, the World Trade Organization (WTO), and the World Health Organization (WHO) called for the prevention of disruptive border restriction measures on food trade to avoid food shortages, emphasizing the importance of disseminating information on food-related trade measures (WTO, 2020). 22 Another global trade-related consequence of the virus outbreak is the cancellation of major seafood trade events around the world.

5. **Impact on Vulnerable groups-** Processors and sellers may face unfavourable economic consequences as a result of the epidemic. The reduction of fish and fish farming activities, as well as mobility restrictions and therefore the transfer of fish to markets, will diminish the amount of fish accessible for processing and trade. Due to flying limitations and quarantine periods, personnel aboard large-scale industrial boats who work on/off for several weeks and then are replaced by another crew during their work break are unable to return home. As a result, they are required to stay on board for extended periods of time, which raises weariness and tension (also relevant to the health of family members back home). Longer working periods result in an increase in on-board accidents. The medical facilities (health clinics, hospitals) in fishing and fish farming settlements are generally inferior to those in cities, and they are often located far from the big towns. During the COVID-19 outbreak, transportation to cities may be prohibited to prevent the virus from spreading, and as a result, fisherfolk and their families' access to high-quality health care, medicines, and pharmaceuticals may be constrained.
6. **Impact on Food security and safety-** Fish and fish products are essential components of a balanced diet. In certain countries, false views have resulted in lower consumption of fish and fish products. Coronavirus, on the other hand, cannot infect ectothermic³⁰ aquatic animals (finfish, reptiles, amphibians, and invertebrates like crustaceans and molluscs), so they are not involved in disease transmission. Reduced food security and increased hunger difficulties will emerge from the probability that processing and transportation businesses may be compelled to curtail, stop, or entirely slow down. Reduced fish consumption could exacerbate issues related to the "triple burden of malnutrition" – under-nutrition (underweight, stunting, and wasting); overweight and obesity; and micronutrient deficiencies – which already affect over 200 million children (stunted, wasted, and overweight) and over 2 billion adults (overweight or obese) around the world, costing society up to USD 3.5 trillion per year (Global Nutrition Report, 2018).

Revival and sustainable development of fishing industry during and after the COVID-19 pandemic

Local, regional, and worldwide markets are all part of value chains. Fishing, aquaculture production, processing, transportation, and wholesale or retail marketing are all important aspects of a fisheries or aquaculture supply chain. Impacts resulting from COVID-19 have the potential to disrupt or stop each link in the chain. If the disease or containment measures break one of these producer-buyer-seller relationships, the result will be a cascade sequence of disruptions that will harm the sector's economy. As a result, the producer-buyer-seller relationships at each stage of the fisheries supply chain must be safeguarded. To deal with the effects of the COVID-19 pandemic in fisheries, the FAO has proposed the following steps.

1. Protection of fish production and income of fishermen

Reduced fishing activity may result in higher levels of unemployment, temporary closure of fishing operations, and a lack of support networks to sustain living standards, forcing fishermen to give up fishing. As a result, fish production and availability as a source of nutrition and food security for millions of people in the country may decline.

Measures:

- Designating fishermen and fish growers as "essential employees" since they provide the nation with food;

- Establishing a link between fishing communities or fish production farms and local community fish markets to ensure a steady supply of fish at a set price.
- Increasing government purchases of fish for institutional usage (school feeding programmes, hospitals, and prisons, among other things) as well as distribution as food assistance;
- To compensate for economic losses, the fishing season will be extended.;
- Compensation for fish boat owners and crews who have been banned from fishing;
- Restricting the amount of fishing done now (through quotas or a lottery system) to match current demand while ensuring local food security;
- Having state fisheries departments set a minimum floor price for each of the important species of fish, wherever possible.

2. Maintaining aquaculture production and welfare of fish farmers

Fish growers are unable to sell their catch due to market interruptions and are forced to maintain significant quantities of live fish. Costs, expenditures, and dangers all rise as a result. The shutdown of international markets has apparently harmed some farmed fish, such as Pangassius. Due to the shutdown of export markets and foodservices such as tourism, hotels, and restaurants, shellfish aquaculture (e.g. shrimp) is also harmed. Hatchery owners and brood stock brokers are having difficulty trading brood stock for seed production, which could result in a significant drop in output. On the other side, small-scale aquaculture may profit from less competition from imported fish. The difficulty in obtaining supplies (seed and feed) and recruiting workers may also have an impact on aquaculture output capacity.

Measures:

- Declaring aquaculture to be at par with agriculture for the purpose of priority sector lending, crop insurance, power tariff and other levies;
- Increasing fish farmers' access to credit and microfinance programmes with lower interest rates, more flexible loan repayment alternatives, and the ability to restructure loans and payment schedules;
- Programs to compensate for production and income losses in order to retain domestic fish supply networks and businesses.;
- Forgiving loans used to maintain payroll, and low-interest loans to refinance existing debts;
- Slowing down production where there is a drop in demand or reduced market access, especially if exports remain slow and farm labour has been lost.

3. Aid to Processors, markets and traders to adapt to shift in demand

Due to market access restrictions and a decline in demand, fish and fish products may be retained in storage for longer. Food loss and waste owing to quality changes, as well as higher costs for processors, exporters, importers, and traders, are all ramifications of this. Simultaneously, this unique scenario is spawning exciting innovation practices that have the potential to change the way the industry operates in the future.

Measures:

- At the global level, efforts will be made to minimize food shortages by preventing border restrictions on food commerce, emphasizing the importance of disseminating information on food-related trade policies.;
- assuring supply chain access and, for those fishing enterprises that export their products internationally, providing continuing access to and cooperation with officials at ports, rail, and border crossings so that they may sustain their sales;
- Reducing unnecessary regulatory burden that are preventing access to and sustainable harvest from fishing grounds;
- Continuing support for the supply chain (e.g. using temporary storage of fish, diverting fishes to domestic markets etc.)
- Processing fish that remains unsold (e.g. salted, iced fish that requires supply of medium sized insulated fish boxes to be provided by state fisheries department);

- Marketing fresh fish directly to consumers
- Cut down the need for prolonged storage of fish

4. Workplace conditions are improving all along the value chain

Fishermen's working conditions and safety will be impacted. There will be a reduction in the number of ships on the water. Fishing towns have the potential to become "hotspots" for COVID-19 because of the fish labourers and their migratory habit. Mobility restrictions may have an influence on the harvesting and post-harvesting sectors, since women are mostly responsible for processing and trading. Because markets attract huge crowds and physical separation is difficult to achieve regularly, seafood vendors may be at a higher risk of infection. If there is a shortage of sanitation and hygiene facilities, this is considerably more likely.

Measures:

- Ensuring safety by limiting fishing operations to licensed vessels with a specific number of crew members.;
- Improving hygiene and sanitation in the fish market during all the times;
- Providing payroll and unemployment assistance for crew members and self-employed small scale fish farmers;
- Supporting the most vulnerable with cash and in-kind transfers by local institutions;
- Relaxing conditionalities (e.g. waivers on contributions) to ensure wider and adequate coverage of assistance programme in fisheries and aquaculture sector.
- Inter-institutional coordination for fisheries development and governance to ensure coverage of fishermen for social development.

5. Implications for management and policy

While halting fishing operations will provide relief to certain overfished fish species, the lack of people will make monitoring, control, and surveillance of fish stocks difficult. This will lead to irresponsible fishing practices, endangering fish stocks..

- Maintaining high levels of fishing activity monitoring, control, and surveillance to guarantee that control measures are followed and that the risk of illicit, unreported, and unregulated fishing does not rise.

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Innovative Teaching Learning Methods After Pandemic

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Abstract

COVID 19 closed schools and colleges. Many students have dropped out of school due to closure of schools and colleges. As a result, students are neglecting education and study. Those students need to be re-certified. There is a need to use new teaching methods in which students will be attracted to learning. Some of the methods are given below. In this way students will be attracted to learning again.

1. Flipped Classrooms

Outbreaks appear to be exacerbated by the use of flipped classroom models, as teachers and students can no longer rely solely on personal visits. These shifts revealed the power of accessible, flexible and attractive virtual learning methods, as well as the benefits of a mix of contemporary and asynchronous learning. Flipped classrooms are for living here. Their effectiveness during the epidemic proved that this educational approach can go beyond time and space, offering unparalleled flexibility for all participants. Even after returning to 100% personal learning, many teachers continue to incorporate flipped class elements. They are using video and multimedia materials outside of class time to create a richer, more interactive learning experience.

2. Technology

Technology is an innovation of humans, so when an educator can apply technology to teaching, it is also innovative. Ed Tech allows teachers to provide multimedia to address diverse learning styles, such as animation, live video, etc. Besides, Ed Tech enables teachers to create online courses where students can learn in their own space and at their own pace. Technology has made it possible for everyone to stay connected. Students and teachers connect, discuss, share their opinions, and act upon situations collaboratively.

3. Mindset

Changes in mentality, mood, and overall classroom environment begin with the teacher. Teachers set class tones from the moment students enter the building. If teachers are curious about their subject, students will be motivated to follow. Teachers need to be interested in the subjects they are teaching. However, the teacher's mindset on how to design and distribute materials is important for the innovative learning process. Most teachers were trained to teach only from a teacher's point of view. In order to change this type of delivery and make the class more innovative, they need to think of their students as leaders - acting as guides rather than teaching content and asking students to spread the word on a standardized test.

4. Use of Smart Board

Deploying smart boards to make the learning process more interactive is a key element of this evolution. However, learning the right way to use smart boards can be a new thing for teachers in their current teaching methods. Keep it focused and interactive When it comes to focusing on students in the classroom, smart boards are a great way to go. It has been observed that when students come and solve problems on the smart board in front of the class and engage themselves in the learning process, the teachers get better success. Using colour and medium Teachers can use the various interesting tools and media options available in the Smart board functionality. Teachers can use smart

boards to review all the work done by the students later as smart boards are usually connected to the computer. Teachers also take advantage of this feature to help students work on other issues after the lesson is over. Since there are many benefits of smart boards in schools, teachers can also use the various mediums and educational resources available on the Internet. Anything from video lessons to two text content and interactive applications can help make the whole learning process more interactive and interesting for students as well as teachers.

5. Game and Puzzle

One of the major problems facing teachers is low student participation. Lack of attention and lack of interest reduces learning efficiency. Game-based learning is one of the various teaching methods that teachers use to instill interest in students. It is a method of teaching that involves games to teach a specific concept or lesson. With the advancement of technology and the availability of numerous online teaching tools, it is easy to combine classes and lessons. You can include quizzes, buzzer games, and more to make sure learning is effective

Conclusion

We are studying the educational pandemic situation. In this difficult situation all over the world facing the lock down. Schools and colleges are closed last two and half years, the system of education was collapsed. So the everyone wants to new startup of learning. Mentors and students have used this type of methods for better learning in education.

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Pentadecanoic acid against *Candida albicans* and *Klebsiella pneumonia* Biofilm; towards the development of an anti-biofilm coating to prevent polymicrobial infections

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Abstract

A Biofilm is defined as a group or community of Bacteria enclosed in self-produced exopolysaccharides matrix that adheres to biotic or abiotic surface. As the microorganism has the ability to form biofilms, which can further get grouped or colonized many layers such on the host tissues and also on medical devices which further gets result into the highly resistance infection which gets conventional to drugs. In which the Polymicrobial biofilms involves both bacteria and fungi and hence to get rid of biofilm infections the new anti-biofilm strategies are needed. The Pentadecanal and Pentadecanoic acid has recently reported which can act as an anti-biofilm agent against different bacterial strains. Their property of ability of fatty acids to act as anti-biofilms & their chemical similarities with diffusible signal factors (DFs), which was suggested to use against the mixed biofilm of *Candida albicans* and *Klebsiella pneumonia*. In which they identified the ability of Pentadecanal and Pentadecanoic acid molecule which can inhibit the formation and destabilize the structure of the both species biofilm (Mixed Biofilm). Also, it was demonstrated that on polydimethylsiloxane (PDMS) absorption of fatty acid we obtained pentadecanoic acid which has anti-biofilm coating which prevented the polymicrobial biofilm formation with the confocal laser scanning microscopy analysis. As a result, it was concluded that the Pentadecanal and Pentadecanoic acid has the ability to prevent the formation of the dual-biofilm (*Candida albicans* and *Klebsiella pneumonia*) with showed the property of anti-biofilm effect.

Keywords: Polymicrobial biofilm, Pentadecanoic acid, Anti-biofilm coating, *Candida albicans*, *Klebsiella pneumoniae*

Introduction

A biofilm is composed of living, reproducing microorganisms, such as bacteria, that exist as a colony, or community. A biofilm community can be formed by a single kind of microorganisms, but in nature biofilms almost always consist of mixtures of many of bacteria, as well as fungi, algae, yeasts, protozoa and other organisms [1]. This community called as Polymicrobial biofilm. Microbial biofilms usually pathogenic and responsible for several diseases or biofilm related infection especially those associated with medical devices, including Heart-circulatory devices, urinary catheters, contact lenses and orthopedic implants. The Polymicrobial biofilm related infection complicate and diagnosis and the choice of suitable therapeutic treatment. In particular infections caused by mixed Fungal-bacterial biofilms have become one of the main public health problems in clinics [2,3]. *Candida albicans* is the most prevalent fungal species of the human microbiota; this species asymptotically colonizes many areas of the body, particularly the Gastro-intestinal and genitourinary tracts of health individuals [4]. *Candida albicans* interacts with both gram +and gram -ve bacterial partners. *Klebsiella pneumoniae* is another type of organism caused of bloodstream infection. It is a Gram-negative organism that present in hospitalized patient. *K. pneumonia* is opportunistic bacterium that mostly resides in the mucosal tissue, [4] but they pathogenic in hospitalized or otherwise immunodeficient patient. It is several intrinsic virulence Factors, this ability to form biofilms on medical devices surface like urinary [5] catheter or tracheal tubes. In this case of candida-mixed-species infections *C. albicans* and *K. pneumonia* are often isolated together [6], especially from patients with bloodstream or oral infection or respiratory diseases [7-23]. To create effective against Device-associated infection on Anti-biofilm coating. This is physical absorption of pentadecanoic acid on a polydimethylsiloxane surface through physical chemical properties of PDMS (polydimethylsiloxane) make it a good one for medical application. Then the reported result in the PDMS coated with pentadecanoic acid able to reduce biofilm [8-26] formation. In this review paper, we observed the

effect of pentadecanol & pentadecanoic acid in preventing & *C. albicans* / *K. pneumoniae* double species biofilm. The polymicrobial biofilm formation on both untreated & modified, PDMS was examined [9-17].

The effect of pentadecanal and pentadecanoic acid

Blended species biofilms cause diseases that are impressively harder to treat contrasted with single-species partners and require complex multi-drug treatment systems [40]. Both *C. albicans* and *K. pneumoniae* can colonize clinical gadgets alone or together shaping single or double species biofilm. In the initial segment of this review, we investigated the creation of *C. albicans*/*K. pneumoniae* biofilm. The severe interconnection between *C. albicans* and *K. pneumoniae* brought about the development of a solid sessile local area, where the organism was at first (later 24 h) prevailing as for the bacterium. Though, in the biofilm at 48 h, the two species were similarly present. It is conceivable to conjecture that in the exploratory condition took on in this work, *C. albicans* adherence and development may be inclined toward due to the underlying high-impact conditions, notwithstanding the opposition for glucose present in the way of life medium. Afterward, once the early biofilm was laid out, and the microenvironment would dynamically turn out to be more anaerobic, *K. pneumoniae* multiplied until the two species wound up existing together in a similar sum. Without a doubt, it has been accounted for that the foundation of *C. albicans* biofilm gives a hypoxic microenvironment that upholds the development of gastrointestinal facultative (counting *K. pneumoniae*) and severe anaerobic microbes [41].

Pentadecanal synthesis

Then, to distinguish an enemy of biofilm particle ready to obstruct the blended biofilm arrangement and security, we tried the movement of pentadecanal and pentadecanoic corrosive. These two particles came about to be compelling against different microorganisms [28,42] and a covering arrangement of these two mixtures on PDMS surface has been as of late set up [29]. In addition, their compound construction is like that of diffusible sign element particles (DSF) and long-chain unsaturated fats that came about to be compelling against *C. albicans* [33,34] and *K. pneumoniae* [43,44]. To be sure, unsaturated fats have been broadly proposed as protected antimicrobials in options in contrast to regular medications [45,46] and as against biofilm atoms when utilized at low, sub-MIC focuses [34]. However, up until this point, their utilization as hostile to biofilm atoms has been confined to single-species biofilms. Results revealed in this paper exhibited that pentadecanal furthermore, pentadecanoic corrosive had the option to undermine both single and double species biofilms of *C. albicans* and *K. pneumoniae*. Despite the fact that the two particles can forestall the blended biofilm arrangement, we decide to zero in the concentrate on pentadecanoic corrosive on account of its higher substance solidness. The pentadecanoic corrosive impact on double species biofilm was analyzed exhaustively, the counter biofilm particle had a special activity against the bacterial cells, to be sure the *K. pneumoniae* cells in the blended biofilm were definitely diminished by openness to pentadecanoic corrosive. This particular activity impact was shown by the evaluation of cells in treated blended biofilm and affirmed by CSLM investigation. Without a doubt, the blended biofilm shaped in the presence of pentadecanoic corrosive had a piece unique in relation to the dual species biofilm shaped without the particle. Pentadecanoic corrosive had additionally a profound impact on biofilm structure either whenever added to a mature biofilm or then again if present during biofilm advancement. In the two cases the biofilm was portrayed by lower biomass and an expanded unpleasantness coefficient, which is a direct mark of biofilm heterogeneity, exhibiting that the treatment with pentadecanoic corrosive prompted the arrangement of an inhomogeneous and unstructured biofilm. The pentadecanoic corrosive is an immersed long unsaturated fat (FA), and soaked FAs (C8 to C18) are generally found in nature and fill in as dynamic specialists that control biofilms of various microorganisms [34]. Obviously, the particular systems basic greasy acids activity relies upon the kind of cells framing the biofilm, and incorporate evolving cell-film smoothness, decreasing EPS, fimbriae or hyphae development, and adjusting QS frameworks [34]. In a new report,

caprylic corrosive (octanoic corrosive) showed antibiofilm action against multi-drug safe *K. pneumoniae* and was shown to forestall, as well as annihilate, preformed *K. pneumoniae* biofilms [47]. In silico connection studies uncovered that caprylic corrosive, in *K. pneumoniae*, impeded MrkA and GalF proteins, which are connected with biofilm and case arrangement, separately [43]. The capric corrosive (decanoic corrosive) came about to have the option to restrain yeast-to-hyphae progress, grip, and biofilm development of *C. albicans* [48]. The capric corrosive deals with *C. albicans* cells as an simple of farnesol (a notable biofilm inhibitor) by subduing HWP1 (the hypha-explicit cell divider protein 1) [48], while myristic corrosive (tetradecanoic corrosive) influences a few harmfulness pathways of *C. albicans* free of QS, like ergosterol amalgamation, oxidative pressure, and sphingolipid digestion [49]. To gather data on the atomic instruments associated with pentadecanoic corrosive activity, the transcriptional reactions of *C. albicans* and *K. pneumoniae* in double species biofilms were investigated after pentadecanoic corrosive treatment, specifically the relative articulations of luxS and mrkA, and HWP1 and ALS3 qualities were assessed within the sight of pentadecanoic corrosive. In the tried condition, the outflow of HWP1 and ALS3 qualities were not impacted by the pentadecanoic corrosive, though a downregulation of luxS and mrkA qualities was noticed. The compound LuxS integrates the sign particle of Type II majority detecting framework (the AI-2 particle). In *K. pneumoniae* the LuxS-subordinate sign plays a key job in the beginning phases of biofilm arrangement [50]. mrkA encodes the significant subunit of type 3 fimbriae that are fundamental in the underlying phase of biofilm arrangement in *Klebsiella pneumoniae* [43]. Hence, the downregulation of luxS and mrkA qualities might make sense of the viability of pentadecanoic corrosive not just in forestalling the development of the single biofilm of *K. pneumoniae* yet additionally disabling that of the double species one. Albeit the itemized atomic components that support the against biofilm action of pentadecanoic corrosive isn't totally explained, the pentadecanoic corrosive double-dealing as against biofilm specialist just conquered a move normal to a few greasy acids connected with dissolvability, conveyance techniques, and harmfulness. For sure, the pentadecanoic corrosive poisonousness was as of late assessed [28] and a conceivable answer for its utilization in biofilm avoidance was proposed by the improvement of a covering framework by actual adsorption on PDMS surface [29]. The unfortunate water dissolvability of the pentadecanoic corrosive is the critical component in acquiring a steady arrival of the corrosive in a water arrangement, and this sluggish delivery permits tough adequacy additional time of the created coatings. To exhibit the covering biofilm-restraining properties against *C. albicans/K. pneumoniae* blended biofilm, a stream framework was set up, which give culture chambers for the constant non-disastrous investigation of biofilms under nonstop hydrodynamic circumstances at a controlled stream rate.

CLSM examination on biofilm shaped on covered surface affirmed the biofilm-hindering impact of the pentadecanoic corrosive covering; other than showing a reasonable decrease of double species biofilm, it likewise incited a poisonous impact on the bacterial cells, obviously showed by the presence of dead cells zones. This impact could be most likely because of the harsh and inhomogeneous dispersion of the pentadecanoic corrosive on a superficial level after drop-projecting. This impact could be stayed away from by further developing the statement strategy, shower covering or twist covering will be assessed to get more uniform adsorption of pentadecanoic onto the PDMS surface. A better testimony could likewise enjoy a benefit of expanded adequacy of the covering on double - species biofilm and a decrease in the amount of particle utilized per unit region.

Conclusion

The information depicted in this paper show the repressing and scattering activity of pentadecanoic corrosive towards blended *Candida/ Klebsiella* biofilm, with a significant penchant to act against bacterial. Articulation changes of luxS, mrkA in *K. pneumoniae* and HWP1, ALS3 in *C. albicans* after openness to 100 mg mL⁻¹ pentadecanoic corrosive. The articulation levels of this large

number of qualities are measurably critical ($p < 0.0001$) when contrasted and each other. Relative articulation proportions more noteworthy than ± 1.5 (red lines) were thought of critically.

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Effect of Combined Training of Suryanamaskar, Pranayama And Weight Training on The Anthropometric Measurements Of Bodybuilders

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Abstract

The study is about the evaluation of the conclusion of the effect of suryanamaskar, pranayama and weight training on the growth of muscle size on the selected anthropometric measurements of the bodybuilders.

Purpose:

This study will enlighten on the benefits and advantages of yoga asana's on the selected anthropometric measurements of the growth of muscles of the bodybuilders. Bodybuilders of Belagavi (Karnataka) are pro bodybuilders and regularly participate in the International and National competitions because of this trend many youngsters are interested to build their physiques and participate in the bodybuilding competition. This study was held to analyses the resultant effect of yogasana's and weight training on the bodybuilders.

Method:

To analysis the influence of the combined training of yogasana's and weight training, twenty bodybuilders of the participants of National competition were selected as subjects for this study. These chosen bodybuilders aged from 20 to 30 years and are practicing weight training more than 5 years and are since in continues training. The girths which are selected for measuring the variables to note the changes in the anthropometric measurement are Chest, Arms, forearms, Thighs, Calf, Height and Weight. The bodybuilders group selected for this study is named as Experimental Subjects (ES) and were supervised for 3 months. The data collected before initiating the experiment was in the month of September 2021 and after implementing the combined training pattern for 3 months. i.e November 2021 the revised data was collected and to find the resultant of the research study it was compared by using appropriate statistical tool.)

Result and Conclusion:

For the study it shows that there are significant changes in the selected variables and the anthropometric measurements in the selected experimental group of bodybuilders. This study will also focus on the importance of yoga to improve flexibility while hypertrophy of muscles through weight training.

Key words: Suryanamaskara, Pranayama, Weight Training, Bodybuilders, ES- experimental subjects.)

Introduction

Yoga is the gift to the world given by our ancestors. Yoga is our heritage and culture which benefits to perform our daily tasks of our life, our vital organs to perform effective yoga is the best exercise. Yoga helps to increases the flexibility which is an important physical component of our body.

Most bodybuilders emphasis on their weight training and diet and few may focus on their cardio workout which will be their main training module. This training module will be accepted by most of the bodybuilders and same pattern is forwarded to budding bodybuilders. It was noticed that many of bodybuilders were suffering from muscles soreness or lower back pain or sciatica problems and muscles tear problem. Such pattern of workout was lacking in the development of core physical component which is flexibility.

From my point of view, by performing weight training and cardio workout at gym for muscle hypertrophy will not achieve the wholesome development of all physical components which are

essential to be healthy for life long. Flexibility is an important physical component which is necessary with the development of power, strength, stamina, agility and speed.

Surya Namaskar or the 12 salutations to Sun God, is a complete body workout. Every set of Surya Namaskar is of 12 asanas. So, when you do suryanamaskara for 12 times from both sides, it is like you are doing 288 poses/asanas. Doing 288 asanas in just 20 minutes, is going to be a good warming up exercise for any core workout. By doing 288 asanas, it will be a good overall stretch for all vital organs which is necessary to release growth hormones required during the training and also for the development of muscles.

It is assumed that doing one round of Surya Namaskar burns approximately 13.90 calories.

The toning of entire body, weight loss, strengthening muscles and joints are the advantages of regular practice of suryanamaskar. If suryanamaskar is practiced regularly this will improve complexion as it ensures a better performance of digestive system and also improve your sleep as it helps combat sleeplessness and reduces stress levels.

The goal of pranayama is to make stronger the connection between your body and mind. According to research, pranayama can encourage relaxation and mindfulness. It's also confirmed that it supports several aspects of physical health, including lung function, blood pressure, and brain function.

Pranayama is known to purify as many as 80,000 nerves in the body. Since it balances out the energy flow of the body, Pranayama is known to affect our overall well-being. There are many health as well medical practitioners that recommend the practice of Pranayama daily.

Repeat up to 20 times. When to do it: This breathing pattern can be practiced for up to 10 minutes at any time of day. If you have a lot of time, you can try a longer sequence: 10-15 minutes of meditation, 30-45 minutes of pranayama ending with a Savasana, and 20-30 minutes of sitting meditation. Then you can take a short break of about 15 minutes or continue into your asana practice.

Methodology

The study was conducted to evaluate the effect of yoga (Suryanamaskar and pranayama) on the bodybuilders who focus on weight training as their main workout for development of their muscles. To proceed with the study, bodybuilders who will be participating at the national competition of various gym of Belagavi District were selected for this study as an experimental subject of around age 20 to 30 years and who are in regular weight training more than five years. The measurements of chest, biceps, forearm, thigh, calf, height and weight were selected for the anthropometric measurement to find the resultant of the study.

It was taken care while selecting the bodybuilders as subjects for the research study that they are doing weight training more than 5 years and are not familiar with yoga asana's and are representatives of the National Level Bodybuilding Competition. The experimental subjects group measurements of girth were taken before initiation of yoga practice to them so that after 12 weeks' practice of yoga the data can be collected to analyse the difference.

Experimental group was directed to follow the workout pattern for 12 weeks. The pattern includes daily 10 minutes jogging followed by conditioning exercises and then 12 repetitions of suryanamaskar and their weight training workout as per their training schedule, later cooling down exercises followed by pranayama for 10 minutes i.e. is anulom vilom and meditation for 5 minute and then savasana for 5 minutes.

The Pre-data of experimental subjects group was taken in the month of September 2021 and Post-data was taken in the month of November 2021 and the collected data was forwarded for comparison for statistical analysis.

Statistical Analysis: Data Analysis – Paired t-Test

H_{N1}: There is no significant improvement in the anthropometric measurement (Chest in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{A1}: There is a significant improvement in the anthropometric measurement (Chest in cms) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Anthropometric Measurement (Chest in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama	37.005	20	3.5644	.7970
Anthropometric Measurement (Chest in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	37.545	20	3.1732	.7095

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Anthropometric Measurement (Chest in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Chest in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	-.5400	.9017	.2016	-.9620	-.1180	-2.678	19	.015

Inference:

Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.015) is less than the level of significance (0.05), hence we can reject the null hypothesis (H_{N1}) at 5% level of significance.

Conclusion:

There is a significant improvement in the anthropometric measurement (Chest in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{N2}: There is no significant improvement in the anthropometric measurement (Arms in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{A2}: There is a significant improvement in the anthropometric measurement (Arms in cms) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Anthropometric Measurement (Arms in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama	13.889	20	2.1023	.4701
Anthropometric Measurement (Arms in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	14.360	20	1.6671	.3728

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Anthropometric Measurement (Arms in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Arms in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	-.4710	.7881	.1762	-.8398	-.1022	-2.673	19	.015

Inference: Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.015) is less than the level of significance (0.05), hence we can reject the null hypothesis (H_{N2}) at 5% level of significance.

Conclusion: There is a significant improvement in the anthropometric measurement (Arms in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{N3} : There is no significant improvement in the anthropometric measurement (Forearms in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{A3} : There is a significant improvement in the anthropometric measurement (Forearms in cms) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Anthropometric Measurement (Forearm in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama	11.140	20	1.1166	.2497
	Anthropometric Measurement (Forearm in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	11.545	20	1.0851	.2426

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Anthropometric Measurement (Forearm in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Forearm in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	-.4050	.4454	.0996	-.6135	-.1965	-4.066	19	.001

Inference: Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.001) is less than the level of significance (0.05), hence we can reject the null hypothesis (H_{N3}) at 5% level of significance.

Conclusion: There is a significant improvement in the anthropometric measurement (Forearms in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{N4}: There is no significant improvement in the anthropometric measurement (Thighs in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{A4}: There is a significant improvement in the anthropometric measurement (Thighs in cms) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Anthropometric Measurement (Thigh in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama	21.690	20	3.5034	.7834
	Anthropometric Measurement (Thigh in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	22.244	20	3.6713	.8209

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Anthropometric Measurement (Thigh in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Thigh in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	-.5535	.5996	.1341	-.8341	-.2729	-4.128	19	.001

Inference: Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.001) is less than the level of significance (0.05), hence we can reject the null hypothesis (H_{N4}) at 5% level of significance.

Conclusion: There is a significant improvement in the anthropometric measurement (Thighs in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{N5}: There is no significant improvement in the anthropometric measurement (Calf's in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{A5}: There is a significant improvement in the anthropometric measurement (Calf's in cms) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Anthropometric Measurement (Calf in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama	13.189	20	1.8079	.4043
	Anthropometric Measurement (Calf in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	13.731	20	1.9986	.4469

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Anthropometric Measurement (Calf in cms) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Calf in cms) of Body Builders - After practicing Suryanamaskar and Pranayama	-.5425	.4176	.0934	-.7379	-.3471	-5.810	19	.000

Inference: Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.000..) is less than the level of significance (0.05), hence we can reject the null hypothesis (H_{N5}) at 5% level of significance.

Conclusion: There is a significant improvement in the anthropometric measurement (Calf's in cms) of body builders after practicing Suryanamaskar and Pranayama.

H_{N6} : There is no significant improvement in the anthropometric measurement (Height in inches) of body builders after practicing Suryanamaskar and Pranayama.

H_{A6} : There is a significant improvement in the anthropometric measurement (Height in Inches) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Anthropometric Measurement (Height in Inches) of Body Builders - Before practicing Suryanamaskar and Pranayama	5.576	20	.4096	.0916
	Anthropometric Measurement (Height in Inches) of Body Builders - After practicing Suryanamaskar and Pranayama	5.552	20	.4391	.0982

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Anthropometric Measurement (Height in Inches) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Height in Inches) of Body Builders - After practicing Suryanamaskar and Pranayama	.0240	.2263	.0506	-.0819	.1299	.474	19	.641

Inference: Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.641) is greater than the level of significance (0.05), hence we can accept the null hypothesis (H_{N6}) at 5% level of significance.

Conclusion: There is no significant improvement in the anthropometric measurement (Height in inches) of body builders after practicing Suryanamaskar and Pranayama.

H_{N7}: There is no significant improvement in the anthropometric measurement (Weight in kgs) of body builders after practicing Suryanamaskar and Pranayama.

H_{A7}: There is a significant improvement in the anthropometric measurement (Weight in kgs) of body builders after practicing Suryanamaskar and Pranayama.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Anthropometric Measurement (Weight in Kilograms) of Body Builders - Before practicing Suryanamaskar and Pranayama	66.330	20	10.6063	2.3716
	Anthropometric Measurement (Weight in Kilograms) of Body Builders - After practicing Suryanamaskar and Pranayama	66.725	20	8.9050	1.9912

Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Anthropometric Measurement (Weight in Kilograms) of Body Builders - Before practicing Suryanamaskar and Pranayama - Anthropometric Measurement (Weight in Kilograms) of Body Builders - After practicing Suryanamaskar and Pranayama	-.3950	4.3800	.9794	-2.4449	1.6549	-.403	19	.691

Inference: Paired t-test is used to test the above hypothesis as we are comparing the same set of body builders at two different time points. The above hypothesis is tested at 5% (0.05) level of significance. Here, in the paired t-test we observe that the p-value (0.691) is greater than the level of significance (0.05), hence we can accept the null hypothesis (H_{N7}) at 5% level of significance.

Conclusion: There is no significant improvement in the anthropometric measurement (Weight in kgs) of body builders after practicing Suryanamaskar and Pranayama.

Discussion and Conclusion:

The resultant of this research study implies that there is significant increase in the readings of the anthropometric measurements and also in the flexibility test. The data collected is of 6 weeks to find the effect of combined training on the subjects and is compared in the last week of the experiment with the collection of the other data. It was noticed that when sit and reach flexibility test was taken at the last week there was increases in the reading by 0.5 to 1 cms in the subjects. This implies that there is increase in the flexibility by combining yoga exercise with the other workout.

The outcome of the research state that the muscles girths were selected as variables to notice the improvement has significant increase and such combination of workout will be helpful in the development of physical component like flexibility, muscle coordination, strength, power. It was informed by the subjects that after doing suryanamaskar their muscles used to get stretched properly and while doing weight training the feeling of contraction and relaxation of muscles was maximum which is necessary for muscle hypertrophy. Subjects also express due to improvement in the flexibility they experienced less soreness, muscle ache, injuries or tear of muscle fibre during the workout and there was increase in the recovery phase.

While lifting weight subjects use to get good control over their muscle and also on their grip this was possible because they use to inhale sufficient amount of oxygen which shows that there was increases in the capacity of lungs and this is because of regular practice of Pranayama.

This study focuses on the importance of yoga asanas for bodybuilders as it could be helpful for them to maintain their flexibility and healthy physiques. Most of the bodybuilders do complaint about back pain, shoulder pain or knee pain after practicing weight training for many years. This could be because they do not practice yogasana seriously and regularly in their daily workout routine which could further lead them to suffer injuries because of lack of flexibility.

This research study on the combined workout will be helpful in the development on the overall physical components which are required to enjoy the fitness for life time. As this workout treats the body from various type of angles which will not allow the body to get adopt to similar kind of workout. When body will not get adopted to similar type of workout the chances of over training or injuries is reduced to the minimum. Similar combination of workout will be helpful for the athletes who are trying to maintain their flexibility and are required to gain muscle strength and power to enhance their performance for their respective sports.

The study will also elaborate the importance of such combination of workouts for all kinds of sports which will be helpful to enhancing the performance.

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A Study Challenge of Agricultural Sector by Post Pandemic

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Abstract

COVID-19 has had a global impact on the operation of food systems. The COVID-19 outbreak has wreaked havoc on India's agriculture system. Nonetheless, the latest quarterly GDP estimates post-COVID scenario demonstrate the toughness and durability of Indian agriculture, which was the sole sector to expand by 3.4 percent last fiscal year. At the same time, growth in the most recent quarter was estimated at 5.9%, down 2.5 percentage points from the previous quarter. In this context, we want to compile early evidence on COVID-19's influence on the Indian agricultural sector, including production, marketing, and consumption, as well as a set of prospective recovery and post-pandemic tactics. According to survey data, the pandemic hampered production and marketing due to labour and logistical difficulties, while the negative income shock limited market access and raised food commodity prices, impacting consumption patterns. The pandemic wreaked havoc on all players in the Indian agriculture sector on a physical, social, economic, and emotional level. Taking advantage of the situation, the government unveiled a slew of new policies and long-awaited changes. In this study Secondary data required for the study are collected from books, journals and other periodicals and reports of the Government and other agencies.

Keywords: COVID-19, agricultural system, COVID impact, pandemic, Impact.

1. Introduction:

The severe covid-19 world pandemic started in 2019 and resulted in immediate, serious human health issues around the world. Quarantines and other restrictions have been implemented to combat pandemic and these measures are expected to remain in place for many weeks and months. Vaccination may give some benefit, but numerous risks remain, and the impact on all areas of the economy is negative. There are numerous other global efforts aimed at controlling pandemics by restricting people's movement and interactions, which has negative economic consequences linked to the functioning of agriculture systems responsible for food supply. The covid-19 poses numerous threats to the agriculture sector's sustainability, which is extremely sensitive due to food supply security needs. The covid-19 pandemic has a number of secondary negative effects on the global sustainability of agricultural systems. There is a significant drop in demand for eatery and commercial food services, as well as labour shortages, food handling and manufacturing capacity, and other agricultural products, all of which have an impact on farmers' output. Quarantine procedures decreased the availability of labour for critical farming tasks such as seeding vegetable crops and collecting fruits, among others. These effects may be considerably more severe for agricultural industries when the global economic crisis deepens as a result of the epidemic.

There is a significant drop in demand for eatery and commercial food services, as well as labour shortages, food handling and manufacturing capacity, and other agricultural products, all of which have an impact on farmers' output. Quarantine procedures decreased the availability of labour for critical farming tasks such as seeding vegetable crops and collecting fruits, among others. These effects may be considerably more severe for agricultural industries when the global economic crisis deepens as a result of the epidemic. The terms 'vulnerability' and resilience are two fundamental theoretical notions that have dominated catastrophe studies since World War II. This concept may be effective in dealing with the consequences of covid-19 on the agriculture sector, as the pandemic can be considered as a true disaster. Using a vulnerability and resilience assessment paradigm, the current scientific literature on covid-19's impacts on the agricultural industry was examined.

2. Objectives of The Study:

The major objectives of the present research study are as follows:

1. To study the COVID-19 impacts on the supply and demand side.
2. To study the challenges of agricultural sector by post pandemic.

3. Research Methodology:

Every research is necessary a specific methodology so for the present research has used specific methodology. For the collection of data, the researcher has used the secondary source. The study is descriptive in nature. Secondary data required for the study are collected from books, journals and other Government websites, periodicals, and reports etc.

4. Limitation of The Study:

The major limitation of this research is that the present research is related to only agricultural sector by post pandemic. Researcher is not covered all dimensions of agricultural sector by post pandemic. The conclusion of this research may not be applicable to other.

5. Covid-19 Socioeconomic Impact on the Supply Side of the Food System:

The supply side of the food system ensures that food is available, nutritious, and accessible to the entire world's population, with trade flows facilitated to allow specialisation of production where it is most efficient. Around one-third of all agro-food product exports are from developing countries. The COVID-19 epidemic, on the other hand, has put unprecedented strains on agri-food chains, resulting in bottlenecks in farm labour, processing, transportation, and logistics, as well as significant fluctuations in demand. Many jobs have been lost as a result of logistical obstacles within supply chains, including cross-border and domestic limits on mobility, as well as labour issues. High-value, perishable items such as fresh fruit and vegetables, meat, seafood, milk, and flowers are likely to be impacted the most. Farmers have been unable to access markets due to transportation restrictions, resulting in food waste. Fundamental changes in supply networks occurred as a result of the COVID-19 crisis, as seen below.

5.1 Confinement Measures, Transportation, And Logistics:

Many businesses ceased operations due to health concerns, in order to prevent the virus from spreading and to adhere to the social distancing rules. This had a significant impact on supply chain operations. In many nations, restrictions on people's mobility have restricted the availability of seasonal employees for planting and harvesting in the food sector. The movement of products along supply chains has been hampered by bottlenecks in transportation and logistics. Extra border checks (e.g., the demand of new and/or additional certificates) cause delays that harm perishable commodities. Some countries are reportedly quarantining trucks and/or drivers, resulting in a large reduction in ground fleets (OECD, 2020). Quarantines also apply to ships, which must stay in port longer as a result, increasing the danger of product damage and increasing the time it takes to reach markets.

5.2. Protectionism Direction:

Many governments have established export restrictions to isolate domestic food markets from global market trends as pandemic measures continue to wreak havoc on economies around the world. These efforts resulted to a reduction in global supply, resulting in even higher food prices, which can be harmful to impoverished countries already facing food security issues. Similarly, governments are under pressure to enact protectionist policies and measures on import restrictions, such as tariffs, quotas, and different sorts of subsidies, in order to save indigenous employment and businesses. These restrictions are known to cause economic distortions, lowering countries' income and citizens' well-being. Although the links between tariff increases and reduced productivity and output, increased unemployment, and increased inequality are more complicated, one might assess their risks of

lowering productivity and output, increasing unemployment, and increasing inequality. This has a significant impact on supply chains, as producers, particularly small-scale farmers in poor nations, who are typically limited in their access to healthy food, have been unable to access marketplaces to sell their products or even purchase vital inputs to run their operations. In light of this, it is evident that commerce must continue to flow, both to assure the supply of critical goods and to preserve global economic cooperation.

5.3. Farm Production Implications:

Input limitations have had an impact on farm production. The manufacturers of raw CO₂ are facing major difficulties as a result of some providers' inability to produce fertilisers due to a lack of manpower (fertilizers). Other farm inputs, such as seed and pesticides, are also having an impact on agricultural production, particularly for smallholder farmers in developing nations, where the closure of village-based agro-dealers has compounded the difficulties to obtain affordable farm inputs (OECD, 2020). Agricultural inputs may be more expensive than these farmers are used to due to their availability and affordability. The locust infestation, for example, is a big problem in East Africa, where locust swarms have already affected food production in several nations, and logistics constraints caused by COVID-19 could stymie solutions such as delaying the provision of required crop protection measures. According to the FAO's (2020) bulletin on desert locust upsurge report update, Ethiopia and Kenya have been affected to the tune of 100,000 hectares. This might lead to a food security crisis in rural regions, as well as a spike in food crop prices across East Asia, increasing the impact of lower incomes. As a result, there is room for developing-country governments to designate seed, fertiliser, and chemical suppliers, as well as ploughing service providers, as important interventions to safeguard and support farmers through their subsistence needs while assuring continued food production.

5.4. Labour Shortages and Shutdowns:

Seasonal labour is frequently used in the agri-food industry. Planting labour is required, and its absence will result in problems with the mid-term supply of certain items, as well as a rise in pricing. Harvesting season is approaching for many products, and a significant labour shortage might result in product loss and market shortages. Furthermore, perishable commodities are harmed as a result of the disturbance in goods movement, resulting in large food wastes as production surpluses degrade, releasing methane, a potent greenhouse gas that contributes to a worsening climate disaster. In Kenya, the number of contract farmers that supply processing and exporting industries through a formal agreement fell by over half in March 2020. (OECD, 2020). In terms of operations, businesses are laying off casual workers and putting some permanent employees on paid or unpaid leave. The majority of these employees, who currently face food insecurity, will be at danger of additional food insecurity, not because of a lack of food, but because of the effects of losing income, basic needs, and, most crucially, their livelihoods.

6. Covid-19 Socioeconomic Impact on the Demand Side of the Food System:

Consumer responses to changes in national income and prices are often used to determine demand at the national level. Today, the demand side of the food chain places a premium on meeting greater quality requirements in terms of food safety, environmental protection, animal welfare, and ethics, all while maintaining food accessibility. The necessity to feed an ever-increasing global population is not a new global food trend. From the 1960s until the 1980s, the global population increased at a 2% yearly rate. Since then, the global population has grown by 2.5 billion people, to 7.7 billion in 2019. (European Commission, 2019). Consumption has grown faster than population in the last two decades, resulting in a rise in consumption per capita. According to the European Commission (2019), two main developments contributed to this: 1) income growth, which leads to larger quantities and higher-value products; and 2) changes in consumer preferences, which move in

very different patterns and speeds, resulting from societal habits, heal In poor countries, however, this is not the case, especially after being afflicted by COVID-19 crises.

6.1. Food Availability:

Despite the fact that agriculture plays an essential role in national economies, providing a link to global agricultural and commerce institutions, many agricultural employees in developing nations are subjected to casual labour, unstable working conditions, and little or no social security (ILO, 1996). These workers are the most vulnerable to food insecurity, with low earnings to begin with and no sick leave or other source of income during the lockdown. In addition, many low-income developing countries rely on imports to meet their food needs. Food imports account for 37% of the value of these countries' merchandise exports. For example, 11 nations in the Caribbean Community (CARICOM) import more than half of their food, and food security might become much more difficult if hard currency reserves are depleted, depending on how long the pandemic lasts (ibid). Similarly, Nigeria imports a tenth of its food, but border closures and travel restrictions have impacted the supply of food in the markets. The pandemic's issues have so emphasised the importance of the long-running debate concerning food security in underdeveloped countries. More than 820 million individuals were designated as chronically food insecure prior to the outbreak of this pandemic.

6.2. Heavy Pressure on Food Standards:

Regardless of whether the food is produced from industrial agriculture, small stakeholders, or the wild, sound environmental sanitation, personal hygiene, and established food hygiene practises help to limit the likelihood of hazardous bacteria threatening the safety of the food supply. 22 Foodborne infections cause 420,000 deaths annually, with one-third of them occurring in Africa (WHO, 2015). Two-thirds of the recorded cases had previously visited the Huanan seafood wholesale market, where live animals were sold alongside seafood and meat products, implying that the virus was transmitted from animals to humans at the start of the pandemic. Given that the presumed cause of the new SARS23 outbreak in 2003 was isolated from horseshoe bats, this could be a signal. However, the impact of the seafood industry on the spread of COVID-19 is unknown at this time, and there is no study that shows COVID-19 spreading through food products. Nonetheless, because food manufacturing is a sector that does not lend itself to home working, food service operators were among the first workers in frontline employment sectors to be affected by the COVID-19 epidemic. The UN's Food and Agriculture Organization (FAO) and the World Health Organization (WHO) (2020) suggested that touching contaminated food packages or containers could spread the virus to the mouth, nose, and eyes. As a result, handling or eating food products could put you at danger of infection. To date, all food sector companies should carefully adhere to government-issued Food Safety Management Systems (FSMS) based on Hazard Analysis Critical Control Points (HACCP) principles, and they should be kept up to date in response to new virus evidence as needed. Food retailers are seeing these post-pandemic important trends as well, emphasising food safety, trust, and transparency as variables in food procurement. According to Ecovia Intelligence, demand for organic and sustainable food is increasing as a result of the pandemic issue, which has prompted people to seek out healthier options to enhance their immunity. Organic product sales have increased at retailers around the world, with online retailers reporting the largest sales increases, according to the study. Retailers perceive the value in enforcing sustainability as a significant aspect of their sourcing models as a result of these findings.

6.3. Risks of Higher Food Prices:

Price increases are being pushed higher by supply-side disruptions and hoarding (International Monetary Fund, 2020). This is due to several supply-side problems, such as the reduction of farming inputs, which causes shortages at retail outlets, and end-consumer hoarding behaviour, which could further add to food price rises. Similarly, according to the ILOSTAT, supply

chain disruptions and strong demand from consumers stockpiling have significantly boosted the prices of products (including food). Between August 2019 and August 2020, the food component climbed at a far greater rate over the world, increasing by an average of 5.5 percent. 28 The FAO also recorded a strong rise in global food commodity prices, with the Food Price Index averaging 105.0 points for the month, up 6.5 percent from a year ago.

6.4. Institutionalizing Inclusive Economic Growth:

Providing producers and smallholder farmers with proper access to and control over productive resources can go a long way toward decreasing rural poverty and food insecurity. Agriculture is the most labor-intensive of all economic activities, and it offers a source of income for rural people both directly and indirectly. However, because poverty is still overly tied with agriculture, the need to shift to sustainability can significantly enhance decent working conditions. There are also prospects for product diversification methods, but farmers and smallholder producers will need all available assistance to pursue them. Certification (for example, organic produce) or tighter ties with traders, processors, or retailers are ways for increasing value to products in sectors like tea and coffee (for example, compliance to Fairtrade). The process of adding value necessitates establishing the product's identity and distinctiveness at the place of origin and maintaining it as it progresses down the value chain. As a result, greater agri-food exporting necessitates improved market access facilitation.

7. Challenge of Agricultural Sector By Post Pandemic:

Agriculture commerce must be inclusive, sustainable, and undistorted not only to secure global food security, but also to meet the developmental needs of emerging nations, particularly the least developed (LDCs). Simultaneously, the COVID-19 pandemic has increased the use of trade-restrictive measures on agricultural products, both on the export side, in the form of export prohibitions and other restrictions, and on the import side, in the form of non-tariff measures (NTMs) such as sanitary and phytosanitary (SPS) measures and technical trade barriers (TBT). While such export and import obstacles may help to achieve local food security and safety goals, they also highlight the perils of reducing global food supply chains. Disruptions like this will disproportionately hit the global South, impoverishing vulnerable producers, particularly women. The Food and Agriculture Organization's (FAO) Food Price Index (FFPI), which measures the monthly change in international prices of a basket of food commodities, rose for the twelfth month in a row in May 2021, hitting its highest level since September 2011. (FAO, 2021). Increasing food and food import expenditures is harmful, especially for low-income, food-import-dependent countries (LIFIDCs), which are already having difficulty integrating into global agricultural commerce. Their food insecurity will worsen if international food aid is not delivered when and where it is needed. In this context, three major essential concerns necessitate G20 action in order to maximise trade's contribution to increased food security and safety while avoiding unnecessary disruptions to global agricultural supply networks.

7.1. Strengthening Rules on Food Export Restrictions:

At the height of the COVID-19 crisis, the agriculture industry was subjected to increased export bans and quantitative restrictions (QRs). Despite clear World Trade Organization (WTO) rules and transparency requirements, such measures primarily targeted essential food commodities such as key staples (e.g. rice and maize), resulting in negative effects on world export supplies and prices, as well as disproportionately high food security costs for LIFIDCs already experiencing a significant COVID-19-induced contraction in agricultural trade. The most recent escalation in food export restrictions has significantly highlighted the limits of existing export controls on both the substantive (regulation of tariffs and QRs, particularly during "serious shortages of supply") and procedural (transparent requirements) sides. Furthermore, it has re-emphasized the importance of prioritising action to end export restrictions on food purchased for humanitarian purposes, building on previous

WTO statements (WTO, 2020b) and existing G20 commitments (G20, 2011), particularly those made by the G20 Agricultural Ministers against "export restrictions or extraordinary taxes on food and agricultural products purchased for non-commercial humanitarian purposes."

7.2. Tackling Market Access Barriers in Agricultural Products:

Because of the impact of NTMs on the global South's ability to achieve sustainable growth and development, concerns about the usage of agricultural market access restrictions, notably in the form of NTMs, have gained traction (Kareem, 2016). Increasing use of NTMs – particularly SPS and TBT measures – to protect food safety and security has been boosted by changing demand in the G20 and the currently ongoing COVID-19 pandemic. Although these regulations are intended to protect people's health, their strictness often limits the global South's ability to flourish. This is mostly due to high compliance costs associated with commodity production, processing, and marketing upgrades (Kareem and Rau, 2018), which have a negative influence on market access. During the COVID-19 pandemic, the issues were increased by the rise of government actions aimed at containing the virus. Exporters from Africa, the Caribbean, and the Pacific bear the brunt of the expenses of "consumer going local."

8. Strategy to Strengthen the Agricultural Sector Post Covid-19:

Our assessment of the impact of COVID-19 on the Indian agricultural system resulted in the development of a strategy for strengthening the sector in the face of the pandemic's crisis and long-term sustainability concerns.

8.1. Social Safety Nets:

The impending shutdown halted production, resulting in job and income losses as well as a drop in demand. The epidemic also resulted in food loss and wastage, which impacted food and nutrition security, particularly among the weak, though only temporarily, and can have long-term consequences on capacity. Management of food loss and waste, as well as restoring demand and food consumption, should be prioritised by the government and business sector. Implementation of excellent food management techniques, such as making shopping lists and planning the course of meals, is recommended to reduce food waste at the household level. Direct transfers could put cash in the hands of poor people who do not have access to India's employment guarantee scheme, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), which could employ migrants who have returned to their original areas. Increased funding for MGNREGA (employment), PM-KISAN (cash transfer to farmers under the Prime Minister-Farmer Honour Fund), and PDS should thus be prioritised by the government (offering nutri-rich foods through public distribution system). Alternatively, the distribution of 'food coupons' or 'combo packs' including a basket of commodities, particularly biofortified foods such as zinc and iron-rich grains and millet, may assist the country in achieving nutrition security.

8.2. Price And Revenue Risk Management:

COVID-19 had a negligible or no effect on food prices (except for vegetables). Food prices, on the other hand, fluctuate wildly, putting farmers in jeopardy of losing money.

The government should consider establishing a price stabilisation fund to safeguard farmers from price risk. Furthermore, in India, crop insurance normally only covers yield risk; COVID-19 has given the government the option to alter the crop insurance plan to cover farmers' revenue (yield and price) risk as well. Farmers and consumers can use futures trading to buy and sell standardised commodity contracts for future delivery at a pre-determined price. Farmer Producer Companies (FPCs) can become aggregators to meet commodity exchange contract size criteria.

8.3. Shifting The Focus from Primary to Secondary Agriculture:

The COVID-19-induced lockout has thrown agricultural labour markets into disarray, with massive reverse migration. According to a poll, 45 percent of migrants returned home during the lockdown (Imbert, 2020). To allow farming to be recognised as a business, structural flaws in the

system must be rectified. Processes that add value to primary agricultural production systems, as well as businesses that get raw materials from crop wastes, byproducts, and waste, should be encouraged (Dey, 2019). Cotton stalks, for example, offer a larger and undeveloped potential for usage in soft and hard boards, paper, and pulp production. It is critical to speed up research on high-end secondary farm goods. Development of fruit-based ice cream, converting bamboo or wood waste to fancy decoration, manufacture of sweets from bovine milk, usage of natural fibres and culled potato to make bio-plastics, pectin extraction from fruit peeled wastes and bio-ethanol production are some examples. 10 Furthermore, advancements in post-harvest technologies for medicinal and aromatic plants, which provide raw materials to the herbal medicine, pharmaceutical, cosmetics, and food flavour sectors, could boost export potential and create jobs.

8.4. Family Farming:

We must include the concept of sustainability when strategizing to enhance the agricultural sector. Nothing compares to family farming as a model of long-term food production (FAO and IFAD, 2019). Family farmers do more than just grow food; they also conserve biodiversity, produce nutritious and local foods, and develop innovative tactics and solutions to address social, economic, and environmental issues (FAO and IFAD, 2019). The FAO proposes positive policies to help family farmers as a remedy to the world's unsatisfactory food system, which wastes one-third of all food produced.

8.4. Collective Farming:

Crop growers should take note of successful situations such as dairy cooperatives in order to boost productivity and earnings. Milk prices were unaffected by the lockdown, unlike grains, pulses, and vegetables. Dairy cooperatives' procurement, processing, and distribution networks resisted the exogenous shock. Crop producers should form cooperatives, farmer producer organisations (FPOs), or farmer producer corporations (FPCs) and collaborate in the global food system's network. Economies of scale can be achieved by aggregating (the inputs utilised and the output produced). Land reforms and contract farming will require nudges from the federal government based on cooperative federalism ideas (like with the Goods and Services Tax). These approaches, used collectively, have the potential to help farmers overcome production and marketing difficulties.

8.5. Investment In Agricultural Research And Development:

Agriculture and allied sectors grew at a 2.9 percent yearly rate (in real terms) from 2014–15 to 2018–19. Agriculture was the sole industry to expand by 3.4 percent in the first quarter of 2020–21, despite the Indian economy contracting by 23.9 percent (ET, 2020). It's time to acknowledge that the agriculture sector has the potential to keep the development engine sputtering if other sectors fail to up to the occasion, despite the fact that farmers face tremendous production and marketing risks even in normal times. Without a doubt, involving the private sector boosts investment and improves system efficiency. Agricultural research and development, insurance, finance, mechanisation, cold storage, logistics, automation, and digital procurement and distribution (e-marketing) should all be prioritised by the private and public sectors.

8.6. Buffer Stock:

The union government may be able to generate revenue by monetizing the extra stock in the buffer. The Food Corporation of India has more than double the buffer stock requirements and is valued at least Rs. 1,50,000 crore (US\$205 billion) in stock . Aside from generating revenue, monetizing the surplus might also save a lot of money on maintenance and logistics. This money could be used to promote rural agriculture firms, create capacity, and prepare for droughts, among other things. It is once again critical to limit waste through scientific storage.

8.7. Staggered Procurement and Pricing:

During pandemics that disrupt logistics, markets, and storage, the government can use a staggered procurement and pricing plan that compensates for the threshold level in storage costs, particularly for staples like rice and wheat, which are produced and consumed by millions. This would

also encourage farmers to stockpile goods on their farms, if storage is available, in order to avoid distress selling.

8.8. Reforms In Agricultural Finance Access:

To resuscitate the sector, access to low-cost financing must be made available, particularly to small and marginal landowners. To protect the poor's livelihoods and welfare, measures such as restructuring agricultural loans and repayment schedules, deferring the declaration of long-term loans as nonperforming assets (NPA), and interest subvention on available loans during the moratorium period should be undertaken.

8.9. Stakeholder Partnerships:

As envisioned in the Sustainable Development Goal 17, concerted efforts and inter-institutional partnerships (regional and global) are required to develop the weaker and vulnerable sections of society. By raising awareness and utilising Information and Communication Technologies (ICTs), such as social media platforms, stakeholder collaborations help to close information and knowledge gaps. The goal is to teach people not to panic buy and hoard critical commodities, to keep market functionaries clean, and to sanitise market yards, in addition to social separation, all of which are necessary for the markets to run smoothly in the aftermath of the COVID-19 disaster.

9. Conclusions:

The covid-19 epidemic has had a significant negative impact on agriculture. Food safety and security were jeopardised as a result of limits on people's mobility, interaction, and purchasing power. The most vulnerable segments of the population were disproportionately affected. As a result, government efforts to halt the spread of the Corona-19 virus have had a significant impact on global food supply networks. The results of a literature review on the risk-vulnerability and resilience of farm systems in the face of Covid-19 revealed that food system resilience must be improved through the implementation of technical, economic, and policy measures. All these policies and initiatives must first and foremost protect the world's population's health and food security. Technical solutions aimed at improving the infrastructure's functional performance level in the agriculture sector are required to boost physical resilience. Organizations and organisations in the agriculture sector must make the necessary recovery efforts, taking into account the agricultural systems' absorptive, adaptive, and restorative characteristics. It is obvious that market forces, via price mechanisms, involuntarily reduce demand for rare agricultural goods and match supply with demand during pandemics, and that prohibiting such price increases has a negative impact on agriculture systems' resilience by reducing the market price system's absorptive and adaptive resilience capabilities. Economic assistance and subsidies, on the other hand, are appreciated in the face of farmers' economic losses since they allow them to recover more quickly following a disaster. Strong communities created in rural regions can improve the social resilience capacities of agricultural systems by pooling resources and surviving and rebuilding more quickly during pandemics, as government aid is always delayed. The Covid-19 pandemics just exacerbated existing economic and social inequities among individuals, as well as gaps in agricultural system resilience around the world, highlighting the need to strengthen social nets reliant on revenue creation and the stability of agriculture sector workers.

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Impact of Covid-19 Pandemic on The Indian Economy

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Abstract

The present pandemic situation has adverse deep impact on Indian business. Domestically, the impact of the corona virus pandemic COVID-19 could lead to slowdown in domestic demand. Within a few months, the Coronavirus disease had spread across the world. During COVID-19, all economies are grappling with how to keep their economies open and running. The nationwide shutdown has had an impact on a variety of industries. Companies are projected to see slow commercial growth. In the future quarters, the financial performance of the company will continue sluggish. There are some industries that are positively influenced. On the other side, several industries have been negatively impacted. In this study Secondary data required for the study are collected from books, journals and other periodicals and reports of the Government and other agencies.

Keywords: Covid-19, pandemic, supply chain, informal sector, impact.

1. Introduction:

Coronavirus disease has spread to every country on the planet. The impacts of the coronavirus have been reported at various levels in all countries. China, Italy, Spain, Greece, and the United States of America have all been hit hard in recent years. All countries are attempting to contain the consequences of the corona virus by implementing various measures such as nationwide lockdown, allowing firms to operate with a limited number of personnel, and adhering to social distancing rules. Coronavirus is an infectious disease that spreads swiftly and has a significant influence on people's lives. The first case of COVID-19 has been discovered in China's Wuhan province. In light of this, the United States of America holds China responsible for the global spread of the corona virus, which has resulted in the deaths of millions of people.

According to numerous sources, the corona virus is expected to have a significant influence on the world economy. Global GDP is expected to be 3%, the lowest since the Great Depression of 1930, according to the International Monetary Fund (IMF). COVID-19 has stifled economic activity and prevented corporate groups from operating at full capacity. The current situation is edging closer to a worldwide recession, which is bad news for global GDP. The administration, on the other hand, is taking a number of steps to bring it under control as soon as feasible.

2. Objectives of The Study:

The major objectives of the present research study are as follows:

1. To study the impact of Covid-19 on different sectors.
2. To study the impact of Covid-19 on Indian economy.

3. Research Methodology:

Every research is necessary a specific methodology so for the present research has used specific methodology. For the collection of data, the researcher has used the secondary source. The study is descriptive in nature. Secondary data required for the study are collected from books, journals and other Government websites, periodicals, and reports etc.

4. Limitation Of The Study:

The major limitation of this research is that the present research is related to only impact of Covid-19 on Indian economy. Researcher is not covered all dimensions of impact of Covid-19 on Indian economy. The conclusion of this research may not be applicable to other.

5. Impact Of Covid-19 On Industries:

The COVID-19 has an impact on a number of industries, and the odds of their reviving are

slim.in the foreseeable future Their profitability is steadily declining, while their fixed costs remain stable. All multiplexes are closed, and people do not wish to visit multiplexes in the near future, similar to the media and entertainment industries. Many Commercial banks and other financial institutions have provided loans to organisations. They must make a payment. despite a terrible financial situation, interest on the loan A high debt-to-equity ratio implies that corporations are relying on debt rather than equity to raise financing. A high debt-to-equity ratio also suggests that the company is potentially risky. The debt-to-equity ratio in the manufacturing and banking sectors, on the other hand, is quite high because these industries rely heavily on debt for their operations. Information technology and investment banking and brokerage have lower debt to equity ratios than other industries, as shown in the table above. COVID-19 is anticipated to have a lower impact on enterprises who have taken on less debt than on companies that have taken on a lot of debt. All economies desire a high GDP and low inflation rate. Low inflation allows consumers to spend more, implying that consumption will be high. Demand for other goods and services will rise as a result of increased consumption.

6. Impact Of Covid-19 On Global Supply Chain And International Trade:

By changing supply networks and industry activities, COVID-19 has a negative impact on the global economy. Fragmentation and geographical dispersion are natural problems in supply systems. Globalisation, on the other hand, has made them more complicated and interdependent, making them more prone to upheaval. According to a study conducted by the United States Institute for Supply Management, 75 percent of companies have experienced supply chain disruptions that resulted from a lack of understanding and flexibility of the various layers of their global supply chains, as well as a lack of diversification in their sourcing strategies. These interruptions will affect both exporting and importing countries (i.e., a lack of output for local enterprises) (i.e. unavailability of raw materials). As a result, temporary "manufacturing deserts" will emerge, in which a country's, region's, or city's output reduces drastically, converting the area into a restricted zone for obtaining anything other than essentials such as food and drugs. This is owing to China's rising influence and prominence in the global supply chain and economy having a knock-on impact. The World Trade Organization (WTO) predicted a 32 percent drop in world trade as a result of COVID-19. World trade, for example, has suffered a significant decline as a result of reduced Chinese imports and the resulting drop in global economic activity.

7. Sector's Performance:

Covid-19 has provided them with numerous prospects for growth and development. During COVID-19, there are a number of industries that are rapidly expanding. During this time, the pharmaceutical sector has grown at an exponential rate, and particular drugs are in higher demand. India has made a profit. Pharmaceutical companies are investing heavily in research and development in order to find medicine that will mitigate COVID-19's detrimental effects. The demand for hand sanitizers and masks has skyrocketed. Chemical industries will also find increased demand for their products as disinfectants and medicines become more popular. Online education and training will be in high demand as well. COVID-19 has an impact on every industry in one way or another. The degree of impact varies depending on the industry. Some industries are particularly vulnerable to the COVID-19. These businesses are projected to return to their previous levels in the long run. As shown in the graph above, financial and real estate services were the most affected during COVID-19. The banking, financial services, and real estate industries grew by -17.3 percent from April to June 2020. The banking, financial services, insurance, and real estate industries all play a key role in the creation of jobs in the Indian economy. Employees have lost their jobs and will not be able to find work in the near future. The COVID-19 has had an impact on the mining industry, and their quarters 4 results are not in line. In the coming quarters, these businesses are expected to lose money.

8. Sectoral Implications Of Covid-19 Pandemic In India:**8.1. Covid-19 Impact On The Tourism Industry:**

COVID-19's influence on aviation has, predictably, had a knockon effect on the tourism economy, which is now heavily reliant on air travel. For example, the United Nations World Tourist Organization UNWTO (2020) predicted a 22% drop in international tourism earnings of \$80 billion in 2020, resulting in a loss of 67 million foreign visitors. Depending on how long the travel restrictions and border closures endure, current scenario modelling predicts a drop in foreign tourist arrivals of 58 percent to 78 percent, but the future remains extremely unpredictable. If travel restrictions remain in place, between 100 and 120 million direct tourism-related employment could be jeopardised. COVID-19 has currently ranked the sector last in historical international tourist patterns since 1950, with a tendency to interrupt a 10-year era of consistent expansion since the last global economic recession. It is also expected that international tourists will drop by 60% this year, lowering tourism's contribution to global GDP and harming countries whose economies rely on it.

8.2. Impact On Gdp Growth Rate:

While the COVID-19 epidemic continues to spread and shows no signs of abating as of April 15, 2020, the country's economic growth will almost certainly be severely harmed. The United Nations has warned that the coronavirus pandemic will have a substantial negative impact on the world economy, with India's current GDP growth estimated to fall to 4.8 percent (United Nation 2020). COVID-19 would have substantial socio-economic effects in the region, according to the UN's Economic and Social Survey of Asia and the Pacific (ESCAP) 2020, with inundate activities across borders in the fields of tourism, trade, and financial linkages.

8.3. Impact Of Covid-19 Pandemic On Migratory Labour:

In its study, the International Labour Organization calls the coronavirus pandemic "the largest worldwide calamity since World War II." Due to the virus's catastrophic implications, almost 400 million individuals (76.2 percent of the total workforce) in India's informal economy are at risk of sinking farther into poverty. Because half of the world is on lockdown, 195 million full-time jobs, or 6.7% of global working hours, will be lost. Many are employed in low-wage, low-skilled professions where a loss of income can be devastating (International Labour Organisation, 2020). Seasonal labour migration for job is a common occurrence in rural India. Millions of people migrate from rural areas to urban marketplaces, farms, and industries. The migratory routes from Uttar Pradesh and Bihar to Punjab, Haryana, Maharashtra, and Gujarat are the most important in India. New corridors are being built from Odisha, West Bengal, and the North East to Karnataka and Andhra Pradesh, Rajasthan to Gujarat, MP to Gujarat and Maharashtra, and Tamil Nadu to Kerala. Construction (40 million), domestic work (20 million), textile (11 million), brick kiln work (10 million), transportation, mining, and agriculture all employ migrant workers (IIPS, 2001). 92.5 percent of labourers have lost 1 to 4 weeks of work due to the lockdown. According to a Jan Sahas survey of 3196 migrant workers conducted between 27 and 29 March in northern and central India, 80% of migrant workers are concerned that they would run out of food before the lockdown ends on 14 April and will lose their jobs as a result. According to the poll, 55% of migrant workers earn between \$200 and \$400 per day, and 39% earn between \$400 and \$600 per day, both of which are below the minimum wage rate. Only 4% of workers earn \$600 or more per month, which is close to the minimum wage. They work in deplorable conditions, are frequently in debt, and have little personal savings. In the study, 49.2% of the workers indicated they did not have rations, while 39.4% said they did have rations that would last roughly two weeks. According to the poll, 99.2 percent of these workers have an Aadhaar card, 86.7 percent have a bank account or Jan Dhan paperwork, 61.7 percent have ration cards, and 23.7 percent have cards that indicate they are below the poverty line. Despite the government's announcement of a \$1.700 billion rescue package, many of them may find it impossible to access the funds. These workers anticipated the government to offer rations and financial assistance on a monthly basis (Jan Saahas Survey, 2020). During the crisis, a terrifying mass evacuation of such roving populations of migrants on foot occurred during a nationwide lockdown. Their main concerns are job loss and a lack of social protection. They continued to walk back to their houses, despite assurances from the authorities. It's a storey about inequity, poverty, and social isolation among vulnerable communities as they try to overcome this unexpected disaster.

The Supreme Court demanded a status report from the Centre on the steps taken to prevent migrant labourers from returning to their communities in large numbers. The Indian economy would be severely impacted if workers were suddenly displaced due to the coronavirus. In the industrial hubs of Gurugram,

Surat, and Mumbai, some of these individuals may not be able to return to work. They might look for work on their marginal farms or in the surrounding communities. Because labour will be scarce shortly after the lockdown, the repercussions of forced behaviour adjustments will put pressure on MSMEs and the agricultural sector. Inequality, exclusion, discrimination, and global unemployment might all rise in the medium and long term if the social crisis caused by the COVID-19 pandemic is not effectively addressed through legislation.

9. Implications On Capital Markets, Global Oil Market And Its Impact On India:

Fears about the Coronavirus have sent shockwaves across the global financial markets. Due to rate reduction and stock market declines around the world, Indian capital markets are anticipating a fund flow to Western capital markets. According to NSDL data, Foreign Portfolio Investors (FPIs) withdrew massive sums from India, including '247.76 billion from stock markets and '140.50 billion from debt markets, in just 13 days, from March 1 to March 13, 2020. Due to the quick flow of capital from one market to another around the world, there will be a lot of volatility in the capital markets during the next six months.

Crude oil prices fell to an 18-year low of US\$22 per barrel in March, down from US\$65 per barrel in January, due to a historic reduction in demand. According to some estimates, every US\$5 per barrel drop in crude oil costs saves India \$7–8 billion. India's current account deficit, which was 1.55 percent of GDP in 2019–2020, could be reduced if crude oil prices decline (Economic Survey, 2020). However, India's capital outflows may exceed the current account deficit's potential savings. The average exchange rate between INR and USD has been '70.4 per US dollar, but it is already approaching the psychological barrier of '75 per US dollar. The rupee (INR) may weaken more in the coming days if capital outflows from India persist.

10. Impact Of Covid-19 On Sustainable Development Goals:

The United Nations adopted 17 Sustainable Development Goals (SDGs) in 2015 with the goal of improving livelihood and the natural world by 2030, requiring all countries to sign up. The SDGs relied on two major assumptions to succeed: globalisation and long-term economic growth. COVID-19, on the other hand, has greatly impeded this assumption due to the aforementioned issues. Indeed, COVID-19 has highlighted the reality that the SDGs, as currently designed, are not resilient to pandemic shocks. Progress on the SDGs has been modest before to COVID-19. According to the research, two-thirds of the 169 targets will not be met by 2030, and others may become counterproductive since they are either threatened by the pandemic or are unable to counteract its effects.

11. Policy And Programme Implications:

11.1 Fiscal And Monetary Measures:

A pandemic of the coronavirus necessitates coordinated fiscal and monetary policy responses. Paying the healthcare expenditure incurred as a result of the pandemic is one of the fiscal measures. Masks, gloves, testing kits, personal protective equipment, ventilators, ICU beds, quarantine wards, medicines, and other equipment would result in a significant increase in healthcare spending. In India, government spending on healthcare accounts for 1.1 percent of GDP. In the current fiscal year, it is projected to rise. The government has announced a \$1.700 billion assistance package, which will be used to make financial transfers to the poor and disadvantaged in society. Another assistance plan, which will be released soon, would support the sectors that are most hit, including MSMEs and farmers. Tourism, as well as other industries that are intertwined with global supply chains, will require assistance. Due to the recession, tax revenues will also decrease. Revenues from taxes could fall by at least 2% of GDP. According to experts, all of these fiscal measures will increase the fiscal deficit by 1–1.5 percent, from its present level of 3.2 percent.

The crisis caused by the spread of the coronavirus will reduce investment and consumption demand. As shown in the graph, the demand side components of GDP account for 72.1 percent of total consumption, with government consumption accounting for only 11.9 percent. The primary

threat to economic growth is anxiety-induced hesitancy to spend. In order to create demand, the government will have to raise spending. As a step to enhance investment demand, diverse industries will need to be supported. As part of a lax monetary policy, the Repo Rate has been cut by 75 basis points. In the United States, the Federal Reserve lowered its interest rate by one percentage point and opted to keep it in the range of 0–0.25%. Because the problem is not just liquidity, monetary policy is less effective in dealing with a pandemic. The disruption of economic activity, as well as the uncertainty of the future, dampens investor confidence. The investment demand is wiped away by anxiety-induced frugality among enterprises and investors.

12. Impact On Start-Ups And Micro, Small And Medium Enterprises:

If the lockdown is extended to 8 weeks, Micro, Small and Medium Enterprises, which have created more than 90% of India's jobs, employ over 114 million people, and contribute 30% of the GDP (Radhika Pandey, 2020), could face a severe liquidity constraint. Many of these SMEs are obligated to repay loans and EMIs on a monthly basis. Many of them may just vanish if their cash flow is disrupted as a result of the shutdown, with fixed costs looming over them. They require a loan repayment moratorium. The Reserve Bank of India has allocated funds to non-banking financial entities, some of which lend to SMEs. Furthermore, the movement of perishable commodities is impeded, resulting in significant losses for these enterprises. Without a thriving MSME sector, India will be unable to achieve substantial and long-term growth. The COVID-19 crisis will also put Indian start-ups to the test.

Start-ups must rely on cross-border fundraising to survive. Several entrepreneurs are seen their enterprises come to a halt. Receivables are spiralling out of control, forcing them to take severe cost-cutting measures in their businesses. Because of the constrained global capital flows, the government will have to make cash available to this industry. Venture capital firms may take a little longer to come and help this sector.

13. Opportunities For Circular Economy Post Covid-19:

COVID-19 has sparked a focus on vibrant local manufacturing as a driver of a resilient economy and job creation; encouraged consumer behaviour change; sparked the need for supply chain diversification and circularity; and demonstrated the power of public policy in addressing urgent socio-economic crises. As we confront COVID-19's issues, the question is no longer whether we should rebuild better, but how. As a result, creating a roadmap for a sustainable future will depend as much on the government's desire to establish a new path to socioeconomic progress as it will on local businesses collaborating with customers to make the transition to CE possible. Governments around the world have used a variety of financial policy instruments to counteract the short-term impacts of the COVID-19 pandemic, as detailed in earlier sections of this article. Still, the adoption of circular economy principles across multiple technology frontiers has the potential to bring about the required technical and behavioural transformation that will benefit many countries around the world in the long run.

14. Local Manufacturing And Re-Manufacturing Of Essential Medical Accessories:

COVID-19-related disruptions have been attributed to high demand, panic buying, and profit-driven stockpiling of crucial medical items. The scarcity of many things was so severe in many places that respected authorities such as the US Centers for Disease Control and Prevention (CDC) mistakenly promoted the CE principle of re-use. Medical accessories, such as PPE, can't be easily refurbished for re-use because they're designed and manufactured using non-CE compliant procedures, as seen in the instance of particulate respirators.

As a result, it is recommended that businesses work to develop capabilities in eco-design and ecologically beneficial innovation in order to promote long-term product re-use. Design solutions for closing resource loops (e.g. designing for technological and biological cycles) are among the desired competences.

15. Bio-Cycle Economy And The Food Sector:

Whether or not COVID-19 is present, the food industry wastes resources, contributes to environmental deterioration, and interrupts nutrient fluxes due to the existing linear nature of its value chain, lowering food nutritional quality. A number of CE levers applicable to the food sector are highlighted to address these concerns as part of future food sector resilience: I regenerative agriculture as a means of ending nutrient loops. The amount of organic matter in a soil reflects its health and ability to generate nutritious crops. By returning organic matter to the soil in the form of food waste, composted by-products, or digestates from treatment plants, regenerative agriculture can aid in the preservation of soil health. (ii) value recovery from organic nutrients through the use of anaerobic digestion facilities, which is linked to the generation of controlled biogas for injection into the natural gas network or conversion to electricity. This has the ability to convert methane produced by food waste into carbon-neutral energy. (iii) the acceptance of urban and peri-urban agriculture, which includes "the cultivation of crops and the rearing of animals for food and other purposes within and around the boundaries of cities, including fisheries and forestry." Indeed, by growing food close to where it will be consumed, one's carbon footprint can be reduced in a variety of ways. For example, in the transportation sector, the adoption of urban agriculture resulted in a GHG reduction of 11,668 t yr-1. As a direct result of COVID-19, the popularity of local farms has skyrocketed, allowing people to experience the power of local food cycles while avoiding imagined contamination issues in supermarkets. This will help to strengthen urban and peri-urban agriculture even more.

16. Agriculture:

Due to a lack of logistics and labour availability, the agriculture sector, which accounts for around 18 percent of the GDP, is finding it difficult to cope with this massive burden. The crops have been planted and are now ready to be harvested. However, there is concern that a large amount of the crops would decay in the field due to a lack of logistics, transportation, packing, and labour. Similarly, the production of tea and coffee has come to a halt.

17. Digitalisation For Supply Chain Resilience Post Covid-19:

Digitalisation of supply chains through the use of disruptive digital technologies (DDTs) - technologies or tools that underpin smart manufacturing such as the Internet of Things (IoT), artificial intelligence, big data analytics, cloud computing, and 3D printing - is an important step for companies to prepare for and mitigate disruptions, as well as achieve business resilience, in the face of global pandemics like COVID-19. The elongation of useful lifespan and maximisation of asset utilisation are two circular supply chain value drivers. The collecting of information about the location, condition, and availability of assets is one of the most important value drivers for intelligent assets. Combining these factors could open up a slew of possibilities, potentially altering the character of both products and business models while fostering innovation and value creation. For example, when used properly, big data analytics can assist companies in streamlining their supplier selection processes; cloud computing is currently being used to facilitate and manage supplier relationships; and logistics and shipping processes can be greatly improved through automation and the Internet of Things. Predictive maintenance is enabled by digitalisation, which prevents failures and extends the life of a product throughout supply chains. As a result, it's a perfect vehicle for converting circular supply chains, as it allows you to shut material loops and enhance processes. Indeed, COVID-19 has generated a fresh urgency in the adoption of automation and robots in order to mitigate the disruption of supply chains caused by restrictions on people's movement. This is being used by a number of businesses to automate their production processes. Prior to COVID-19, there was growing momentum toward the adoption of 5G mobile technology, but delays hampered development due to reasons such as projected use evaluations, security, competitiveness, and radio communications regulatory concerns. COVID-19 experience is anticipated to hasten the provision of regulatory certainty for 5G, which will in turn hasten the deployment of IoT-enabled devices for remote monitoring, in order to promote supply chain resilience following COVID-19.

18. Conclusion:

The rapidly spreading COVID-19 virus has thrown the world's prospering economy into disarray in unanticipated and unclear ways. However, it was noted that the present downturn seemed to be distinct from previous recessions that had shaken the country's economic order. While nations, conglomerates, organisations, and multinationals continue to comprehend the scope of the pandemic, it is undeniably urgent to plan for a more sustainable, structurally viable future for living and working. While the unusual scenario has wreaked havoc on the economy, particularly during periods of lockdown, the country will have to work its way out of it by implementing fiscal measures. Both lives and livelihoods must be protected, as the national government proposes. Following the screening of the labour force, economic activity must commence gradually. In order to protect the workers' health, the industry should implement strict preventive measures. While the government should provide enough policy and reforms to save the economy, industry, civic society, and communities all play a role in maintaining the balance. The use of masks and sanitizers, as well as social separation and avoiding or cancelling gatherings, should remain the norm until the virus is eradicated. Because the economy and human behaviour are so intertwined at this time, it is not just the job of the government to restore economic activity. The likelihood of a global recession in 2020 and 2021 as a result of COVID-19 is quite high, as it has been seen around the world that the shutdown of all economic activities production, consumption, and trade is impending in order to control the spread of COVID-19. Because of a supply shock, a demand shock, and a market shock, the nature of the shutdown in COVID-19 is unusual. The economy's recovery is determined by the timing and quantity of government assistance, as well as the degree of corporate debt and how businesses and markets deal with weaker demand. Government support to the most vulnerable (mostly the unorganised sector, migrants, and marginalised populations) is an essential measure that could save many lives. To avoid long-term negative health impacts, the COVID19 pandemic has prompted a holistic approach to the neglected and marginalised populations. Economic pressures on the entire population must be alleviated, and legislative improvements must be implemented quickly. Finally, national health programmes for communicable diseases and noncommunicable diseases (NCDs) must be revitalised and strengthened. The COVID-19 pandemic sends a clear message to India's economy: it needs to adopt sustainable development methods that are self-reliant, inclusive, and environmentally benign.

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Research of Firewall Technology in Computer Network Security

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Abstract:

The computer connected with the internet can be more likely to get affected by viruses and cyber-attacks. In that case, the users need to have a protective shield that protects the computer and its important files from any virus, malware, or harmful element that can affect the device. Internet as a medium for business transactions, mean that networks are becoming more and more exposed to attacks, both from without and from within. The search is on for mechanisms and techniques for the protection of internal networks from such attacks. One of the protective mechanisms under serious consideration is the firewall. A firewall acts as a barrier or filter between your computer and another network such as the internet. You could think of a firewall as a traffic controller. It helps to protect your network and information by managing your network traffic. Firewalls are the protective layers of computers that are responsible to protect computers from unknown users or programs which can be viruses, malware, etc.

Basically firewall is a type of wall which prevents hackers from attacking a network. Perhaps it is one of the best protections ever made to stand out against the internet threats. Including cyber attacks it prevents your computer from various other threats surrounding on the internet. While there are vast majority of the benefits provided by the firewall there can be other drawbacks as well. Understanding both the benefits and the drawbacks will help you to use the tool better for acquiring the best out of your business.

In this article I will discuss role and types of firewall. Also discuss advantages and disadvantages of firewall.

Keywords: Firewall, Network security, Network traffic, Proxy Server, stateful inspection, hackers

Introduction:

A firewall is an essential part of your cyber security .A firewall is a security device in the form of computer hardware or software. It can help protect your network by acting as an intermediary between your internal network and outside traffic. It monitors attempts to gain access to your operating system and blocks unwanted incoming traffic and unrecognized sources. A firewall acts as a barrier or gatekeeper between your computer and another network like the internet. It works like a traffic controller, monitoring and filtering traffic that wants to gain access to your operating system. A firewall can help protect your computer and data by managing your network traffic. It does this by blocking unsolicited and unwanted incoming network traffic. A firewall validates access by assessing this incoming traffic for anything malicious like hackers and malware that could infect your computer. Under the system of Firewall security, all the messages entering or leaving the internet will have to pass through the security network that will assess every passing message and block those that do not meet the security standards.

History Of Firewall:

Firewalls have certainly evolved over the years and become more advanced since the technology first entered the scene. Getting their start as a basic packet-filtering system in the late 1980's, firewalls monitored packets sent between computers. They now offer more advanced protection and technology, as highlighted in this timeline.

- 1) In late 1980, first generation firewalls developed as attacks on personal computers drove anti-virus products.
- 2) In mid-1990, internet attacks on networks led to the advent of the second generation firewall; the first stateful inspection firewall was introduced in 1993.

- 3) In early 2000, third generation firewalls addressed vulnerability exploits at the application layer, leading to Intrusion Prevention Systems Products (IPS).
- 4) In 2010, increases in targeted attacks instigated anti-bot and sandboxing products.
- 5) In 2017, larger scale attacks drove even more advanced protection.

Role Of Firewall:

1.Network Security

Network Security corresponds to the ways to stop the internal and external threats to a network system. While working on the internet, the router of the system connects the institute's internal network to the external network or the internet. Firewalls are entrenched between two different networks to monitor the incoming and outgoing traffic. Since the organization's network is vulnerable to the internet, Firewalls play a pivotal role in network security. The role of a Firewall in network security is to ensure network security by inhibiting the external threats coming from potent sources such as hackers and avoid any kind of connection between the two. Along with it, it guards the internal infrastructure of the network by occluding the viruses and malware. Such hazardous agents damage the internal software and sometimes even disclose confidential data (such as passwords) to potential attackers.

2.Computer Security

As per research, an unprotected computer system when connected to the internet is susceptible to attack from external agencies in just the first fifteen minutes. The role of Firewalls in computer security is crucial. Most often, they prevent the computer systems from spam emails which may sometimes contain Trojans and malware. Along with all the roles mentioned before, Firewalls also prevent the computer systems by operating as proxy servers. Anytime when a user interacts with the external networks, first the proxy server interacts with the internet and receives the data. Only after performing the security check, it forwards the data next to the system. In this way, the system doesn't directly interfere with the external traffic thus reducing the vulnerability to malicious agents. It also helps in keeping the system's address hidden and by operating as a proxy server, the Firewall stores the accessed web page in the cache files for quick access in the future

3.Personal Firewall

Desktop Firewall or Personal Firewall is a software program intended to prevent the single computer system connected to the internet from the suspicious external agents. Firewall software is very useful for the users having cable internet connections because these connections use a static IP address which is very easily vulnerable to potential attackers. Personal Firewalls operate in the background and inhibit dangerous computer codes from penetrating the system. It thus prevents the integrity of the system.

The roles of a Personal Firewall and its advantages are:

- 1.Policing the traffic.
- 2.Blocking key loggers.
- 3.Inhibiting access to hackers

Types Of Firewall:

There are software and hardware firewalls. Each format serves a different but important purpose

1. Software Firewall: These Firewalls are in-built in the operating system and can distinguish between the programs on the computer system. These programs thus allow the users to use specific data and channel out data which is not required. A software firewall is internal a program on your computer that works through port numbers and applications
2. Hardware Firewall: A hardware Firewall is the one that intervenes between the two independent connected networks. In simpler terms, it protects the system from external agents.

A hardware firewall is physical, like a broadband router stored between your network and gateway.

There are several different types of firewalls based on their structure and functionality. Here are the various firewalls you can implement, depending on the size of your network and the level of security you need.

1.Proxy service Firewalls

The proxy service firewall is a system that can help protect your network security by filtering messages at the application layer. It essentially serves as a gateway or middle man between your internal network and outside servers on the web. Also known as a gateway firewall, it is more secure in its use of stateful and deep packet inspection technology to analyze incoming traffic.

2.Stateful Multi-Layer Inspection (SMLI) Firewalls

The stateful multi-layer inspection firewall has standard firewall capabilities and keeps track of established connections. It filters traffic based on state, port, and protocol, along with administrator-defined rules and context. This involves using data from prior connections and packets from the same connection. Most firewalls rely on stateful packet inspection to keep track of all internal traffic. This firewall is a step above packet-filtering in its use of multi-layer monitoring. However, it is still unable to distinguish between good and bad web traffic, so you may need additional software.

3.Unified Threat Management (UTM) Firewalls

A unified threat management firewall is a program that combines the functions of the SMLI firewall with intrusion prevention and antivirus. Additional services like cloud management may be included under the UTM umbrella of services.

4.Next-Generation Firewalls (NGFW)

Next-generation firewalls are more sophisticated than packet-filtering and stateful inspection firewalls. Why? They have more levels of security, going beyond standard packet-filtering to inspect a packet in its entirety. That means inspecting not just the packet header, but also a packet's contents and source. NGFW are able to block more sophisticated and evolving security threats like advanced malware.

5.Network Address Translation (NAT) Firewalls

A NAT firewall is able to assess internet traffic and block unsolicited communications. In other words, it only accepts inbound web traffic if a device on your private network solicited it.

6.Virtual Firewalls

A virtual firewall is an appliance used in a cloud-based system, both private and public. This type of firewall is used to assess and manage internet traffic over both physical and virtual networks.

Advantages Of Firewall

1.Monitor Traffic

A major responsibility of a firewall is to monitor the traffic passing through it. Whatever the information traveling through a network is in the form of packets. Firewall inspects each of these packets for any hazardous threats. If any chance the firewall happens to find them it will immediately block them.

2.Protection against Trojans

Malwares especially the type Trojans are dangerous to a user. A Trojan silently sits on your computer spying over all the works you do with it. Whatever the information they gather will be sent to a web server. Obviously you will not know their presence until the strange behaviors of your computer. A firewall in this instance will immediately block Trojans before they cause any damages to your system.

3.Prevent Hackers

Hackers on the internet constantly look for computers in order for carrying out their illegal activities. When the hackers happen to find such computers they will start to do even malicious

activities such as spreading viruses. Apart from those hackers there can be unknown people such as the neighbours looking out for an open internet connection. Hence, to prevent such intrusions it is a good idea to be with a firewall security.

4.Access Control

Firewalls comes with an access policy that can be implemented for certain hosts and services. Some hosts can be exploited with the attackers. So the best in case is to block such hosts from accessing the system. If a user feels that they need protection from these types of unwanted access, this access policy can be enforced.

5.Better Privacy

Privacy is one of the major concerns of a user. Hackers constantly look out for privacy information's for getting clues about the user. But by using a firewall many of the services offered by a site such as the domain name service and the finger can be blocked. Hence, the hackers are with no chance of getting privacy details. Additionally firewalls can block the DNS information's of the site system. Due to this the names and the IP address will not be visible to attackers.

Disadvantages Of Firewall

1.Cost

Firewalls does have an investment depending on the types of it. In general hardware firewalls are more expensive than the software firewalls. Besides that hardware firewalls require installations and maintenance which can be costly. These types of configurations cannot be done without an expert IT employee. Comparing this to a software firewall, there is no much investment and it is easy enough for an average user to deploy them.

2.User Restriction

It is no doubt that firewalls prevent unauthorized access to your system from the network. While this can be advantageous for an average user, this can actually be a problem for large organizations. The policies used by the firewall cab be strict enough to prevent employees from doing certain operations. As a result of this, the overall productivity of the company an be affected severely. Sometimes this can also prompt employees from using backdoor exploits. However this can lead to security problems since the data travelled through these backdoor exploits are not examined properly.

3.Performance

Firewalls especially the software based has the capability to limit your computer's overall performance. The processing power and the RAM resources are some of the factors which decides the computer's overall performance. When the software firewalls constantly run on the background they consume more the processing power and the RAM resources. This can lead to a diminished system performance. However hardware firewalls does not impact the system performance since they do not rely upon the computer resources.

4.Malware Attacks

Even though firewalls has the capability to block the basic types of Trojans, it is proved to be defenseless against other types of malwares. These types of malwares can enter your system in the form of trusted data. Therefore, even if you have firewall, it is still recommended to have an anti-malware software installed on your PC. Because the only way to remove them is through an Antimalware scan.

Complex Operations

Even though for small businesses the firewall maintenance is made easy, it is definitely not for large organizations. Firewalls for large organizations require separate set of staffs for operating them. These people make sure that the firewall is safe enough to protect the network from intruders.

Conclusion

So, firewalls are the protecting layers installed in the computer devices to protect from viruses, malware, and any other harmful element. Most companies and individuals use this application

to keep their files and devices protected from harmful code. A good firewall provides full security to our network and system without making any influence on the speed of computer system and network access. Firewalls greatly reduce the vulnerability of the system. In this I have discussed role & history of firewall, as well as types also there are several advantages and disadvantages of firewalls.

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Jaggery Production and Marketing : A Need For Better Future For Kolhapur

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Abstract

Jaggery is a traditional pre-processed sugar, which is popular in majority of the world. Jaggery industry has been considered as one of the small scale and cottage industry in India. Maharashtra is one of the leading producers of jaggery and Kolhapur is dominant in the production and marketing of jaggery. Large numbers of jaggery production units are located in Kolhapur district. In Maharashtra, about 11 to 12% sugarcane has been using for jaggery preparation. Jaggery from Kolhapur is also well known for its quality, which has wide demand in national and international market. Marketing is one of the important activities in the production of jaggery. The prices of jaggery have a direct effect on the income of the sugarcane growers. Jaggery production involves additional cost, than those, if cane supplied to sugar mill on account of crushing, equipments, labour and other materials. Jaggery marketing also involves expenditure on account of transport and marketing. These additional costs of preparation of jaggery reduce the margin of profitability. At present Kolhapur, Satara, Sangli and Pune districts of the Maharashtra state leads the jaggery making. Nearly, 35 to 45% of total jaggery production is from these four districts. As far as jaggery marketing is concerned direct sale of jaggery to the ultimate consumer by the producer is not possible. The reason behind this is the places of production and consumption are widely scattered. Therefore, the role of middlemen becomes significant. Also, Agricultural Market Committee plays a vital role in marketing of agricultural goods, especially jaggery.

Keywords : *Jaggery, Small Scale, Marketing, Low Price, Consumer.*

1. Introduction:

Jaggery or “Gur” is a traditional, unrefined, wholesome sugar. In India, jaggery is a traditional product of sugarcane. It can be defined as a honey brown coloured raw lump. Jaggery is made in a natural way and during its processing it does not lose its original properties. It contains the natural goodness of minerals and vitamins inherently present in sugarcane juice. This crowns it as one of the most wholesome and healthy sugars in the world, Blood purifier: One of the most well-known benefits of jaggery is its ability to purify the blood. When consumed on a regular basis and in limited quantities, it cleanses the blood, leaving your body healthy. In India, Maharashtra is the largest producer of jaggery. Jaggery production is on a huge scale in Kolhapur and is the biggest hub in this area. The firm supplies different kinds of jaggery to its clients and is available in 500gms, 1kg, 2kg, 5kg, 10kg & 30kg blocks. Kolhapur produced jaggery is known for its rich taste, colour and molecular structure offering better shelf life so is world renowned for household consumption.

2. Objectives:

1. To study the jaggery production problems.
2. To study the jaggery marketing for better future for Kolhapur.

3. Research Methodology:

The researchers have collected primary and secondary data for this research paper. Convenient sample respondents have interviewed from local as well as coastal area of Maharashtra especially Ratnagiri, Sindhidurg and Goa. Researchers have interviewed 900+ sample respondents for data collection of which 100 respondents are used for analysis and interpretation. This research has focused to establish correlation among jaggery production, jaggery marketing and better future for Kolhapur district. The respondents have interviewed with the help of pretested questionnaire in the selected sample area. This paper is also based on past experience, observation, discussion, field visit

in local and kokan area etc. The paper has its own limitations. It is an attempt that to know the jaggery production, jaggery marketing and sustainable development of this industry.

4.Jaggery Production and Marketing : A Need

Jaggery Production:

Jaggery making is a simple process comprising crushing of sugarcane for juice extraction, filtration and boiling of juice for concentration and then cooling and solidifying to give jaggery blocks. The juice is extracted in conventional crusher; this is then filtered and boiled in iron pans. During boiling chemical bleaching agents or natural vegetable items like *Bhindi* (Lady finger tree) are added to clean the juice and the extraneous matter is constantly removed to give a bright golden colour. The boiled juice is then left to cool in iron or aluminum pots to form the jaggery blocks. The size of these moulds is specific and depends on the weight of the block of jaggery varying from 1kg onwards. The blocks are packed in jute cloth and dispatched. The yield rate of jaggery is about 10% to 12%.

Table No. 1 Number of People Working for Jaggery Manufacturing

Sr. No.	No. of Employees	Respondents	Percentage
1	10	000	00
2	15	000	00
3	20	194	18
4	25	872	82
5	Total	1066	100

(One respondent gave more number of responses so, total is 1066).

Source: Field Work

Table No. 1 shows that number of employees working for jaggery manufacturing activities. It is a demographic dividend for this industry. The number of employees is depending on size and location of jaggery manufacturing unit. Harvesting of sugar cane, transportation of sugar cane by tractor and actual people working at manufacturing centre, these employees are covered for this study. Jaggery manufacturing being a seasonal industry and effective season is about 3-4 months, so, more numbers of employees are required. These all employees should be skill full and technically expert. The researchers have observed in this study that, there is lack of modernization and atomization in the jaggery manufacturing process and it leads to more number of manpower requirement. Considering the sample area demographic dividend, for production of farm gold, devoted manpower is very much required. This table shows that 82% sample units are employed 25 employees and 18% sample units are employed 20 employees. It means that there is a considerable variation in manpower management. It is found that there is no any uniformity and standardization regarding manpower management. As per the size, crushing capacity, location of the jaggery manufacturing unit, the number of manpower is employed. 29% population is young in India which is called as the demographic dividend for the nation. Considering this scenario of demographic dividend in Kolhapur district, there is shortage of young population who are interested to work in agro industry especially jaggery industry.

Table No. 2 Packaging of Jaggery

Sr. No.	Particulars	Respondents	Percentage
1	Gonpat / Jute Bags	116	11
2	Plastic Paper and Bags	698	66
3	Other e.g. Corrugated Box	155	14
4	No packing	97	09
5	Total	1066	100

(One respondent gave more number of responses so, total is 1066).

Source: Field Work

Packaging of variable has considered for knowing method of packing and correlate requirement of manpower for packing activity. Table No. 2 shows that the types of packing for jaggery. 66% of the respondents are packing in plastic paper and plastic bags and 14% of respondents are packing in corrugated boxes. Only 11% sample respondents are packing in jute bags and 9% of jaggery producers are not packing in any packing material. This table shows that majority of the jaggery manufacturers are packing their production for which manpower support is required. It is observed that majority of the jaggery producers are selling their jaggery in Kolhapur Gur Market on wholesale bases, that's why they are not much bother about packing. Manpower and material packing expenses are more, so these manufacturers are not more interested in other sophisticated and attractive packing system. One more point is considerable here that the jaggery is having more moisture content i. e. hydroscopic characteristics and such moisture content product packing is difficult and more manpower is required. At two places the jaggery manufacturers are producing granules and jaggery powder on manual basis. This granules and powder is packed in the plastic bags and plastic jars. At 2-3 places it was observed that, they are producing only one kg size jaggery output, they are using polythine paper bags and corrugated boxes for packing. It is concluded that the packing, different size jaggery production and packing, powder production and packing, attracting the customers through attractive packing etc demands talented young manpower which is not available at present for farm gold industry.

Table No. 3 Jaggery Production Size

Sr. No.	Particulars	Respondents	Percentage
1	100 gms	171	06
2	500 gms	367	13
3	1 kg	807	29
4	5 kg	369	13
5	10 kg	807	29
6	30-33 kg	171	06
7	As per demand	97	04
8	Total	2789	100

(One respondent gave more number of responses so, total is 2789). *Source: Field Work*

Table No. 3 shows jaggery production size. It is considered to know the correlation between different size and shape jaggery production and manpower requirement. It is observed that all respondents are producing different size of jaggery, not any one type of production size. These all size jaggery production required huge manpower. The researchers have observed that smaller the size of jaggery production demands more number of employees. 71% respondents are producing 1 to 10 kg size, 13% respondents are producing 500 gms and 5 kg size, 6% respondents are producing 100 gm and 30-33 kg size and 4% respondents are producing jaggery as per the demand of the customers. It is specially observed by the researchers that the jaggery producers are having set pattern for jaggery production. They are not changing repeatedly the pattern, size of the jaggery. Almost all jaggery producers are using traditional production pattern, so, they are producing convenient standard size of production. At 2 places they are producing jaggery in square size in ½ kg. and 1 kg.

Table No. 4 Shape of Jaggery

Sr. No.	Particulars	Respondents	Percentage
1	Modak	226	12
2	Square	433	24
3	Traditional Shape	846	46
4	Granules	112	06
5	Powder Form	226	12
6	Total	1843	100

(One respondent gave more number of responses so, total is 1843). *Source: Field Work*

To create brand image, to attract customers, to attract young youth towards the jaggery and jaggery consumption, different shape jaggery is require. It is observed by the researchers that the customers are eating any product by eyes firstly and then actual. It means that satisfaction to the eyes of the customers is very much required at beginning stage for marketing the products. Table No. 4 shows that the shape of the jaggery produced. 46% of respondents are producing traditional elliptical shape, 24% of respondents producing square shape, 12% of respondents are producing *modak* and powder form and only 6% are producing granules shape. Majority of the sample respondents are producing traditional shape which is more convenient, easy and cost of production is less. It is studied that jaggery size and conversion into granules and powder is costly, production of *modak* in bulk size is not practically possible. Smaller size jaggery production increasing cost of production. One more factor is noticed by the researchers that traditional and square shape is more suitable for storing the jaggery. The researchers have produced different shape jaggery products and kept in the exhibition for knowing the feedback of these products. It is surprise to note that 100% positive response has found for different shape jaggery products and gift packs. It can be interpreted that the talented demographic dividend is very much required for this micro industry in the sample district.

B. Jaggery Marketing:

Table No. 5. Awareness about jaggery products:

Sr. No.	Particulars	Frequency	Percentage
1	Strongly aware	17	17
2	Aware	32	32
3	Neutral	26	26
4	No	12	12
5	Strongly not	13	13
6	Total	100	100

Source: Field Work

Considering above mentioned facts and figures the marketing strategy should be proper and innovative. The customers should be attracted towards the purchase and use of jaggery. Kolhapur jaggery is world famous agro based processed jaggery product. The jaggery and it's by-products has Ayurvedic importance in India. The table no 5 shows that the awareness of the jaggery products. It is found that 17% are strongly aware and 32 % are aware. It means that considerable percentage of customers are ware about the jaggery products and it is a good indication for this industry and sustainable development of Kolhapur. To create more awareness, it is suggested that the training and awareness campaigns should be organized. It is suggested that more awareness should be created among all stakeholders of jaggery manufacturing, trading and consumption regarding the scope of jaggery manufacturing, marketing and consumption in coming future by way of training, open discussion, articles through newspapers and magazines, Radio and T.V. programmes for all stakeholders, bulletin which will help for conceptual clarity and future scope for jaggery manufacturing, marketing and consumption etc.

Table No. 6 Consumption of Jaggery and Jaggery Products:

Sr. No.	Particulars	Frequency	Percentage
1	Yes	50	50
2	Some Time	40	40
3	No	10	10
4	Total	100	100

Source: Field Work

The above table shows that jaggery and jaggery products consumption by the customers. As per the respondents opinion 50% respondents are consuming, 40% are some time consuming and 0% are not consuming. It indicates that jaggery consumption has been increasing, which is a good sign for this industry and bright future for Kolhapur district and Maharashtra too. As per the government statistics, average Indian person is consuming 19 kg of sugar directly and indirectly. In this sugar consumption jaggery consumption is included which is negligible and this jaggery consumption is very-very negligible quantity. To increase the jaggery production, jaggery consumption should be increased. It is found that from India about 3000 to 4000 tones of jaggery has exported to America, Canada, England, Pakistan, Saudi - Arabia, Shrilanka etc. countries out of which majority jaggery export from Kolhapur district as a “*Kolhapuri Gur*”. Jaggery can be used for preparation of sweets like *Gur Poli, Puran Poli, Shengadane Poli, Til Vadi, Khobara Vadi, Chirmoora Ladoo, Halava, Modak, Panha, Kheer* and Sweets etc. In India, people often prepare sweets with jaggery. Particularly for *naivedyam*, jaggery sweets are preferred to sugar sweets. India is a full of culture and festivals where consumers can use the jaggery for direct consumption and indirect consumption.

Table No. 7 Preference for Jaggery Products Consumption:

Sr. No.	Particulars	Frequency	Percentage
1	Organic	10	10
2	Without Chemical	40	40
3	Chemical	50	50
4	Any Type	100	100
5	Total	100	100

Source: Field Work

The above table no 7 shows that the preference for jaggery products consumption. 10% of respondents are consuming organic, 40% without chemical, 50% chemical and all (100%) are consuming all types of jaggery. It is studied that all types of jaggery has consumed by all sample respondents. It is observed that the sample customers have not more particular about nature of jaggery. It is suggested that varieties and nature of jaggery related awareness programmes should be conducted for all stakeholders of the jaggery.

5. Conclusion

The jaggery business is the tool for rural sustainability of Kolhapur district. The quality jaggery produced can be sold out at a higher price in the wholesale market. Hence, by adopting the technology, the farmer can enhance their income by selling the value based jaggery at Rs.100-120/kg instead of Rs.35/kg (the price of traditionally made jaggery). The socio-economic impact of jaggery cottage industry may be ruled out because of its contribution to rural development. It will improve the product quality, hygiene, and market access to reap the economic benefits of premium jaggery products in the market. Hence, adopting modern technology for jaggery processing will certainly a fruitful step towards the goal of doubling the farmer’s income in Kolhapur district. To develop the jaggery industry, effective marketing is essential.

6.Refernces:

- a. Field work.
- b. Internet.

A mini review of ortho-aminocarbonitrile: A better future after post-pandemic**Pradeep J. Patil***^aDepartment of Chemistry,
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Abstract:

Ortho-aminocarbonitriles have been widely used in drug discovery. The compounds based on aminocarbonitriles are possibly important skeleton in organic synthesis. The carbonitrile ring is part of many naturally occurring compounds and is used to design different biologically active compounds. These bicyclic ortho-aminocarbonitrile containing drug molecules have gained much interest owing to their diverse applications as an important intermediate in organic synthesis. It's a need to explore their biological activities after post-pandemic because there are no previous reports based on Ortho-aminocarbonitriles. In this review article, design strategies for the synthesis of Ortho-aminocarbonitriles containing moiety through their different approaches have been represented.

Introduction

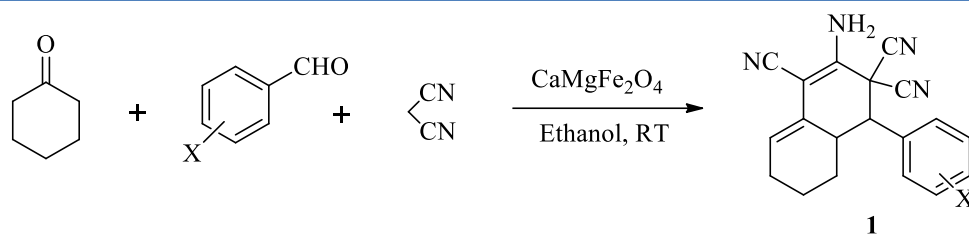
The design and development of environmentally benign and eco-friendly synthetic methodologies for biologically or pharmaceutically important compounds has become a promising area in organic synthesis [1]. Considering these green parameters, recently multicomponent reactions (MCR) is highly exploited because of their operational simplicity, simple workup and purification processes, cost-effectiveness, and formation of structurally diverse complex molecules, etc [2]. Multicomponent Reactions (MCRs) are promising condensation reactions in which three or more reactant molecules combine to produce a desirable product. So, MCRs are convenient for the creation of chemical libraries of bioactive compounds, thereby facilitating expedient lead identification in drug discovery programs [3].

The bicyclic ortho-Aminocarbonitriles are useful precursors in organic synthesis for the preparation of various heterocyclic compounds [4]. Additionally, the derivatives of ortho-Aminocarbonitriles are more advantageous for the preparation of dicyanoanilines which are significant for their optical properties [5]. Various literature methods have been developed for the synthesis of bicyclic ortho-aminocarbonitriles such as ammonium acetate [6], N-butylpyridinium tetrafluoroborate [BPy]BF₄ [7], borax [8], imidazole [9] and DES [10], etc.

A.M. Shestopalov and coworkers have synthesized a novel compound of the bicyclic ortho-Aminocarbonitrile series, 2-amino-4-phenyl-3, 4, 4a, 5, 6, 7-hexahydronaphthalene-1,3,3-tricarbonitrile [11]. Recent literature contains several research articles dealing with the new synthetic routes, but there are only a few reports based on the biological significance of ortho-aminocarbonitriles. So, its need to uncover all the biological activities of ortho-aminocarbonitrile in the upcoming future after the pandemic.

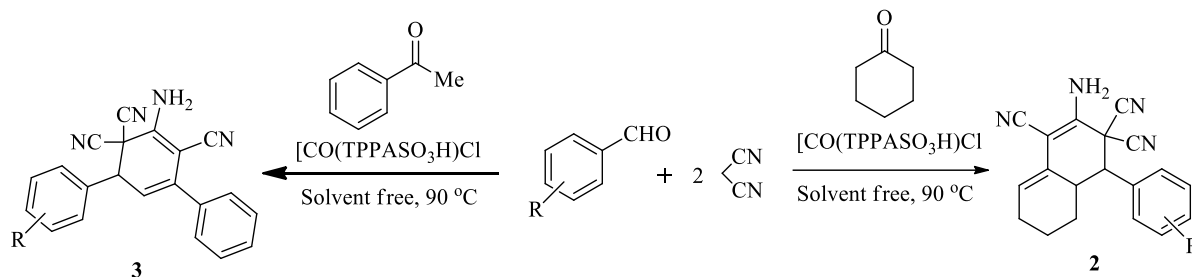
2. Synthetic pathway for Ortho-aminocarbonitrile

Hossein Naeimi et al. in 2020 has designed and synthesized CaMgFe₂O₄ is a base nanocatalyst prepared through the sol-gel method. This nanocatalyst has been used for the synthesis of bicyclic ortho-aminocarbonitrile derivatives (6e-6g) [12].



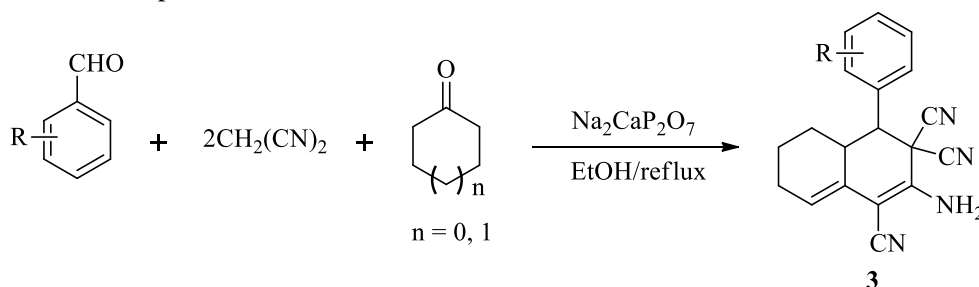
Scheme 1: Synthetic pathway for ortho-aminocarbonitrile

Mohammad Dashteh and his co-workers have been synthesized cobalt tetra-2,3-pyridiniumporphyrinato with sulfonic acid tags [Co(TPPASO₃H)]Cl and it was used for the synthesis of ortho-aminocarbonitriles. Also, they have prepared cyclohexa-1,3-Dienamines by using aryl ketones [13].



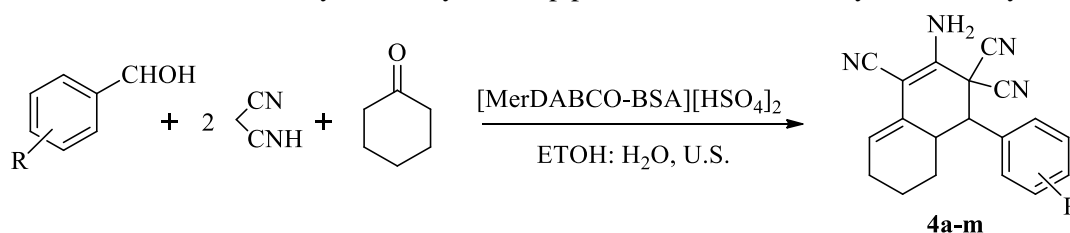
Scheme 2: Synthetic pathway for cyclohexa-1,3-Dienamines and ortho-aminocarbonitrile.

B. Malekiand, and H. Veisi in 2019 have designed and synthesized nanostructured diphosphate Na₂CaP₂O₇ as a catalyst for the synthesis of ortho-aminocarbonitrile derivatives. The synthesis involves the reaction between different aromatic aldehydes and malononitrile with cyclohexanone in the presence of ethanol under reflux conditions [14].



Scheme 3: Ortho-aminocarbonitrile synthesis by using Na₂CaP₂O₇ as a catalyst.

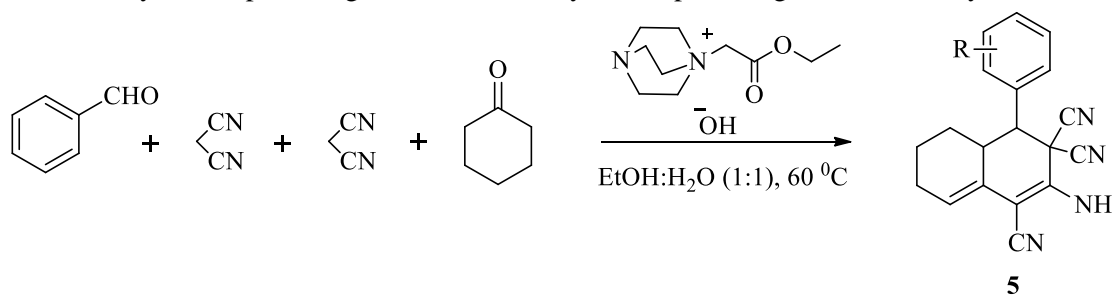
Patil et al., have successfully synthesized *ortho*-aminocarbonitriles from cyclohexanone, malononitrile, and aromatic aldehydes in ethanol: water (70:30 v/v) by using [MerDABCO-BSA][HSO₄]₂ under the ultrasonic condition as a new cost-efficient methodology. By using ultrasonication, aromatic aldehydes containing electron-withdrawing group afforded excellent yields as compared to electron-donating substituents. The consequence of this work offers advantages such as shorter reaction times, excellent yields, easy work-up procedure and reusability of the catalyst [15].



Scheme 4: Ortho-aminocarbonitrile synthesis by using [MerDABCO-BSA][HSO₄]₂.

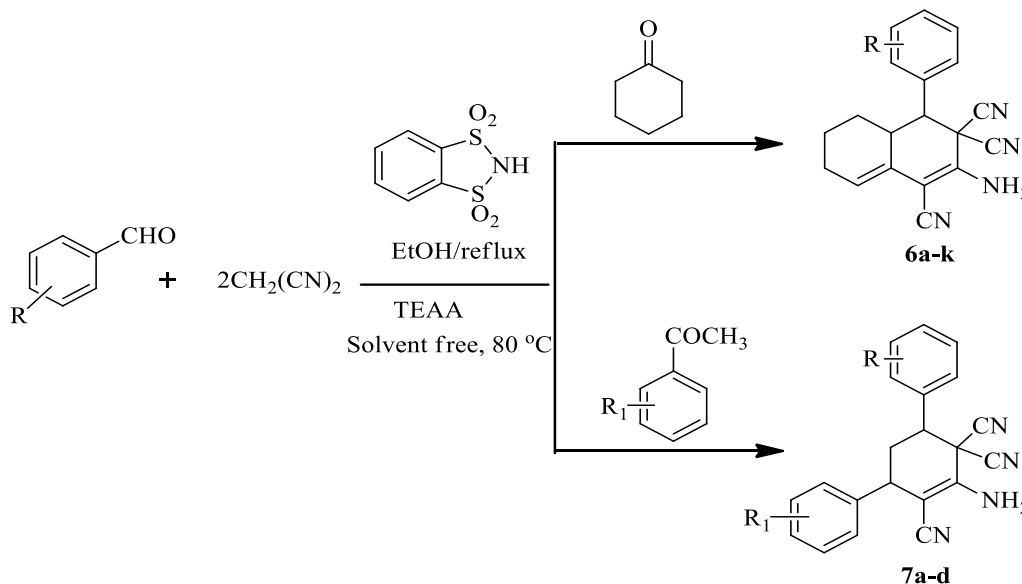
In the year 2018 D. S. Gaikwad and his co-workers have been synthesized bicyclic *ortho*-aminocarbonitriles catalyzed by biodegradable DABCO-based basic ionic liquid catalyst. The carbonitrile derivatives were easily obtained when different aromatic aldehydes were reacted with

malononitrile and cyclohexanone in EtOH: H₂O (1:1) with ionic liquid (20 mol %) under 60 °C. They have also calculated Green metrics calculations like MI mass intensity, % RME percentage reaction mass efficiency, % CE percentage carbon efficiency, % AE percentage atom economy [16].



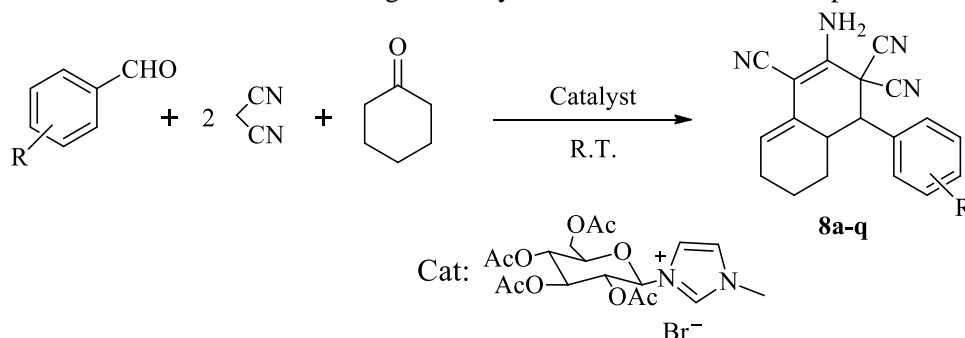
Scheme 5: DABCO-based basic ionic liquid catalyzed synthesis of *ortho*-aminocarbonitriles.

B. Malekiet al., in 2017 has synthesized derivatives of bicyclic *ortho*-aminocarbonitrile and multisubstituted cyclohexa-1, 3-dienamine as biologically important organic intermediates by the condensation reaction of aldehydes, malononitrile and cyclohexanone or aromatic ketones using *ortho*-benzenedisulfonimide (OBS) and triethylammonium acetate (Et₃NH⁺ OAc⁻) as catalyst [17].



Scheme 5: Synthesis of biologically active *ortho*-aminocarbonitriles and multisubstituted cyclohexa-1, 3-dienamines.

L. Zhang and co-workers have synthesized *ortho*-aminocarbonitriles by one pot four component condensation of aromatic aldehyde, cyclohexanone and two equivalents of malononitrile under solvent-free condition by using 1-imidazole-2,3,4,6-tetraacetyl-D-glucopyranosyl bromide as efficient noncovalent organocatalyst at room temperature condition [18].



Scheme 6: Synthesis of *ortho*-aminocarbonitriles using organocatalyst.

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The Need for Post Covid Fitness for a Healthy and Sustainable Living

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Abstract

The history of corona virus is being seen since 1965, while we heard about SARS-COV-2 for the first time on 31st December 2019. These viruses have a peculiar identification exhibiting crown like spikes on the surface and are made up of protein. This virus belongs to the corona virus family which specifically target the respiratory organs of our body like throat and lungs.

Now we all know that a common characteristic of any virus is the infection that it causes in our body by entering healthy cells and then multiplying itself. Further, the basic thing that one needs to know is that a virus can survive the toughest condition but it needs a host cell to be alive as they do not have a capability of multiplying on its own.

The transmission of covid infection occurs when a person breathes the contaminated droplets in the air with a maximum risk. Once the virus enters the body, its protein spikes get attached with the receptor molecules of a healthy cell membrane and works like a key and a lock between virus and cell membrane allowing the mechanism of multiplication.

After a person turns negative post covid infection with the help of proper medication and precautionary measures, what symptoms exist and how to take care to regain our fitness is an extremely important process. So if we maintain our health with quality food and appropriate exercise, we can successfully lead ourselves towards a healthy life.

Key words: Corona Virus, Covid, Fitness, Diet.

Introduction

The history of corona virus is being seen since 1965 while we heard about SARS-COV-2 (Severe Acute Respiratory Syndrome Corona Virus 2) for the first time on 31st December 2019. These viruses have a peculiar identification exhibiting crown like spikes on the surface and are made up of protein. Spike Glycoprotein is seen on a higher side among the 4 structural proteins in the virus, which causes infection by penetrating into the host cells. These virus belongs to the corona virus family which specifically target the respiratory organs of our body like throat and lungs.

Now we all know that a common characteristic of any virus is the infection that it causes in our body by entering healthy cells and then multiplying itself. Further, the basic thing that one needs to know is that a virus can survive the toughest condition but it needs a host cell to be alive as they do not have a capability of multiplying on its own. A virus is nothing but tiny pieces made up of RNA (Ribonucleic acid) or DNA (Deoxyribonucleic acid) that is covered with layers of protein to protect their genetic material. These protein spikes are used by the virus as a key to get inside the living cell of a body where it takes over the cells' internal mechanism processing it to build new viruses.

When an infected person talks, coughs or sneezes, droplets get carried to others person mouth, nose, throat or lungs. Once the virus spikes get attached with the receptor molecules of a healthy cell membrane, it works like a key and a lock between virus and cell membrane. This action allows the virus to get inside the healthy cell and the process of infection begins with the mechanism of multiplication of copies of virus cell. We know each human contains two lungs and each lung has separate section called lobes. Now when we breathe, oxygen is carried through trachea or wind pipe, then bronchi and then to bronchioles and finally to the alveoli.

Normally when a virus travels through the wind pipe, the immune system fights back due to which the lungs as well as the wind pipe face swelling and inflammation making it difficult for a person to breath comfortably and causing breathlessness. In severe cases people have pneumonia where in this

virus causes infection (in either any one or both the lungs) in the alveoli leaving it inflamed, as a result of which oxygen supply is minimized critically in the body. Now this can cause difficulty in breathing, chest pain, coughing, fever, chills, headache, muscle pain fatigue, etc. It can also lead to further complication like respiratory organ failure. Now the speed of recovery and post covid symptoms completely depend upon various factors like age, level of physical activity in lifestyle, immune system of individuals, etc.

After a person turns negative post covid infection with the help of proper medication and precautionary measures, what symptoms exist and how to take care to regain our fitness is an extremely important process.

What I suggest is, as corona virus attacks our respiratory organ and makes our immune weak by reducing the oxygen supply to our lungs with many other side effects increasing the chances of getting prone to covid infections repeatedly, Post Covid care is utmost important. After recovery, if we are not taking precautions to make ourselves healthy with strong immune system and building our fitness, then there are chances we may get infected again and again. Of course vaccines are available but as we know it can only minimize the effect of infection but cannot assure complete protection from the virus. So if we maintain our health with quality food and appropriate exercise, we can successfully lead ourselves towards a healthy life.

Methodology

There are a number of viruses and bacteria existing in the world we live today. But as we know, life has to go on with stability and sustainability embracing all the positive and negative changes that come ahead. The break out of corona virus was declared as a pandemic globally that caused serious economic and health crises in a large number of countries for a period of two years. But eventually we have overcome this global shock and are trying to lead a healthy life making enormous efforts as even today Corona virus is a living part of our society.

With the help of vaccinations like Covaxin, Covishield, etc, one gets cured of the covid infection, but it is observed that, the post recovery symptoms exist among patients for a very long period ranging from a minimum of 3 months to a year or more. Thus as we have to live with this, one ultimate solution to this situation is understanding the need for post covid fitness for a stable and sustainable living.

Why Post Covid Fitness is vital to maintain?

Now a lot studies show that patients who are infected and recovered from the corona virus infection can get re-infected in different time intervals. This happens due to lack of self care and negligence towards necessary precautions. A Study published in WebMed has revealed that covid-19 increases risk of dysfunction, high body mass index and diabetes by six times. Researches involved in the study have said that this problem could be short term or long term. It is said that after recovery from the infection it will take a minimum 3 months for a patient to gain his normal fitness whereas the maximum time taken for recovery can differ from person to person.

So all that we hold in our control is building up a stronger immune system through the maintenance of a good fitness level of our body through simple exercises and fueling up with necessary nutrition.

Effect of Corona Virus on our health!!!

In the first wave i.e. in the year 2020 we witnessed the death of a large population from different age categories as the world was in chaos and was not prepared in any way for the pandemic that hit us all of a sudden. But during the 2nd wave, despite of being vaccinated, we observed that many of athletes, bodybuilders, weight lifters and health conscious individuals died because of the same cause, either in the infection period or the recovery phase post covid. It is said that people who workout have a stronger immune compared to those who do not. So this brought up numerous

questions in our minds as why this was happening. Well, the answer to this is, lack of awareness of the pre and post covid care information.

As we have noticed that corona virus affects our lungs which reduces the oxygen saturation level in our blood, after recovery the lungs requires a stipulated time to regain the oxygen absorption capability. Thus, after recovering from the corona virus infection the fitness level of every individual will be at the minimum and it requires a little extra attention.

In the initial stage of recovery, we need to focus on increasing the lungs capacity. Before we do this, we need to check the strength of our lungs soon after a person turns negative after a covid infection.

The first test comprises of holding breath exercises for 25 seconds.

Now for few people this will not be possible immediately. The intensity of holding breath can be increased gradually and by doing the exercises regularly. If you hold the breath for 25 seconds or more, then it is a good sign which indicates that lungs are not severely infected and are in good condition.

The second test comprises of 6 minutes walking test to measure the oxygen saturation with the help of a pulse-oximeter.

Before you begin this test, you need to check oxygen saturation and then walk at a normal speed for 6 minutes and recheck the oxygen saturation. Now if the two readings are same or differing by 2 points than there is no need to worry. But if the difference is more this, it is to be understood that lungs are still under recovery.

The above two tests will certainly help you to know the condition of your lungs.

How can you strengthen your Respiratory system?

By doing simple, yet effective breathing exercises
Yoga is truly the heritage of our country as most of the yoga exercises are supported scientifically, may it be breathing exercises, flexibility exercises, posture correction exercises, stretching exercises and many more. Yoga can be definitely considered as core of all the exercises.

Breathing exercises are a great way to develop the lungs, as they ensure adequate supply of oxygen to the body. The other benefits include peace of mind, stress reliever, relief from insomnia, etc.

There are a number of exercises to strengthen the respiratory system such as,

- 1) Deep breathing with increasing counts
- 2) Kapalbhathi
- 3) Anulom – Vilom
- 4) Bhramari

Once the oxygen saturation reading is improved, we need to focus on the cardio vascular exercises.

I would like to high light here, that if the lung conditions are not improved before we do cardiovascular exercise. The effect would be adverse on our health and will not be beneficial. The reason behind this is, if the oxygen supply is insufficient, our lungs cannot adequately support the body in terms of stamina during cardiovascular exercise and in such situation extra stress will be laid on the heart to pump blood and this will create critical problems that may lead to cardiac complications.

Thus, to build up post covid fitness, it is always good to improve the capacity of the lungs on priority and then focus on the improvement of stamina with the help of cardiovascular exercises.

The benefit of any cardiovascular exercises is that it increases heart rate which emphasizes the respiratory system to become more efficient and eventually increases the amount of oxygen taken with each breath. This allows lungs to improve their capacity and function better.

Here are some of the most common cardiovascular exercises that you can do as per your comfort-

1. Brisk walking
2. Spot Jogging
3. Skipping
4. Climbing staircase
5. Cycling
6. Playing any outdoor game like badminton, etc

The only care one needs to take is, the intensity of these exercises too must be increased gradually in terms of duration, difficulty and practice sessions.

Diet:

Food is not just an input for the body. It is a source of nutrition that nourishes and fuels up our body to release energy required for our daily activities. It also takes care of the maintenance of our body by fulfilling the need of micro and macro nutrients.

The advised food to consume for a faster recovery post covid is a combination of Low carb, Low sugar, High protein, healthy fats, fresh fruits and Vegetables. For instance,

1. Complex Carbohydrates like - Whole grains, Oats, etc
2. Protein rich foods like - Chicken, Fish, Eggs, Soy, Nuts, Seeds, etc
3. Healthy fats like – Walnuts, Coconut oil, Olive oil, etc
4. Dark Chocolate with 70% Cocoa

Discussion

The long term effects of covid known till date are – fatigue, shortness of breath, chest & joint pain, mood swings, problems with memory, concentration & sleep, muscle cramps, headaches, pounding heart beats, depression, anxiety, dizziness, blood clots and many more unknown effects that are yet to be discovered. It is clear through this discussion that the ultimate way to face this pandemic which might be over or many more waves might be yet to arrive, sustainability can be encroached through a number of efforts put together to preserve health with a good level of fitness and post covid care.

Conclusion:

The covid crisis has brought about the major focus of the world on health and fitness. Building immunity and taking vital nutrition has become really important to save our body from the deadly viruses.

It is important to know what kind of food is required to stay fit. It is always better to take right nutrition in right amount with a combination of exercise for the maintenance of this god gifted machine i.e. the human body so it can sustain the toughest conditions that is forgone and yet to come in the near future.

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Soil moisture variability under different land uses in the Zhifanggou Catchment of the Loess plateau, China

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Abstract:

Discussing about soil moisture is an important because soil moisture is an important variable. Soil moisture reference to amount of water contained within a soil sample. Soil moisture is useful for determining the crop growth & also in Vegetation restoration. The effect of land use pattern affected by soil moisture dramatically in the Loess plateau, China.

They studied about seven-year soil moisture under seven land uses patterns, and observed that the level of soil moisture is a 0 – 300 cm depth two cropland & 0 – 600 cm depth in two shrublands, a grassland, a forestland & an abundant cropland, it is for natural recovery where it was measured in April & October of 2004 – 2010. The 0 – 300 cm depth in Zea mays cropland is over than other six land uses pattern. The lowest soil moisture presented Caragana korshinskii shrubland & Robinia pseudoacacia forestland having 0-600cm depth. The decreasing soil moisture storage seen in lands of Hippophae rhamnoides, caragana korshinskii, Robinia pseudoacacia and Medicago sativa and abandoned cropland was stable. The 300 cm soil profile in two cropland is because of rainfall. And 200, 200 and 240 cm level is shown maximum soil infiltration in Hippophae rhamnoides, Caragana korshinskii, Robinia pseudoacacia lands.

The result showed here is the soil moisture is less deep soil profile of shrub and forestland. For the best vegetation restoration, the construction of Terrace and Dams can also be improved which can utilize the rate and restoring the native grassland in the Loess Plateau.

Keywords: Inter annual change, Land use, Loess Plateau, Soil Moisture

Introduction

Soil Moisture plays important role in agriculture forest prediction & other natural resource activities & affecting on many hydrology process such as runoff generation, soil evaporation & plant transpiration. The approach comparatively shows the difference between the space & time (owe et al 1982; Grayson et al, 1997) precipitation & climate (Roux et al, 1995 ursino & contarini 2006)

The most affecting factor on soil moisture is Land use & Land cover in Loess plateau, China & it is located in arid & semi-arid areas. They converted the farmland back to forestland & grassland in land use & land cover. The project determined by several researcher & confirmed that the soil is dry out because of unhelpful land use. The result of the project showed that the changes in land uses in pattern in Loess plateau is affected by hydrological cycle. Different land uses exhibit different effect on soil moisture. The effect on soil moisture in different land uses is serious to successful vegetation restoration in Loess plateau. In different land (Li 1993) uses of Loess plateau, China studied those seasonal changes observed soil moisture & vertical soil moisture (Zhang at 2006, wang et al 2013). There are three types of soil moisture found i.e. -

Increasing, decreasing & fluctuating changes takes place. (Vang et al, 2001: fu et al 2003). The Vertical soil moisture changes is due to the difference in seasons & these difference of soil moisture is affected by soil texture. The less soil moisture during seasonal vegetation grows & the lost soil moisture during rainy season is cannot fill up by precipitation so the inhibit the grow of vegetation in Loess plateau, China (Chenel et al 2007) number of scholars determined the long-term soil moisture variability on land uses. Vegetation types on soil moisture is determined by Wang, Liu & Dang (2009 b) & also checked the inter annual changes on in soil moisture on Loess plateau. Soil moisture variation in permanent lawn grassland & temporal patterns discovered in southern Italy, Longobardi (2008) & also discovered annual soil moisture cycle in which affected by precipitation

fluctuation. The main effect on soil moisture is during dry period. The soil moisture variability in three different land such as acacia plantation, a natural forest & degraded forest which have depth 50, 100, 150 cm. The author noted that factors on affected on soil moisture is topographical element & different vegetation cover is caused by soil moisture. The researchers studied the rainfall is the positive effect on soil moisture in Loess plateau (Jiang et al. 2007) & also discovered the soil moisture storage & soil moisture variability under different land uses is seasonal.

This study looks over the seven-year soil moisture in under seven land uses & the researcher aimed to examine the inter-annual changes of the soil moisture under different land uses & impact of rainfall in vegetation pattern & vertical distribution of soil moisture. They assumed that the shrub & forest decreases the large amount of soil moisture. This approach provided relationship between vegetation types & soil moisture content & guidance for vegetation restoration in Loess plateau, China.

Discussion

In this they studied 0 – 300 cm depth soil moisture in two cropland is higher than another land uses & reported that *C. korshinskii* & *R. pseudoacacia* contains high amount of water & root distribution over 500 cm or maybe deeper (Zhang et al 2006). There is lowest soil moisture capacity in different soil layers in land of *C. Korshinskii* & *R pseudoacacia* announced that there is no difference in soil moisture capacity of forest grassland & slope farmland. In short, they concluded that when differences increase, depth also increase, except the *Z. mays* cropland all land uses have same soil profile i.e., 0-300 cm depth. Shrubland & forestland have higher growth period and vegetation growth period is shorter (Huang et al 2006). Transpiration is the main reason for decreasing soil moisture & it showed by Bellot et al (1999) & resulted that *C. korshinskii* & *R. pseudoacacia* showed high transpiration (Yuan & Xu, 2004) & deep root distribution. The density of root is low in deep soil layer but also it is the key of soil moisture absorption (Wan et al 1993, Yoder et al: 1998) The Shrub & forest shows deep root distribution & decrease the water in deep soil.

The understanding water balance is important because it plays and important role in land use in minimizing water loss & utilization water, Remove the factors limit crop production and resulted that the soil moisture is maintain the balance of grassland. The annual precipitation during seven-year period is changed but the land of *A. vestita* is minimally changed Zhang et al (2009) showed the precipitation is positive impact on soil moisture storage in terraced. The *Z. mays* land showed decrease soil moisture & the *S. italica* showed increase soil moisture. The result put down *Z. mays* land show higher water consumption (su et al 1996) & less precipitation during the study period. In the whole soil profile *M. sativa* showed high water consumption (Wu & Liu 2009; Cheng & Liu 2011) thus the result showed in 2004-2006 is decreased soil moisture storage. The impact of rainfall on *M. sativa* land is the serious effect therefore soil moisture storage is increased in wet year 2007 and after that soil moisture is decreased by *M. sativa*. The study showed the soil moisture balance in the shrubland & forestland is increases & decreases. The best land use is Loess plateau for vegetation restoration. The forest & shrubland have deep root distribution than crop land and the soil moisture content was also lower than cropland The 40 cm soil profile related with terrace by improving soil moisture content in 0 cm – 50 cm soil profile resulted that there is no inter-annual difference in soil moisture which observed in depth below 200cm in grassland and at 600cm depth observation the minimal changes in soil moisture. In Loess Plateau *C. korshinskii* was recharged on 0-200 cm depth & also found soil moisture distribution in 0-1000 on depth & link up at 200 cm. The soil moisture of *R. pseudoacacia* land in 0-400 cm depth & found that below 50cm. The study concluded the soil profile in the 0cm – 200 cm is lower in soil moisture. These value decreases then soil moisture also decreases & study about *H. rhamnoides* soil profile at 0-500 cm at found soil moisture increases 200-500 cm and concluded that soil moisture of *H. rhamnoides* is stable below 200 cm decreasing in

growth of soil moisture in deep soil profile. The work of study showed the soil moisture is easily available for cropland in rainy season.

Conclusion

The conclusion of this approach showed the result was soil moisture at 0-300 cm depth soil profile is seen in *S. italica* & *Z. mays* cropland & 0-600 cm depth soil profile soil moisture seen in the *H. rhamnoides*, *C. korshinskii*, *R. pseudoacacia*, *M. sativa* & *A. vestita* lands of Loess plateau, China during the period 2004-2010. The soil moisture storage of 0-300 cm depth in two cropland was over than other land uses *S. italica* shows increased during the period of 2004 -2010 & *A. vestita* is balanced & observed that *C. korshinskii* & *R. pseudoacacia* decreases soil moisture below 200 cm profile.

The study suggested that the construction of terrace & conversion farmland to grassland is the best option for improving the Loess Plateau.

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A Short Review on Hydroponic Planting

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Abstract

Today we live in 21st Century. In 21st century most significant technology, developments took such as self-Driving cars, fiber optics and social media etc. which made human life easy. But due to high demand for those products it requires a big and a very large company and land space. Those Company started utilizing the agriculture land. Due to this today about 11% of Agriculture land is available in farming. This is big problem in today's generation but to overcome with this problem Scientist invented a technology called HYDROPONIC PLANTING(HP) soil less plantation. HP is a method of growing plants and herbs in nutritional rich media without growing into soil. This HP planting system saves mineral, water and land. But as this technology has Advantages it also has Disadvantages, like it affects the plants bioactivities, enzyme contents inside plant and the most important is it disturbs the environment cycle.

This study is comparison between hydroponic planting (HP) verses soil planting (SP). A plant model *Plectranthus amboinicus* (Mexican Mint) used in this studied and conclude the that it affects the Nutritional value of plant grown in HP rather than SP.

It may be possible some changes in nutritional rich media by adding biofertilizers into it, can gain those Nutrients again to plants which are necessary to complete.

Keywords: Hydroponic Planting, Nutritional rich media, Liquid Biofertilizers

Introduction

Medicinal plants play an important role in making drugs and Natural products. There are various Medicinal plants are found in Nature. Amongst those medicinal plants *Plectranthus amboinicus* is selected for this experiment 2. *Plectranthus amboinicus* so called Mexican Mint belongs to Lamiaceae family and easily available in Nature 2. From ancient time their leaves are detail many detail many Pharmacological and bioactive capacity like antioxidant and antimicrobial properties 3 4. In this experiment . *Plectranthus amboinicus* is used as Plant model and detailed by many research groups 56.

Generally Hydroponic system is a method of growing crops or plants in a soilless system it is performed using suspending the plant crop in a Nutrient-rich solution. By the use of this system many other plants and vegetables can be grown, by this Practice method of Hydroponic Planting it utilizes less use of water, land and use fertilizers. (7-8)

As this Hydroponic system has positive aspects it also has some Negative aspects like, it affects crops biochemical contents (1-3). Similarly, some tests like strawberries and Okra were conducted and conclude that it affects the shelf life and chlorophyll amounts form plants (3 -2).

In this experiment they used Indian Borage (Mexican Mint) a medicinal herb as a plant model to find does it affects the plants Nutritional values if it is grown in Hydroponic system. In this Experiment of extractions of leaves are collected of Herbs grown in Hydroponic and Soil planted herbs and performed some tests like anti-oxidant, protein protection potentials, phytochemical, chlorophyll and carotenoid contents were tested. (1)

Discussion

Leaf extraction prepared form Hydroponic and Soil planted were used to tests like phytochemical contents, Chlorophyll contents, Minerals and anti-oxidant enzyme contents and its bio active potentials and contents are performed as follows

Antioxidant and protein protection potentials

To test Antioxidant content inside medicinal plants *Plectranthus amboinicus* (Mexican Mint) two methods are used, ABTS and DPPH for testing the leaf extractions were collected from soil planted and hydroponic planted Herb and tested in concentration from 10 to 40 mg/ml and concluded that Antioxidant content are same in both the plants(1). Also, protein test was conducted using *in vitro* albumin protein protection assay test. (9-10)

Phytochemical and chlorophyll contents analysis

Next those leaf extractions of soil planted and hydroponic planted Herb are tested to check the phytochemical contents and ascorbic acid content (1). After testing it was concluded that soil planted leaf extraction contain high total potential (2.9 folds) as compared to Hydroponic plant. And flavonoid contents are (5.9 folds) (1). 1.5 were the test results for ascorbic acid content after test. To detect chlorophyll content those two plants were tested for chlorophyll test

Plant metal and antioxidant enzyme contents analysis.

To test plant metal contents the leaf extraction was tested with higher iron, copper, magnesium test and conclude that it ranged from (1.01 to 2.44 folds) in Hydroponic planting samples where tests with some other tests gave zero lead calcium and aluminum are detected in both soil planted and hydroponic planted Samples. For plant antioxidant potentials, two enzymes are superoxide dismutase (SOD) and Catalase showed (1.5 folds) and catalase (2.1 folds) contents, in Hydroponic plant.

When strawberries were grown in Hydroponic system it was seen that it gave higher mineral metal contents (11). In this study the Hydroponic system showed higher content of iron and Magnesium (1). These tests help to differentiate between soil planted and hydroponic planted plants but also helps to increase Antioxidant properties into plants by Protein potentials.

Conclusion

The plant we used in the experiment *Plectranthus amboinicus* (Mexican Mint) Also called India borage Showed that it destroys some harvested plant's phytochemical mineral contents, chlorophyll and carotenoid and antioxidant enzyme contents inside it. To get best results some plants were included, and conducted same experiment like Hp and SP to get both harvested yields and to collect more nutrient contents.

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Differential Effects of Artemisinin Against Cancer Cell Lines

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Abstract:

The Article is provided the artemisinin effect on differential cytotoxicity towards the P815 and also BSR cell lines, using MTT assay the Cytotoxicity was calculated as the growth inhibitor. In the study of Vitro cytotoxicity, the enhancement of the apoptotic DNA fragment and Annexin – V & streptavidin-FITC assay was determined, In the further study in of vitro synergism between artemisinin and Chemotherapeutic drug, vincristin. Explored that DBA2/P815 (H2d) which was experimented on the mouse model. In which Artemisinin acted on tumor cell line & P815 is more sensitive toward this drug than BSR cells & at was showed by respective IC₅₀ value (12 μM for P815 and 52 μM for BSR cells). On another hand it was found that apoptosis was not induced in BSR while it was induced in P815. By these it concluded that the interesting cytotoxicity effect and also suggested that their molecular interaction between artemisinin & then cell line were studied, in these vivo model the result concluded that the oral administration of artemisinin inhibit or stop the solid tumor development also in this vitro model it was concluded the artemisinin differential cytotoxicity not only effect on concentration and the time exposure but it also targets cell.

Keywords: Artemisinin – Cytotoxicity. Apoptosis/necrosis – Synergism. Antitumor activity

Introduction

For the Artemisinin content one of the artemisia annua L., which is a Chinese herb in which it has showed the interest. In which the formation of carbon-carbon free radical which is formed by the Sesquiterpene Lactone compound which contains Endoperoxide bridge. When they are formed the free radical formation causes the molecular damage and which also could lead to the cell death.

For the formation of free radical the Artemisinin molecule has endoperoxide which gets interacted with the Fe (II) as the Artemisinin derivation gets lack into the endoperoxide bridge are DEVOID of antimalarial [2,3] An Intact endoperoxide is crucial. Fe (III) endoperoxide does not get cause a reductive session. When the Artemisinin gets reacted with Fe (III) the reaction gets very slow. As the Fe (III) does not cause a reductive session of the endoperoxide. The input of the product of the reaction to acid mediated heterolytic cleavage of peroxide. The Fe (II) has high level of amount in the form of heme molecule which is present in the malaria parasites.[5]. As the free radical leads to the cell destruction, the bioactivity of Antimalaria artemisinin because of intra-parasitic source reaction. The intake of high iron content is done by most of the cancer cells as it is due to the rapid rate of division [7] after the intake of high amount of iron the cells show high surface concentration of transferrin receptors [8] which get involve in the transport of iron into cells. In short, the transferrin receptor concentration of its cells is corresponded to the aggressive nature of tumor cells. Because of high iron content the artemisinin may also have particular toxic to cancer cell. As the normal cell intake less amount of iron content and better intracellular regulation of it, therefore it has less significance to artemisinin.

Artemisinin has showed the anti-cancer effects as it need a confirmation to use different cell lines, and to investigate the molecular mechanism of it.

The present study showed that In vitro Cytotoxic effect of artemisinin against tumor cell line of P815 (murin mastocytoma) and BSR (kidney adenocarcinoma of hamster). Also, it was concluded that there is a synergistic interaction between artemisinin and vincristin against the cell line. The Apoptosis initiation in artemisinin treated cells is researched and studied.

Discussion

This paper concluded the time and dose dependent. In which The in vitro proliferation of artemisinin which acted on the P815 and BSR. Whereas it was also studied that the artemisinin cytotoxicity which was tested on the H69 Human small-cell lung carcinoma. It was also found that

there are different properties of artemisinin. The target cells were dependent on IC_{50} values and kinetic of cytotoxicity. The P815 cell line was higher sensitive than BSR cells to the cytotoxicity cell activity of artemisinin ($IC_{50}= 12\mu M$ vs $IC_{50}= 52 \mu M$, respectively). There is more amount of iron in the cytoplasm of leukemic cell. iron ions improve the reactivity of artemisinin as we know there is less sensitivity of artemisinin in the normal human lymphocytes.

The artemisinin is initially gets activated by the cleavage of endoperoxide with the help of intracellular heme- ions. However, it remains unclear that the biochemical events and cell target of artemisinin. The target by alkylating and damaging cell proteins resulted into free radical intermediate.

The result of Annexin-V binding assay observed that when P815 was used as a target the Apoptotic DNA fragments was detected in Agarose gel electrophoresis & no Apoptotic DNA fragments was observed in BSR cell.

Observing at Phosphatidylserine externalized out the fluorescence microscopy. In which there was more amount of positive cell which was detected in P815 cell (99.2%) & whereas BSR cells contained a smaller number of positive cells (19%)

As the iron intake is in more amount the enhanced transferrin receptor expression resulting into artemisinin & derivation induce apoptosis in cancer cells. The effect occurs in G1 phase. In next to this, The synergy / antagonism of agent. The synergistic effect was observed when artemisinin got combined with vincristin, which is an anticancer drug. The result maybe pharmacological relevance, as the Anticancer leads to antiproliferation at low concentration & at High concentration leads to cell death.

In vivo artemisinin assay of clinical relevance which was performed on DBA2 / P815 (H2^d) Tumor bearing mice. It was observed that the artemisinin treated mice showed regressive nature. In literature it is described that the artemisinin shows poorly reacts to the cancer cells whereas oral intake of artemisinin could prevent or delay breast cancer development in rat. Chen et al recently established the dihydroartemisinin, which is derived from artemisinin stops the ovarian cancer cell growth in mice.

As we studied that Artemisinin when reacts with iron which forms a free radical which can kill cells and Artemisinin also inhibits & growth development of cancer cells.

Conclusion

Hence, they concluded that, the cytotoxic effect is due to the artemisinin and the cytotoxic effect is depends on the target cells but also on the concentration & time of exposure. They further studied that resulted into apoptosis initiation cell depended on the cancer cell P815 in DBA2 mice. On the other side it was resulted that there is first time In vitro interaction between artemisinin and vincristine. They study of artemisinin has the ability with cancer provided clinical studied to us & Artemisinin is also used as the conventional anticancer drug. The artemisinin compound with on secondary mechanism therapy may lead to improve the clinical efficiency.

The previous results of the research showed molecular mechanism of artemisinin is derivatives as anticancer agent.

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Study The Impact of Covid-19 Pandemic on Small Business

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1. Introduction:

The widespread closing of stores and businesses in the United States and around the world due to the coronavirus is unprecedented. Stores, factories, and many other businesses have closed by policy mandate, downward demand shifts, health concerns, or other factors. Many of these closures may be permanent because of the inability of owners to pay ongoing expenses and survive the shutdown. The impact on small businesses around the world is likely to be severe.

The early effects of COVID-19 on small business and entrepreneurs are not well known because of the lack of timely business-level data released by the government. This paper addresses this limitation by creating estimates of the number of business owners from monthly Current Population Survey (CPS) micro data files. Using these timely data, I examine how COVID-19 impacted small business owners in mid-April 2020 the first month to capture the widespread shelter-in-place restrictions in the United States. I then expand the analysis to include the next 2 months as many states that had restrictions started to relax those restrictions. The CPS data are used by the Bureau of Labor Statistics (BLS) to track unemployment rates, and have been used in previous research to study determinants of business ownership. The CPS captures the current work activity of the business owner, and whether that business owner is currently operating the business. Thus, the number of *active* business owners can be captured in the data, but there is no way of telling whether these are temporary or permanent business closures. Many of the inactive business owners, however, are likely to permanently close their businesses especially if the COVID-19 induced recession is prolonged. Even temporary closures caused by the pandemic are problematic because they reflect income losses to business owners in those inactive months.

This study provides the first estimates of the early-stage effects of COVID-19 on small business owners from April 2020 CPS micro data. I find that the number of working business owners plummeted from 15.0 million in February 2020 to 11.7 million in April 2020 because of COVID-19 mandates and health- and economic-driven demand shifts. The loss of 3.3 million active business owners (or 22%) was the largest drop on record. When conditioning on working roughly 2 or 4 days/week, the losses are even larger (28% and 31%, respectively). Total hours worked by all business owners dropped by 29%. Although incorporated businesses are more growth-oriented and stable, they experienced a drop of 20% from February to April 2020.

Patterns across gender, race, and immigrant status reveal alarming findings. African-Americans experienced the largest losses, eliminating 41% of active business owners. Latinx also experienced major losses with 32% of business owners halting activity between February and April 2020. Immigrant business owners suffered a large drop of 36% in business activity, and female business owners suffered a disproportionate drop of 25%.

Building on these findings, this paper extends the analysis of COVID-19 impacts into the second and third months following widespread shelter-in-place restrictions across the country May and June 2020. The analysis answers the question of whether there was further closing of small businesses or instead a partial rebound as small business owners tried to reopen or partially reopen. The findings indicate that there was a partial rebound from April 2020 numbers in May and an additional rebound

in June. The number of active business owners bounced back by 7 percentage points resulting in a 15% drop in business activity from February to May 2020, and an additional 5 percentage points rebound in June resulting in an 8% drop in business activity from February to June 2020.

Patterns across gender, race, and immigrant status reveal that the disproportionate impacts from COVID-19 lingered into May and June. African-Americans continued to experience the largest losses, eliminating 26% of active business owners in May and 19% in June. Latinx also experienced major losses with 19% of business owners inactive in May and 10% inactive in June. Immigrant business owners suffered a large drop in business activity of 25% in May and 18% in June. Most major industries faced large drops in the number of active business owners in April with the only exception being agriculture. Construction, restaurants, hotels, transportation, and personal/laundry services all faced large declines in the number of active business owners due to COVID-19. Simulations reveal that the concentrations of female, black, Latinx, and Asian businesses in industries hit hard by the pandemic contributed to why losses in business activity were higher for these groups than the national average loss in April. May and June brought a partial rebound for most industries.

2. Objectives Of The Study:

The major objectives of the present research study are as follows:

1. To study the challenges of small business during the COVID-19 pandemic
2. To study the impact of COVID-19 pandemic on small business.

3. Research Methodology:

Every research is necessary a specific methodology so for the present research has used specific methodology. For the collection of data, the researcher has used the primary and secondary source. The study is analytical and descriptive in nature. Primary data has collected by survey method and Secondary data required for the study are collected from books, journals and other Government websites, periodicals, and reports etc.

4. Limitation of The Study:

The major limitation of this research is that the present research is related to only small business Researcher is not covered all dimensions of small business. The conclusion of this research may not be applicable to other.

5. Study Significance of The Study:

contributes to the existing literature in crisis management and identifies the survival and resilience strategies of small businesses during a long-lasting crisis and challenge. I also provide recommendations for small businesses on how to remain flexible or competitive through resilience and renewal strategies, and the researcher has also gave relevant recommendations for policymakers and other concerned bodies.

6. Crisis and Small Business Frms:

There's no doubt that the COVID-19 pandemic has added to small business challenges around the world, regardless of size, location, or funding. According to Eggers (2020), most of the studies that focus on finance are concerned with the consequences of the crisis on small firms, namely, the lack of funding and financing sources. The strategy-oriented studies indicate that successful firms adopt a strategy that is both market- and entrepreneurship-oriented during a crisis. Small business research has recognized the importance of a crisis perspective (Herbane, 2010). A recent review of literature on crisis and small- and medium-enterprises (SMEs) finds that most of the publications focus on financial issues (51%), followed by strategy (41%), and institutional environment (8%). Moreover, based on research conducted after the 2004–2012 economic crisis about entrepreneurial culture and the knowledge diversity of small firms in the United Kingdom argue that adequate entrepreneurial responsiveness cannot be addressed by short-term measures and needs.

consistent policies. This highlights the importance of considering the temporal perspective of the crisis. A recent qualitative study about the effect of the COVID-19 pandemic on 16 startups in Germany (Kuckertz et al., 2020) examines how innovative startups deal with the lockdown and the most effective policies. They find that many startups deploy various responses associated with resilience to turn crisis-induced adversity into opportunity. They propose that entrepreneurs who demonstrate flexibility in their business models are likely to access broader emerging opportunities. This finding points to the temporal aspects of the crisis that require further investigation.

7. Small Business Challenges to Adapt to The Ongoing Crisis:

One of the biggest trends to emerge during the COVID-19 pandemic is small businesses going online and creates different opportunities to solve many challenges. Indeed, for many small businesses, the internet remains a lifeline, helping them to stay afloat during the pandemic. According to Facebook’s report, in the 30 days prior to the survey fielding, 23% of businesses reported using digital ordering tools, 16% service delivery tools, and 37% digital payment tools. 36% of operational personal businesses that use online tools report that they are conducting all their sales online. However, we have also seen a lot of small businesses find creative ways to succeed during COVID-19, from expanding into new markets to finding new ways to deliver their products and services. At the same time, a number of large technology companies such as Facebook and Google are creating new ways for small businesses to connect with their customers. Even when businesses remain open, employees are experiencing financial cuts from lost employment or fewer hours worked. It’s important to remember that any time a business closes or has to lay off workers, it affects entire communities of people who rely on income from jobs to support themselves, and in turn, support other local businesses and organizations.

8. Strategic Interfirm Alliance and Small-Scale Industries:

The specific characteristics of innovative start-ups should enable them to be better prepared to cope with the COVID19 crisis than other types of. Strategic alliance as an innovative mechanism is a precondition for industries to be strong, as inventive businesses tend to constantly and continuously predict and adapt to a broad range of challenges. Strategic interfirm alliance literature has received much attention by scholars during the last decades. For the past 30 years, strategic interfirm alliance market has grown at a greater rate than the industrial sector in its entirety. There are many reasons for this. First, in the 1960s and 1970s, the main medium of competition was that of price quantity prevailed over quality, and there was no need to subcontract parts, components, or sub-assemble to meet specific product characteristics. Over time, research and development (R&D), marketing, and product design became the focus of firms making the importance attached to quantity to be switched away from the means of production resulting in them being assigned to specialist partners in the supply. With the fierce competition in the global market, many firms have been increasingly turning to strategic interfirm alliance to improve their competitiveness.

9. Jobs:

A 10–15% loss of employment/livelihoods leading to a cumulative loss of perhaps 1.6– 2.4 million jobs/livelihoods depending on the severity and duration of the crisis, mostly in urban areas. In the worst case, 3.2–4 million could lose their jobs/livelihoods. Knockon effects on small businesses/enterprises and self- as well as wage employment in both the formal and informal sectors, especially in the services sector, affect larger urban centers most sharply with business closures and rising unemployment or loss of livelihood and loss of productivity in the case of widespread illness in the workforce.

Manufacturing Total shutdown or sharp drop in production capacity and reduced employment in industrial parks, subsectors such as textiles and garment and leather and leather products will be hit hard, the former industry faces catastrophic losses and agro-food processing but beverages subsector will be relatively less impacted. Services (tourism, hospitality, aviation, trading, retail) High likelihood of closure of businesses and large-scale loss of jobs/livelihoods, in both the formal and

informal sectors, especially in urban areas, women, who are disproportionately represented in the informal sector, will be impacted seriously and significant and prolonged forex losses from tourism are very likely. Education The COVID-19 pandemic has resulted in school closures across the world. It is estimated that learning for 89% of the world's student population has been disrupted. In Ethiopia, schools have been closed since 16 March 2020 and this is likely to remain the case until the end of the academic calendar. This means that over 26 million children are currently not in school, of which approximately 77% are primary school pupils. These children are neither learning nor benefiting from other school-based support mechanisms, such as protection, health, and school feeding. In short, children's well-being is at risk. Key education indices which were already dismal before the COVID-19 pandemic are at risk of worsening in the current crisis.

10. Conclusions:

The first estimates of the effects of COVID-19 on the number of business owners from nationally representative April–June 2020 CPS data indicate dramatic early-stage reductions in small business activity. The number of active business owners in the United States plunged from 15.0 million to 11.7 million over the crucial 2-month window from February to April 2020. During the COVID-19 period, the small scale business are struggling and facing many problems due to the demand. The Business persons should cope up the crisis with the new policies and support by the government for the development of the business. Lockdowns have forced the business persons, to take a digital sales. They need to provide online services, right from onboarding to payment. There were no alternative options whatsoever as financial resources were reducing workforce and workers returned to their home towns. However, the workers who remained lacked managerial expertise to tackle crisis.

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Pulmonary fibrosis: Sequelae disease after Covid 19

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Abstract:

In December 2019, an outbreak of Corona virus was started and it get spread widely into the various countries and then it leads to the pandemic situation. This Coronavirus was completely new strain in community, before this virus was present into the animal chain, first time it got enter into the human chain and start infected humans. . Recently it was revel that about 46.2 C of people got trapped into the disease while 60.5 L showcase a mortality rate. Beside this, some people also faced another disease like Dengue, Fever, pulmonary disorder, pulmonary fibrosis, liver sclerosis in post pandemic. The pattern of symptoms of Covid 19 and pulmonary fibrosis is near about same. This review paper brief about pulmonary disorder which is a sequelae disease and shows impact on Covid 19 patient after treatment.

Keywords: Covid 19, Pulmonary Fibrosis, Sequelae, SARS, MERS, Pandemic

Introduction

Pulmonary fibrosis is lung related disease were internal lining of lung get injured or shows some scars on them. Tissue of lungs get thicken and stiff tissue is unable to work properly. It is a lifelong disease. Due to scar, tissue from lungs get blocked for the movement and hence very low oxygen get reached into lungs which leads the suffocation. This suffocation factor is very significant symptom during Covid 19, so it was unable to doctors to identify whether the patient is suffering from Covid 19 or pulmonary fibrosis. It has been reported that a patient showcase all negative reports and fully got recovered from covid 19 but still patient suffer from persistent symptoms of respiratory system due to residual sequelae.

Case Study: Collected Data

Case First

84 year old male patient, non-smoker and non-diabetic was infected by Covid 19 infection followed by mild fever and dry cough for last 9 days. He was unable to breathe for last 2 days so immediately he was hospitalized for treatment. All physical and pathological reports of patients are summarized through table.

Sr.No	Tests of Covid 19 infected Patient	Range / Result
1	Heartbeat Rate	96 beats/min
2	Respiratory Rate	28/ min
3	Blood Pressure Range	142/86 mmHg
4	Oxygen Saturation	88%
5	Hemoglobin	11.9 gm%
6	Leucocyte Count	8.38mm
7	Platelets	290 thousand / microliter
8	Neutrophil cells count	19.5%
9	Lymphocytes	76%

O2 inhalation of patient was started by 5 lit/min rate. Injection of Enoxaparin 0.6 ml s/c twice daily, injection of dexamethasone 6 mg once a day and Injection of Remdesivir 200 mg on Day1

followed by 100 mg for 4 days. Convalescent plasma treatment also given. On 7 day after hospitalization patient started requiring 12lit of oxygen/min. After 28 days of admission patient required 90% of O2 level into the body. Patient was then tested or subjected for HRCT test. Scanning reports shows multiple area of bronchitis, reticular opacities, Scar and distortion of internal lining of lungs was appeared. Treatment of patient was slightly got change because patients was also suffering from pulmonary fibrosis along with covid 19. Low dose of prednisolone 30 mg once a day for a week and pulmonary rehabilitation. He was subsequently lost to follow-up.

Discussion

- SARS and MERS are both the disease related with the lungs disorder. Covid 19 infected patient shows severe pneumonia and leads to fibrosis.
- Fibrotic changes have been reported, however, in about 8% of patients with SARS and 20% of patients with H7N9 influenza
- During Covid 19 some patient get recovered and they face acute pulmonary disorder but some patient show prolong symptoms and leads to interstitial lung disorder permanently
- Sequelae patient is identified only when if patient persist long or delayed symptoms of Covid 19 , maximum 3 month after discharged
- Data from previous study of corona reveal that about one third of population suffering from pulmonary sequelae at 12 weeks of Covid 19 discharged patient.
- Pulmonary fibrosis and chronic obstructive pulmonary disease (COPD) are not same , both are associated with lungs but pulmonary fibrosis is classified as an interstitial lung disease while COPB is an common type disease which leads to chronic bronchitis
- Interstitial Lung disorder is broad term consist of group of various abnormalities of lungs. They may be acute or chronic. Pulmonary fibrosis is one of them
- Pulmonary fibrosis is damage of alveolar epithelium cell, and destruct the normal functioning of lung
- Damage of alveolar is not fibrosis but it unable to remove the laid down part, small tissues and collagen lungs injury
- Pulmonary fibrosis is generated spontaneously and unknown (idiopathic) when body came in contact with severe type of unknown infectious agent showed that the presence of persistent or chronic viral infections significantly
- Idiopathic pulmonary fibrosis is frequently occurred in Men as compared to women
- The pathological correlation of Acute Respiratory distress Syndrome is the diffuse Alveolar damage is identified as an acute inflammatory phase with edema is first step to proceed for pulmonary fibrosis.
- Age above 60, asthma patient, Smokers, patient required MV/NIV during Covid 19 infection are at the higher risk of development of post covid 19 pulmonary fibrosis sequelae
- Environmental factor such as silica dust, grain dust, asbestos particle, bird and animal droppings, due to mechanical ventilators and chronic alcoholism may lead to damage of lungs if patient exposed to these factor for longer period of time.
- Pulmonary fibrosis infection in some families runs as a heredity.
- Major Symptoms of pulmonary fibrosis are like short breath, fatigue, dry cough, weight loss, clubbing, cyanosis
- Diagnosis of pulmonary fibrosis is done by primary blood test which helps to tract the disease. Later on Chest X-ray or Chest tomography (CT)is done, if lungs scar observed the patient is suffered from pulmonary fibrosis got confirmed
- Pulmonary fibrosis is an irreversible disease hence permanent destruction of lungs occurred. It is lethal disease

- If severe type of pulmonary fibrosis occurred in patient then patient leads to heart attack or heart failure due to stress.
- This sequelae can also leads to other complications such as connective tissue disorder, chronic granulomatous disease, medication, respiratory system complications due to covid 19.
- Pathogenesis of pulmonary fibrosis is not clearly understood, so it is important to verify the symptoms of covid 19 and pulmonary fibrosis for further systematic treatment of disease

Conclusion

A millions of humans was suffered due to COVID-19 infection and it was get established completely or with minimal changes, a few patients like discussed, will be left with established fibrosis. If even a few of the 24 million patients affected to date globally develop fibrosis, we are likely to see significant numbers of patients with post-COVID fibrosis which remains as a sequelae in community. The pulmonary community will need to anticipate and prepare for this potential onslaught of patients with advanced fibrotic lung disease and potential oxygen dependence. Definitive and scientifically proven preventive or treatment options for this condition do not exist, even though extensive research is ongoing.

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Revolutionary Approach for Future Technology Enhancement: Internet of Things

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Abstract:

Internet of Things (IoT) has been emerging as the next big thing in Internet. It is envisioned that billions of physical things or objects will be outfitted with different kinds of sensors and actuators and connected to the Internet via heterogeneous access networks enabled by technologies such as embedded sensing and actuating, radio frequency identification (RFID), wireless sensor networks, real-time and semantic web services, etc. IoT is actually cyber-physical systems or a network of networks. With the huge number of things/objects and sensors/actuators connected to the Internet, a massive and in some cases real-time data flow will be automatically produced by connected things and sensors. Internet of Things (IoT) is a new paradigm that has changed the traditional way of living into a high tech life style. Smart city, smart homes, pollution control, energy saving, smart transportation, smart industries are such transformations due to IoT. A lot of crucial research studies and investigations have been done in order to enhance the technology through IoT. However, there are still a lot of challenges and issues that need to be addressed to achieve the full potential of IoT. These challenges and issues must be considered from various aspects of IoT such as applications, challenges, enabling technologies, social and environmental impacts etc.

Keywords: Internet of Things (IoT), IoT architecture, IoT challenges, IoT applications, RFID, Sensors, Actuators

1. Introduction:

“The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it” was Mark Weiser’s central statement in his seminal paper [Weis 91] in Scientific American in 1991. There is a sea change in human’s daily life as well as in working conditions in organizations after the arrival of IT and ITeS technologies. This is becoming well-known concept across many horizontal and vertical markets including a common man’s everyday life in the society, as it has several applications. The development of the Internet of Things [IoT] has been primarily driven by needs of large corporations that stand to benefit greatly from the foresight and predictability afforded by the ability to follow all objects through the commodity chains in which they are embedded. The ability to code and track objects has allowed companies to become more efficient, speed up processes, reduce error, prevent theft, and incorporate complex and flexible organizational systems through IoT. The IoT is a technological revolution that represents the future of computing and communications, and its development depends on dynamic technical innovation in a number of important fields, from wireless sensors to nanotechnology. They are going tag the each object for identifying, automating, monitoring and controlling.

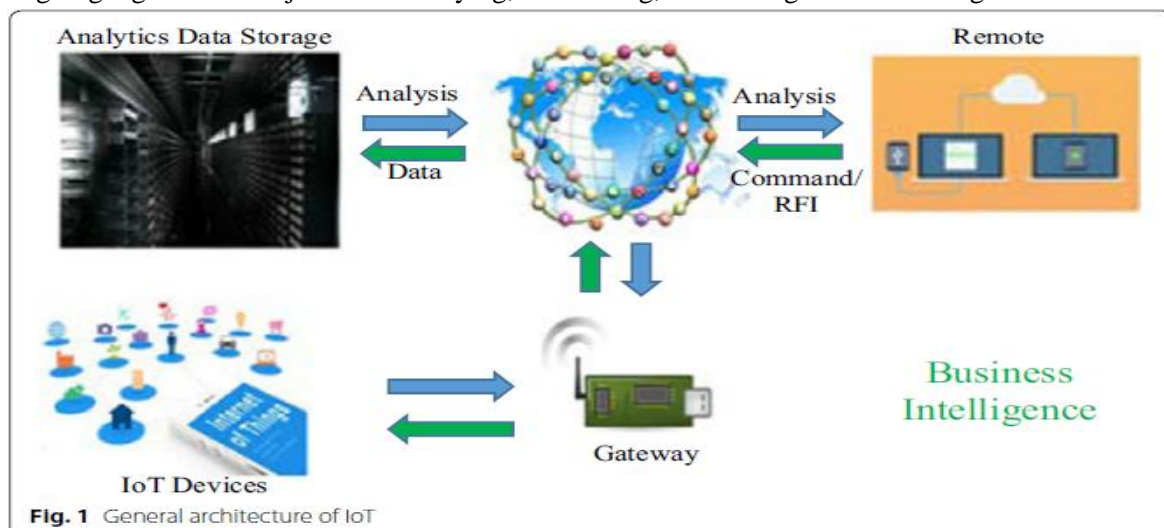


Fig. 1 General architecture of IoT

Internet of Things (IoT) term represents a general concept for the ability of network devices to sense and collect data from around the world, and then share that data across the Internet where it can be processed and utilized for various interesting purposes. The IoT is comprised of smart machines interacting and communicating with other machines, objects, environments and infrastructures. Now a days every persons are connected with each other using lots of communication way. Where most popular communication way is internet so in another word we can say internet which connect peoples. The essential idea of the Internet of Things (IoT) has been around for nearly two decades, and has attracted many researchers and industries because of its great estimated impact in improving our daily lives and society. When things like household appliances are connected to a network, they can work together in cooperation to provide the ideal service as a whole, not as a collection of independently working devices. This is useful for many of the real-world applications and services, and one would for example apply it to build a smart residence; windows can be closed automatically when the air conditioner is turned on, or can be opened for oxygen when the gas oven is turned on. The idea of IoT is especially valuable or persons with disabilities, as IoT technologies can support human activities at larger scale like building or society, as the devices can mutually cooperate to act as a total system.

2. History:

The term Internet of Things was first coined by Kevin Ashton in 1999 in the context of supply chain management. However, in the past decade, the definition has been more inclusive covering wide range of applications like healthcare, utilities, transport, etc. Although the definition of “Things” has changed as technology evolved, the main goal of making a computer sense information without the aid of human intervention remains the same. A radical evolution of the current Internet into a Network of interconnected objects that not only harvests information from the environment (sensing) and interacts with the physical world (actuation/command/control), but also uses existing Internet standards to provide services for information transfer, analytics, applications, and communications. Fuelled by the prevalence of devices enabled by open wireless technology such as Bluetooth, radio frequency identification (RFID), Wi-Fi, and telephonic data services as well as embedded sensor and actuator nodes, IoT has stepped out of its infancy and is on the verge of transforming the current static Internet into a fully integrated Future Internet. The Internet revolution led to the interconnection between people at an unprecedented scale and pace. The next revolution will be the interconnection between objects to create a smart environment. Only in 2011 did the number of interconnected devices on the planet overtake the actual number of people. Currently there are 9 billion interconnected devices and it is expected to reach 24 billion devices by 2020. Now a days everywhere like at railway station, shopping malls, in colleges an information desk is mandatory that provides information about the train schedule, promotional offers and important notice immediately. From educational organization perspective, the problem is that it requires some staff that is dedicated to that purpose and that must have up to date information about the institute and the recent happenings in the institute. The second problem is that a person needs to go in the institute at the information desk in order to get information from them. The solution of this is to use a technology and make technology responsible to answer all the queries asked by people. The best tool is Cell phones, which are available to almost everyone and that is connectable to internet to download latest information. If the information is not updated over the internet, in those cases where the information is not being updated over internet, we need to call customer service centre for support. Some authors designed a device that has all the information stored in its database, whenever someone needs information they have to use that device and get related information from through that device. For this to work, the device must be available to user who needs any help or support. In Educational institutions have a situation wherein students can be present in any part of the campus and might miss important updates such as rescheduling of classes etc. Furthermore, students or customers might not be able to know

important information in-time for it to be useful to them as they might not be able to pass through those notice boards regularly.

3. Applications:

This system is designed for a shopping complex mall but it can be also used in various organizations like educational Notice board system or at Railway station, Bus stand and Air-port to display the information and notification. In mall it is also used to control the humidity and temperature of mall via central AC by using temperature sensor. In Industrial organization it can be also used. E-display system may be used to display Emergency message in Hospitals. Some areas where IoT frequently used,

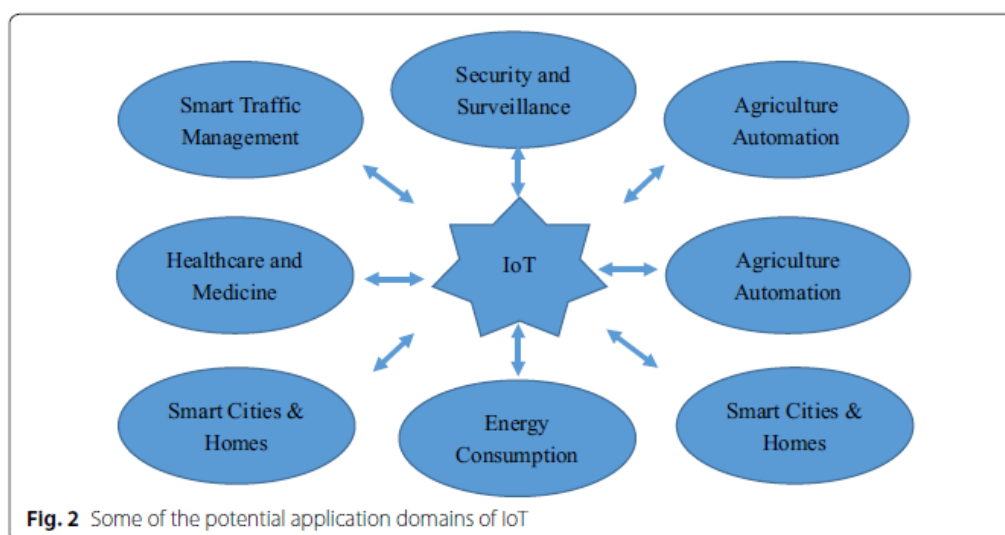


Fig. 2 Some of the potential application domains of IoT

1. **Smart cities:** To make the city as a smart city to engage with the data exhaust produced from your city and neighbourhood.

- Monitoring of parking areas availability in the city.
- Monitoring of vibrations and material conditions in buildings, bridges and historical monuments.
- Detect Android devices, iPhone and in general any device which works with Bluetooth interfaces or Wi-Fi .
- Measurement of the energy radiated by cell stations and Wi-Fi routers.
- Monitoring of vehicles and pedestrian levels to optimize driving and walking routes.
- Detection of rubbish levels in containers to optimize the trash collection routes.
- Intelligent Highways with warning messages and diversions according to climate conditions and unexpected events like accidents or traffic jams.

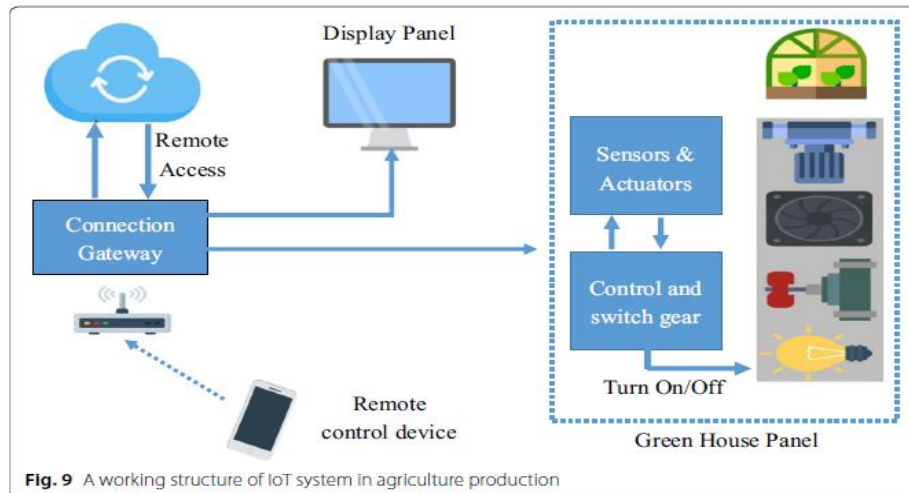
2. **Security & Emergencies:**

- Perimeter Access Control: Detection and control of people in non-authorized and restricted.
- Liquid Presence: Liquid detection in data centres, sensitive building grounds and warehouses to prevent breakdowns and corrosion.
- Radiation Levels: In nuclear power stations surroundings distributed measurement of radiation levels to generate leakage alerts.
- Explosive and Hazardous Gases: Detection of gas leakages and levels in industrial environments, surroundings of chemical factories and inside mines.

3. **Smart agriculture:**

- Wine Quality Enhancing: Monitoring soil moisture and trunk diameter in vineyards to control the amount of sugar in grapes and grapevine health.

- Green Houses: Control micro-climate conditions to maximize the production of fruits and vegetables and its quality.
- Golf Courses: Selective irrigation in dry zones to reduce the water resources required in the green.
- Meteorological Station Network: Study of weather conditions in fields to forecast ice formation, rain, drought, snow or wind changes.
- Compost: Control of humidity and temperature levels in alfalfa, hay, straw, etc. to prevent fungus and other microbial contaminants.



4. Domestic & Home Automation:

In home by using the IoT system remotely monitors and manages our home appliances and cut down on your monthly bills and resource usage.

- Energy and Water Use: Energy and water supply consumption monitoring to obtain advice on how to save cost and resources.
- Remote Control Appliances: Switching on and off remotely appliances to avoid accidents and save energy.
- Intrusion Detection Systems: Detection of windows and doors openings and violations to prevent intruders.
- Art and Goods Preservation: Monitoring of conditions inside museums and art warehouses.

5. Medical field:

- All Detection: Assistance for elderly or disabled people living independent.
- Medical Fridges: Monitoring and Control of conditions inside freezers storing medicines, vaccines, and organic elements.
- Sportsmen Care: Vital signs monitoring in high performance centres and fields.
- Patients Surveillance: Monitoring of conditions of patients inside hospitals and in old people's home.
- Ultraviolet Radiation: Measurement of UV sun rays to warn people not to be exposed in certain hours.

6. Industrial Control:

- Machine to Machine Applications: Machine auto-diagnosis the problem and control.
- Indoor Air Quality: Monitoring of oxygen levels and toxic gas inside chemical plants to ensure workers and goods safety.
- Temperature Monitoring: Monitor the temperature inside the industry.
- Ozone Presence: In food factories monitoring of ozone levels during the drying meat process.
- Vehicle Auto-diagnosis: Information collection from Can Bus to send real time alarms to emergencies or provide advice to drivers.



4. Enabling technologies for the IoT: - There are three types of technologies that enable the internet of things,

- Near-field communication and Radio Frequency Identification (RFID) - In the 2000s, RFID was the dominant technology. After few years, NFC became dominant (NFC). NFC has become common in smart phones during the early 2010s, with uses such as reading NFC tags or for access to public transportation.
- Quick response codes and Optical tags - This is used for low cost tagging. A phone camera decodes QR code using image-processing techniques. In reality QR advertisement campaigns gives less amount as users need to have another application to read QR codes.
- Bluetooth and low energy - This is one of the latest technique. All newly releasing smartphones have BLE hardware in them. Tags based on BLE can signal their presence at a power budget that enables them to operate for up to one year on a lithium coin cell battery.

5. Conclusion:

Recent advancements in IoT have drawn attention of researchers and developers worldwide. IoT developers and researchers are working together to extend the technology on large scale and to benefit the society to the highest possible level. However, improvements are possible only if we consider the various issues and shortcomings in the present technical approaches. In this survey article, we presented several issues and challenges that IoT developer must take into account to develop an improved model. Also, important application areas of IoT are also discussed where IoT developers and researchers are engaged. As IoT is not only providing services but also generates a huge amount of data. Hence, the importance of big data analytics is also discussed which can provide accurate decisions that could be utilized to develop an improved IoT system.

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India: A Review of Repercussions of Covid – 19 on Food Security

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Abstract

India, the country with the largest stock of grain in the world; 120 million tonnes (as of July 1, 2021); it is really hard to get your hands on fresh fruit and vegetables. While there might be enough food for the whole population of India, many families and especially children and women in India don't have an access to food because of financial problems. Thus, this is the cause of millions of malnourished children and women around India.

In 2019, India ranked 102 — beneath Nepal and Pakistan — in the Global Hunger Index. India's stage of starvation become categorized as 'serious.'

The Public Distribution System (PDS) of India performs an essential function in decreasing food insecurity by performing as a protection internet via way of means of dispensing necessities at a backed rate. While the PDS paperwork a cornerstone of presidency food and nutrient policy, India remains domestic to a big populace of hungry and malnourished people. A strong and various meals deliver is a crucial part of the health and nutrient response to COVID-19.

The paper addresses the issue of unavailability of food to the people of India despite no lack in availability of food resources and the impact of Covid-19 that further Deteriorated the popularity of meals protection in India.

Key Words : Food Insecurity, Malnutrition, PDS, PoU, PMSFI, etc.

Introduction

Over the years, India has made rapid progress in the production of food but it is really hard to get your hands on food and vegetables. Given the inequality arising out of the socio-economic and geographic diversity in India, it is important to analyze the regional patterns of poverty and food insecurity to identify the most vulnerable population groups which require urgent focus. With low and unsure incomes, households depending on the casual economic system, now no longer have confidence to get right over good, enough and nutritious meals.

The COVID-19 pandemic has worsened this longstanding problem. It has caused a dramatic lack of human lifestyles globally and gives a remarkable task to public health, food supply structures and the arena of work. The financial and social disruption resulting from the pandemic is devastating. Millions of humans are vulnerable to falling into excessive poverty, even as the range of undernourished humans, presently predicted as almost 8.9%, should raise with the aid of using as much as 9.9%. The pandemic has been affecting the parts of meals and has laid naked its fragility. Tens of thousands of children were forced to go to sleep on an empty stomach during the pandemic in India.

Food Security before Pandemic

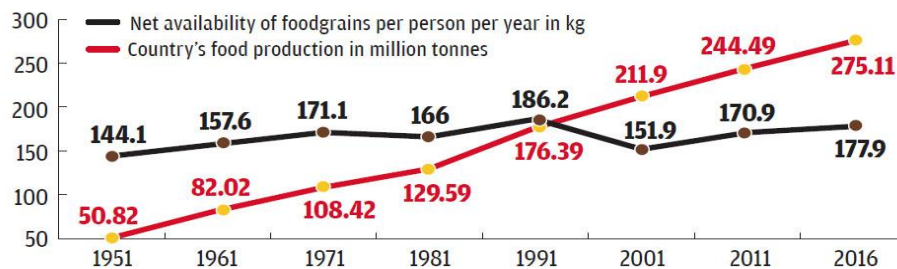
While basic international costs of food insecurity have decreased, there stays a massive population of humans experiencing food insecurity residing in sub-Saharan Africa and South Asia. In the most affected countries we can see high rates of disease and mortality along with nutritional deficiencies and high rates of poverty.

Despite fast monetary increase over the past decades, many Indians have now no longer benefited from the monetary improvement, and continue to put up with the food insecurity and hunger. An excessive burden of malnutrition and undernourishment, and increasing obesity existed. In 2016, over 190 million people were reported undernourished in India—the highest in the worlds.

It is complicated to point out the reasons of food insecurity in India. Some research indicates that high rates of migration from rural to urban areas may play a role, as evidenced by the concentration of economic gains in urban areas, and the substantial modifications to the contribution of the agriculture region to GDP. The other reasons like adverse effects of climate change with uneven weather patterns and increasing droughts to blame for uneven growth and production of food stock. The Global Hunger Index (GHI) ranks India on the excessive stop of the `serious` category, as India keeps carrying out poorly in addressing starvation and malnutrition. One in 3 Indian youngsters is stunted representing one 1/3 of the world`s stunted population, and one in 5 is wasted.

Food availability stagnant

Foodgrain production has increased, but people still remain hungry

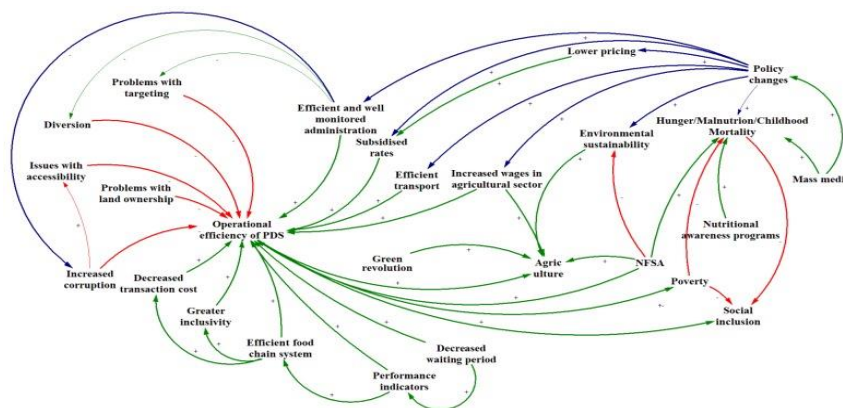


Source: Agriculture Statistic, Ministry of Agriculture and Family Welfare

Many in India also experiences hidden hunger. It refers to a state of affairs of continual micronutrient deficiency, in which someone would possibly have got a hand over enough calories, however there is a lack of micronutrients. Hidden hunger could have lasting outcomes on health and well-being, and is specifically torturous for children.

The research performed on PDS (Public Distribution System) counseled that the PDS had not been operating effectively, with big quantities of meals now no longer accomplishing the supposed recipients, and massive wastage resulting in high costs for limited benefits. For example, a study estimated that in Tamil Nadu, for every 5.43 kgs of PDS rice distributed by the government, only 1 kg reached those in need; the distribution turned into much less green in case of sugar, as 1 kg for every 8.21 kgs disbursed consumed by those in need. In a massive research in 12 states, discovered that as much as 100% of wheat was diverted in a few cases, with diversion and provision of rice and wheat being exceptional throughout all states. Another research concluded that many families can't have their complete entitlement to goods, and as an end result are compelled to buy lots in their meals from the loose market.

The PDS has been reinforced over current years, specially via efforts to goal the ones maximum in need, extra paintings remains, specially round transparency and accountability.



A concept of the various determinants that affect effectiveness of the PDS and NFSA in addressing the food security in India. NFSA: National Food Security Act; PDS: Public Distribution System.

Food Security during Covid – 19 Pandemic

The Covid-19 pandemic revealed the sour fact of hunger and poverty in India. Even earlier than the pandemic, malnutrition and children deaths had been haunting the country. Since the outbreak of the pandemic, the Indian authorities have not undertaken any concrete evaluation of food insecurity in the country. The upheave in hunger captured through PoU from 14% in 2019 to 15.3% in 2020 for India is possibly to be an underestimate. India is home to the most undernourished human beings in the globe even before the pandemic. However, the irony is that the authorities had an unparalleled one hundred million tonnes of grains in its godowns — larger than the meals shares of any country. The **latest edition of the State of Food Security and Nutrition in the World (SOFI) report (2021)**, released jointly by five UN organizations, reveals that the pandemic and failure at the a part of the nation to fight its effects, has caused a large growth in the malnutrition and food security in the country.

CENTRAL POOL STOCKS AS ON APRIL 1			
(LAKH TONNES)			
	Wheat	Rice*	Total
2010	161.25	267.13	428.38
2011	153.64	288.20	441.84
2012	199.52	333.50	533.02
2013	242.07	354.68	596.75
2014	178.34	305.52	483.86
2015	172.21	238.20	410.41
2016	145.38	288.11	433.49
2017	80.59	297.84	378.43
2018	132.31	300.43	432.74
2019	169.92	398.16	568.08
2020	247.00	491.49	738.49

**Includes rice equivalent of un-milled paddy.*
Source: Department of Food & Public Distribution.

India's Food Insecurity as per SOFI

According to the facts offered in the file, the prevalence of mild to extreme food insecurity in India rose with the aid of using approximately 6.8 percent in 2018-20. In absolute terms, the wide variety of folks going through mild to extreme food insecurity has multiplied with the aid of using approximately 9.7 crore due to Covid. Estimates on food insecurity offered in the SOFI report are primarily based on globally-everyday signs of food insecurity.

The Prevalence of Undernourishment (PoU) estimates based on national consumption surveys of the countries showing per-capita supply of food. However, these consumption surveys are not available every year and updated only once in a few years. Hence, PoU isn't sensitive enough to appropriately seize current disruptions along with the ones due to the pandemic.

No Recent Consumption Surveys by India have conducted. The overall food supply was resilient despite the pandemic; hence, consumption surveys were not conducted by most countries. Since the outbreak of the pandemic, the Indian authorities have not conducted any evaluation of food insecurity in the country. The raise in the malnutrition captured through PoU from 14% in 2019 to 15.3% in 2020 for India is probable to be an underestimate. In this situation, the PMFSI estimates are the handiest national-stage legitimate and dependable estimates to be had at the effect of the pandemic on meals insecurity in India.

Food Insecurity and Associated Issues

The pandemic put lots of day by day salary people out of jobs, with many locating it tough to make ends meet or feed their families. As ironic as it may sound on World Food Day – here's another statistic that India has to deal with hunger and poverty. At least 115 million children are at the risk of malnutrition. And experts believe the situation isn't going to improve any sooner.

According to UNICEF, India is likely to witness an increase in malnutrition by at least 10% and their findings says, “As far as malnutrition in India is concerned, a Lancet study in the year 2019 estimated that two-thirds of the 1.04 million deaths in children under five years in India is still attributable to malnutrition. And during Covid-19, it may increase by 10-20%.”

In India, every two in three deaths of children are due to malnutrition.

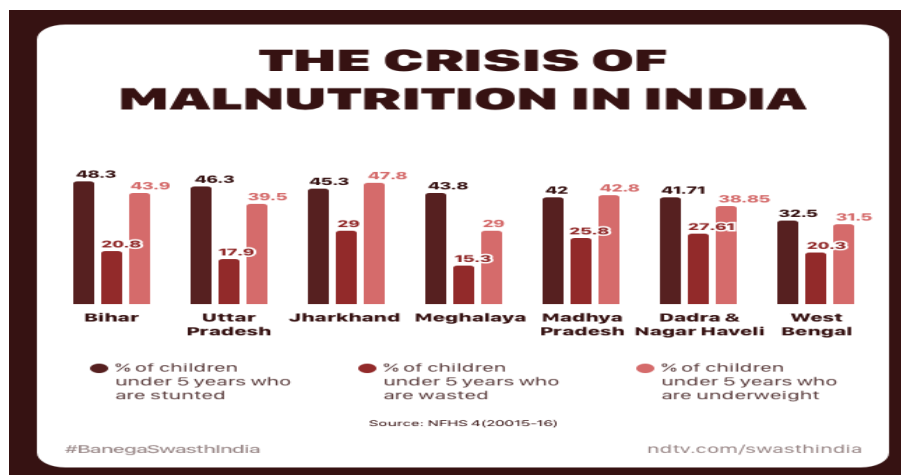
PMSFI estimates that there were about 43 crore of moderate to severe food-insecure people in India in 2019 which increase to 52 crore by 2020 as a result of the pandemic-related disruptions.

Despite being self-sufficient in the manufacturing of fundamental commodities, issues of starvation and food security are grave in India due to great financial misery, excessive unemployment and excessive degrees of inequality. A big percentage of the people depends on the casual economic system wherein earns are too low and unsure. Unemployment quotes have additionally risen sharply over the previous couple of years. High (and fluctuating) meal prices, shrinking public funding and the financial slowdown have compounded the misery amongst operating lessons and the peasantry.

The lengthy status issues of unemployment, inflation, casual region employment and financial slowdown have been increased in 2020 because of loss of practice to cope with the pandemic.

Inadequate Distribution of Food via PDS: Deserving beneficiaries of the subsidy are excluded on the premise of non-possession of under poverty line (BPL) status, because the criterion for figuring out a family as BPL is unfair and varies from country to country.

More than 1/2 of all toddler deaths are related to malnutrition, which weakens the body's resistance to infection. Poor diet, common infection, and insufficient or inattentive care of children can cause malnutrition. If a female is malnourished all through pregnancy, or if her toddler is malnourished all through the primary years of life, the kid's bodily and intellectual growth and improvement can be slowed. This can't be made up when the kid is older and it is going to have an effect on the kid for the rest of his or her life.



The COVID-19 pandemic has disrupted some activities in agriculture and its supply chains in India. The low availability of migrant labour is interrupting harvesting activities, particularly in the northwest where wheat and pulses are major crops. Agricultural commodity prices have declined due to the closure of hotels, restaurants, sweetshops, and teashops. Meanwhile, poultry farmers have been badly hit due to misinformation, particularly on social media, that chickens are carriers of COVID-19.

The nationwide lockdown has also affected agricultural activities and supply chains through input distribution, harvesting, procurement, transportation, marketing and processing of farm produce. Shortages of fertilizers, plant protection chemicals, veterinary medicines and other inputs could also affect agricultural production.

Role of Government of India

- A. The Government took early actions to restrict the unfold of the COVID-19, ordering a 21-day national lockdown for all the citizens on March 25. Subsequently the lockdown prolonged for 3 greater instances earlier than May 31. The unlocking of India started June 1, besides in containment zones. The lockdown of India for greater than months helped in restricting the health disaster, however — like many other countries — the whole shutdown of all monetary sports besides essential commodities has created a huge economic disaster and distress for the poor, with large task losses and growing meals insecurity. The economic slowdown has been a great deal for India.
- B. The Government of India introduced maximum agricultural supports and as a result agricultural discipline workers, farming operations, groups engaged in procurement of agriculture merchandise with the help of the Agriculture Produce Market Committee. Inter- and intra-country work of harvesting and sowing-associated equipment and manufacturing, and devices packaging fertilizers, insecticides and seeds are excluded from lockdown restrictions. Importantly, the authorities have directed public and personal seed-zone groups to offer good quality seeds to farmers for the imminent planting season. Additional grain allotments to registered beneficiaries for a three-month period. Cash and meals help the people in rural areas, especially migrant labourers.
- C. The authorities emphasizes on non-stop tracking of agricultural delivery chains to make certain that they fulfill the food demands of low- to no profits populations. Other projects permit for the continue action of fruit and vegetables transport, and farmers` shandies (open-air marketplace stalls) and weekly shandies will maintain to guide the sale of vegetables. Nutrition programmes like Integrated Child Development Services (ICDS), mid-day meal, and anganwadi (rural childcare centers) are identified as centers to provide rations and food to recipients at domestic level. The authorities have transferred INR500 according to month to the financial institution bills of 2 hundred million women through the Jan Dhan Yojana inclusion programme.
- D. Union authorities may also declare that there had been no hunger deaths during the pandemic, the financial system is robust, however credible statistics suggests that tens of thousands of Indians had been decreased to excessive poverty. The Union authorities changed into emphatic in informing the Supreme Court that no person has died because of starvation in India. With utmost confidence, the authorities stated to the courtroom that “...there had been no hunger deaths within the country at any stage in current instances, even in the damaging conditions just like the pandemic”. To complement this argument, the authorities produced a fitness survey file of 2015 and a piece of writing from a newspaper. This suggests how bold the Centre has come to be to power domestic its views. Out of curiosity, the courtroom had requested the authorities for “any survey report indicating whether or not the hunger deaths are occurring”. The bench entreated the authorities to offer “a few statistics” on this regard. The authorities are probable to put up the statistics in the stipulated time restriction. But that statistics might probably repeat the same story — no hunger deaths! You can visit any range of clinical reports. In none of them will you find hunger as the reason of death. Most will probable say cardiac arrest while the shock waves of the pandemic undermined the living standard of the working masses, statistics say that the super-rich could register 35 per cent growth in their profits?
- E. The Global Hunger Index 2021 showed that India slipped to 101 among 116 countries, from the 94th position in 2020. We were placed lower than Pakistan and Bangladesh. Workers in the unorganized sector, which constitute more than 90 per cent of the workforce, were badly affected. The country cannot forget the scenes of the large-scale exodus of migrant labourers who were walking hundreds of kilometers to reach their native villages to save themselves from poverty and death. Dead bodies of the poor were seen floating on the Ganges. The government has not kept exact data of those who died during Covid, whether due to lack of food or shortage of oxygen cylinders.
- F. **Socio-Economic Distress:** In his address to the World Economic Forum, the malfunctioning teleprompter might have blocked Prime Minister Narendra Modi's usual rhetorical flow, but his attempt was to present a robust picture of India's growth trajectory before the world. Hence, the PM and the ruling elite cannot be happy with the findings of the Oxfam report, which was published on the eve of the Davos event. According to it, 84 per cent of Indians were hit badly by the “new normal” of the pandemic. But that normal helped the billionaires of India double their

profits. The total wealth of the top 10 billionaires will be sufficient enough for providing education (both school and college) for all children for 25 years. If 10 per cent of the super-rich were levied one per cent of tax, 17.7 lakh oxygen cylinders could have been purchased.

- G. The period between March 2020 and November 2021 was said to be the severest part of the pandemic. The Oxfam report says that in 2020, more than 4.6 crore Indians fell into extreme poverty. According to UN studies, this amounts to around half the global poor. During the same period, the wealth of billionaires went from Rs 23.14 lakh crore to Rs 53.16 lakh crore. One may be astonished to note that the 2020-21 budget shares for the women and child development ministry was less than half the wealth of the bottom 10 billionaires.
- H. **Denial of Situation by the Government:** The Government of India has not only avoided its own assessment of consumption/food security surveys, but also it does not approve the publication of results based on the Gallup World Poll.
- I. The Indian government recently launched the National Nutrition Mission ('POSHAN Abhiyaan') to take steps to reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls), and low birth weight. But for a developing country like India, fighting malnutrition in children has multiple factors associated with it.

Solutions

Regular Monitoring of Food Security: The sharp growth in food insecurity factors to an urgent need for the government to installation systems for regular monitoring of the food safety situation in the country. Government warehouses are overflowing with seventy one million lots of rice and wheat. In order to avoid exclusion errors, it's miles better to offer big coverage of distribution in the subsequent couple of months. Nutrition applications like Integrated Child Development Services (ICDS), mid-day meals, and Anganwadis (rural childcare centers) have to maintain to artwork as important services and provide rations and meals to recipients at home. Eggs can be added to decorate nutrients for children and women. Several state governments have started progressive applications to help informal humans and the poor. For example, the Kerala government is supplying meals with diverse diets on the doorsteps of households.

Enlarging the Scope of Food Security Schemes: Universalizing the proper access of food through the Public Distribution System and One Nation One Ration Card scheme (ONORC), at the least all through the pandemic. The PDS need to be reinforced and the food basket can be enlarged to consist of millets, pulses and oil. This may additionally help in addressing the problem of hidden hunger. Everyone, no matter whether or not they have ration card can buy the grains from ration shops. With almost 120 million tonnes of grain currently lying with the authorities, it requires almost no more belongings but better implementation of schemes.

Bringing Development and Humanitarian Policies Together: Integrating humanitarian, development and peace building guidelines in required areas to prevent families from selling meager assets in alternate for food.

Lowering the Cost of Nutritious Food: Intervening along supply chains to lower the charge of nutritious food along with through manner of way of encouraging the producing of biofortified flowers or making it less difficult for fruit and vegetables.

Conclusion

India has for lengthy struggled to combat chronic hunger. Over the previous few years, India has taken small steps in its combat in opposition to malnutrition, ensuing in a tremendous decline in child mortality rate. If this development might have continued, India might have met its `Sustainable Goal` of lowering mortality rate until 2030. India, as a rustic with the most important meals inventory in the world.

There may be no want for the authorities to make sure extra meals shares however a powerful implementation of the already existing rules that facilitate meals distribution to many of the needy ones. Even earlier than the corona virus pandemic began, one in each 9 humans globally suffered

from starvation, according to the UN. Even today, Asia and Africa account for the most proportion of malnourished people in the world. Nine out of ten stunted youngsters and 9 out of all wasted youngsters (people with abnormally low weight or height) globally stay in both Asia and Africa. However, the little development too got here to a halt because the COVID-19 lockdown compelled hundreds of thousands of youngsters to live out of school. Anganwadis had been additionally closed and for lots of youngsters in rural areas, it supposed they weren't able to get meals under the Mid-Day meal programme.

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Use Of Solar Energy For Better Future: A Systematic Re-View

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Abstract-

It is very important to have different energy available in human life. Without energy availability, human life becomes much disrupted. It has a bad effect on Social and Economic conditions. So it loses its elasticity and it is realized in COVID-19 pandemic. Inflation Soared, people's incomes stopped, price of many energy sources have gone up to this period. It will be necessary to use natural energy sources.

In the time of COVID-19 people had to face a lot of energy problems and we have to be prepared to face such problems. The use of solar energy would be a good solution on this. We can get different energy from the Sun. In today's world solar energy is used in many different fields. Once a solar energy project is built, we can get energy from it year after year and use it in our daily life to make our life happier.

This paper briefs you about solar energy and its type along with its working procedure. Also provides information regarding some countries which are already running under solar energy by using solar panels own their own roof and industrial sector.

Keywords - Solar energy, Solar Panel, Battery, Appliances, Photovoltaic (PV).

Introduction-

COVID -19's disease caused lockdowns everywhere. Financial losses were incurred. All School, Businesses, and small scale industries were closed down. In this period everyone was sitting at home so the energy consumption was very high. Electricity bills have sky rocketed and people were having a hard time filling it. Also domestic and commercial gas prices rose, petrol and diesel prices have gone up. so it bothered people a lot. And solar energy would be a great solution to all this. In solar energy projects we can produce a huge amount of energy and we can sell this energy outside and make money from it. Also use it in our daily life. These days, due to the reducing amount of renewable electricity sources, the ultimate ten years become extra crucial for in keeping with watt price of sun power device. It is definitely set to turn out to be cost-effective inside the coming years and developing as better generation in phrases of each price and programs. Everyday earth gets daylight above (1366W approx.) that is an unlimited supply of electricity which is to be had at no cost. The major advantage of sun strength over different traditional strength mills is that the daylight may be directly transformed into solar power with using smallest photovoltaic (PV) sun cells. There have been a massive quantity of studies sports to mix the solar's power manner by way of growing solar cells/panels/module with excessive changing form. the maximum blessings of sun power is that it is unfastened accessible to commonplace humans and available in big portions of deliver in comparison to that of the price of numerous fossil fuels and oils within the past ten years. Furthermore, solar power calls for appreciably lower manpower prices over conventional strength manufacturing technology

System Description-

Sun provides naturally light and heat which is called as a Solar Energy. Solar technology came from ancient period. Its history spans from the 7th Century B.C to moment. The Solar energy use for product of Chemicals, Warm hothouse, Fabrics, Food, Livestock structures, Swimming pools as well as cookery and furnishing a power source for electronic device.

Different ways to use solar energy-

- **Photovoltaic Cells**-Which convert Sunlight into electricity. In this cell Sun toast the face of the photovoltaic cell. The semiconductor material is used in this cell to converts the light into electricity.
- **Solar Thermal Technology**-In this technology energy used to make reek and hot water.
- **Passive Solar Heater**- Letting the sun shines through windows to toast the inside of a structure.

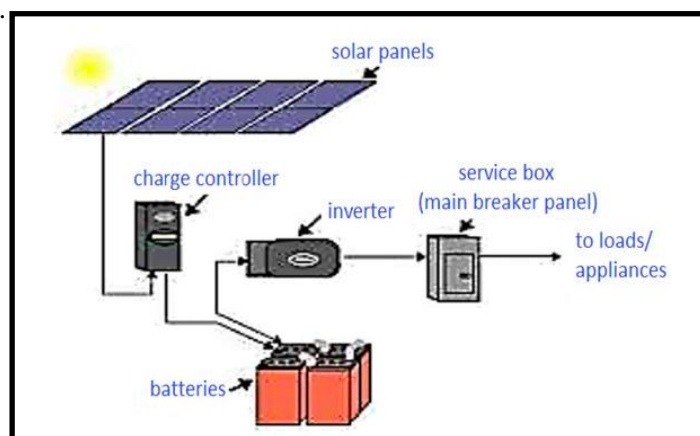
Significance-Solar energy-a clean source-

No hothouse gas emigrations are released into the atmosphere when you use solar panels to produce electricity. And because the sun provides farther energy than we'll ever need, electricity from solar power is a truly important energy source in the move to clean energy product. By going solar, you can reduce the demand for reactionary powers, limit hothouse gas emigrations, and shrink your own carbon footprint. In fact, just one home installing a solar energy system has a measurable effect on the terrain Solar power is pollution-free and causes no hothouse feasts to be emitted after installation. Reduced dependence on foreign oil and archconservative powers. Renewable clean power that is available every day of the time, indeed cloudy days produce some power. Return on investment unlike paying for avail bills.

It's veritably simple to connect solar panel to home electrical appliances. Before going to connection we have to know the main corridor of this connection.

1. Solar panel
2. Controller
3. Battery
4. Inverter
5. Loads

The below connection illustration easily show that how to make connection between solar panel and electrical appliances.

**Solar Panels:**

Solar Panels make free electricity from the sun, have no moving corridor to fail and last over 25 times. They can be mounted on fixed, malleable or shadowing type mounting systems. Solar Panels come in different capacities like 5 Watts, 10Watts and 20Watts etc.

How much watts Solar Panel you need?

Assume 2 bulbs of 15 W and 1 Fan of 60W use daily for 4 hours, then

- Required load in Watts- $(15W + 15W + 60W) = 90W$
- We need it for daily 4 hours, $90W \times 4 \text{ Hours} = 360 \text{ Watts}$
- Sunlight per Day = 6 Hours
- We need the solar panel is, $\frac{360}{6} = 60 \text{ Watts}$

Controllers:

These are used to insure that your batteries do not over charge or over heat. As a companion, install a regulator for any system of 60 Watts or over. However, you can buy a regulator that not only protects your batteries from over charging, but it also has an erected in splitter meaning that you can charge two batteries from the same solar panel, if you can go it.

Battery System:

In the ultramodern period, electrical energy is typically converted from mechanical energy, solar energy and chemical energy etc. A battery is a device that converts chemical energy to electrical strength. Ultramodern day solar tackle batteries are able of furnishing huge quantities of power and have a nicely long life.

Inverters (for 230V appliances):

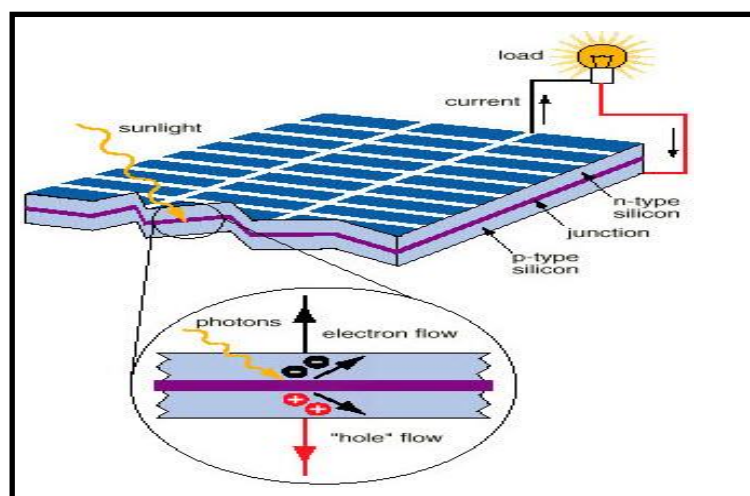
An Inverter lets you convert a 12 V DC force, into a 230 V AC force, demanded for normal domestic appliances. These are great for large scale 12 V set ups the kind that would be set up to power a normal house. These obviously have much more important solar panels and much further battery capacity.

Loads:

For loads we can consider low wattage loads commodity like LED beacon, CFL beacon, addict etc. something we feel important for our domestic loads we will connect it to our solar panels.

How Solar Energy Works?**(A) Solar Energy Conversion Process:**

The above discern demonstrates how the sun strength conversion takes region. As we discussed above the sun panel produces the electrical strength. This electric power is stored within the battery the usage of a price controller circuit. The rate controller directs the voltage and currents from solar panel and also protects the battery from over and below charging situations. The DC strength from battery is transformed to AC the use of an inverter to electricity the hundreds. By using this way solar system is set up in homes and industries to electricity up the hundreds. Solar energy is the cleanest renewable power supply and it is able to be used to meet the strength requirements consisting of lights systems, water heating for domestic, business and business applications, etc. The crucial factor in sun power device is photovoltaic or solar mobile, by which daylight electricity is transformed into electric current upon the precept of the photoelectric effect.

**Working of Solar Energy System**

A Solar PV cell has a P-type silicon layer placed in contact with N-type silicon layer. The P-type material consists of holes to accept the electrons and the n-type material has plenty

electrons, thus forms the P-N junction as like diode component. Under the influence of the solar energy, an electron passes from an N- type material combines with holes. This creates an electric powered price on either facet of the p-n junction to create an electric area. This discipline develops a capacity distinction across the junction. If an external load is connected to the solar panel, this fee distinction drives the burden present day. As an extended because the daylight is present at the panel, modern will force the load. Usually the output voltage of a sun panel whilst its miles open circuited is better than rated voltage. Suppose if the sun panel is rated at 12V, it offers about 20V in an open circuit situation, however if its miles related to battery then it's going to give 14-15V. The main consideration of sun panel is the generation of output power whilst it is established in top-rated role. A number of the factors to be considered for getting excessive electricity from solar panels are panel orientation, panel pitch, roof, shade, and so on.

(B) How Solar Panels Work on Cloudy Days and Night:

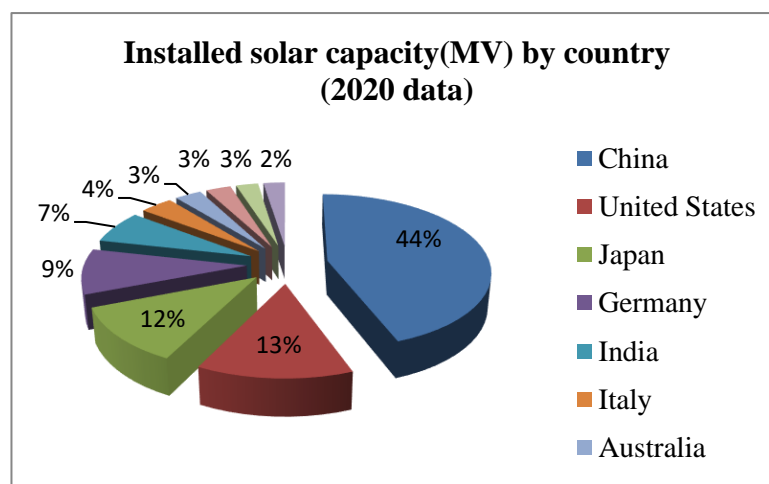
Photovoltaic (PV) solar panels can use both direct and indirect daylight to generate electric electricity. This means they are able to still be productive even when there may be cloud coverage. With clouds usually comes rain, then Rain solar panels work more effectively. That's because rain washes away any dirt or dust that has collected to your panels with a purpose to extra effectively absorb sunlight. Even as sun panels can nonetheless function on cloudy days, they cannot work at night. At some stage in hours of top daylight, your sun panels may additionally actually generate greater electricity than you want. This surplus strength can be used to provide greater energy on cloudy days or at night.

Solar power in India:

Government of India launched Jawaharlal Nehru country wide solar project (JNNSM) on eleventh January 2010, as one in every of its eight missions below national movement Plan on weather change (NAPCC–2008). Rajasthan has crowned in hooked up capacity of solar power in India with 7737.95MW as consistent with the nation-smart document launched by means of the Ministry of latest and Renewable strength (MNRE). The country has added a sun set up ability of 2348.47MW in 2021 within 8 months. Karnataka comes 2nd with 7469.01 MW, followed via Gujarat 5708MW, Tamil Nadu 4675MW and Andhra Pradesh 4380MW.

Which countries have the most installed solar PV?

Solar energy is used all around the planet, but currently China is a leader in solar industry. China added 48.2 gigawatts (GW) at some point of 2020, bringing its cumulative established capacity to 253.four GW. It now dominates 35% of the worldwide market. The country's annual PV installations grew 60% year-over-year in 2020, representing more than one-third of annual global deployment.



The Advantages of Solar Energy:

1. Solar energy provides lucrative tax incentives.
2. Solar energy is environmentally-friendly.
3. Solar energy reduces your monthly power bill.
4. Solar energy may be paired with sun battery garage.
5. Solar strength is the maximum plentiful strength source in the world.
6. Solar is the cheapest source of energy inside the world.
7. Nowadays, solar panel performance is higher than ever.
8. Solar energy can power a whole home and past.
9. Maximum homeowners experience wreck-even factor in under a decade.
10. Solar energy improves world health.
11. Solar panels can power airplanes.
12. You may price electric automobiles with solar panels.
13. Solar panels are the quickest power source to setup.

Conclusion-

If a person needs a better and secure future with economically sustainable after post pandemic, then they should aware or should be in a practice to go for good solar energy conservation along with best knowledge. Today electricity is being generated from water and today's situation shows that there will be severe shortage of water in the future, so if we want to overcome this crisis, we need to use solar panel.

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The Ramifications of Integrating Data Science into Commercial Ventures

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Abstract

One of the most significant business changes is the rise of data science. The concept of creativity is sometimes covered in mystery for many organizations. Business translation to models is the primary data problem firms face over the long term. When it comes to business analytics, we try to help companies improve their decision-making ability to generate business value. This study summarises the current research on data analytics and notable technologies and identifies relevant research issues. This paper aims to show that big data analytics is helpful for company management. Big Data analytics usage also reveals where the most significant business value is required. Results show that companies must have strong data analytics skills to get the most out of IT resources. We have studied various data science and data analytics papers and their advantage to the business entity. This paper also focuses on the data analytics tools available in the market.

Keywords— Big Data, Business Analytics, Data Analytics, Data Science

I. Introduction

There is no way around the problem, as we generate massive amounts of unstructured data daily. Data analysis is costly and time-consuming, and as a result, it is challenging to obtain. Practitioners and researchers should think about incorporating big data technologies into their competitive strategies. Many companies are increasing their investments in big data analytics to strengthen their competitive advantage and performance [1]. Big data and business analytics have proven helpful in improving products and services by identifying available data and using that information to support intelligent decision-making. In modern times, companies have widely incorporated analytics to make operations more efficient and to improve processes. Using data analytics for business will allow you to obtain a realistic picture of your company's well-being and where you stand concerning your business goals. Data science can be applied to identify and target a specific customer base to locate new customers to generate more revenue. In sales, especially in lead management, models can calculate the past customers and use those measurements to score prospects to achieve a higher level of sales efficiency [2]. Many business leaders believe embracing digital adoption and integrating data tools are critical components in a successful modern enterprise. Almost all entities these days use data tools in some form or another. Businesses today are heavily reliant on data, proving to be a powerful driving force in the industry. Making profitable business decisions has become something you have to do if you want to make money. Data adds value to the retail business. Data Science's power is realized when these interactions lead to profit. Big data analytics is gaining in popularity across various areas such as business, science, engineering, and social science, with more and more groups of society, businesses, and governments appreciating the interdisciplinary nature [3].

II. Benefits Of Data Science

Everyone seems to be talking about data science as a revolutionary technology, as evidenced by data science's recent popularity. Here are some of the benefits;

- a) Setting business goals will involve making guesses about your business without the correct information. When it comes to business goals, you want your objectives to remain constant. Analytics can be used here [4].
- b) Retailers can significantly benefit from recommendation engines as they predict consumer behaviour. Products are recommended to customers based on their previous purchases and search history. In today's retail setting, retailers use sentiment engines as one of the primary methods of increasing revenue and customer habits.
- c) By guaranteeing that the staff maximizes their analytics capabilities, an experienced data scientist is likely to be trusted as an advisor and strategic partner to its upper management [5].
- d) A business must depend on its customers as its most important asset. A company will fail if it does not have a large customer base. Even though companies must compete vigorously, a company cannot afford to neglect the competition with a solid customer base.
- e) Data scientists in this situation inquire into the current methods and assumptions with the organization's analytics system to build additional methods and analytical algorithms [6].
- f) Businesses that leverage data analytics can better anticipate customer demands. This method of identifying traffic patterns and the average delivery time for each of the suppliers' locations throughout significant cities relies on customer requests for same-day delivery.
- g) A brand that connects with customers at the right time has a better chance of inspiring a conversion and improving the sentiment of its audience. In particular, when it comes to social media, this is true [7].
- h) Resumes go through recruiters' hands all day, but that is changing because of big data. The amount of information available on talent through social media, corporate databases, and job search websites provide data scientists access to all relevant data points. It thus makes it possible for them to work their way through these various pieces of information to find the perfect candidates for the company. Previously, finding candidates' resumes in the database was considered an everyday day-to-day task for recruiters. However, with the rise of data science, this task is changing. As today's businesses have access to vast amounts of data, such as corporate databases, social media, and job search websites, a data science specialist can use this data to search for suitable candidates for the company [8].
- i) It is pretty simple to identify your most profitable and loyal customers these days. However, traditional analytics provides no insight into when shoppers purchase less frequently, what leads to that decision, and why they select a competitor.
- j) Executives' ability to rise and fall is primarily based on intuition. To varying degrees of success, influential individuals accepted or rejected multimillion-dollar deals based on intuition and instinct. Because of the increase in the availability of multiple data channels, high-stakes risk-taking is no longer necessary [9].
- k) Customers' feedback can be more accurately understood using sentiment analysis. It incorporates artificial intelligence to identify the emotions conveyed by customers and the words used in the conversation. If businesses learn how customers perceive their brand, this is a good thing.
- l) Analytics helps increase your revenue. It is critical to be as efficient as possible when using essential resources [10].
- m) When it comes to large, complex organizations, forecasts for sales are as important as they are painstaking and tardy. When a company is spending months or even years on data analytics, it's common for sales teams to have inadequate time to implement any findings.
- n) The analysis of deals done by Deal Analytics provides a heads-up on price negotiations and permits sellers to arrive at profitable trades and business agreements. With B2B businesses, selling teams have had the upper hand in dictating pricing, and purchasing teams have found practical pricing tools to put the selling teams in the backseat [11].
- o) Cost is a vital factor regardless of the size of the business. Businesses differ, and investing in the right resources at the correct time is essential. For example, a gift shop may see an increase in sales during the holiday season. Data science projects are not conducted just to find things out. They have been completed to help the business address an immediate issue that can increase revenue or lower costs [12].
- p) Organizations must keep tabs on the health of their sales to ensure their related critical business processes like inventory management, logistics, production, and workforce planning all remain on course. Furthermore, forecasting sales is fundamental to keeping stock of materials and finished goods. When organizations accurately predict sales, they can make better decisions and ensure smooth processes [13].

q) Previous consumer behavioural information can create more accurate customer journey maps. It effectively outlines a blueprint for both 'right place' and 'right time' marketing messages and marketing content strategies that utilize these messages.

r) Advertising efforts are more customer-oriented if the business understands the customers' needs ahead of time. The system empowers businesses to tailor their advertisements to target just one portion of their entire customer base [14].

III. Types of Analytics

Big data analytics helps businesses understand their customers' requirements and preferences to improve customer base growth and retention by providing relevant products and services personalized to their interests.

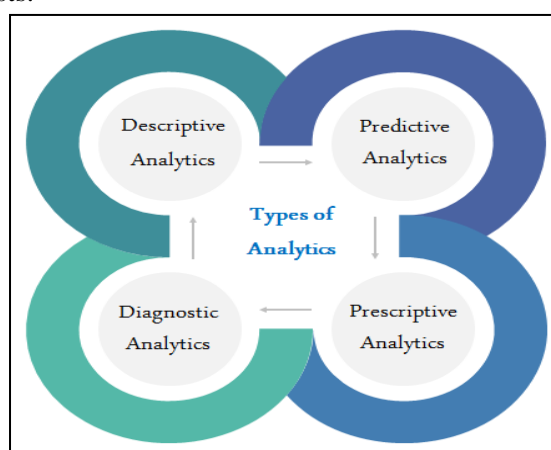


Fig 1: Types of Analytics

- a) **Descriptive Analytics:** Descriptive analytics is a statistical method used to search and summarize data from the past to find patterns or determine to mean. A reflective analysis of learner data is carried out to understand how learners' behaviours and performance have changed over time in online learning environments. A third method used in descriptive analytics is data aggregation and data mining. The datasets are more manageable to analysts once they have been categorized and collected [15].
- b) **Predictive Analytics:** Studying patterns and trends from previous data enables businesses to forecast future possibilities. It is setting realistic goals for the company, effective planning, and controlling expectations all aid in accomplishing these objectives. Descriptive analytics is a form of statistics that looks at raw data to gather and summarize, which aids in interpreting that data. When it comes to historical data, descriptive analytics pays close attention to the context needed to comprehend numbers and information fully. An area of research is typically involved in the beginning stages of a business intelligence procedure, laying the groundwork for further analysis and comprehension [16].
- c) **Prescriptive Analytics:** Businesses make better decisions using prescriptive analytics, which uses technology to assist with business decisions. The primary concern in prescriptive analytics is best to solve a particular problem, usually based on current and past performance and alternative courses of action or strategies. In many instances, it is used to arrive at decisions on short, medium, and long-term time horizons [17].
- d) **Diagnostic Analytics:** Analytic diagnostics goes one step further, revealing why a specific occurrence occurred and why it happened and how to prevent it from happening again. It is frequently called "root cause analysis." Data discovery, data mining, and drill down and drill through are all used in this case. Adding significant value to a sought response is what Diagnostic Analytics does. It includes gathering relevant data, discovering insights, and creating new information, for example, a new field, resulting from the initial data [18].

IV.Data Analytics Tools

A common term used to describe software and applications utilized by data analysts is data analyst tools. These tools help data analysts conduct analytical processes, thus decreasing costs and increasing profits.

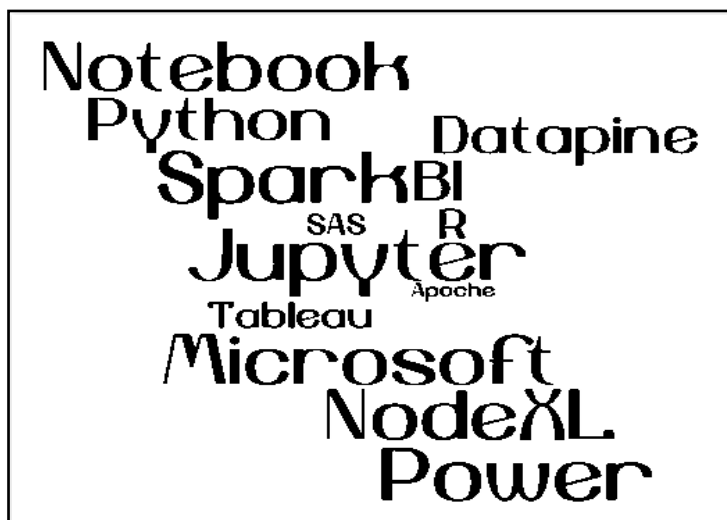


Fig. 2: Some of the popular data analytics tools

- a) Datapine: Incorporating fast and reliable online data analysis into the hands of beginners and experts that need simple yet powerful analysis features is its primary function. You can quickly and easily drag and drop values into the datapine Analyzer and generate many charts and graphs using an effective user interface [19].
- b) Microsoft Power BI: Microsoft Power BI is an enterprise-level business intelligence solution that offers many data sources as part of its support. Reports, visualizations, and dashboards can be created and shared. Power BI enables the simple distribution of group dashboards and reports by allowing users to combine them into a single app. As well as building automated machine learning models, users can also create automated models using the power of Azure Machine Learning [20].
- c) Jupyter Notebook: The free, open-source web application Jupyter Notebook can be executed in the browser or on platforms like Windows after installation using the Anaconda platform or Python's package manager, pip. Developers can build reports using live code and living data and visualizations [21].
- d) Python: A python tool for data analysis and is stuffed with friendly third-party libraries to fulfil any computational task. Because Python is free, open-source software and simple to learn, it is perfect for beginners. Compared to other popular programming languages, such as Java, Python is highly accessible for developers looking for an open-source and simple coding process. Python is commonly used in data collection, cleaning, modelling, and analysis development for business purposes [22].
- e) RapidMiner: With RapidMiner, users can build and integrate data sets, clean them, and run advanced analytics or statistical models on the final data. Almost all of this can be accomplished with a simple graphical user interface.
- f) R: R is the premier software for statistical modelling, visualization, and data analysis. While statisticians mainly use it for statistical analysis, Big Data, and machine learning, it is an essential and widely used resource for data scientists. R is a free, open-source programming language, and several enhancements are made possible through additional packages that users write [23].
- g) NodeXL: An exploration and discovery software that visualizes and analyses networks of relationships. NodeXL calculates to exact amounts. This free network analysis and

visualization software are publicly available and open-source. NodeXL is a top-notch data analysis tool. Advanced network metrics are included [24].

- h) Apache Spark: An analytics engine for Big Data processing designed for developers, researchers, and data scientists called Apache Spark is called Spark. This project is free, open-source, and the developers involved in its development provide a wide range of contributions. It is a highly functional piece of software that performs best for batch and streaming data. Learning Spark is very simple, and you can use it interactively in the Scala, Python, R, and SQL shells and when writing Python, R, and SQL code [25].
- i) SAS: SAS's widely used BI (business intelligence), data management, and predictive analytics software suite. The formerly known as SAS software is proprietary, and companies must pay to use it. SAS is now available for students to learn and use [26].
- j) Tableau: A tableau is a data-analytics-specific tool used by business analysts to help them comprehend and visualize their data. You may choose to use Tableau for different needs and thus pay differently. Anyone can learn and deploy this product [27]

V. Conclusion

Big Data can be helpful in various ways, so it should be considered an investment option. You can see the value of embracing data in your organization. Collecting data and then organizing and analyzing the results creates actionable insights. Companies need to use data science as part of their business and corporate culture for the first time. Avoiding a potential loss of revenue leaves too much money on the table. Without data science, the company's data is like that piggy bank. Data in and of itself does not lead to any actionable insights. According to the research, big data analytics is becoming increasingly prominent in organizations worldwide. Data acquisition and organization, machine learning, advanced algorithms, and others are sparse in academic literature. Research aimed at business analytics is increasing and benefiting organizations; many works contribute to the business analytics field. We conducted a literature review on data analytics, data analysis tools and found gaps in the existing research.

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Urbanization and Its Impact on Urban Governance

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Abstract: -

As a result of economic development there had been a huge migration of rural population to urban parts of the country. Employment opportunities, better educational facilities, industrialization, growth prospects, social factors lead for the migration from rural to the lucrative large and metro cities. The process of urbanization is somewhat linked with the municipal governance. Local government institutions are the engines of economic development. These bodies are established with the motto of organized development of the city. The role of urban local bodies is increasing rapidly in the current era. Initially the urban governance was limited to the provision of public utilities only. In today's context it had to look after the all-around development of the city. The process of urbanization is associated with a bundle of challenges. The accelerated pace of urbanization had not only increased the burden on urban governance but also somewhat deteriorates the service quality. The available infrastructural facilities and financial resources are inadequate to satisfy the rising demands and expectations. This rapid growth in urbanization has become an important issue to be addressed in the future. The researcher had tried to examine the concept of Urbanization and its challenges faced in urban governance due to rapid urbanization.

Keywords: - Urbanization, Local, Government, Rapid, Demands

Introduction: -

In the year of 1990 Indian government released the restrictions on the foreign trade and promoted free trade policy. As a result of it, there has been speedy growth in urbanization. The urban population of India has increased significantly in the post-independence period. With the emergence of private players in the service industry, the pace of urbanization has witnessed tremendous growth. Cities are the drivers of economic growth. It contributes more than 50 % to the Gross Domestic Product (GDP) of the country. This accelerated growth in urbanization has posed various challenges in urban governance.

Research Methodology: -

The study is based on the secondary data sources. The secondary data had been collected from research articles, web-based journals.

Objectives of the study: - The present study is based on the following objectives;

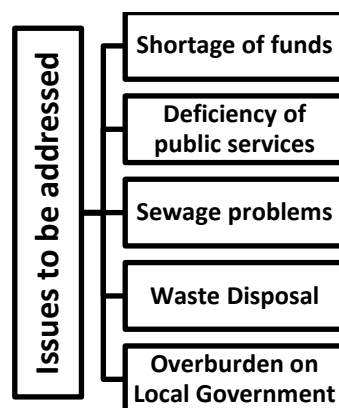
- To understand the concept of urbanization.
- To recognize role of urban local bodies in governance
- To analyze challenges before local government due to urbanization

Concept of Urbanization: - Urbanization is continuous process of transformation of the rural population to the urban parts of the country. It is a process in which the share of urban population increases consistently and that of the rural areas decreases. It can be termed as a process through which a large size of population concentrates in a specific area termed urban dwellers. This process of urbanization may be voluntary or compulsory. This rural urban migration can happen due to the push and pull factors. Push factors are elements those force people to shift from rural areas to lucrative urban areas, whereas the pool component is the component of urban areas that draws the rural masses towards urbanization.

Role of urban local bodies in governance: - Urban local bodies are local level government institutions established to fulfill the varying needs of the city. Urban local bodies can be considered as

government created a body for the people, managed by the people and funded in some extent by the people. These bodies are incorporated for the maintenance and development of local governance. The primary function of these bodies ensures adequate and timely supply of civic services. Urban local bodies consist of Municipal Corporation, Municipalities and Nagar Panchayat. These local body aims at the planned development of the city and well-supported by the intergovernmental transfers, shared revenues, tax revenue and non-tax revenue. Urban local bodies constitute the Municipal Corporation for the metro and large cities, Municipalities for larger towns and town Panchayat for villages and smaller towns. It's not an exaggeration that urban local bodies are vehicles through which the journey of economic development can be accomplished. These are the bodies which provide basic civic amenities to the society and influence the standard of living. The urban local bodies in the big and metro cities garner enormous financial resources from their own sources whereas rural urban local bodies had to largely depend upon intergovernmental transfers. The urban local bodies are primarily dependent on the grants and transfers from central and state governments. With the limited revenue sources, the urban local bodies had to satisfy the unending expectations of the inhabitants. In order to meet the varying demands of the city, urban local bodies require a huge amount of monetary and non-monetary resource.

Issues to be addressed: - While state and national governments have taken various initiatives, urban local bodies are unable to meet the rapidly increasing demands of cities due to the fact of rapid urbanization. These organizations are struggling to meet the demands of urbanization. Urbanization has created certain problems for urban local bodies that need immediate attention.



- **Shortage of Funds:** - Internal revenue enhancement is an important technique for the capacity building and better local governance. To augment with the rising demands, urban local bodies require huge amount of money. A major problem facing local government is a lack of funds. The sources of funds of these local bodies are limited. These local governments heavily rely on various types of local taxes and government grants. The revenue sources of local governments are taxes, intergovernmental transfers.
- **Deficiency of public services:** - Even basic amenities are lacking in many areas due to increasing urbanization. Though some services provided by the municipality may seem adequate, local government may also be overburdened by the flow of urbanization in the future. Extra strain can be put on the basic issues like water, power supply. With this in mind, proper and planned use of these facilities is need for the future.
- **Sewage problems:** - A massive amount of sewage is discharged directly into nearby rivers due to a lack of sewage disposal facilities, which causes a large increase in pollution and various diseases.
- **Waste Disposal:** - Disposal of waste is also an important issue. With the rising urban population huge quantities of solid waste is generated and dumped at the nearby landfill. if

this waste is not recycled and disposed properly results in various diseases and also increases pollution

- **Overburden on Local government:** - The human resources of local governments is not adequate as well as these peoples do not possess the required resources and expertise. These peoples had to work with the limited available resources. Thus, unable to satisfy the unending needs of the city.

Conclusion:

In the present context the urbanization is an inevitable process attracting more and more peoples in the urban areas. Thus, the time had come to provide enough autonomy and financial resources to the local government bodies for the sustainable development and capacity building. This will surely help to satisfy the demands of the city.

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A Study of Post Pandemic World as Represented in Apocalyptic Fiction

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Abstract:

*The social upheaval caused by COVID-19 has increased the popularity of apocalyptic and post-apocalyptic fiction. Inspired by the COVID-19 pandemic in the 21st century, this paper studies the novels dealing with pandemic apocalypse to understand the dystopian elements preceding and following the end of the world. It relates the fears of the pandemic to the literary history and political conditions nurturing that imagined end of the world in apocalyptic and post-apocalyptic novels. The study investigates the dystopian elements in Mary Shelley's apocalyptic novel, *The Last Man* (1826) and Jack London's post-apocalyptic novel, *The Scarlet Plague* (1912). It also examines the role of capitalism and power conflicts in bringing about the pandemic apocalypse as well as the dystopian aftermaths. It concludes that although the novels lash a critique against capitalist recklessness, they ambivalently suspect the existence of a viable alternative.*

Keywords: COVID-19, pandemic, apocalypse, post-apocalypse, dystopia, capitalism

The social upheaval caused by COVID-19 has increased the popularity of apocalyptic and post-apocalyptic fiction. Apocalyptic and post-apocalyptic fiction are subgenre of science fiction that is set in a time period where the earth as we know is coming to an end. An apocalyptic novel tells the story of the end of the world, which occurs during the timeline of the story. In almost all apocalyptic stories life is threatened on a global scale: disease, natural disaster, war, or alien invasion, for example. The characters facing an apocalypse must try to outlive, outlast, or outsmart the hazards of a crumbling world, which is made increasingly unlikely when the majority of the population has fallen victim. It is common for apocalyptic novels to classify as “genre,” because the survival conflict is at the forefront of the story, making apocalyptic stories more plot driven than character based. Apocalyptic novel gave rise to the post-apocalyptic novel which imagines life in the aftermath of an apocalypse. Post-apocalyptic novels almost always take place in the future, although some describe the end of past civilizations that no longer exist.

Apocalyptic literature has existed for millennia. Major western religions ranging from Christianity, Islam, and Judaism contain multiple tales of a civilization or locale reaching its end. The stories of the Garden of Eden, Noah, Sodom and Gomorrah, and the book of Revelation all contain apocalyptic themes. The Romantic and Gothic authors of the early nineteenth century also explored apocalyptic themes. In the twentieth century, the apocalyptic genre grew in the wake of World War I, World War II, and the Cold War nuclear arms race. Novelists, essayists, and filmmakers conjured many an apocalyptic world that offered everything from zombie wars to a desolate post-nuclear wastelands. The themes that govern apocalyptic and post-apocalyptic novels tend to involve circumstances that lead to mass unrest, societal breakdown, and widespread death. These include climate change, nuclear holocaust, pandemic, etc. Apocalyptic fiction expresses a pessimistic view of the present.

The word “apocalyptic,” corresponding to *Apokalypitik* in German, was first introduced by Gottfried Christian Friedrich Lücke while discussing the *Apocalypse of John*, or *Book of Revelation*” (Collins 1). By envisioning the catastrophic end of human race, apocalyptic novels tend to address significant issues and convey certain messages to the contemporary politics and societies. In this sense, the apocalyptic literature is defined in terms of its function as “intended to interpret present,

earthly circumstances in light of the supernatural world of the future, and to influence both the understanding and the behavior of the audience by means of divine authority” (Collins 5-6).

The first wave of apocalyptic literature started in the 1950s as a result of World War II, and the second wave came in the 2000s as a result of various political, environmental, economic and biogenetic factors: the 9/11 attacks and the subsequent wars; the outbreaks of fatal viral pandemics such as AIDS, SARS, and H1N1; the possible natural disasters due to climate change; and the ensuing economic challenges and crises. These events signified dystopian flaws in the present universal order that usher in a possible end of the world. As a literary trope, dystopia has arisen in modern literature due to the failure to realize a dreamt-of utopia. Historically speaking, dystopia is human whereas utopia is divine.

The modern apocalyptic novels has provided some satirical insights into the workings of corrupt, political and social systems by casting somehow exaggerated future images of them. “Unlike the pre-modern approach, the modern apocalypse has something to do with the collapse of a universal order that fails to keep up due to dystopian defects in its nature. It raises fears about the collapse of civilization so that “history can be reexamined and human nature re-interrogated” (Moon 4). The apocalyptic imagination, according to Joseph Dewey the American literary critic, represents an attempt by a puzzled culture to set its “present crisis within a larger context,” to judge that it is “part of an order as wide as the cosmos itself” which points “humanity toward nothing less than the finale of its history” (Dewey 10).

The pandemic apocalypse represents the archetype of the genre as it reproduces actual experiences that have radically threatened human existence at certain historical junctures. The plague motif constitutes a recurrent theme throughout literary history that reflects the people’s consciousness of disease as an existential threat. The literary imagination of plague is rooted in the Greek texts, such as Homer’s *Iliad* and Sophocles’ *Oedipus King*, in which there is a causal relationship between plague and sin. In the modern pandemic apocalypse, the sin-punishment causality is given an additional dimension. The plague is not a punishment, but rather the sin invoked directly or indirectly by man to handle a difficult situation. The result is a pandemic apocalypse that leaves behind a prolonged dystopian society. Remarkably, two pandemic apocalyptic novels discussed in this study have imbedded pre- and post-apocalyptic dystopian worlds.

Mary Shelley’s *The Last Man* (1826) and Jack London’s *The Scarlet Plague* (1912) indeed ignite the farsighted imagination of the pandemic apocalypse. *The Last Man* is an apocalyptic, dystopian science fiction novel first published in 1826. The narrative concerns Europe in the late 21st century, ravaged by a mysterious pandemic illness that rapidly sweeps across the entire globe, ultimately resulting in the near-extinction of humanity. Mary Shelley proclaims in the book’s introduction that her novel is an edited version of a prophetic writing that she discovered in the Sibyl’s cave near Naples in 1818. Taking place between 2073 and 2100, the first-person narrative commences with political events like the end of monarchy in England and the Turkish-Greek war and concludes with the unknown plague claiming the world’s population as well as the appearance of a false messiah. It ends with Lionel, the last man, living alone with a sheepdog as a wanderer on the now-vacant continents of Europe and Africa.

The plague does not stand alone in the novel as a cause of collapse, but rather as a consequence invoked by man’s endless desire to gain power at any cost. Small wonder then that Shelley makes use of the term “labyrinth of evil” (Shelly 171) to refer to the entire state of affairs. The novel’s major conflict between the Islamic and Christian cultures is nourished by the greed for power of such corrupt leaders as Raymond, whose quest is not overwhelmed by the desperate condition of the world he seeks to rule. The account sent by Karazza to Raymond is highly suggestive: “Take it, Christian dogs! take the palaces, the gardens, the mosques, the abode of our fathers—take plague with them; pestilence is the enemy we fly; if she be your friend, hug her to your bosoms. The curse of Allah is on Stamboul, share ye her fate” (Shelly 150). The germ of the plague, conjured in

Constantinople/Istanbul (“Stamboul”), is carried forth by the greed for power to the rest of the world, though it can be inferred that Shelley blames the political interests behind conflict rather than a particular religion.

Envisaging the recent characteristics of viral pandemics, Shelley draws an air-borne plague which is more calamitous since it is invisible and difficult to avoid. The wind, which inspired the revolutionary spirit of the romantic poets, becomes a carrier of death. Nature’s wrath is represented in the novel as a response to man’s evil impulses, “a tempest arose wilder than the winds, a tempest bred by the passions of man, nourished by his most violent impulses, unexampled and dire” (Shelley 231). Hence, the plague which becomes an alternative agent of death assumes its air-borne form from the destructive interplay of politics and cultures. The fatal plague can never be more harmful than man’s institutional idea that he can build his own domain upon the ruins of others.

Originally published in *London Magazine* in 1912, Jack London’s post-apocalyptic novel *The Scarlet Plague* has been brought into the limelight again with the COVID-19 outbreak (2020). The novel is overwhelming since it is prescient of the events that take place over a century later and provides fodder to conspiracy theory supporters. The novel’s fictional events are set in 2073, sixty years after an uncontrollable pandemic known as the scarlet (red) death has depopulated the planet. James Smith, one of the survivors, is still alive in the San Francisco area. He travels around with his grandsons Edwin, Hoo-Hoo, and Hare-Lip, who are young but with limited intellectual and language abilities due to the primitive, hunter-gatherer type of life they lead in a deserted world.

The story of the apocalypse, the scarlet plague itself, is recounted in a flashback by Smith—‘Granser’ as his grandsons prefer to call him—when he was an English professor. The disease outbreak took place in 2013, a year after “Morgan the Fifth was appointed President of the United States by the Board of Magnates” (London 19). Victims would turn scarlet, particularly on the face, could not move their limbs, and usually died within 30 minutes of symptom occurrence. Doctors and scientists not only failed to find a cure for the germ-carried disease but died in the attempt.

The few survivors left in the San Francisco area are now broken into tribes and lead Smith’s way of life. Smith’s main concern is that he has to carry forth the memory of the pre-apocalypse civilization. His efforts, however, go in vain since his grandsons ridicule the value of knowledge, social class, technology, etc. that he tries to pass over to the young generation. In their eyes, such senseless stuff is as unbelievable as a myth since they have neither seen that world nor even possess the intellect to imagine it.

London’s novel focuses on the social plague that accompanies the microbiological one, one which proves worse. The real collapse of humanity is caused by social injustice. Many social entities that have been always recognized as byproducts of capitalism arise during the plague and retaliate for the injustice done against them in a barbaric, evil manner. Like the plague itself, they blindly attack perpetrators and innocent victims alike.

“In the midst of our civilization, down in our slums and labor-ghettos, we had bred a race of barbarians, of savages; and now, in the time of our calamity, they turned upon us like the wild beasts they were and destroyed us. And they destroyed themselves as well” (London 105). The logic of intra-class discrimination is a capitalist self-righteous pose to hint how things would look like in case the underclass breaks loose.

Furthermore, capitalism is carried forth through objects with which it has been inseparably bound. Standing out as a token of the pre-apocalypse dominating system, a coin is the only monument left back from the ruined world, “a battered and tarnished silver dollar,” to which the “old man’s eyes glistened, as he held the coin close to them” (London 18). The coin, in this context, could be an object of nostalgia. Yet, like a piece of a bomb in the bombarded site, it evidently stands for capitalism as the system which was in charge in the moment preceding the catastrophe and, thus, responsible for it.

Conclusion:

The novels discussed in this paper are set in the 21st century, though written in the 19th and 20th century. They not only set out the far-sighted imagination of apocalypse but also insightfully diagnosed its underlying circumstances. They predict our century to be disastrous as though the literary imagination anticipated a climatic point beyond which history cannot go farther. Future, predicted in the novels, is no more than a reflective outcome of the present causes and complications. By addressing a problematic future, colored by the present influences of power relations, authors are actually accentuating critical parts of today. Hence, imagining the future that has never taken place except in text is no more than going a step further in the critique of the present systems governing the world. Things might sometimes escape mankind's control and lead to disastrous aftermaths.

The first and foremost dystopian element in the novels discussed arises from the fact that the viruses causing the pandemics are summoned by man either willingly or unwillingly. Whether the virus is released to cope with a problem, occurs due to a scientific mistake, or is brought down upon humanity by man's vices and sins, it actually accelerates the prophesied end of the world. No world can be more dystopian than one where people are responsible for their own self-destruction. In both the novels the ending notes give a misty and unresolved code about the future of mankind.

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**Post Pandemic Situation Sorting Out the Waste Material through
Remarkable Buckets in Shripatrao Chougule College**

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Abstract:

Biomedical waste (BMW) means any waste which is generated during the diagnosis, treatment of human or animal, or in research area activities. In college laboratories also generate BMWs. Improper management not only creates a risk to human beings and the environment but also invites health problems related to hospitalization.

Key Word: 1) R1: Reduce, 2) R2: Reuse, 3) R3: Recycle, 4) R4: Recovery, 5) L: Landfill

BMW can be classified into three groups:

- 1) Medical waste
- 2) Infectious waste
- 3) Domestic Waste

1) Medical waste:

A waste accumulated from patient diagnosis, treatment or contamination with the disease spreading microorganisms which spread disease.

2) Infectious waste: A waste contaminated with the disease spreading microorganisms that spread disease.

3) Domestic Waste: A waste created in the domestic area.

Biomedical waste is hazardous which creates hazardous effects on the environment and also human beings. Sometimes BMWs like medical, infectious, or other waste collections fail to collect separately.

Through Biomedical waste management creating awareness collection and segregation at hospital or research center or college laboratory level. Through BMW management, within 48 hrs safely collect and transport waste conducting bags /baskets treatment on it and disposed of carefully. We used the '4RL method' (fig.1) for biomedical waste management i.e. 1) R1: Reduce 2) R2: Reuse 3) R3: Recycle 4) R4: Recovery 5) L: Landfill

For the separation of biomedical waste we used a different way to manage waste:

1. Create awareness in society and residential areas
2. Collection of biomedical waste
3. Separate it permitted waste-collecting bags
4. Transport
5. Disposal method

Create awareness in society and residential areas

Through the newspaper, audio recording, pamphlets, Social media create awareness about helping biomedical waste management.

Collection of biomedical waste

We used five colored buckets / Bags:

a) Yellow Buckets, b) Red Buckets, c) Blue Buckets, d) White Buckets, e) Green Buckets

a) Yellow Buckets: Human and animal anatomical waste, Cytological waste, Solid waste which contaminated with blood, body fluid like as cotton lancet, plaster, beads needles, beds of labor room are included in the yellow category.

In college level Zoology, Botany, and Microbiology subjects conducting blood or blood fluid-related practices such as blood group detection, RBC count, haemin crystal, dissecting animal-like rat, chicken head are also included in the yellow buckets.

b) Red Buckets: At zoological lab level dissecting tubing, bottles gloves saline bottles, and pipe lancet, blades, catheters, forceps, scissors are collected in a red bag for recycling purposes also pipette injections slide coverslip, glassware are collected in red bucket.

c) White bag: Metal waste, Glassware waste, Sharp waste collected in the white bag like as needles, lancets, burners, scalpels, blades, damage microscopes or any sharp object which cut, and puncture human body are collected in the white bag ¾ waste are collected in bag and transport toward central common waste management site. Medicine bottle, chemical bottle contaminated glass-like slide, cover slips, test tube, beaker, which glass, lenses are collected in a blue bag. Plastic waste saline bottle, middle tip, water bag, dropper were also collected in a blue bag.

d) Blue bag: General waste like newspapers, journals, old books, magazines, used paper or plastic material like bottles, food wrapper, plastic bags, and cloths are included in the general waste. We used a blue bag for the general waste.

g) Green bag: In the biology lab, plant material like leaf, root, stem, flowers, fruits, grass are used after a workout all waste is collected in the bag. Also, animal viscera, insects, feathers are used for making fertilizer or bio gas, or natural gas production.

4 RL Method:

R1: Reduce - Lowering of the amount of waste product.

R2: Reduce - Using material repeatedly like slide coverslip, blades watch glass, test tube beakers are a wash, clean, sterilized and used for recycling.

R3: Recycle - Using material to make a new waste paper used for making bags like paper bag flowers, decorative items.

R4: Recovery - Recovery energy flow waste. The waste material can't be used. This material creates energy like heat, gas during combination anaerobic digestion; landfill is called the recovery of waste material.

L: Landfill - Safe disposal of the waste to landfill. Last stepwise material which can be used. Repeat this BMW material disposed of in special land where crop production does not occur.

Collection of Waste data in January 2022:

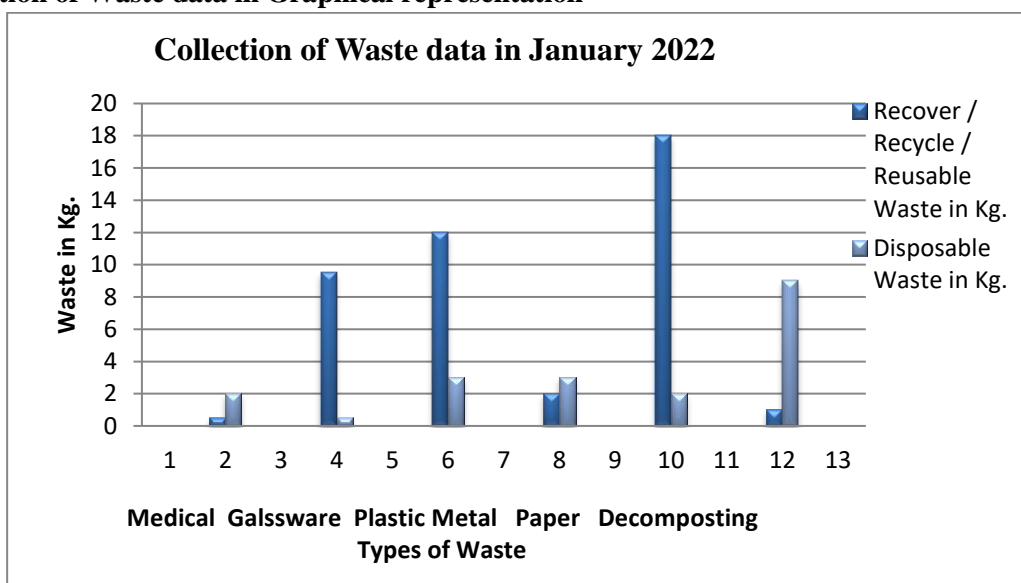
Sr. No.	Types of Waste	Collected Waste	Recover / Recycle / Reusable	Disposable Waste in Kg.
		in Kg.	Waste in Kg.	
1	Medical Waste	2.5	0.5	2
2	Glassware Waste	10	9.5	0.5
3	Plastic Waste	15	12	3
4	Metal Waste	5	2	3
5	Paper Waste	20	18	2
6	Decomposing Waste	10	1	9
7	Total waste	62.5	43	16.5

According to Waste Collecting data:

Total biomedical waste is about 62.5 kg out of 43 kg waste is processed and recovered and reusable. 16.5 kg waste is disposable sorting out from these waste through 4RL method and collected in allowed buckets in January 2022 we collect and sort out all the waste is about 2.5 kg out of 2.5 kg waste is recycled by autoclave, water clean and sterilization method and 2 kg waste are ready to dispose of. Medical waste is 4RL method at the low amount is 0.5 and large amount medical waste is can't reusable because of it is wounded with blood; it is infectious, so this waste is hazardous waste.

Glassware waste is about 10 kg. Out of 10 kg waste, 9.5 wastes are recycled and 0.5 kg waste goes for to dispose of. Collected metal waste is 5 kg e 2 kg waste is recycled, and 3 kg waste is going to scrap paper waste is about 20 kg 18 kg waste is followed 4RL method and only 2 kg paper waste is disposable green waste is also called the composting waste which is generated in biology lab like as plant leaves, flower, root, vegetable are collected in buckets total decomposing waste is 10 kg in January 2022, out of 10 kg 9 kg waste is disposed of for composting and 1 kg waste is used for recycling. Post pandemic situation sorting out the waste material through remarkable buckets in Shripatrao Chougule College.

Collection of Waste data in Graphical representation



Graphical representation of waste shows:

Medical waste is a very low amount to recover and paper waste is a very high rate to recycle. Glassware waste is very low to dispose of while decomposing waste is very high to disposable.

Collection of Waste in February 2022:

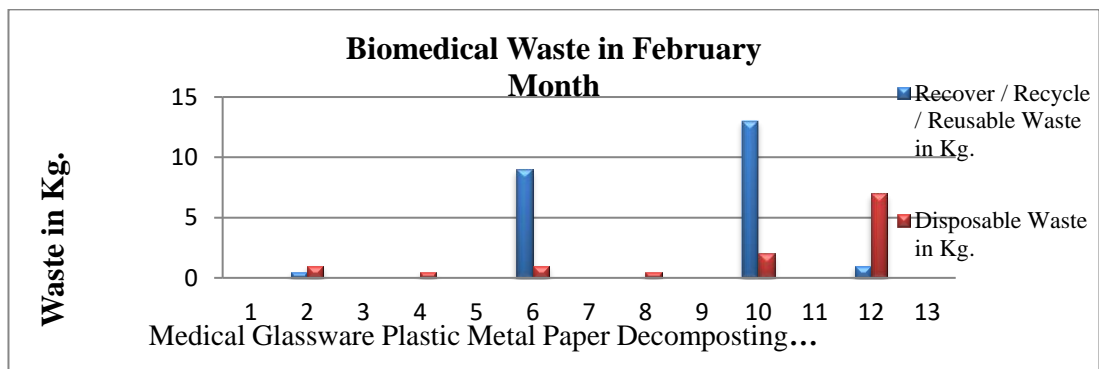
Sr. No.	Types of Waste	Collected Waste in Kg.	Recover / Recycle / Reusable Waste in Kg.	Disposable Waste in Kg.
1	Medical Waste	1.5	0.5	0.1
2	Glassware Waste	0.5	0.0	0.5
3	Plastic Waste	10	0.9	0.1

4	Metal Waste	0.5	00	0.5
5	Paper Waste	15	13	02
6	Decomposing Waste	08	01	07
7	Total waste	35.5	23.5	12

According to Waste Collecting data:

Total biomedical Waste is about 35.5 kg and 23.5 kg of waste is recovered/recycled and reusable. 12 kg waste is disposable. Total collected medical waste is about 1.5 kg in February 2022 out of 0.5 kg is recycled by cleaning and autoclave method and 01 kg waste is read to disposable. Total collected Glassware waste is about 0.5 kg, out of 0.5 kg whole waste ready to dispose of. Collected Plastic waste is about 10 kg, out of 10 kg 9 kg is reusable, and 1 kg waste is ready to dispose of. Collected Metal Waste is about 0.5 kg, entire waste goes to scrap. Collected Paper Waste is about 15 kg, out of 15 kg 13 kg is reusable, and 02 wastes are ready to dispose of. Collected Decomposing Waste is about 8 kg, only 1 kg waste is recycled, and 7 kg waste is disposed of in the vermicomposting bag for the biofertilizer.

Collection of Waste data in Graphical representation:



Photographic Representation:



Fig. 1



Fig.2



Fig.3

- A) Fig.1 Four RL Method
- B) Fig.2 Biomedical Waste collecting Bucket
- C) Fig.3 Biomedical Waste collection



Fig.4



Fig.5



Fig.6



Fig.7

- D) Fig.4 Sharp Waste collecting Bucket
- E) Fig.5 General waste collecting
- F) Fig.6 GlassWare waste collecting Bucket
- G) Fig.7 Plastic waste



Fig.8



Fig.9



Fig.10



Fig.11

- H) Fig.8 General waste collecting Bucket
- I) Fig.9 General waste management
- J) Fig.10 Composting waste
- K) Fig.11. Vermicomposting waste



Fig.12



Fig.13

- L) Fig.12 Recycle of broken beaker
- M) Fig.13 Paper bag

Conclusion:

Biomedical waste management program activity and best practices conducted by the hospital as well as college students much improvements and effects on the sanitization policies and practices.

Suggestions: Avoid biomedical waste generating objects and apply the 4RL method.

Benefits:

- 1) Sanitization / sterilization
- 2) Used autoclave method
- 3) Steam
- 4) Low amount to use reduces the cost of water, biomedical objects.
- 5) Reducing storage and handling cost.

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Short Range Radar: A Perspective review

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Abstract :

COVID-19, caused by SARS-CoV-2, is currently a world pandemic sickness. This eruption has affected each facet of life together with work, leisure, and interaction with technology. Governments round the world have issued orders for travel bans, social distancing, and internment to manage the unfold of the virus and forestall strain on hospitals. This paper explores potential applications for radar-based non-contact remote respiration sensing technology which will facilitate to combat the COVID-19 pandemic, and descriptions potential benefits which will conjointly facilitate to cut back the unfold of the virus. Applications arising from recent developments within the state of the art for transceiver and signal process technologies are mentioned on associated technical implications. These applications embody remote respiratory rate watching, continuous identity authentication, occupancy detection, and hand gesture recognition. This paper conjointly highlights future analysis directions that has got to be explored any to bring this innovative non-contact detector technology into real-world implementation.

Keywords: Radar, Ultrasonic Sensor, Arduino Uno, Servo motor.

Methodology

The sonar system is used in HC-SR04 ultrasonic detector to determine distance to an object like batons do. It offers excellent non-contact range discovery from about 2 cm to 400 cm or 1feet to 13 bases. Its operation isn't affected by sun or black material. The ultrasonic detector emits the short and high frequencesignal.However, also they reflect back echo signal which is taken as input to the detector through Echo pin, If they descry any object. Firstly stoner initialize Detector and Echo pin as low and push the robot in forward direction. When handicap is detected Echo pin will give input as high to microcontroller. Palpitation In function is used for calculating the time of distance from the handicap. Every time the function waits for leg to go high and starts timing, also timing will be stopped when leg go to low. It returns the palpitation length in forever's or when complete palpitation wasn't entered within the downtime it returns. The timing has been determined means it gives length of the palpitation and will show crimes in shorter beats. Beats from 10microseconds to 3 twinkles in length are taken into consideration.

After determining the time, it converts into a distance. However, If handicap is present in left side also it'll take right turn, If the distance of object is moderate also speed of robot get reduced and will take left turn. If the distance of object is short also speed of robot gets reduced and will turn in backward direction and also can go in left or right direction. This robot was erected with an Arduino development board on which microcontroller is placed.

Characteristics of Radar

1. Power output: Obviously, the power affair of the different radars will differ from one another, but to give one an idea of the power needed, navigation radars transmit nearly in the vicinity of 30 KW. Compare this with the average cell phone that transmits roughly 2 watts. This is quite a considerable difference, but in order to gain a reasonable range a large quantum of affair power is needed. Utmost of the power is absorbed by the atmosphere and the fall-off with range is tremendous. Remember that only a portion of the signal that reaches an object is reflected and only a portion of that in the direction of the antenna.

- 1. Pulse length.** The length of a palpitation can vary anywhere between 0.05 micro seconds to 1.0 micro seconds. Typical radar will typically have two palpitation lengths, one short and one long. The short palpitation length will give better range demarcation, ie if two targets lying on the same bearing but

veritably near to each other in range, a short palpitation length will display them as two separate connections on the VDU. A long palpitation length may display them as one contact. The long palpitation provides lesser range, whereas the short palpitation will give lesser detail. A typical radar would typically have the capability to switch between two palpitation lengths depending on the range chosen, i.e. short palpitation length at short ranges (under 20 country miles), long palpitation at longer ranges (above 20 country miles).

2. **Pulse repetition frequency (PRF).** When radar transmits its radio signal, it transmits a series of beats and not simply one. This could vary between 500 and 4000 beats per second. The reason for this is to offset the attenuation (decaying) of the signal by the atmosphere. The advanced the PRF the lesser the range of discovery. The PRF together with the power affair determine the range of the radar.
3. **Antenna design.** The protuberance of light from a auto’s headlight or a arsonist generally takes the form of a indirect cone of light. Whilst this is fine for determining one’s immediate terrain, it would no way do for a navigation radar. What's needed is a ray which is veritably narrow in the vertical aero plane (0.6 ° to 2 °) and nicely wide in the perpendicular aero plane (15 ° to 30 °). This would give a nicely accurate bearing in azimuth whilst furnishing reasonable content in elevation, allowing for the pitching and rolling movement of the boat. The vertical range of the ray has to be as narrow as possible since it decides the bearing demarcation of the radar, i.e. if two vessels at the same range are veritably near to one another, a wide ray range would display a single echo on the VDU. A narrow ray range would show the two as separate echoes.

Introduction

RADAR is a system of object discovery using radio swells to determine objects ‘size, height, direction or speed. Radar systems are available in colorful sizes with colorful performance conditions. Some radar systems are used in field air business control, others are used in long distance surveillance systems and early warning systems. The heart of a bullet companion system is a radar system. Small compact, collectively justifiable radar systems and systems enwrapping numerous commodious apartments are available.

Several nations intimately developed the radar ahead and during the Second World War. United States Navy chased the term RADAR itself as an acronym of radio discovery and a range of other developments in 1940. New uses of the radar include a wide range of air business control systems including, radar, astronomy, air defense systems, antimissile systems, marine maritime radars for the identification and displacing of spots and other vessels, aircraft collisionanti-collision systems, ocean surveillance systems, external space monitoring, and rendezvous systems. Digital signal processing is linked to high-tech radar systems.

System Overview

The Block illustration of Short Range Radar System Using Arduino is as shown in (Figure 1). In this work, the distance of the object is measured through an ultrasonic distance detector, and the detector affair is connected to the signal exertion unit. After that, it's reused through the Arduino microcontroller. The measured results are displayed on the particular computer. The detector is attached to the servo motor to find the polar distance around the detector up to 180 reels

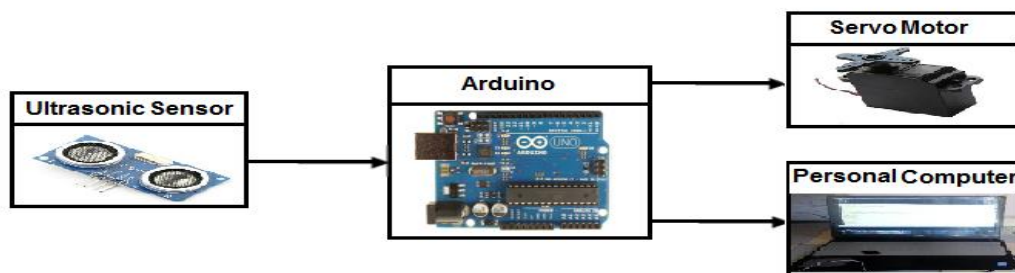
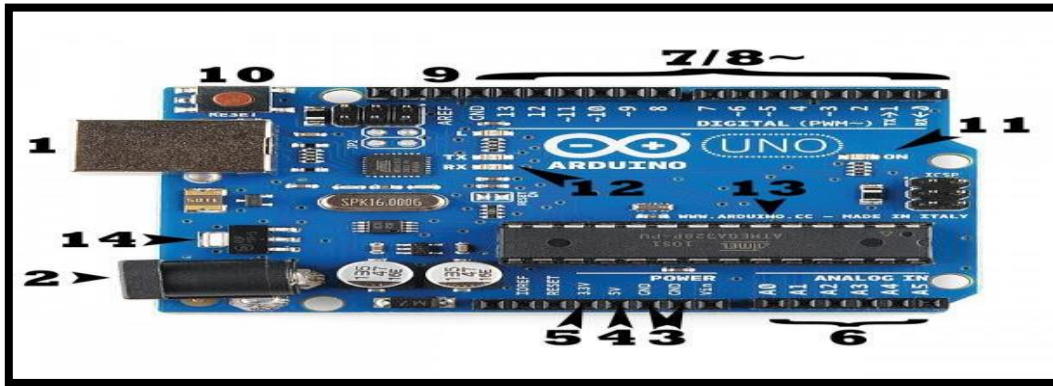


Fig. 1 Block diagram of the system.

Components Required*Arduino Uno**Ultrasonic sensor**HC-SR04**Servo moter**SG-90***1] Arduino Uno**

There are numerous kinds of Arduino boards that can be used for different purposes. Some boards look a bit different from the one below, but utmost Arduino have the maturity of these factors in common .

Power (USB / Barrel Jack)

Every Arduino board needs a way to be connected to a power source. The Arduino UNO can be powered from a USB string coming from your computer or a wall power force that's terminated in a barrel jack. In the picture above the USB connection is labeled (1) and the barrel jack is labeled

NOTE: Do NOT use a power force lesser than 20 Volts as you'll overpower (and thereby destroy) your Arduino. The recommended voltage for utmost Arduino models is between 6 and 12 Volts. Legs (5V,3.3 V, GND, Analog, Digital, PWM, AREF) . The legs on your Arduino are the places where you connect cables to construct a circuit (presumably in conduction with a breadboard and some line. They generally have black plastic ' heads' that allow you to just plug a line right into the board. The Arduino has several different kinds of legs, each of which is labeled on the board and used for different functions.

- **GND (3):** Short for 'Ground'. There are several GND pins on the Arduino, any of which can be used to ground your circuit.
- **5V (4) & 3.3V (5):** As you might guess, the 5V pin supplies 5 volts of power, and the 3.3V pin supplies 3.3 volts of power. Most of the simple components used with the Arduino run happily off of 5 or 3.3 volts.
- **Analog (6):** The area of pins under the 'Analog In' label (A0 through A5 on the UNO) are Analog In pins. These pins can read the signal from an analog sensor (like a temperature sensor) and convert it into a digital value that we can read.
- **Digital (7):** Across from the analog pins are the digital pins (0 through 13 on the UNO). These pins can be used for both digital input (like telling if a button is pushed) and digital output (like powering an LED).
- **PWM (8):** You may have noticed the tilde (~) next to some of the digital pins (3, 5, 6, 9, 10, and 11 on the UNO). These pins act as normal digital pins, but can also be used for something called Pulse-Width Modulation (PWM). We have a tutorial on PWM, but for now, think of these pins as being able to simulate analog output (like fading an LED in and out).

- **AREF (9):** Stands for Analog Reference. Most of the time you can leave this pin alone. It is sometimes used to set an external reference voltage (between 0 and 5 Volts) as the upper limit for the analog input pins.

Reset Button

Just like the original Nintendo, the Arduino has a reset button (10). Pushing it'll temporarily connect the reset leg to base and renew any law that's loaded on the Arduino. This can be veritably useful if your law does n't reprise, but you want to test it multiple times. Unlike the original Nintendo still, blowing on the Arduino does not generally fix any problems.

Power LED Indicator

Just beneath and to the right of the word "UNO" on your circuit board, there's a bits LED next to the word 'ON' (11). This LED should light up whenever you plug your Arduino into a power source. However, there's a good chance commodity is wrong, If this light does n't turn on. Time tore-check your circuit!

TX RX LEDs

TX is short for transmit, RX is short for admit. These markings appear quite a bit in electronics to indicate the legs responsible for periodical communication. In our case, there are two places on the Arduino UNO where TX and RX appear-- formerly by digital legs 0 and 1, and a alternate time next to the TX and RX index LEDs (12). These LEDs will give us some nice visual suggestions whenever our Arduino is entering or transmitting data (like when we 're loading a new program onto the board).

Main IC

The black thing with all the essence legs is an IC, or Integrated Circuit (13). Suppose of it as the smarts of our Arduino. The main IC on the Arduino is slightly different from board type to board type, but is generally from the AT mega line of IC's from the ATMEL company. This can be important, as you may need to know the IC type (along with your board type) before loading up a new program from the Arduino software. This information can generally be plant in writing on the top side of the IC. However, reading the datasheets is frequently a good idea, If you want to know further about the difference between colorful IC's.

Voltage Regulator

The voltage controller (14) isn't actually commodity you can (or should) interact with on the Arduino. But it's potentially useful to know that it's there and what it's for. The voltage controller does exactly what it says-- it controls the quantum of voltage that's let into the Arduino board. Suppose of it as a kind of doorkeeper; it'll turn away an redundant voltage that might harm the circuit. Of course, it has its limits, so do n't hook up your Arduino to anything lesser than 20 volts. Arduino makes several different boards, each with different capabilities. In addition, part of being open source tackle means that others can modify and produce derivations of Arduino boards that give indeed further form factors and functionality. However, check this companion for some helpful hints, If you 're not sure which one is right for your design. Then are a many options that are well- suited to someone new to the world of Arduino

Arduino Uno (R3)

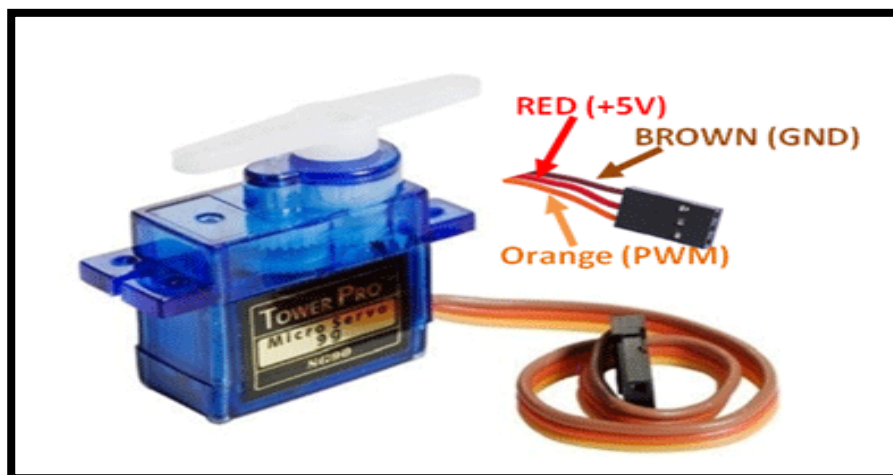
The Uno is a great choice for your first Arduino. It's got everything you need to get started, and nothing you don't. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a USB connection, a power jack, a reset button and more. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

Servo Motors:

Servo motor is a simple DC motor with a position control service. By using a servo you'll be suitable to control the quantum of shafts gyration and move it to a specific position. They generally have a

small dimension and are the stylish choice for robotic arms. But we can't connect these motors to microcontrollers or regulator board similar as Arduino directly in order to control them since they conceivably need further current than a microcontroller can drive so we need motorists. The motorist is an interface circuit between the motor and controlling unit to grease driving. Drives come in numerous different types. In this instruction, you learn to work on the L293D motor guard.

Servo Motor SG-90



Wire Configuration

Wire Number	Wire Colour	Description
1	Brown	Ground wire connected to the ground of system
2	Red	Powers the motor typically +5V is used
3	Orange	PWM signal is given in through this wire to drive the motor

Tower Pro SG-90 Features

- Operating Voltage is +5V typically
- Torque: 2.5kg/cm
- Operating speed is 0.1s/60°
- Gear Type: Plastic
- Rotation : 0°-180°
- Weight of motor : 9gm
- Package includes gear horns and screws.

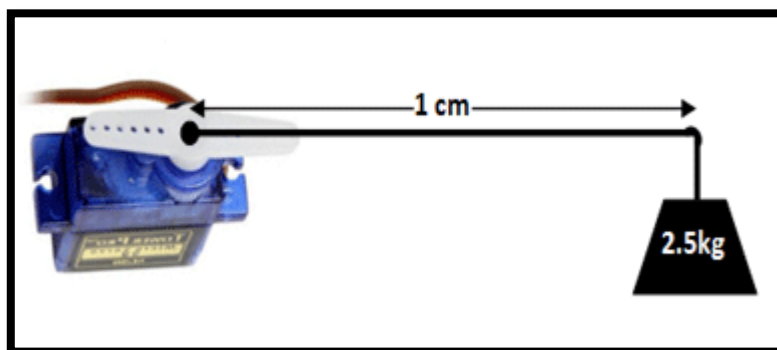
Selecting your Servo Motor

There are lots of servo motors available in the market and each one has its own specialty and applications. The following two paragraphs will help you identify the right type of servo motor for your project/system.

Most of the hobby Servo motors operate from 4.8V to 6.5V, the higher the voltage the higher the torque we can achieve, but most commonly they are operated at +5V. Almost all hobby servo motors can rotate only from 0° to 180° due to their gear arrangement so make sure your project can live with the half circle if no, you can prefer for a 0° to 360° motor or modify the motor to make a full circle. The gears in the motors are easily subjected to wear and tear, so if your application requires stronger and long running motors you can go with metal gears or just stick with normal plastic gear.

Next comes the most important parameter, which is the **torque** at which the motor operates. Again there are many choices here but the commonly available one is the 2.5kg/cm torque which

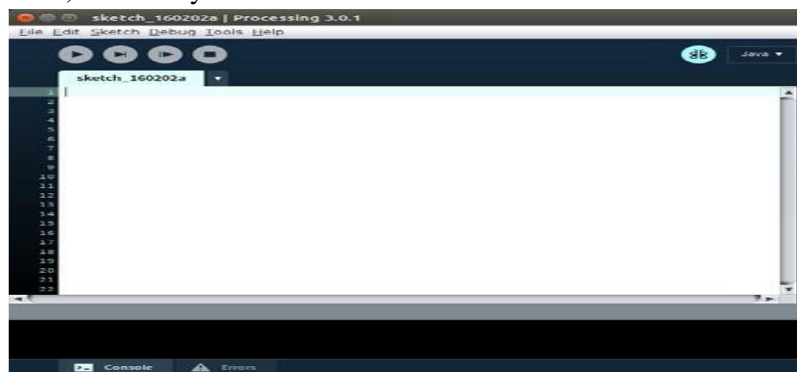
comes with the Tower pro SG90 Motor. This 2.5kg/cm torque means that the motor can pull a weight of 2.5kg when it is suspended at a distance of 1cm. So if you suspend the load at 0.5cm then the motor can pull a load of 5kg similarly if you suspend the load at 2cm then can pull only 1.25. Based on the load which you use in the project you can select the motor with proper torque. The below picture will illustrate the same.



Processing

All processing is an open-source computer programming language and integrated development environment (IDE) built for the electronic arts, new media art, and visual design communities to teach the fundamentals of computer programming in a visual context (Figure 4). The Specifications of programming:

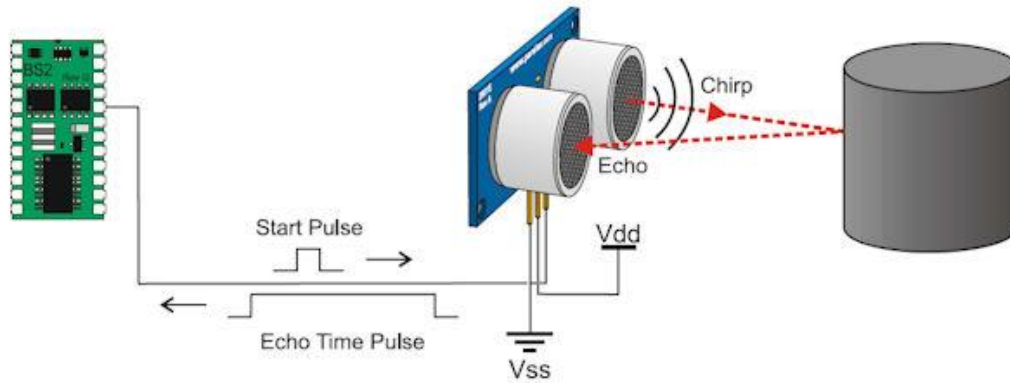
- Free to download and open source
- Interactive programs with 2D, 3D or PDF output
- OpenGL integration for accelerated 2D and 3D
- For GNU/Linux, Mac OS X, and Windows
- Over 100 libraries extend the core software
- Well documented, with many books available



Software and processing.

Ultrasonic sensors HC- SR04

The ultrasonic sensor emits ultrasound at 40 000 Hz, which passes through the air, while it bounces back into the module if there is an object or obstacle in its way. The distance can be determined based on the travel time and the speed of the sound.



Working of Ultrasonic Sensor

The sound speed is around 341 meters per second (1100 feet) in air. This information and the time difference between transmitting and receiving the sound pulse are used by the Ultrasonic Sensor to calculate the distance from an object. The mathematical equation used is the following:

$$\text{Distance} = \text{Time} \times \text{Speed of Sound} / 2 \quad (1)$$

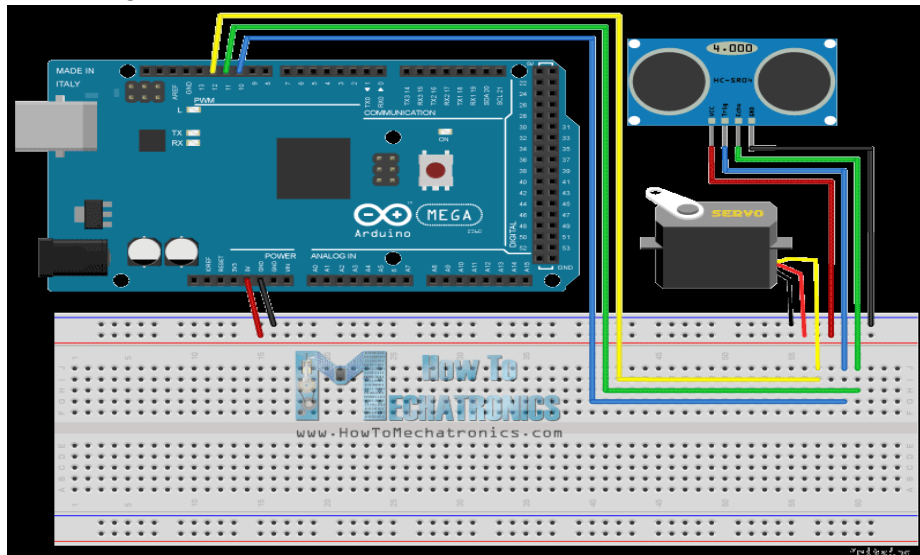
Time = the time between when an ultrasonic wave is transmitted and when it is received.

You divide this number by 2 because the sound wave has to travel to the object and back.

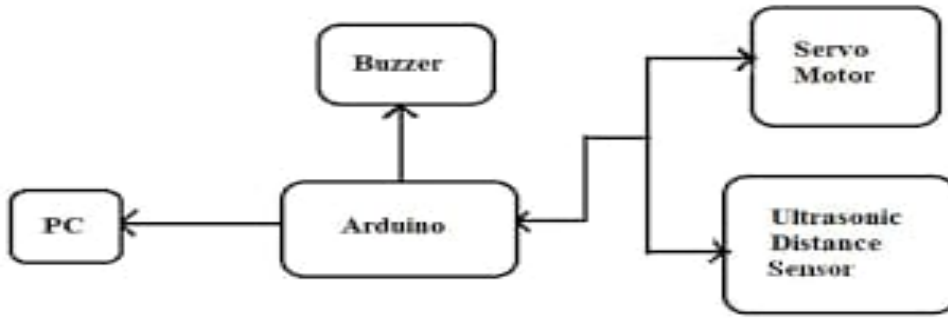
3.4 Servo Motor

Tiny and lightweight with high output power. The servo will rotate about 180 degrees (90 in each direction) and operate just as small as the regular types (Figure 6). To monitor these services, you can use any servo code, hardware or library[4]. The Specifications of servo motor:

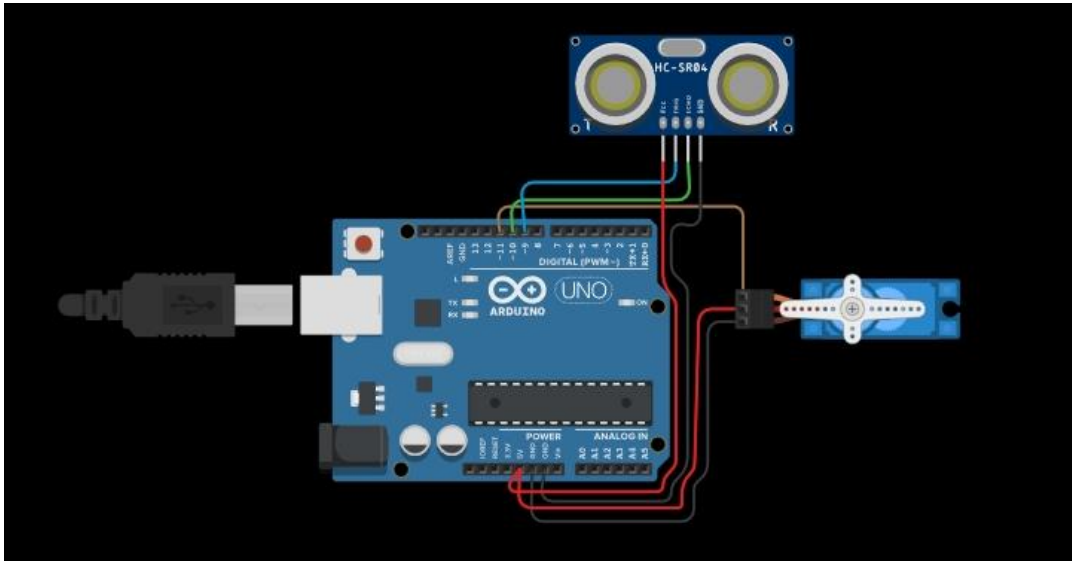
- Weight: 9 g
- Dimension: 22.2 x 11.8 x 31 mm approx.
- Stall torque: 1.8 kg f cm
- Operating speed: 0.1 s/60 degree
- Operating voltage: 4.8 V (~5V)
- Temperature range: 0 °C – 55 °C



Hardware system design.



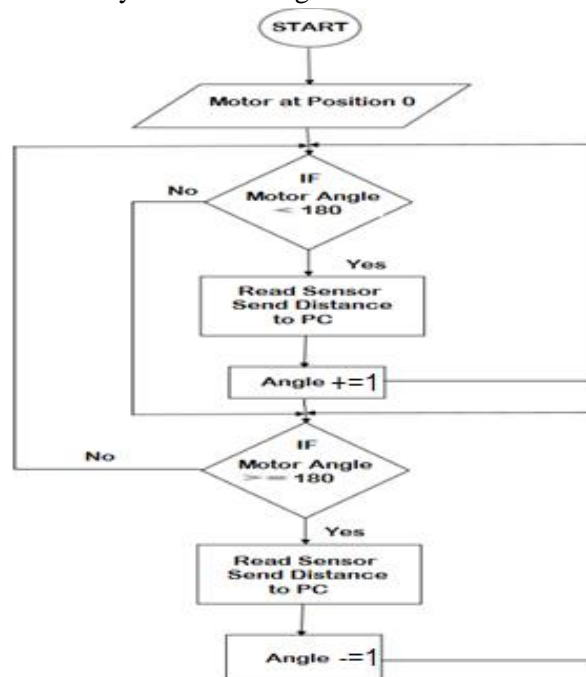
Block Diagram



Circuit Diagram

The flowchart

shows the overall operation of the system following software to control the servo motor.



Applications

The radar system is used mostly for mapping and has several uses for protection purposes.

- Application in Air Force:

This is used for the identification of items that come in by aero plans or aircraft devices that have a radar device in it. It is often used for the height measurement calculation.

• Application in Marine:

It's also used in vessels or in marine operations. The distance of other boats or vessels is measured on big vessels and can be minimized by not colliding with the aid of this ocean accident. It can also be used at anchorages to see the distance from other vessels and track or cover the movements of the vessels.

• Application In Meteorology:

Wind tracking or monitoring is also done with radar systems. It has become a major climate monitoring equipment. For starters, storms are used to detect tornados.

Results

The hardware model of the project is shown in Figure 8.

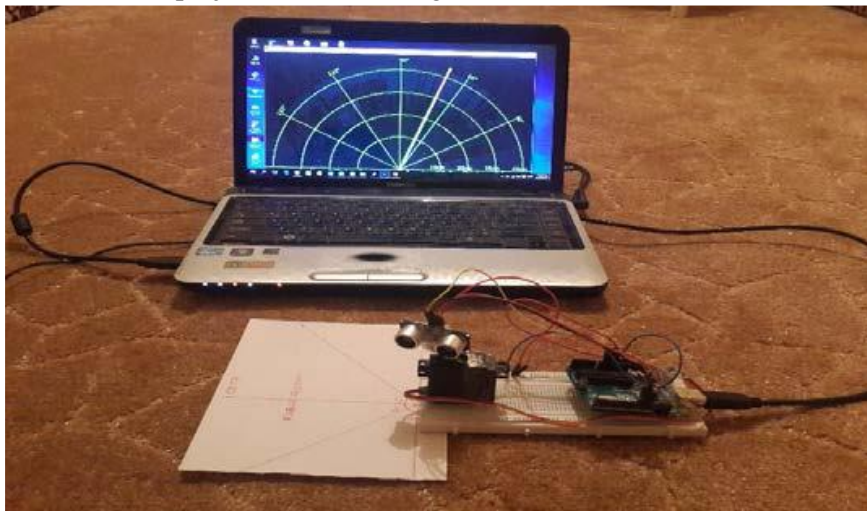


Fig. 8 Hardware model of the project

The radar workspace is shown in Figure 9.

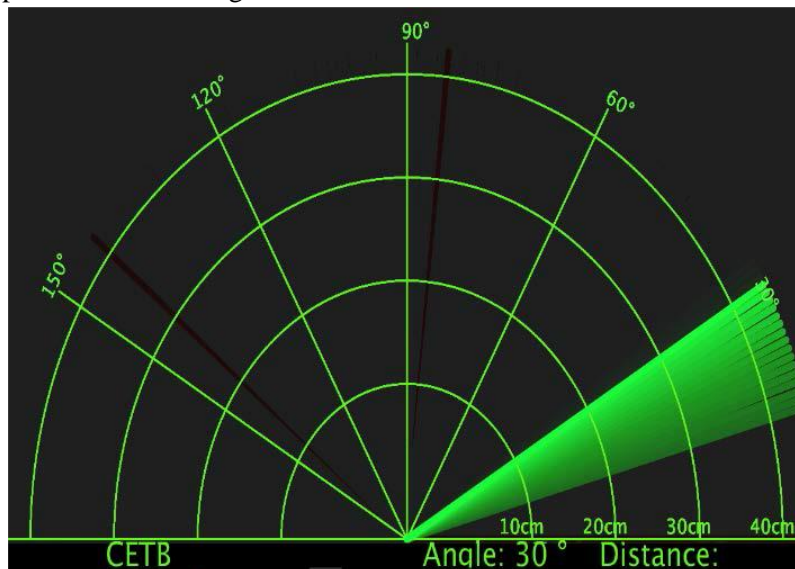


Fig. 9 Radar workspace

illustrates the radar when detects an object

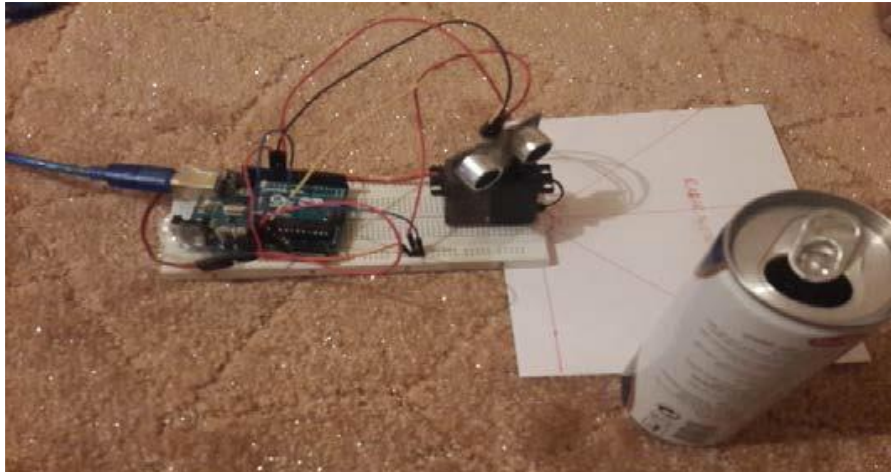


Fig. 10 Radar with object

Figure 11 shows object radar information on radar workspace where the distance between object and radar is 11cm, and angle is 160.

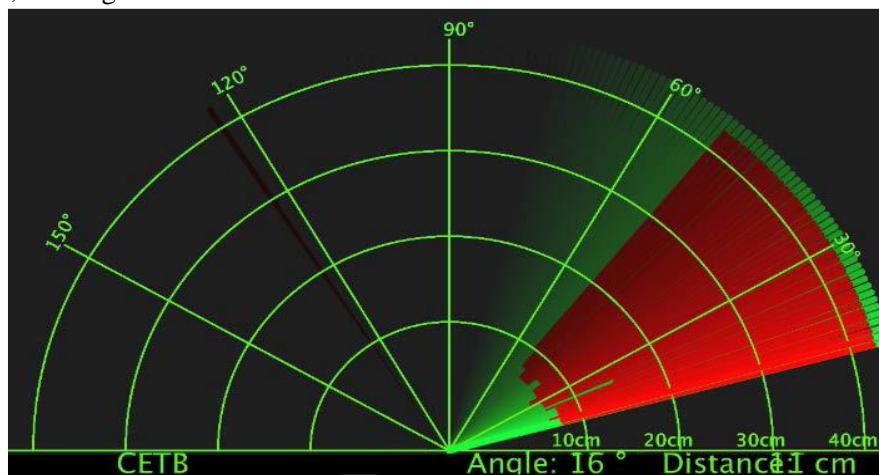


Fig. 11 Radar information

Conclusion

The aim objective of this paper was to design and implement a simple radar system. The mentioned system can detect the objective and measure the target distance. Short-range radar system a low cost, a simple device for distance measurement. The software results have been verified by using rubber and paper with a drawn angle. Hence, the device calculates the distance with suitable accuracy and resolution. The data converted into visual information. The appliance of the device is numerous.

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A Review on Zika Virus–Neurological Disease : Guillain–Barré Syndrome (GBS)**Amit Shahaji Sutar**

Shripatrao Chougule Arts and Science College Malwadi Kotoli

Abstract

Zika virus (ZIKV) has caused a major infection outbreak in some of the countries like Americas, Africa and Asia in 2015. The ZIKV is an epidemic, it shows increase in cases of neurological disorders like Guillain–Barré syndrome (GBS) which also involves encephalitis, and myelitis may get linked to the infection. Depending upon previous information an epidemiological and virology information supports that ZIKV infection is associated with GBS. Although cases of encephalopathy and myelitis, conjunctivitis have also been linked to ZIKV infection, the evidence is scarce and there is a need for virological, epidemiological, and controlled studies to better characterize such relationship. This review paper brief about Neurological Guillain Barre syndrome during infection.

Keywords: Zika virus, Guillain barre, Myelitis, encephalitis,

Introduction

Zika virus (ZIKV) disease is a mosquito-borne and it transfer through Aedes Mosquito when bites at day time. It is a member of *Flavivirus* genus of *Flaviviridae* family. It was first discovered in Uganda in 1947 into the monkeys. It shows acute generalized paralysis into the patients. This neurological disorder was discovered in 1916 by French army neurologist G. Guillain and J.A. Barre. In March 2015, Brazil people faced problems like illness, rashes then it was concluded that this symptoms are concerned with Zika virus infection and in July 2015 it was stated that Guillain-Barré syndrome is also a part of same infection. This infection is rare but it is severe when patient get infected.

Discussion

1) Guillain barre syndrome(GBS)

- Zika virus disease is Arthropod borne disease. Mostly it is zoonotic disease but can enter into the human chain to cause neurological disorder, myelitis and other disease through mosquito Aedes
- This syndrome is observed in person who is suffering from zika virus disease. This disease is associated with nervous system of patients. It affects immune system of patient and attacks on nerve cells which leads to weakness within 4 weeks of infection
- GBS is rare but sever autoimmune disease that attacks on peripheral nervous system and leads to paralysis state in patient.
- Establishment of Mechanism of GBS is not yet understood but by previous data it has been recorded as 5% mortality rate while 20% patient affects are left with significant disability *Campylobacter jejuni*, *Mycoplasma pneumoniae*, cytomegalovirus, Epstein–Barr virus, hepatitis A virus, influenza A virus, and influenza B virus,
- GBS syndrome development is also associated with several pathogen like

Case Study: 1

- Recent outbreaks in Colombia was observed were country was suffering from active Zika virus infection to humans.
- Total 68 patients was observed for neurological disorder like GBS. Half of the patients shows bilateral flaccid paralysis, joints pain, muscle weakness
- After electrophysiological studies of patients it was stated that Acute Inflammatory Demyelinating Polyneuropathy variant is more frequent than that of Acute Motor Axonal Neuropathy variant. Acute Motor Sensory Axonal Neuropathy (AMSAN) was also observed as clinical variant
- GBS mechanism is unknown but previous data state that's, a molecular mimicry is observed between glycolipid and surface molecule of infectious agent
- At this stage patients face neuronal cells loss.
- In motor variant of zika which is associated with GBS shows production of typical anti- ganglioside

antibodies

- Some other antibodies are also present into the patients against other circulating flaviviruses like Dengue virus which was also associated with GBS
- Patient suffering from Zika-associated GBS may be treat with either plasmapheresis or intravenous immunoglobulins. Many patients also needs ventilation. Death was reported in 15% of patients.

Mechanism of GBS

- GBS occurs into the patients due to loss of immunological tolerance of self-antigen
- Through previous data it states that antibodies which are present in patient get binds to the epitope of virus on the outer myelin surface which leads to the complement activation system and also destruct myelin which was invaded by macrophages
- Macrophages releases Cytokines and other free radicals, this step invades myelin sheaths and acts as brush to removed myelin debris
- Due to damage of myelin sheath, nodes of Ranvier, nerve axons disruption leads to failure nerve conduction of infected patient
- In Acute Motor Axonal Neuropathy (AMAN) antibodies are produced against ganglioside component of motor nerve and nodes of Ranvier but clinically it was observed that in Acute Motor Sensory Axonal Neuropathy (AMSAN) is shows adverse effect on both motor and sensory fibres.
- Mostly IgG antibodies found into the patients with AMAN and AMSAN
- Some anti gangliosides antibodies also present which are linked with clinical manifestations like Bickerstaff brainstem encephalitis and Miller Fischer Syndrome
- On molecular level, multiple host virus interaction induce disease and reflects the molecular mimicry. The polypeptide of zika virus get linked with the protein of host, in othwe words we can say that protein of virus get shared with host and this step provides strong immune system to patient.
- In previous data it states that cross reaction with brain protein takes place and hence other molecule get involves for the formation of neurological sequelae
- It was also suggested that when the serum of infected patient was clinically studied then it revealed that anti gangliosides antibodies IgG and IgM was present at high number
- Due to zika virus infection Myelitis and encephalitis are associated with GBS. Myelitis is considered as a immune mediated syndrome which leads to the injury to the spinal cord
- Due to zika virus microcephaly mostly occurred in babies, due to this head of baby is small than that of normal size. So babies shows small brain size and may not developed properly like normal brain
- This virus are able to infect placenta as due to small size it can cross placenta barrier. This virus can aslo show effects on brain and can cause injury to the nerve cell and nervous system

Conclusion

The outbreak of zika virus show neurological syndrome and they are interlinked with each other. Pathogenic mechanism identifies the molecular mimicry under autoimmune disease. Causality not yet established of neurological disorders in adults. In outbreak areas pregnant women should be aware of this virus for their babies. Need to design to identify the target of auto immune response that mediate and cross reactive reactions. Mechanism of pathophysiology of virus is still poorly known so globally it is essential to take well-designed study of risk of neurological disorders in an outbreaks areas.

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E – Vehicles For Better Future

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Abstract:

The impact of coronavirus epidemic on India has been largely disruptive in terms of profitable exertion as well as a loss of mortal lives. Utmost of the civic Indian metropolises face challenges of business traffic and severe air pollution due to rapid-fire urbanization and growth in motorcars. As a result, there is a potential need for adopting alternative technologies in automobiles such as electric vehicles (EV). In travelling sectors, there are rise in rate of fossil fuels also the fossil fuels are harmful to the environment due to the combustion of carbon. Electric vehicles do not emit toxic gases or smoke in the environment which leads to global warming and helps to reduce pollution. So Electric Vehicles are 100 percent eco-friendly. That why, we need to turn towards an Electrical Vehicles.

Introduction:-

Electric vehicles have low running costs as they have less moving parts for maintaining and also very environmentally friendly as they use little or no fossil fuels. This paper shows Benefit of E-vehicles after COVID-19 because during pandemic, air and noise pollution was completely OFF into the environment. Now people full aware about clean environment. Also the rate of fossil fuel is highly increased so Electric vehicles are alternating and cheap source of fossil fuel. The Indian government's vision towards 100% electric mobility is a right step ahead to cut down emissions from the transport sector.

What are Electric Vehicles?

Electric vehicles, unlike conventional petrol and diesel vehicles use one or further electric motors for propulsion. Electric vehicles have a battery that's charged through an electricity force. The electric energy is also stored and used to power the electric motor.

There are numerous types of electric vehicles similar as electric buses, electric exchanges, electric motorcars, electric bikes, electric trains, and electric scooters etc. Still, amongst all, manufacturing and putting the electric buses on road is the vision to make India pollution free along with saving the precious petroleum.

E- Vehicles battery:

The choice of batteries depends on the energy viscosity, weight and costs. Electric cycles and low range mopeds have simple battery units while electric buses emplace a large number of batteries. Traditionally, utmost electric vehicles have used lead-acid batteries due to their mature technology, easy vacuity and low cost. Still, since the 1990s battery technologies have evolved significantly and several new types of batteries have been developed. More lately, batteries using combinations of lithium ion and its variations are gaining wide acceptance due to better effectiveness, reduced weight, lower charging time, better power affair, longer continuance, and reduced environmental counteraccusations from battery disposal.

The following four types of batteries are generally used moment in EVs

- Lead Acid
- Nickel Cadmium (NiCd)
- Nickel Metal Hydride (NiMH)
- Lithium-ion (Li-ion)-Lithium-ion batteries have advanced specific energy relative to the other battery types. In the future, technology inventions with Li-ion and other battery technologies are anticipated to affect in batteries with much advanced specific energy and lower costs.

- Battery Charging
- plug in at home



An electric auto or bike can be fluently plugged into your home and charged with the use of an EV bowl. It's plant that over 80 of the electric auto druggies charge their EVs overnight at home or at work. These can also be charged on the move handed that you live in a megacity which has proper EV charging structure.

- plug in at charging stations



A charging station, also called an EV bowl or electric vehicle force outfit (EVSE), is a piece of outfit that supplies electrical power for charging draw-in electric vehicles (Including mongrels, neighborhood electric vehicles, exchanges, motorcars, and others).

Although batteries can only be charged with DC power, utmost electric vehicles have an onboard AC-to-DC motor that allows them to be plugged into a standard ménage AC electrical container. Affordable low- power public charging stations will also give AC power, known as"AC charging stations". To grease advanced power charging, which requires much larger AC-to-DC transformers, the motor is erected into the charging station rather of the vehicle and the station supplies formerly- converted DC power directly to the vehicle, bypassing the vehicle's onboard motor. These are known as"DC charging stations". Utmost completely electric auto models can accept both AC and DC power.

Charging stations give connectors that conform to a variety of norms. DC charging stations are generally equipped with multiple connectors to be suitable to supply a wide variety of vehicles.

Public charging stations are generally plant road- side or at retail shopping centers, government installations, and other parking areas.

- **Safe to charge**

Charging is really safe with the right outfit

The good news is, charging an electric vehicle is actually veritably safe and easy when done with proper, singly safety pukka outfit. The challenge is that not ALL charging stations on the request are singly safety tested and certified.

Ecosystem for Electric Vehicles**1. Market**

- Testing and certification
- Vehicle Servicing
- High capital cost and Financing
- Electricity quality
- Market for electricity storage
- Consumer perceptions
- Raw Materials for batteries

2. Technical

- Efficiencies of batteries
- Driving range of EVs
- Charging time
- Safety
- Environmental Impacts

3. Policy

- Taxation of vehicles and components
- Subsidies on fossil fuels
- Electricity tariff policies

4. Infrastructure

- Charging infrastructure
- Smart Grids
- Battery recycling
- Dedicated lanes for E - 2 Wheelers

Indian scenario India is shifting gears

The fifth largest bus request in the world is readying for a miraculous metamorphosis in order to achieve 100e-mobility by 2030. As per protuberance of the Indian government, the transport sector's metamorphosis is believed to cut the canvas significances by roughly\$ 60 billion and emigration reduction by 37. As per the Paris Climate agreement, India has pledged to bring down its share of GHG emigrations by 2030. Out of 20 world's most weakened metropolises, 15 metropolises are in India suffering maximum declination over the times, and pollution from transport sector is one of the major causes for this. According to World Bank study, the health cost of ambient air pollution may run into billions of bones for the country as a whole. In Delhi alone, it's estimated to be\$ 100-400 million per time (16). Piecemeal from this, India significances 82 of its canvas conditions, making world's sixth largest frugality hopeless for druthers to fossil energies (17). The nation is anticipated to spend upto\$ 85 billion in 2018 on canvas significances, according to Petroleum Ministry of India, of which machine sector forms the bulk. National Electric Mobility Mission Plan (NEMMP) was launched in 2013 to give with structured frame on relinquishment of electric vehicles with an estimated investment of INR 3 billion. After 3 times of relative inactivity, India has made progress in relinquishment of EVs in the history 1-2 times. India plans to emplace 5-7 million-vehicles by the time 2020 under the revised NEMMP 2020, released in August 2017. From 2016 India has been adding EVs annually with a growth rate of37.5. Faster Adoption and Manufacturing of E-Vehicles in India (FAME), established in 2015, is backed by the Government of India and has the following objects (18)-i. To achieve the targets set by NEMMP. ii. Strengthen the technological capabilities of EVS and its structure through exploration and development. iii. Set up charging structure for electric vehicles. iv. Spread field- studies and mindfulness to make the consumer confidence and gauge up relinquishment. FAME-India data shows that 1, EVs have been stationed till date performing in saving 2, 70, liters of energy i.e. liters of energy per day. The deployment of electric vehicles has

helped in reduction of 6, 78, kgs of CO₂ i.e. 115434 kgs of CO₂ per day (18). Maharashtra is the first Indian state with a structured Electric Vehicle policy. A statement issued by the state government notified that all three parts of the EV sector-manufacturing, structure creations and consumers-are all reckoned for in this policy (19). The policy is targeted at erecting an enabling terrain for the product of electric vehicles in Maharashtra within the coming 5 times. According to the policy, the state government has proposed to pure EVs from road duty and original enrollment charges in Maharashtra.

• India has been manufacturing indigenously and successfully using Electric Locomotives that pull train trainers with thousands of tons of cargo. This has not only saved conventional energy like coal, diesel but has also saved the terrain from getting defiled further. Consequently, manufacturing and using the electric buses isn't a big chain.

According to a report by NITI Aayog,

1. India can save 64 of anticipated passenger road- grounded mobility- related energy demand and 37 of carbon emigrations in 2030 by pursuing a participated, electric, and connected mobility future.
2. This would affect in a reduction of 156 mega toe in diesel and petrol consumption for that time. At USD 52/ bbl of crude, this would indicate a net savings of roughly Rs3.9 lakh crore (roughly 60 billion USD) in 2030. These numbers easily indicate a critical demand for relief of conventional vehicles with electric vehicles.
3. While prominent manufacturers similar as Maruti Suzuki India, Hero Electric Vehicles, Mahindra and Mahindra are formerly registered electric manufacturers in India, rearmost collaborations similar as Suzuki and Toyota, are planning to launch electric vehicles in India.
4. On the same lines India's first EV manufacturer Mahindra and Mahindra has forged cooperation with Ford to develop electric mobility results that are affordable for the Indian consumers.
5. Among the world's 20 most weakened metropolises in the world, 13 are in India. Vehicular pollution is one of the major contributors to state pollution. India is in the group of countries that has the loftiest particulate matter (PM) situations. Its metropolises have the loftiest situations of PM₁₀ and PM_{2.5} (patches with periphery of 10 microns and 2.5 microns). These numbers are six times further than the WHO "safe" limit of 25 micrograms and represent the emergency for Electrical Vehicles.
6. As a signatory to the Paris climate agreement, India is obliged to bring down its share of global emigrations by 2030. Therefore the government of India is making crucial enterprise similar as launch of National E-Mobility Programme, planning guidelines to encourage the use of similar vehicles by NITI Aayog etc. To promote Electrical vehicles in India.

Benefits of Electric Vehicles:

- 1) **Energy Security:** As electricity is majorly produced from either renewable sources or from sources that emit no hothouse feasts therefore EVs help in maintain energy security by shifting dependence from non-renewable coffers to renewable coffers.
- 2) **Cost Effective:** With arrival of advance technology and devoted R&D, both cost and conservation of electric vehicles has gone down. Government is incentivizing the use of Electric Vehicles by furnishing subventions and lower motor levies on EVs.
- 3) **Environment Friendly:** Electric Vehicles are 100 percent eco-friendly. They do not emit toxic gases or smoke in the environment which leads to global warming and helps to reduce pollution.
- 4) **Reduction in Noise pollution:** Electric vehicles are quieter to operate than gasoline-powered vehicles, leading to reduction in noise pollution.

5) Less Maintenance: Electric vehicles bear lower conservation than conventional vehicles as there are smaller fluids (like canvas and transmission fluid) to change and smaller moving corridor.

While the global EV market is rapidly gaining momentum towards the target set by Electric Vehicle initiative (EVI) of global deployment of 20 million electric vehicles by 2020, Electric vehicles in India are still at a nascent stage.

Conclusion: -

If a person needs a better and secure future with economically sustainable after post pandemic, then they should away or should be in a practice to go for electrical vehicle along with best knowledge. Also electric vehicles reduce noise pollution, easy to use and low cost as compare to petrol and diesel. Further we can use renewable energy options for home electricity.

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Impact Of Covid-19 On English Language Teaching And Learning Process

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Abstract-

The Covid-19 pandemic affected the world in a very dangerous way in different sectors. The record of four thousand years has been broken in just few months because of Corona disease as we look at the past two years. It is the harsh repercussions of the pandemic that continuous until today. The present paper is going to understand and analysis the most impacted sector of education. Basically students are the central part of each and every educational institution. But in a lockdown period, they moved their physical space to classroom to online mode of learning methods.

The process of teaching English language in the classroom also moved toward online mode of teaching and learning. It has some positive and negative effects on the minds of students in terms of learning English language. The impact of Covid -19 on English Language Teaching and Learning process is studied by examination of various journals and newspapers during the period of lockdown in 2020.

At the time of Covid – 19 lockdown, the educational system must be trapped in a crisis of corona and the beauty of English language. This paper is an honest attempt to analysis three elements to view and impact of pandemic situation on the process of teaching and learning in terms of English language.

First- Synchronous and asynchronous mode and cooperative teaching method as employed in the remote learning from rural and urban geographical setting via multiple digital learning platforms and online applications such as social networking sites. Second- The role of stakeholders in education in content management are undergoing changing, lesson plan is changed. Third – challenges faced by teachers and learners. With the help of these tree issues, the present paper analysis and explained various impacts on English language.

Keywords: COVID-19; Classroom learning; Distance learning; English; Pandemic

Importance of English language and teaching multilingual studies

There are very few English speaking people in India. But considering the growing importance of English globally, today English has become the language of knowledge and the language of communication. And learning English takes time. This is because most of the ignorance in the world has been originally written in English or translated into English. Since English has become the language of knowledge, learning English has become a necessity of the times. Considering the Indian situation, more than 90% of the people do not have English as their mother tongue. But English should not be the medium of instruction for learning English. Education experts are of the opinion that the first thing a student should do is to assimilate his mother tongue properly, whatever it may be, and he has done it with 100% research. The lockdown is currently underway against the backdrop of the corona virus. The administration is taking steps to control the virus. On the other hand, considering the language, it is seen that the use of English words has increased in the practice of Marathi language. During the lockdown period, many English words are being used in Marathi language, which should not have been used much before. As social change or chronology affects human life, so does language. The words Corona and Lockdown have shaken the world. The English vocabulary of these bizarre times has come to include several medical terms, new coinages, acronyms, phrases, collocations and abbreviations. Novel nuances have come to be attached to old words. These describe our present predicament, our alienation, our fears, grief and uncertainty.

The Meaning of Covid-19- The word ‘Covid-19’ has become so prevalent in cities and villages that it has given a new meaning to the two extremes of ‘living and dying’.. The concept of social distance came to the fore in the wake of Corona and of course everyone stated struggling to the

term in their own way in different languages and mediums. Corona virus is a group of viruses. The virus causes various diseases in mammals and birds. These include diarrhoea in cows and pigs and respiratory diseases in chickens. The virus is transmitted to humans through respiratory infections. These infections are often mild, but potentially fatal. Vaccines that prevent corona virus or antiviral injections are available in case of disease. But the question is how schools and universities should start again. Social distance is an important issue and lessons can be learned from the manner in which educational institutions have been set up in India and abroad. It has strongly impacted on English language in the current scenario, particularly in teaching and learning process of it.

Introduction to Synchronous and Asynchronous transmission

Synchronous data transmission is a data transfer method in which a continuous stream of data signals accompanied by timing signals. It helps to ensure that the receivers are synchronized with each other. It is useful method of teaching and learning process when large amounts of data needs to transfers from one location to the other. Asynchronous transmission is known as stop transmission, sends data from the sender to the receiver using the flow control method. It does not use a clock to synchronize data between the source and destination. But these two aspects are not followed at the time of teaching and learning process of English during the Pandemic crisis in the world over. The behaviour of language changes when certain social changes, events take place and its effect on human life. Actually the teaching English subject at primary to higher education is very challenging task for English teachers in general particularly in rural area students. e.g. lack of Internet facility and network issues for the students and teachers .Limited knowledge of digital technology among the students and teachers . Online teaching and learning process of English becomes new to rural and hilly students and teachers. , etc. , are some difficulties faced during the Pandemic. On the other hand , has some added newly vocabulary among English group of people like Sanitizer, Mask, Swab, Quarantine, Home Quarantine, PPT Kit, Work From Home, Covid Hospital, Isolation Ward, Social Distancing, Physical Distancing, Lockdown, Doubling Rate, Webinar, Virus, Contact Tracing, Face Mask, Face Mask , Hand wash, Hand gloves, Red Zone, Orange Zone, Green Zone, Positive, Negative, Area Seal, Sanitization. Although the editors have documented many coronavirus-related linguistic shifts, some of their observations are surprising. They claim, for example, that the pandemic has produced only one truly new word: the acronym COVID-19. Most of the coronavirus-related changes that the editors have noted have to do with older, more obscure words and phrases being catapulted into common usage, such as reproduction number and social distancing. They’ve also documented the creation of new word blends based on previously existing vocabulary. All the above issues are highly affected on English Language during the Pandemic.

The role of stakeholders in education in content management are undergoing changing, lesson plan is changed.

Stakeholders are individuals or institutions that are interested in the school curriculum. Their interests in degree and complexity. These stakeholders gives the shape to the school or college curriculum. They get involved in many ways in the implementation. In the educational institution, there is always a curriculum manger. They supervise teachers, admit students, procure equipment and needed for effective learning. The role of technology takes place an important role in the process of teaching and learning of English. The parent’s involvement extends from the confine of the school to the homes. But all the principals are fell down in the time of lockdown. Lesson plan in the classroom is modified when conducting online lectures to the students.

Some challenges faced by teachers and learners.

English teachers are faced the adequate problems like lack of face to face interaction with students like classroom. They do not receive proper responses and feedback from the them while online teaching method. Participation and involvement of the students are passive at the time of

delivering English class by the teachers. Sometime teachers faced challenges the topic to teach their students. They can't finish off their syllabus and evaluate the students. Traditional method of teaching moved towards online mode, so there is a need of good training to both teachers and students. With the challenges have been faced during the pandemic situation.

Conclusion-

With the help of above three aspects .it is said that there are so many aspects are affected in teaching and learning process of English language. These days, English learning and teaching has almost completely replaced traditional teaching methods due to the COVID-19 pandemic and the introduction of quarantine measures. A sharp rise in interest in distance learning methodology has raised a number of new questions and challenges samples of the average values of the respondents' self-assessment of academic performance, cognitive abilities (namely concentration and memory), progress in performing oral assignments. However, it should be noted that they still turned out to be higher than the marks obtained in classroom teaching. Students were interviewed for possible factors influencing the reviewed teaching modes effectiveness.

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Organic Fruits: Sustainable Development for Better Future

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Abstract

COVID-19 disease targeted the vulnerable immune systems in humans causing large-scale loss of human life all over the world. Thus the post-pandemic world has become highly conscious regarding the importance of a healthy immune system. Seasonal fruits play a vital role in building up and sustaining a healthy immune system. They are a crucial part of nature's perfect designs for sustainable life. The present paper enlightens on the importance of organic fruits from the Shivaji University campus as a natural resource with the potential to develop a sustainable ecosystem that can create win-win-win opportunities for the university, environment, and stakeholders. It can achieve individual health and community prosperity with an infusion of talent at the university campus. In this paper estimate quantity of five seasonal fruits, their importance, their respective market demand, and entrepreneurship skills education through the horticultural model are the core ideas. These sturdy, organic, naturally grown, seasonal fruits have the potential to be established as our own 'SUK Super Organic Fruits Global Brand'.

Keywords: Organic Fruits, Sustainable Ecosystem, Horticultural Model, Global Brand

Introduction

Universities all over India have vast campuses with huge untapped land and water resources. Similarly, the 853 acres of our huge Shivaji University campus have vast untapped land and water resources that embody trees of many indigenous seasonal fruits. But, till today, most of them have remained unused. A gap was noticed in between valued natural products and their potential consumers at the same place just with the missing connecting link between them. The idea is to make the Students a connecting link between these two. Hence Study was conducted to Estimate the current quantitative availability of these seasonal fruits, Derive an overall tentative cost-benefit analysis of the complete economic model, and construct an entire model of the sustainable supply chain of these organic fruits by the interested multi-disciplinary students of the university along with their regular coursework here. The vast scope is noticed for its development in the future.

Objectives: The objectives of the present study are:

- 1) To state the importance of a locally available sturdy, organic, naturally grown, seasonal fruits.
- 2) To study the role of these seasonal fruits in maintaining healthy immunity and sustainable life.

Materials And Methods:

The duration of the study was of two months summer holidays 2021. During these two months the researcher himself by Working for 3 hours daily {from 6 AM to 9 AM} from the university campus handpicked, processed, packed, and supplied the fresh fruits in small plastic boxes to almost 50 families staying inside the campus under the brand name 'SUK Super Organic Fruits'. The five fruits chosen for the study were mango, Jamun (Black Plum), tamarind, manila tamarind, and coconuts. No charges were taken from the beneficiaries but it was noted that the products were highly appreciated by all the beneficiaries, and an oral inquiry with them made it clear that the beneficiaries are willing to pay higher prices for other high-end natural fruits like mulberries, custard apples, various types of nuts and medicinal herbs that can be made easily available from the campus gardens, thus improving the scope of the products.

Results:

Table 1: showing the outline of the experimental business model of organic fruits produced and marketed during 2 months summer season in the year 2021 (March 10 to May 10), by a single person team (the first author himself) representing the availability and marketability of the product

Service	Specification
Total fruits harvested in 2 months duration by single person team, by working for just 3 hours daily	54 boxes of mangoes – 3 kg each 39 boxes of Jamun (black plum) – 2 kg each 73 boxes of tamarind – 3 kg each 16 boxes of manila tamarind – 1 kg each 131 green coconuts In total - 182 boxes and 131 coconuts
Estimated least possible price of fruits per kg	Mango = Rs. 33.33, Jamun = Rs. 50 Tamarind- Rs. 25, Manila Tamarind – Rs. 50
	Coconut – Rs. 20
Service	Specification
A capable total that can be earned from the sale of these 182 boxes and 131 coconuts	Rs. 17,112
Max. Input cost per box	Considered approximately 40% of the total money earned including workforce charges, price of empty boxes, cello tape, black naming markers, transport, etc.
Total input cost for 182 boxes and 131 coconuts	Rs. 6844
Total profits	Rs. 17,112 - 6844 = 10,268
benefit to cost ratio	1.6
University treasury share	Rs. 3422
Working students share	Rs. 3422
Share to promote such new innovative ideas for benefit of all	Rs. 3422

Discussion:

❖ **Organic Fruits At The Campus And Their Importance:**

1) MANGO:

- Scientific name – *Magnifera indica*
- The mango is a very popular fruit hailed as 'king of fruits' in Vedas and referred to as the 'food of the gods'.
- Various parts of the mango tree are used for more than 4000 years in ayurvedic medicines as a laxative, an astringent for toning lax tissues, an antiseptic, a diuretic, to promote digestion, to improve sweating, to expel internal body parasites and worms, etc (Johnson., 2002).
- Many studies indicate mango possessing anti-oxidant, anti-diabetic, anti-viral, anti- inflammatory, anti-fungal, anti-bacterial, anti-helminthic, anti-parasitic, anti-tumor, anti-bone resorption, antipyretic, anti-plasmodic, anti-allergic, anti-HIV, anti-diarrheal, anti-microbial, hypotensive,

cardiotonic, hypolipidaemic, gastroprotective, hepatoprotective, immunomodulation have been studied (Shah *et al.*, 2010).

- Thus consumption of mango during the season can help to maintain immunity and recover from other ailments for sustainable health and disease-free life.



Image 1: Mango resources in the university campus

Jamun (Black Plum):

- Scientific name – *Syzygium cumini*
- Ripe Jamun fruits are used for making health drinks, jellies, preserves, squashes, and wine (Warrier P., 1996).
- Jamun seeds are used to treat a range of ailments, most importantly diabetes mellitus (Sagrawat H., 2006).
- Besides Jamun was also reported for its anti-inflammatory, anti-oxidant, anti-microbial, anti-HIV, anti-bacterial, neuropsychopharmacological, anti-fungal, anti-leishmanial, scavengers of nitric oxide and free radicals, anti-fertility, anti-diarrheal, anti-ulcerogenic, anorexigenic, radioprotective, and gastroprotective activities (Sagrawat H., 2006).

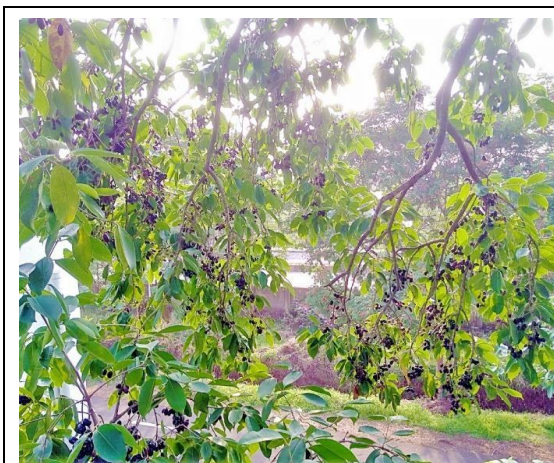


Image 2: Black plum (Jamun) resources in the university campus

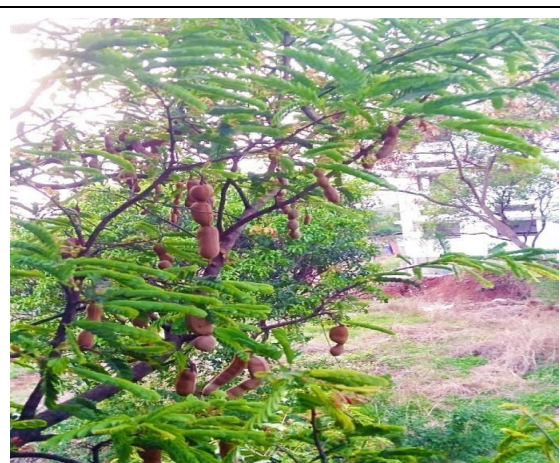


Image 3: Tamarind resources in the university campus

Tamarind:

- Scientific name – *Tamarindus indica L.*
- Anon (2008) described medicinal uses for tamarind which includes it as an anti-microbial, anti-septic, antihelminthic, anti-viral, sunscreen, astringent promoting wound healing in conditions

like asthma, boils, bacterial skin infections, cholesterol metabolism disorders, chest pain, colds, conjunctivitis, constipation, colic, dry eyes, diabetes, dysentery, diarrhea, eye inflammation, fever, gastrointestinal disorders, gallbladder disorders, indigestion, gingivitis, hemorrhoids, keratitis, jaundice, liver disorders, leprosy, saliva production, nausea and vomiting (pregnancy-related), skin disinfection/sterilization, sores, sore throat, urinary stones, sprains, swelling (joints).

Manila-Tamarind:

Scientific name: *Mimosa dulcis*

Rahima K., (2019) stated that manila tamarind consists of anti-inflammatory, anti-bacterial, anti-oxidant, anti-tuberculosis, anti-microbial, anti-diabetic, anti-ulcer, hepatoprotective, CNS depressant, analgesic, hypolipidemic, adulticidal, cardio-protective, anti-helminthic, anti-diarrheal, antiseptic, lightens skin, prevents hair loss, treats fever, cure acne and pimples, removes dark spots, naturally moisturizes skin and also used to treat venereal diseases (STD'S).

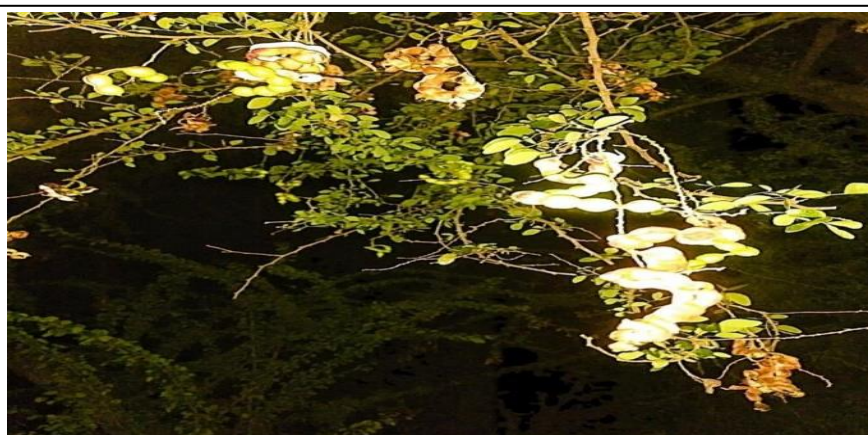


Image 4: Manila Tamarind resources in the university campus

Coconuts:

Scientific name – *Cocos nucifera*

Lima E.B.C *et al.*, (2015) stated the medicinal importance of coconuts as anti-helminthic, anti-fungal, anti-nociceptive, anti-oxidant, anti-inflammatory, anti-tumor, analgesic, anti-arthritis, antipyretic, antibacterial, anti-diarrheal, hypoglycemic, antihypertensive, cardioprotective, hepatoprotective, anti-seizure, anti-osteoporosis, and nephron-protective.



Image 5: Coconut resources in the university campus



Image 8: Early morning harvesting, grading, processing, and packaging of fresh fruits in totally hygienic conditions



Image 9: Final product wrapped in Badam (Indian almond) leaves, for maintaining its freshness and for the cushioning effect, ready to dispatch

Conclusion:

The untapped potential of SUK's natural land and water resources can be utilized for horticultural development by implementing this idea. The gardens of sturdy, sustainable, and indigenous fruit trees of commercial importance can be further enhanced on our campus. As 70% of university students come from rural backgrounds will participate with great interest in such ideas. Such gardens can be entrusted to our interested multi-disciplinary students along with their coursework duration at the university. Students will learn the basic, grass-root level, horticultural entrepreneur skills related to production, harvesting, packaging, marketing, and feedback improvement techniques related to horticulture. This idea has immense potential to be a win-win-win initiative for the university, students, campus environmental biodiversity, and society as well. It will provide fresh, healthy, nutritive, 100% organic and indigenous immune fruits with immense capacity to develop its own 'SUK SUPER ORGANIC FRUITS' brand. The whole supply chain can be managed and taken care of by its students free of cost. Income generated can be divided into 3 parts: one to the university treasury, second to the pocket money of students, and third for promoting such different innovative ideas for the betterment of the university ecosystem. It will help in maintaining the strong health and natural immunity of our workforce, thus further improving productivity,

efficiency, and sustainability of our campus ecosystem throughout the year. It will help us all to have a safe, reliable, trustworthy, and constant source of natural fruits and their products on the campus itself. The stakeholders can setup and progress the horticultural gardens on their own or lease farmlands. The stakeholders can also start their business ventures when they pass out from university as mainstream business or side business. Stakeholders can enter into processing and marketing supply chains. Stakeholders can utilize their experimental knowledge learned at the university into making any type of business successful. Our students will pass out as job creators instead of job seekers in the society thus contributing directly to the health of lakhs of people. Such initiatives can be inculcated in all the universities in the nation and have the potential to create revolutionary changes in the lives of millions of students across the country and further throughout the globe. Most importantly it will boost Horticultural Field Research immensely. Also, it will help in boosting the health of human resources in our country. It can be implemented as a 'Hands-On Training-Teaching- Learning Business Development Model' to bring out the raw talents and create the best human resources for the humanity in upcoming future. It is the Opportunity of creating the next generation of 'highly efficient', 'grass-root level learned through experience' entrepreneurs with the developed mindset and sense of perfect analysis of current markets regarding its potential demands and identifying commercially important untapped products and its supply chain gaps in their ecosystems. Unendingly beneficial for the natural flora and fauna of the campus. It will help in the sustainability of campus soil health – its microbiome, water storage capacity, and organic richness, maintaining the purity of air in and around campus, migratory birds will too further find some new scope. Many such innovative ideas can lead to vast improvement and can be achieved with ONE SINGLE STEP. In short, this initiative/vision has the potential to beautify our heavenly 'SUK' with a million more stars.

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Digital Technology : The Blessing for Economic Development in Post Corona World

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Introduction

It was this month -March ,two years ago in the year 2020 India had to lockdown it's country owing Corona Virus Pandemic. It was a never before situation to the entire world. It has been 2 years now that there have been some or the other restrictions socially and personally, the world is unlocking though.

Like the maxim goes blessing in disguise the corona pandemic on the one hand has caused severe damage to human while on the other hand proved to be a game changer form economic development perspective. The increased use of online transactions and education itself is testimony of increased use of digital technology out of no choice and this has helped reduce digital divide in Indian landscape in comparison to that of pre corona world helping in economic development in new ways.

Objectives of the Study

- 1) To highlight favorable effect of Covid -19 Pandemic in strategic approach for economic development of the country
- 2) To discuss the scope of Entrepreneurship Development through various Life Long Learning Programs and Extension Activities in post Corona world
- 3) To cast light upon the efficacy of digital technology in economic development in post Covid-19 era
- 4) To highlight the contribution of The Department of Life Long Learning and Extension , Shivaji University, Kolhapur in attaining Socio-Economic development of the people of its jurisdiction by recognizing and deploying need of the hour

Methodology of the research

Approach of the study:

The author the paper has been associated with the Department of Life Long Learning and Extension ,Shivaji University Kolhapur for almost two decades now and has been conducting various development and empowering programmes for rural areas of the Kolhapur,Sangli and Satara, the jurisdiction of the department mostly. .Hence she poses a substantial practical experience in the Extension Education. Thus the author; based on her personal work experience and in a suggestive manner, through this paper intends to put forth the contribution and future role of the Department of Life Long Learning and Extension ,Shivaji University Kolhapur in making post Corona world sustainable and resilient by helping people with the current market trend and need of the newly born way of doing businesses achieve all-round development. Since the main theme of the Research is based on Corona Pandemic and the pandemic still continues to exist at different severity level,this research paper is based on theoretical approach prepared on available information, data and literature till date.

COVID-19 : Dividing the modern world into two era

The year 2019 to the world for the first time and the year 2020 alike to many other countries to India put forth a never before situation to handle. First found in China in October 2019 the Corona Virus named as COVID-19 (Corona Virus Disease 2019) still continues to exists ,in more or less rate across the globe. Having understood the need to create physical distance between the people in order to stop the Virus from spreading the Government of India under the leadership of Hon'ble Prime

Minster Shri Narendra Modi ji declared a complete lockdown of 21 days on 22/03/2020. All the activities were ceased, wheels of the vehicles stopped, coming out of the homes except for emergency was banned, all the work was being carried out from home with the help of technology. It started as a matter of need than the preference. This was the time when Digital Technology was being used like never before. And soon it proved its utility value. There have been changes in severity, durations and impact of different waves of Covid-19 Virus but what has managed to continuously help human beings is digital technology. And it is crystal clear that it is going to be increasing in terms of its use and become indispensable part of our lives..

The Department of Lifelong Learning and Extension ,Shivaji University Kolhapur

The Department of Lifelong Learning and Extension, Shivaji University Kolhapur previously known as The Department of Adult and Continuing Education and Extension Work ,Shivaji University Kolhapur was established in 1982 by Shivaji University, Kolhapur with an objective to reach out to and make education available to masses. The department encompasses the three districts of Kolhapur, Sangli and Satara as its jurisdiction. It arranges need based, especially of short duration Continuing and Extension Education Courses. The Department conducts programmes for Leadership ,Quality of Life Improvement , Individual Interest Promotion , Human Resource Development ,various other awareness programmes. It also arranges training and orientation programmes for Life Long Education for teachers , administrative staff ,students Social Workers. The department acts as a link between Shivaji University ,Kolhapur and its affiliated colleges and people of its jurisdiction. The Department of Lifelong Learning and Extension ,Shivaji University Kolhapur has been instrumental in bringing about health, spiritual and socio-economic development of the people of its jurisdiction ,especially of rural areas, through various programmes.

Extension Education and Awareness Programmes

The term Extension Education has been defined differently. In simple words Extension Education can be said to be as imparting of knowledge beyond classroom settings reaching to the masses especially to the rural areas to educate them for their all-round development. Also the Department plays a pivotal role in spreading awareness among the rural and backward areas of its jurisdiction. During the present times of Covid-19 Pandemic it's now not only about keeping oneself safe but also about sustaining in such times of economic downfall by exploring new income generating activities. The department's different awareness programmes prove to be of great help. In India as it is noticed about 70% of the total population reside in rural areas of the country ,giving country a recognition as 'The Country of Villages'. Thus reaching Extension Education to every nook and corner of the country i.e. the farthest and remote areas is crucial for the development of the country as a whole.

Digital Technology: The Strategic Approach

Although the world has managed to surmount evil the of Covid-19 Pandemic to a greater extent the recent news about re-spreading of the virus in some part of the world are good enough to keep the world on toes to remain alert henceforth The threat of the virus is not under control completely and humanity is still vulnerable to its attack on large scale.

'Blessings of the Pandemic'; This may not be the right word to use in such global crisis that has caused millions of death. However from the development perspective it has a good side also. As the maxim goes " Blessing in disguise' the Pandemic ;with no choice; has helped the humanity for its development. The one of the major benefit can be said to be the minimization of Digital Divide. The increased usage of ICT (Internet and Commission Technology) ,Online transaction , E-learning ,Virtual meetings ,working remotely are nothing but the evidence of New Normal of digital technology becoming inherent part of day to day life. Its not that Covid-19 Pandemic invented technological tools to survive in Lockdown situation. But it has encouraged rather compelled even to the so called previously digitally illiterates to make the use of digital Technology for the survival. And thus this has left no option to people of all generations than to educate themselves to be able to

become proficient in using it further minimizing the dearth between digitally literate and illiterate members of the society. And thus positive change caused by Pandemic and so has by Lockdown has facilitated reaching out to and access to remote areas through internet technology.

Post Covid-19 world The department of Life Long Learning and Extension Shivaji University Kolhapur is making the best of the digital technology by two ways to bring about socio-economic development of the people of its jurisdiction.

- 1) **To Reach** : As a large number of people have become proficient in using digital technology arranging and conducting various Extension Education, Awareness and Life Long learning programmes through online mode has become possible for the department. With the basic understanding of how to attend online class on Mobile phone through virtual meeting platforms is helping even a illiterate person to educate himself or herself for his or her socio economic development. The department has organized various online programmes such as.wetland decoration, diwali lantern making ,soap and detergent making, online shopping, *Utane* making, *yoga and pranayam* excercises, immunity building, life skills, Laws for Women etc. during the period of restrictions and social distancing. This is not only proving to be useful in learning and development but also as cost and time saving for both the department and attendees as it requires no physical gathering at certain place .It is also turning out to be of great help for physically challenged members of the society to attend such Program as the Technology allow them to attend online mode from home or their convenient locations.
- 2) **To Teach**: A the whole world was locked down during Covid -19 pandemic was on peak the utility value of digital technology came to surface. There has been unprecedented usage of digital media in last 2 years as compare to pre Covid-19 era. The Pandemic gave momentum to Work form Home facility, new online income generating activities, Use of Social networking and business networking platforms for showcasing skills, talent and marketing products and services. Having understood the significance of digital marketing in entrepreneurship and income generation the Department of Life Long Learning and Extension, Shivaji University Kolhapur has also started conducting online programmes on training digital marketing, Social Media Marketing, Cyber Crime ,Computer Literacy to name a few. This programme are proving helpful to people of the jurisdiction especially of rural areas to showcase their products on Global Canvas through digital technology mediums and do business like never before.

Conclusion:

First found in China in October 2019 the COVID-19 still continues to exists ,in more or less rate across the globe. Having understood the need to create physical distance between the people in order to stop the Virus from spreading the Government of India under the leadership of Hon'ble Prime Minster Shri Narendra Modi ji declared a complete lockdown of 21 days. The increased usage of ICT (Internet and Commission Technology) ,Online transaction , E-learning ,Virtual meetings ,working remotely are nothing but the evidence of New Normal of digital technology becoming inherent part of day to day life. Post Covid-19 world The department of Life Long Learning and Extension Shivaji University Kolhapur is making the best of the digital technology to bring about the socio-economic development by keeping pace with the time.

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A Review of Agricultural Export in Pandemic Period

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Introduction

India, with a large and diverse agriculture, is among the world's leading producer of cereals, milk, sugar, fruits and vegetables, spices, eggs and seafood products. Indian agriculture continues to be the backbone of our society and it provides livelihood to nearly 50 per cent of our population. India is supporting 17.84 per cent of world's population, 15% of livestock population with merely 2.4 per cent of world's land and 4 per cent water resources. Export has been assigned a crucial role in the country's economic development. It is a well-established fact that export need to be increased at a higher rate to achieve national self-reliance and reduce the dependence on internal assistance. In this context, export promotion assumes greater importance. Mr. C. N. Purshattaman Nair, well known scholar observes that, "the export promotion in India is confronted with many problems. Most of the problems can be easily tackled internally, if we put earnest efforts in this direction. India has greater opportunities in export marketing. What is needed is an effective export culture with an inbuilt mechanism of export promotion. A shift is required to be made in country's exports from less processed to more processed and value added products. In order to generate higher foreign exchange earnings, more value addition is to be made in our exportable products."

The Government Export Policy has been described by Mr. Balgopal as "the policies adopted were continuously refined to the conditions within, as well as outside, the country. In 1966, rupee was devalued in an effort to make it more representative in the international market. During 1970s, 1980s, and 1990s, the export policy resolutions for the respective time frame were adopted to guide the export efforts. As a result of the various policy measures under taken by the Government, export has since undergone a substantial change in respect of value composition of products and direction of trade" The surplus is earned of late.

Generally, the major problems of agricultural export marketing rise from environmental differences created by geographical factors, cultural, political and economic conditions. These factors may be classified as

Present Position of Agricultural Export

India broke into the top 10 list of agricultural produce exporters in 2019 with a sizeable share in the export of rice, cotton, soya beans and meat, according to a World Trade Organization (WTO) report on the trends in world agricultural trade in the past 25 years. In 2019, Mexico and India, with 3.4% and 3.1% share in global agro exports, respectively, replaced Malaysia (7th) and New Zealand (9th) as the largest exporters, while the US, which topped the list in 1995 (22.2%), was overtaken by the European Union in 2019 (16.1%). The US's share fell to 13.8% in 2019. Brazil maintained its ranking as the third largest exporter, increasing its share from 4.8% in 1995 to 7.8% in 2019. China climbed from the sixth spot in 1995 (4%) to fourth in 2019 (5.4%).

The top rice exporters in 1995 included Thailand (38%), India (26%) and the US (19%). In 2019, India (33%) overtook Thailand (20%) to top the list, while Vietnam (12%) overtook the US to the third spot. The top 10 exporters accounted for more than 96% of exports in both 1995 and 2019.

India is also the third-largest cotton exporter (7.6%) and the fourth-largest importer (10%) in 2019. It had not featured in the top 10 list in 1995. In the largest traded agro product, soya beans, India (0.1%) has a meagre share, but was ranked ninth in the world. In the "meat and edible meat offal" category, India was ranked eighth in the world with a 4% share in global trade. While India was the seventh-largest wheat and meslin exporter in 1995, it does not feature in the top 10 list in 2019.

However, India lagged behind as a value-added contributor to world agricultural exports. India's share of foreign value-added content in its agricultural exports was also low at 3.8% primarily due to high tariffs on agro imports to protect the domestic market.

Objectives of the study:

1. To analyse the agricultural export trend in pandemic period
2. To measure the growth in agricultural export in pandemic period.
3. To analyse the problems in agricultural export in India.

Research Methodology:

The present research paper has been depending upon the secondary data. The secondary data has been collected from various reference books, published government report, unpublished research reports, project report, unpublished research thesis, websites, annual reports etc. The statistical tools i.e. simple growth rate, percentage etc. has been used. The limitation of the study is that, the agricultural export included only fresh fruits, vegetables, onion, fresh grapes, mango and other fruits etc. The period of the study is 2015-16 to 2017-18.

Table No. 1.1
Agricultural Export in Pandemic Period
(In \$ Billion)

S.No	Commodity	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	Growth	Post Covid
1	Rice (Other Than Basmati)	2,525.19	3,636.60	3,038.16	2,031.25	4,794.54	189.87	236.04
2	Rice -Basmati	3,208.60	4,169.56	4,712.44	4,372.00	4,018.64	125.25	91.92
3	Sugar	1,290.71	810.9	1,360.29	1,966.44	2,789.97	216.16	141.88
4	Cotton Raw Includ. Waste	1,621.11	1,894.25	2,104.41	1,057.34	1,897.20	117.03	179.43
5	Fresh Fruits	743.23	761.79	795.29	770.25	765.62	103.01	99.40
6	Fresh Vegetables	863.12	821.76	812	651.68	721.47	83.59	110.71
7	Wheat	66.85	96.72	60.24	62.82	549.16	821.48	874.18
8	Sugar	1490.52	1290.71	810.9	1360.29	1964.79	131.82	144.44
9	Cashew	786.93	922.41	654.43	566.82	420.43	53.43	74.17
10	Tobacco Manufactured	324.31	340.37	411.04	374.77	359.03	110.71	95.80
11	Alcoholic Beverages	298.9	326.67	300.91	232.68	330.09	110.43	141.86
12	Dairy Products	253.73	303.05	481.55	280.43	321.95	126.89	114.81
13	Pulses	191.05	227.75	259.35	213.67	265.53	138.98	124.27

Source: <https://apeda.gov.in>

The above table shows the agricultural export in India during 2016-17 to 2020-21. In this table shows that, Rice, Cotton and Sugar has been showing increasing trend. The Fresh vegetables shows increasing trend with growth of \$ 110.71 Bn as compare to pandemic period 2019-20. Wheat export showing surprising growth with \$ 874.18 bn as well as Alcoholic beverages shows increasing trend with growth of \$ 141.86 bn as compare to pandemic period 2019-20. We conclude that, the overall agricultural export showing increasing trend during the pandemic period. The Ministry of Food Processing Industries shows that the contribution of agricultural and processed food products in India's total exports is 11%.The majority Primary processed agricultural commodities share is more.

Conclusion:

The overall agricultural export showing increasing trend during the pandemic period. Rice, Basmati rice, Sugar, Cotton, Cashewnut, dairy Products, Wheat, Alcoholic Beverages shows growth in export during pandemic condition. India's export earnings will increase by focusing more on value-added processed food products rather than primary processed agricultural commodities. From 2015-16 to 2019-20, the value of agricultural and processed food increased significantly from \$17.8bn to \$20.65bn. The Indian agricultural economy is shifting from primary to secondary agriculture where the focus is more on developing various processed foods. However there is some challenges like Lack of comparative advantage, difficulties and non-tariff measures, Export Inspection Agency being lengthy and costly, Lack of strategic planning of exports by most State governments, Lack of a predictable and consistent agricultural policy discouraging investments by the private sector, Prohibition of import of meat- and dairy based-products in most of the developed countries etc.

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Green Hydrogen : Future of Sustainable and Resilient Energy

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Abstract:

The fuel that containing hydrocarbons that area unit generated from remains of the dead and decay of plants and animal that area unit buried underground for several years area unit fuel. Burning fossil fuels will have an effect on the setting, air quality, weather conditions, and human health. If we have a tendency to considering exchange the fuel, the element fuel is commonly the fuel that folks assume that. The compressed element fuels fits well with existing fuel infrastructure and element has been shown to fuel cars, buses, boats, trains and even craft. An element fuel additionally plays a lot of vital roles of providing backup power to generators. Inexperienced element could be a model fuel as a result of it produces zero emissions. during this review paper, the role of element as an energy carrier element economy structure, potential of element economy, element production ways, element application and also the economic and environmental importance of element as a viable fuel choice post covid-19 pandemic were mentioned. There'll be a surge in demand and investment for element economy post Covid-19.

Keywords: Hydrocarbon, Decay, electrolysis, anaerobic respiration, Covid-19

Introduction

What is Hydrogen Fuel:

We know that the hydrogen is invisible odourless gas. When Water is consumed in fuel cell the hydrogen fuel is formed. The formed Fuel is considered as the clean fuel. There are various shades of hydrogen i.e. Blue hydrogen Green hydrogen Grey hydrogen, yellow hydrogen etc. What is the difference between these colors of hydrogen and why we consider the green hydrogen is the cleaner as compare to all fuel let us see!

Hydrogen could be a powerful fuel which might be created by varied ways like gas, atomic energy, biomass and renewable power together with star and wind. chemical element is claimed to be Associate in Nursing energy carrier that may be accustomed store, move and deliver energy created from alternative sources. It is often created from varied domestic resources like gas, atomic energy, biomass, and renewable power together with star and wind. owing to these qualities it's a pretty fuel possibility for transportation and electricity generation applications. It may be utilized in cars, in houses, and in varied a lot of applications. Worldwide, political can is building the vision of net-zero emission society. Europe desires to become the primary net-zero continents and recently China has jumped on the net-zero bandwagon, targeting 2060. however, the requirement is heap over that. In 2020, the sharp emissions reductions in COVID-19 occurred and it ought to be continued if we wish to realize the one.5 degrees target.

Brown hydrogen is formed by through a burning of coal gasification. So it can't be considered as pollution free fuel. The grey Hydrogen is obtained from natural gas throws of carbon waste. Hence we can say that the production of brown or grey hydrogen results production of large amount of carbon dioxide. Blue hydrogen is cleaner than that two shades of hydrogen for that emission of carbon are captured and stored, it can also be reused. On other hand, water molecule is breakdown electrolytically to form oxygen and hydrogen. Which more safe and clean fuel ever.

Properties of hydrogen as artificial and transport energy.

Hydrogen is a colourless, odourless, tasteless gas and nontoxic gas plant in the air at attention of about 100 ppm (0.01) (Suban et al., 2001). It's the lightest known substance it's 14.4 times lower thick than air. It's the most abundant element in the macrocosm although in combine form, making up to 75 of normal matter by mass and over 90 by number of titles (Mariolakos et al., 2007) to give

energy, hydrogen can be either burned or replied chemically at veritably high conversion effectiveness and will produce nearly little/ no emigrations. Like any other energy source, hydrogen has both strengths and sins supported its chemical and physical parcels. Below are the parcels of hydrogen compare to natural gas and gasoline as artificial and transport energy

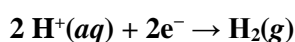
Properties Molecular weight (g/mol)	Hydrogen 2.016	Natural Gas 16.04	Gasoline ~110
Mass density (kg/NAm³) at P=1, T=0°C	0.09	0.72	720-780
Mass density of liquid H₂ at 20 K (kg/NAm³)	70.9	-	-
Boiling point (K)	20.2	111.6	310-478
Higher heating value (MJ/kg)	142.0	55.5	47.3
Lower heating value (MJ/kg)	120.0	50.0	44.0
(assumes steam is produced) Flammability limits (% volume)	4.0-75.0	5.3-15.0	1.0-7.6
Detonability limits (% volume)	18.3-59.0	6.3-13.5	1.1-3.3
Diffusion velocity in air (m/s)	2.0	0.51	0.17
Ignition energy (mJ)			
At stoichiometric mixture	0.02	0.29	0.24
At lower flammability limit	10	20	not available
Flame velocity in air (cm/s)	265-325	37-45	37-43
Toxicity	Nontoxic	Nontoxic	Toxic above 50 ppm

Process of formation of Green Hydrogen:

1) Electrolysis of water: A DC power is provided to the 2 electrodes. Which square measure made from inert metal like atomic number 78 or metallic element. And it placed within the water. element can separated at cathode and at anode the gas can seems. Consistent with the Faradaic potency the gas is generated is that the half quantity the quantity the number of element and amount of each the gasses is proportional to the full electrical phenomenon conducted by the answer.

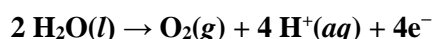
Electrolysis of pure water wants excess energy among the type of over potential to beat varied activation barriers. Whereas not the external energy water molecule do not show electrolysis reaction or a jiffy is very slow, due to the restricted self-ionization of water. The physical phenomenon of pure water is regarding one millionth that of salt water. Several electrolytic cells have lack of needed electro catalyst. On addition of solution like salts, associate degree acid or a base the potency of electrolysis will increase. In pure water at the charged cathode, a discount reaction takes place, with electrons (e⁻) from the cathode being given to H cations to create H gas. The 0.5 reaction, balanced with acid, is:

Reduction at cathode:

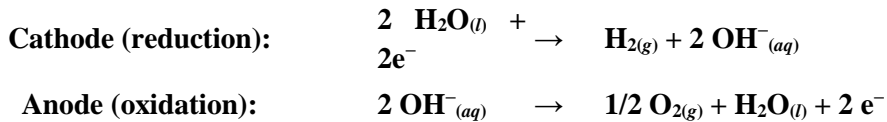


At the positively charged anode, an oxidation reaction occurs, generating oxygen gas and giving electrons to the anode to complete the circuit

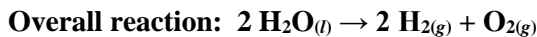
Oxidation at anode:



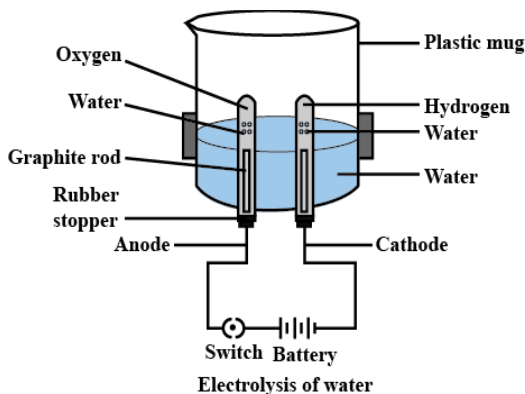
The same half-reactions may also be balanced with the bottom as listed below. Not all half-reactions should be balanced with acid or base. Many do, just like the oxidation or reduction of water listed here. to feature 0.5 reactions, they need to each be balanced with either acid or base. The acid-balanced reactions predominate in acidic (low pH) solutions, whereas the base-balanced reactions predominate in basic (high pH) solutions.



Combining either half reaction pair yields the same overall decomposition of water into oxygen and hydrogen:

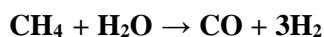


The number of gas molecules created is so doubly the quantity of atomic number 8 molecules. assumptive equal temperature and pressure for each gases, the created gas has, therefore, doubly the degree of the created atomic number 8 gas. the quantity of electrons pushed through the water is doubly the quantity of generated gas molecules and 4 times the quantity of generated atomic number 8 molecules.

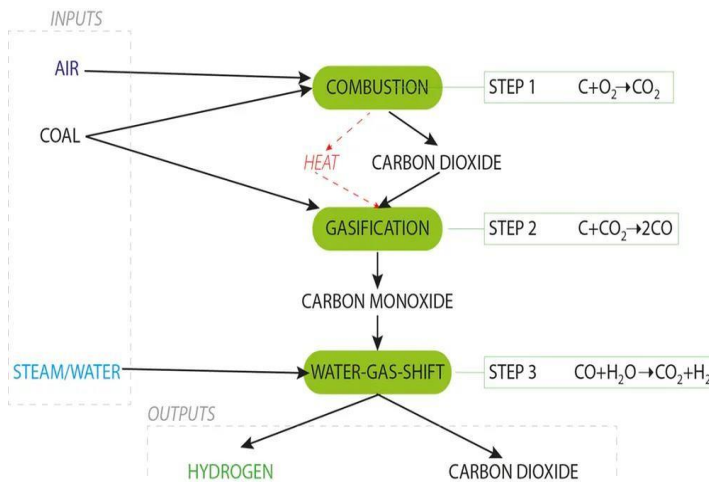
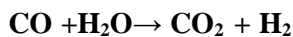


Steam reforming of Natural Gas

Steam methane reforming (SMR) could be a method within which the gas or different paraffin streams, like biogas or lowland gas, reacts with steam within the presence of a catalyst (usually nickel) to supply element and monoxide. it's price mentioning that, gas reforming produces for over ninety you look after element production worldwide and remains the foremost usually used methodology for element production. This method consists of heating the gas to between 700-1100 °C within the presence of steam and a nickel catalyst. The ensuing reaction breaks up the paraffin molecules and forms monoxide CO and element H₂.



The carbon monoxide gas can then be passed with steam over iron oxide or other oxides and undergo a water gas shift reaction to obtain further quantities of H₂.



The downside to this process is that its major by-products are CO, CO₂ and other greenhouse gases. Depending on the quality of the feedstock (natural gas, rich gases, naphtha, and others), one ton of hydrogen produced will also produce 9 to 12 tons of CO₂.

According to the Director of Energy of USA (2010), SMR is approximately 72% efficient in hydrogen generation when starting with natural gas. Conversely, on a lower heating value basis, SMR produces a hydrogen-rich gas that is typically on the order of 70–75% hydrogen on a dry mass basis, along with smaller amounts of methane (2–6%), carbon monoxide (7–10%), and carbon dioxide (6–14%)

In addition, SMR isn't a lovely production route for a developed element economy. This can be thanks to the very fact that the order-of-magnitude increase in demand would spend our finite reserves. Moreover, the concentration of gas reserves in comparatively few regions of the planet could lead on to political science tension and unstable provides. Environmental impact is additionally a significant concern as a result of reforming fossil fuel to element produces the maximum amount pollution and dioxide as burning the fossil fuel directly. Generation of element from fossil fuel may be a well-established method. If enough quantities are made to power the world's cars and light-weight trucks it might strain the world's offer of standard methane series, creating fossil fuel as geopolitically sensitive as associate oil.

HYDROGEN PRODUCTION FROM NUCLEAR ENERGY

Thermochemical water splitting:

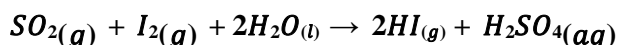
Thermochemical water splitting uses high temperatures from nuclear power plant reactions to produce hydrogen and oxygen from water. Thermochemical water splitting processes use high-temperature heat (500°C or more) to initiate a series of chemical reactions that generate hydrogen. The chemicals used in the process are reused within each cycle, creating a closed-loop that uses up only water and produces hydrogen and oxygen.

Thermochemical water splitting cycles have a major advantage of not requiring catalysis to drive individual chemical reactions. Except for water, which is the material source of hydrogen production, all chemicals used in the thermochemical cycle can be recycled. Other advantages of thermochemical water splitting cycles are little or no need for O₂ – H₂ separation membranes, reasonable temperature requirement range of 300-1000°C and zero or low electrical energy requirement.

Being fully developed and demonstrated in Japan and the US, the S-I cycle (Sulfur-Iodine cycle) is considered as technically viable. Though there are numerous setbacks associated with this method of hydrogen production.

The product gases (H₂O and SO₃) are separated heated up to 800-900°C. Then SO₃ gas is decomposed thermally according to

After separation from O₂, SO₂ undergoes an exothermic reaction with iodine and water which occurs at low temperatures spontaneously:



Lastly, HI thermally decomposes into H₂ at temperatures around 420-450°C: Since there are not any facet reactions happening throughout the S-I cycle, it's moderately easy to separate and apply the chemicals employed in Reactions (3)-(6). As a result of the comparatively high reaction temperature necessities of S-I cycles, there don't seem to be several property thermal energy sources out there to drive the individual reactions within the cycle. Nuclear, focused star, and biomass combustion heat is listed as potential property thermal energy sources to drive the S-I cycle reactions. Within the hybrid version of S-I cycles, the hydrogen-generating reaction is supported electrochemically (Dincer and Acar, 2014).

Hydrogen Production From Renewable Energy

Biomass Gasification:

Biomass sources like wood and agricultural merchandise, solid wastes, lowland gas and biogas, ethanol, biodiesel so on will be processed for the assembly of H. Biomass conversion technologies are divided into 2 categories: thermo-chemical and organic chemistry processes. Thermochemical processes tend to be more cost-effective as a result of they'll be operated at higher temperatures and thus win higher reaction rates. They involve either chemical change or transformation (heating biomass within the absence of oxygen) to supply a hydrogen-rich stream of gas called "syngas" (a mix of H and carbon monoxide) (Sharma and Ghoshal, 2015). the biomass chemical change has not been ready to turn out H on an outsized scale at a competitive worth. yet, this methodology might still be wont to generate energy from domestic and agricultural waste in an exceedingly clean method.

One technique of generating gas from biomass begins with process the organic materials at high temperatures, however while not combustion. once combined with O and steam, the reaction ends up in CO, CO₂ and gas . This method chemical change chemical action process will take the CO that's made and mix it with extra steam to supply extra gas and CO₂, that is recycled through the natural plant respiration cycle and generate extra biomass. various choices might involve biological agents, like anaerobic bacterium or fermentation, or shift, that uses a similar method chemical change chemical action process, however while not the presence of O. analysis during this field is suggesting new ways in which to enhance potency and increase the implementation of gas generation from biomass. in conjunction with analysis that shows that biomass feedstock usable for energy production ought to be plentiful, the longer term usage of gas production techniques associated with biomass ought to still grow. wanting toward any opportunities, analysis being conducted guarantees to develop microorganism and microorganism actors that increase production potency, whereas extra efforts specialize in ways to lower each production prices and also the prices of getting the feedstock.

Hydrogen Storage

Hydrogen gas has a good energy density by weight, but poor energy density by volume against hydrocarbons; hence it requires a large storage facility. Storage of Hydrogen gas is one of the key regions where huge advancements are required to hasten the utilization of hydrogen in transportation, refining, power generation applications and in chemical industries. There are several ways of storing hydrogen, but the widely recognized methods are: High-pressure storage in the gaseous form, very low-temperature storage in the liquid form and hydride-based storage in the solid form

Hydrogen stored as compressed gas in high-pressure tanks

The easiest thanks to decrease the degree of a gas, at constant temperatures, is to extend its pressure (Boyle's law). Storage of gas generally needs hard-hitting tanks (200 to 350 bar cylindrical tank pressure), though systems with a minimum of 700 bar capability area unit presently below development. These cylinders/tanks area unit being made of (i) steel (ii) metallic element core sheathed with fibreglass and (iii) Plastic core sheathed with fibreglass. Compressed gas storage systems are incontestible in many example electric cell vehicles and area unit out there commercially at low production volumes. whereas compressed gas generally is hold on at near-ambient temperatures, "cold" (sub-ambient however bigger than a hundred and fifty K) and "cryogenic" (150 K and below) compressed gas storage area unit being investigated because of the upper gas densities that may be achieved at reduced temperatures

Hydrogen Stored as Liquid in tanks

Another industrial technique for storing most element a really } restricted volume is to convert element gas to liquid element by cooling it to a very temperature.

Hydrogen turns into a liquid once it's cooled to a temperature below -252. 87 °C. At -252.87°C and 1.013 bars, liquid element contains a density of about to seventy one kg/m³. At this pressure, five

weight unit of element are often kept during a 75-litre tank. So as to keep up liquid element at this temperature, tanks should be absolutely isolated. Currently, storing element within the liquid kind is being reserved for sure special applications, in advanced areas like spaceflight

Hydrogen stored as solid

The storage of atomic number 1 in solid kind that's hold on in another material is additionally a promising avenue of analysis. Ways for storing atomic number 1 in solid kind area unit techniques involving absorption or sorption mechanisms of atomic number 1 by a fabric. One example is to make solid golden hydrides through the reaction of atomic number 1 with bound metal alloys. This absorption is that the results of the reversible chemical combination of atomic number 1 with the atoms that comprise these materials. The foremost promising materials area unit composed of metal and alanates. Solely an occasional mass of atomic number 1 will be hold on in these materials that are presently the key drawback of this technology. In fact, the simplest materials presently generate a magnitude relation of atomic number 1 weight to the full weight of the tank of less than two to three. Before considering large-scale applications, it's conjointly vital to master bound key parameters like dynamics (cell performance), the temperature and pressure of the charge and discharge cycles of atomic number 1 in these materials.

Hydrogen Application

Vozniuk et al., 2019 revealed that hydrogen is one of the key starting materials used in the chemical industry with an annual worldwide production of about 50 million tons, currently, the largest amount ($\approx 95\%$) of the total manufactured hydrogen is consumed mainly by two industrial segments: the chemical sector, accounting for 65% of the market share (ammonia and methanol synthesis $\approx 63\%$; liquid hydrocarbons and higher alcohols synthesis $\approx 2\%$) and the refining sector, which accounts for 30% of the market share (hydrotreating and hydrocracking processes for obtaining high-grade petrochemical products). The other present uses, with $\approx 5\%$ of the total consumption, include the food industry (sorbitol and fat processing), the metallurgical industry (direct reduction of iron ore), the semiconductor industry and so on. Post covid-19 lockdown, there will be more demand and investment for hydrogen economy most especially in transport and industrial sectors as fuel source. Covid-19 pandemic has automatically reset world energy consumption toward hydrogen economy. Global environment will sustain natural balance of earth for healthy and clean atmosphere as experienced during the covid-19 lock down with hydrogen economy.

The economic and environment importance of hydrogen as a viable fuel option postCovid-19 pandemic

Australia, Germany Norway, Denmark, United States, Canada, South Korea and Japan have made massive investment toward hydrogen economy, more seriously energy and environmentally concern countries are also actively developing and investing their own (Abe et al., 2019) because the future of world energy consumption is toward hydrogen economy. In order for hydrogen to be considered an economically viable fuel option it must be produced and delivered at a stable price that is competitive with the current price of refined petroleum (gasoline/diesel). Furthermore, the cost of hydrogen economy infrastructure development must be considered, the availability and accessibility of hydrogen must be realized through production and distribution capacity. Some existing pipelines could even be modified to support hydrogen economy for distribution. However long-distance distribution network may not be required as hydrogen can be produced regionally where it is needed. One major benefit of hydrogen is that it can be produced from a variety of primary sources and different production process as earlier discussed; therefore accessibility of hydrogen could be almost anywhere in the world. Another benefit of hydrogen over other fuel option is that after combustion/reaction product is water vapour there is no carbon foot print or greenhouse gases. The world will be in its natural state as experienced during covid-19 locked down. Using hydrogen as feasible fuel option will not change our transport system as hydrogen can be used as

fuel directly in an internal combustion engines not much different from engines used with gasoline (Balat, 2005).

As viable fuel choice for industrial and transport sector, chemical element has peculiar properties that embrace speedy burning speed which boosts performance of engines, high amount with non-toxicity and gas forming potential. A chemical element engine is simple to begin in extreme weather condition as a result of its stay in aeriform state till it reaches a coffee temperature like 20K (Ma et al., 2003). though engine combustion merchandise of chemical element square measure clean; consisting of water and tiny quantity of N oxides (NOX), since there's very little or no presence of volatile organic compounds a gradual state of natural balance can continuously be achieved wherever relative low gas exist naturally within the layer of the planet. Production chemical element from electrolysis from cacophonous of water may end up to elevated chemical element level which can enhance smart respiratory for land and aquatic life. With chemical element as fuel choice the planet can continuously be its recent wild and human health won't threaten. lifetime of individuals wherever chemical element economy is entrenched is probably going to extend. the world will become hopeful of climate neutrality within the years ahead with chemical element economy. A chemical element economy has long terms goal of the many nations, will doubtless confer and be an answer to energy security, alongside monetary, environmental and health advantages to the planet.

Conclusion:

No doubt Post covid-19 pandemic will be a time for global energy shift toward hydrogen economy. Hydrogen economy will make the world better place for improved public health living, the environment will be devoid anthropogenic pollutions from fossil fuel and there will be sustainable earth balance. Hydrogen economy comes with increase in oxygen level in atmosphere. Life span of living matter may likely to improve. Hydrogen economy will lead to decarbonization of the atmosphere as there are no carbon footprint in the hydrogen engine emissions. With hydrogen economy there is no political power tussle and economic unrest as hydrogen fuel could be produce anywhere in the world. Hydrogen economy has the potential of more jobs creation and other economic benefits. It can result to stable, inexhaustible energy supply .Electricity becomes cheap and energy is readily accessible. The world will be a better place and relatively at peace. Hydrogen economy is the only energy resources that can meet world energy needs, its emission goal and find appropriate solution for region of the world. Hydrogen economy is a more reliable and resilient energy system.

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Reflections of Post-Apocalypse in Douglas Coupland's *Girlfriend in a Coma*

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Abstract:

The present paper deals with the reflections of post-apocalyptic world in Douglas Coupland's novel *Girlfriend in a Coma* which presents the life of its characters after a plague like situation fulfilling the dream of Karen and destructing the entire planet. The life after apocalypse is reflected since the beginning of the novel which opens with the presentation of the ghost called Jared who explains the entire situation. The characters experience one year of plague sleep where they got a chance to reflect upon their eighteen years back life which seemed to be meaningless for them. They also came to know that they are chosen to survive from the plague only because they have to restore the faith in God. The reflections in the novel are significant in the present pandemic situation, where it is possible to restore the life only with the retrospection and faith in humanity. The paper is divided in two sections. The first section deals with the introduction and the second section analyses the novel and concludes the paper with research findings.

Keywords: *apocalypse, pandemic, drug, coma, post-apocalypse, etc.*

Section I

Douglas Coupland is one of the significant writers in the Canadian literature who has succeeded in exploring the tale of the modern man through his literary artifacts. His novels explore the traumas of postmodern society along with its socio-economic dimensions. The postmodern world is filled with the media and technology, where human being is leading a mechanical life in isolation and always in the fear of destructions. The influences of technology on human life are so deep that now it seems impossible to imagine a life without it. Its tremendous speed has bridged the geographical gap between the continents and very radically amalgamated the various cultures of the world. However, technology does not come assurance of development; but, it brings with it the continuous threat of eradicating human world. All Coupland's novel depict the disappointed generation who have lost its hope of survival. His first novel, *Generation X* (1991) tells the story of three characters who decide to live a life in the desert of Palm Springs. His next novel *Shampoo Planet* narrates the story of twenty years old Tyler Johnson, whose all career opportunities are shattered in the postmodern world. Published in 1994, *Life After God* depicts the shattered world, where the sense of love and beauty is replaced by the harsher realities of life. *Microserfs* records the world of six young computer geeks surrounded by the television, fast food and e-mail. *Miss Wyoming* (2000) explores the life of the two characters, who suddenly disappear to get rid of their self-made social identities by taking advantage of a very weird situation.

Girlfriend in a Coma (1998) depicts the story of a group of friends, who find themselves in the post-apocalyptic situation where the world of cultural disillusionment lead them to frequent drug and alcohol activities. The novel opens with Karen's awakening from the coma state after eighteen years. She has fallen into a coma after making a love for the first time with Richard and subsequently gives birth to a child after nine months. During that period her friends build their career as models, film special effect technicians, doctors and demolition experts and later reunite while working on a conspiracy-driven supernatural series. After Karen's awakening they tell her all that has happened during her coma state. The next part of the novel presents the destruction of the world through epidemic plague, from which Karen and her friends are chosen to survive in order to rebuild the world.

Section II

Girlfriend in a Coma presents the post-apocalyptic world where six characters are chosen to survive only to restore the faith of the world. The narrative unfolds the events of the life of its protagonist Richard and his friends, who struggle to find meaning to their lives. Karen, who is gifted with the glimpses of divine revelation, sees a frightening vision of future before lapsing into a coma. She describes her vision to Richard revealing lack of meaning into the society. She expresses her vision as: “We were all there. I could see us – we weren’t being tortured or anything – we were all still alive and all . . . older . . . middle-aged or something, but . . . ‘meaning’ had vanished. And yet we didn’t know it. We were meaningless” (10). After that vision, Karen lapses into a coma sleep, the incident that leads Richard to feel isolated in life.

Karen awakes after seventeen years of her coma but now her life is merely an illusion and tries to stress the mystery behind her awakening. Now she feels that she is not really alive but somewhere in a dream. She remembers the last day before falling into the coma which she has spent with Richard. She finds the difference between the world of past, which she has left before her coma, and the world of present and opines that the present world is full with: “A lack of convictions – of beliefs, of wisdom, or even of good old badness. No sorrow; no nothing. People – the people I knew – when I came back they only, well, *existed*” (215-216). The people are only existed like animals and plants. There are efficient people in the world but they are leading efficiently blank life. Karen tells the traumatic life of her friends to Jared, a dead friend appeared in the form of ghost after the plague sleep of the world, and explains that how they are caught in the meaninglessness existence.

After one year of the plague sleep of world, Richard and his friends, who are chosen to survive, cannot make any sense of their survival. They are living with the same trauma but this time only searching for food and in listless gossips or chats. Richard points out their lifeless existence as: “We really don’t seem to have any values, any absolutes. We’ve always maneuvered our values to suit our immediate purposes. There’s nothing large in our lives” (258). However, Jared explains them a divine plan, where they have to achieve a big goal. Their lives are not aimless in the post apocalyptic world. He tells them that their aim is to make aware the people about the divine power in the world, which may restore their faith on God. Thus, the novel suggests that it is impossible to create a meaning to the life in the existing world but if it is possible to eradicate everything that man has created already then only one can find a meaning and purpose in the life

However, even after witnessing the plague sleep of the world and in the apocalypse, the characters of the novel are unable to come out of the influences of materialism. When ghost guide Jared explains the chosen role behind their survival, Pamela recalls the Christmas movie, “The one they used to play too many times each December” (255). It reflects that Pamela and others are unable to understand their divine revelation.

Jared tells them that they are survived because the earth is so damaged by human being that it could not recover naturally and the only thing that can recover it is the “human free will forged into effort” (269). He further says that it is now a time to start a new beginning of the world: “The New World isn’t new anymore. The New World – the Americas – it’s over. People don’t have dominion over Nature. It’s gone beyond that” (*ibid*). Jared provokes them to unravel the mystery of their mind so that they may obtain the knowledge of great truth. They would be able to seek the great truth only when they believe in their own capacity which would be generated with their acknowledgement of truth. He further explains to them that when the world once again becomes alive, they should have to live their new lives “entirely for that one sensation – that of imminent truth” (272). They should have to live asking the questions continuously for the rest of their lives, making others aware about the great truth.

In the post-apocalypse of the world, Jared explains their role in the rebirth of the world and also reveals the bitter truth, making them once again tore from within, that the plan will be only executed when Karen gives up her life. All the chosen apostles set out to work on their goal thinking

about new life on the earth. The novel ends with the words of Richard who thinks that: “all of these people everywhere on Earth, eager, no desperate for just the smallest sign that there is something finer or larger or more miraculous about ourselves than we had supposed” (282-283). He also thinks that they are going to make these people aware about the miraculous world of transcendence providing them the signs of divine revelation.

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Post-Apocalyptic World Reflected in Atwood's *Oryx and Crake*

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Abstract:

The present paper deals with the analysis of the post-apocalyptic world reflected in Margaret Atwood's Oryx and Crake, which is one of the finest dystopian novels, published in the year 2003. The novel opens in a devastated situation where the protagonist of the novel is contemplating his situation in the post-apocalyptic world, wondering that he is probably the only survivor on the planet earth. Stunned with the circumstances around him, he begins to look for the ways of survival that leads him to think over the early life he has spent with his friend Crake – involved in child pornography, killing humans and abusing animals. He realizes that the planet earth is nearly on the verge of extinction where the human beings have been substituted with the new genetically engineered race by science and technology. However, the novel also puts forth the optimistic view that the human race will overcome the pandemic and find the way to get rid off from the greedy and selfish ways of life.

The paper is divided in three sections. The first section deals with the introduction; the second section analyses the post-apocalyptic life reflected in the novel; and the third section concludes the paper with research findings.

Keywords: *post-apocalypse, pandemic, resilience, survival, science, technology, etc.*

Section I

Margaret Atwood is one of the prominent novelists in Canadian literary world who has earned fame with the publication of numerous poetry collections, novels, short stories, non-fictional works and graphical novels. She has been honoured with two Booker Prizes, the Arthur C. Clarke Award, the Governor General's Award, the Franz Kafka Prize, Princess of Asturias Awards, and the National Book Critics and PEN Center USA Lifetime Achievement Awards for her significant contributions. Her works deal with varied themes such as gender and identity, religion and myth, the power of language, climate change, and power politics. Her first novel *The Edible Woman* (1969) satirizes the ways of consumerism society in North America whereas her next three novels *Surfacing* (1972), *Lady Oracle* (1976) and *Life Before Man* (1979) project the identity crisis and the treatment given to women in the society. Her novels like *Bodily Harm* (1981), *The Handmaid's Tale* (1985) and *Cat's Eye* (1988) explore the gender crisis and the way it has been treated in the society for the political purposes. Her novel *The Blind Assassin* (2000) won her various prizes including Booker Prize for literature. Following it, she published *Oryx and Crake* (2003), *The Year of the Flood* (2009) and *MaddAddam* (2013) which are popularly known as *MaddAddam Trilogy* for its projection of dystopian society where human life has been dysfunctional and the entire humanity is at the edge of destruction. Her novel *Hag-Seed* (2016) is a retelling of Shakespeare's *The Tempest*. Thus, Atwood dealt with various subjects in her novels.

Atwood's futuristic vision in her plays is just a hint at what the world could look like if current scientific, technological, and industrial advances continue. She demonstrates a world in which human exploitation is at its height. Along with human and technical devices, Crake's character represents the humanist concept that runs through an impermeable wall, created by them. Within Atwood's fiction, the notion of extinction establishes that creation and death are ultimately connected. The simultaneous adaptation and extinction cycles form life on Earth. The scientists in *Oryx and Crake* are attempting to become part of this natural phenomenon in a bid to control nature. By expressing their self-rationalized dominance by material culture and technology, humans are elevating themselves to the pinnacle of the food chain which, in effect, excuses senseless use. Intervention in natural evolution that accompanies human consumption can be seen in the human activity of selecting

and breeding organisms for the desired characteristics and enacting genetic changes over multiple generations. Atwood explores whether genetically engineered plants and mutant animals are not as time-intensive as they used to be.

Section II

The novel opens with the protagonist called Snowman who presents the post-apocalyptic situation where he has been trapped between the groups of human-like genetically engineered wild persons to whom he calls Crakers. While contemplating on his situation, he sleeps into the past events revealing his real name as Jimmy who has been a part of a world controlled by human beings with their structures of multinational corporations and sophisticated societies. Now he desires to go to Rejooven Esense in search of food, which was also a place of human residence, and which is now habited by the Crakers.

The developments in the fields of science and technology have been effectively presented in the novel that shows the altered scenario of the modern society. The genetically engineered new race is the result of the scientific invention that posed the question in the existence of human race leading them to the verge of extinction. The depiction of transgenic studies show the continuous efforts of human beings who have been taking efforts to go beyond the human imagination in exploring the areas which finally results in creating apocalyptic situation. Jimmy's father is a scientist who works on the development of human organs such as kidneys and skin cells with the experiments in genetic materials of the pigeons and pigs. It has also been depicted that the by using a DNA of jellyfish, the hybrids of the creatures like wolvoogs, rakunks, luminescent rabbits and bobkittens are developed.

The novel depicts the struggle between natural and artificial life, between science and arts where the natural life is represented by Snowman whereas the scientific invention is represented by Crakers. Before the calamity, the product of science is adored in the human world. In fact, Snowman thinks Crakers as the replacement of God which then shatters the human life. However, it is also noted that Snowman placed himself in the position of the god who has been worshipped by the next generation of Crakers – which has been created with the technological inventions – who believe in the stories created by Snowman. Yet, as Snowman begins to wonder, he finds that “the endless labour, the digging, the hammering, the carving, the lifting, the drilling, day by day, year by year, century by century; and now the endless crumbling that must be going on everywhere. Sandcastles in the wind” (27). He wonders on the shattered civilization only to find that his real world is replaced by the artificial one. He realizes that Crake has created Crakers with the intention to substitute not only human beings, but also to the culture of human civilization as the new genetic race does not belong to any particular religion, but only to the science – having reason as the only metanarrative to guide. This new race is capable to adjust in the any atmosphere in the world.

After the execution of his mother, Jimmy becomes restless and tries to find a stable ground to his temporary life. He realizes that everything in his life is now futile; even his language is not able to provide solidity which has been thin, contingent and slippery like a viscid film where he is sliding around. He thinks on the vies of Crake about immortality, who states: “Immortality . . . is a concept. If you take ‘mortality’ as being, not death, but the foreknowledge of it and the fear of it, then ‘immortality’ is the absence of such fear. Babies are immortal. Edit out the fear and you’ll be” (91). Here for the first time, Jimmy realized that Crake has been working on the new genetic race which will be different from human beings. According to Crake, the new genetically engineered race will be immune to death only because they do not have any sense of morality.

Section III

Margaret Atwood depicts the post-apocalyptic scenario expressing the developments in the fields of science and technology, the ever-existing threats it has created for the human existence and the need to reassess and revise present social situations. The protagonist of the novel is trapped in the situation where he faces the post-apocalyptic situation to survive himself and his flashback reveals that human being himself is responsible for his present situation. Being the only survivor and in the

company of the children of Crake – whom he calls Crakers – Jimmy presents the fears of being extinguished. Similarly, the new genetically modified race is no more but a machine in the hands of creators and may not have any culture, civilization as well as voice to represent themselves.

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Isolation of Bacteriophage from Waste of Starch Industries

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Abstract:

In past bacteriophage was new term to infect virus to bacterial cell. Simultaneously the discovery has been going on, while their discovery it been invented that bacteriophage may possible to implement in future biotechnological aspects, therefore will became modern one for example alternative of antibiotics. Bacteriophage will be used in medical field to kill antibiotics resistant. Sometimes these bacteriophage have been mostly used as an a biocontrol agents to survive crop plant in agriculture, it might be used petroleum sector like that bacteriophage implement in case of diagnosis, vaccine, phage, therapy etc.

We were check presences of bacteriophage in industrial waste by plaques assay technique. The number of plaques where, observed by this technology, indicated the presences of bacteriophage load.

May possible to apply these bacteriophage for treatment process to kill pathogenic Esherichia coli
Keywords : Bacteriophage, Antibiotics, Bio-control agents, Biotechnology, plaques.

Introduction

Bacteriophage are the most abundant thing on earth, virus which infect bacteria which contain either DNA or RNA as their genetic material. Phage consist protein coat called capsid, most of the phage icosahedral Capsid head, Capsid which attached to tail, which hold tail fibre. Bacteriophage show one of two life cycle lytic cycle or lysogenic cycle, In lytic cycle the phage which lysis bacterial cell and in lysogenic cycle the phage DNA gets integrated into bacterial chromosome which and becomes a prophage. In early untargeted bacterial strains (sulakvelidze and kutter, 2005). Also, unlike chemical therapeutic agents, phage are not susceptible to the onset of bacterial resistance because they have the ability to evolve with their host (Sulakvelidze and Kutter, 2005). Enteric bacteria are normal inhabitants of the intestine of humans and other animals (Davis, 2005) but are often isolated from aquatic ecosystem after sewage has been introduced into the environment. Sewage contain high numbers of potentially very pathogenic enteric bacteria known as fecal Coliform are characterized as gram-negative, 20 century bacteriophage many researchers thought about phage which infect bacteria and which could make possible used as therapeutic agent. The host specificity of virus offer an enticing technology for fighting infection caused by bacteria or for the treatment of environment s contaminated with pathogenic bacteria. Research into potential use of viral therapy is limited, but studies have shown success using this technology to treat infections in livestock, plants, aqua-cultured fish and humans (sulakvelidze and Burrow, 2005; Sulakvelidze and kutter, 2005). The use of phage in the treatment of bacterial infections is an attractive alternative to existing therapies (example, antibiotics), because unlike broad-spectrum antibiotics phage target a particular host and are unlikely to illicit resistance in facultative anaerobic bacteria that ferment lactose within 48hrs at 35C. Example of fecal coliform include Escherichia coli and Enterobacter aerogenes. The objectives of this study were to isolate phage from sewage sludge, identify its enteric bacterial host (s),and examine its potential to use as technology to remove these bacteria from recreational and potable water sources without causing harm to natural nonpathogenic bacterial assemblages.

Methodology

Bacteriophage present in soil, sewage, and also waste of starch industries. Approximately 200 L of starch waste from sahyadri starch industries. Bacterial strains were isolated from the starch waste by streaking starch sample into either Tryptic soy agar (TS) or Tryptic soya agar made with waste using a sterile cotton-tipped swab, Inoculated agar plates were incubated for 24 hrs at room temperature. To ensure purity of the culture, after incubation, individual and distinct colonies were identified and inoculated into either TS and TSBW agar plates using the streak plate technique. After 24 hrs incubation at room temperature into either TS or TSBW agar plates using the streak plate technique. After 24 hrs incubation a room temperature, a well-isolated colony was transferred to either TS or TSBW agar slant. Prior a phage assays and identification tests, 18-24 hrs broth culture were prepared by aseptically transferring a loopful of bacteria from the agar slant to either TS or TSBW broth. Inoculated broth tubes were incubated room temperature while shaking at approximately 150 rpm.

Isolation of potential bacterial Enteric host strain from Activated Starch Waste.

Two containers (2 litres) of starch waste were obtained from the waste treatment facility located in lab. Bacteria were isolated from the starch by plating 100ul of waste into either TS and TSBW agar. After 24hrs incubation at room temperature, pure culture were obtained using the streak plate technique, and working broth cultures were prepared as previously described for bacterial isolation from the starch waste. Preparation of viral suspension

A viral suspension was prepared from starch waste. Starch waste(10ml) were transferred to a sterile 25ml centrifuge tube and centrifuged at 3000 rpm for 5 min. After Centrifugation, the supernatant was aseptically transferred to a sterile 15ml tube without disturbing the pellet. A viral suspension was prepared by aseptically filtering the supernatant through a 0.8um pore sized cellulose filter to remove particulates followed by filtration through a 0.45 um pore sized filter to remove bacterial cells and cellular debris.

Viral Isolation

The phage assay (Cappuccino and Sherman, 2001) was used to determine if phage was present in the starch waste suspension. Underlay TS and TSBW agar were prepared as previously described. Overlay soft TS and TSBW agar were prepared by adding half of the amount of agar used for underlay agar. Sterile underlay agar was poured into sterile petri dishes and left to harden. After the underlay agar had solidified, 1 ml of starch suspension and 3 drops of a 24 hrs broth culture were added to 3.0ml soft agar, vortexed, then poured on top of the underlay agar. Soft overlay was allowed to harden before incubation of plates at room temperature. After 24hrs incubation, the plates were checked for plaques (clearing zone) within the bacterial strains isolated from starch waste. When plaques were identified, a pure suspension was prepared by carefully removing a portion of the plaques using a sterile pipette tip and transferring the plaque to 10ml sterile TS or TSBW. The broth was vortexed to free viral particles from the agar and residual cells were removed by aseptically transferring the broth to a sterile 25ml centrifuge tube and centrifuging at 5000 rpm for 5 min. The supernatant was aseptically transferred to a sterile 15ml tube and stored at 5c. The phage Assay was repeated using isolated bacterial strains and the stored viral suspensions to ensure presence of phage, determined of phage number, asses host specificity. Serial dilutions (10-10) of viral filtrate were prepared. As previously described, 1.0ml of viral dilutions and 3 drops of a 24 hrs bacterial broth culture were added to soft agar (TS or TSSW) and poured on top of the hard agar. Plates were incubated for 24 hrs and were examined for plaques.



DEMONSTRATION FOR ISOLATION OF ESCHERICHIA COLI BACTERIOPHAGE

Result

- Number of phages was isolated when plated with bacterial cultured from Starch Sample.
- Confirmation of Escherichia coli
- Confirmation of Escherichia coli was carried out by IMViC test.
- Phage Assay

Number of phage was isolated when plated with bacterial cultures cultured from starch sample of industrial sample. Phage assay was performed on brine water to ensure the starch waste of Bacteria would not serve as host for the phage. Result obtained in this study showed that there phage were observed.

Discussion

The presences of coliform bacteria in aquatic environments indicates that the environment has been contaminated with fecal material originating from humans or others animals. After hurricane Katrina, to alleviate flooding problems in the city of New Orleans, billions of gallons of polluted water containing potentially dangerous levels of fecal coliforms, were pumped into Lake Pontchartrain Leaving the lake in an unhealthy state (Daily, 2005).

Conclusion

Phages were present Starch industrial waste Sample.

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‘कोरोना 19’ का साहित्य पर प्रभाव

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श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज

कोतोली, तह.-पन्हाला, जि.-कोल्हापुर

पिछले दो सालों से कोरोना 19 इस महामारी ने मानवी जीवन, समाज, शिक्षा, औद्योगिकी, आध्यात्मिक, साहित्य आदि सभी क्षेत्रों पर प्रभाव डाला है। सभी क्षेत्रों के कार्यप्रणाली में परिवर्तन हो गया है। मानवी जीवन में जीवन की क्षणभंगुरता, मानवता का व्यवहार, अपनों की पहचान, आदि बातों के प्रति सजगता निर्माण हो गयी हैं। समाज में एकता की भावना बढ़ने लगी है। प्राचीन काल से चलती आयी शिक्षा पद्धति बदलकर धारापथी शिक्षा पद्धति आ गयी। औद्योगिक क्षेत्र लॉकडाऊन के कारण न के बराबर ही हि गया। व्यापार-उद्योग बंद होने के कारण लोगों का जीना मुश्किल हो गया। मनुष्य को मृत्यु का डर इतना लग रहा था कि आज के विज्ञान युग में भी व्यक्ति ईश्वर भक्ति के पीछे पड गया। कोरोना 19 की परिस्थिति मनुष्य के हाथ में नहीं रही तब मानव ने ईश्वर भरोसे सब कुछ छोड दिया। इसप्रकार समाज के प्रत्येक क्षेत्र में हुए परिवर्तन तथा मानवी मन पर पडता है और साहित्य के विषय का केंद्र बिंदू ‘कोरोना 19’ बन गया है।

साहित्य और समाज का घनिष्ठ संबंध है। वे एक दूसरे पर निर्भर है। साहित्य का समाज के बीना कोई महत्त्व नहीं है और समाज का साहित्य के बीना। मानव अपने मन में उत्पन्न विचारों को अभिव्यक्त करना चाहता है। इसी अभिव्यक्ति की भावना से ही साहित्य का सृजन होता गया है। साहित्यकार समाज में घटीत छोटी- मोठी, अच्छी-बुरी सभी घटनाओं का चित्रण अपने साहित्य में करता है। साहित्य समाज के बाह्य और आंतरिक दोनों घटनाओं को उद्घाटित करता है। अतः साहित्य को समाज का दर्पण कहा जाता है। इसीकारण साहित्यकार समाज में घटित आम जनता के सुख-दुख को अपनी लेखनी के माध्यम से व्यक्त करते हैं। मूलतः साहित्य का उद्देश्य लोककल्याण से संबंधित विचारों को प्रकट करना है। जिस साहित्य में ‘बहुजन हिताय और बहुजन सुखाय’ की वास्तविकता होती है। वह साहित्य समाज को एक नयी दिशा देता है। क्योंकि इसमें समाज मंगल होता है। इसमें समाज परिवर्तन की क्षमता होती है। साहित्यकार गद्य और पद्य के माध्यम से मानवीय संवेदना को अभिव्यक्त किया है। साहित्यकार समाज में घटित घटनाओं के वास्तविकता का चित्रण करत समय उनका उद्देश्य प्रत्यक्ष घटना को समाज के सामने रखना नहीं होता है तो उस घटना के परिणाम क्या होते हैं? मानव की मानसिकता क्या होती है? उससे कौन-सा बोध लेना आवश्यक है? आदि बातों का चित्रण करता है। क्योंकि समाज को अच्छे मार्ग पर लाना, समाज में सकारात्मकता निर्माण करना, दृष्ट प्रवृत्तियों से दूर करना, स्वार्थी भावना छोडकर निस्वार्थी भावना बढ़ाना, स्वयं की प्रगति के साथ समाज तथा देश की प्रगति के बारे में सोचना आदि प्रकार उद्देश्य रखते है।

साहित्य की निर्मिति तत्कालीन सामाजिक, राजनितिक, आर्थिक आदि परिस्थिति के परिणामस्वरूप होती है। यह बात हिंदी साहित्य का अध्ययन करने से स्पष्ट होती है। जैसे आदिकाल का साहित्य वीर रसपूर्ण रहा है, भक्तिकाल का साहित्य भक्ति रसयुक्त, रीतिकाल के साहित्य में शृंगार रस प्रभाव और आधुनिक काल के साहित्य में स्वाधिनता आंदोलन, विश्वयुद्ध, अनेक सामाजिक समस्या दिखाई देती है। वर्तमान काल में कोविड 19 के कारण समाज में सामाजिक, आर्थिक, राजनीतिक, धार्मिक, शैक्षिक आदि में

परिवर्तन हुआ है। वही परिवर्तन साहित्य पर प्रभाव डालता है। कवि और लेखकों को लिखने के लिए नये बिंब दिए हैं। साहित्यकारों का सोचने का तरिका और नजरिया भी बदल दिया है। अब इस वैश्विक महामारी पर अनेक कविताएं तथा कहानियाँ लिखी जाने लगी है। इस महामारी के कारण लोगों के विचारों में भी बदलाव हुआ है। उसमें जो समाज से मानवता नष्ट हो रही थी वह फिर से आने लगी है। लोगों के सामने जीवन की नश्वरता की सत्यता आ गयी है। गाँव से भागे हुए लोग फिर से गाँव वापस आ गये हैं। परंतु कोरोना के डर से लोग अपनों से ही दूर हो गये। इन सभी बातों को साहित्यकार अभिव्यक्त करते हैं।

मेरे पास आओ,
मुझे छूकर देखो
बताओ मैं जिंदा हूँ या नहीं
मुझसे बातें करो
गले मिलो
बहुत दिनों से किसी से गले नहीं मिला
मुझसे प्रेम करो,
अरसा गुजर गया प्रेम किए
कहीं आलिंगन करना भूल तो नहीं गया
मुझसे झगडो, देखो मेरी मुठ्ठी मुक्के में
बदल पाती है या नहीं

सचमुच 'कोरोना' हुए व्यक्ति के पास कोई जाता नहीं था। उसे छूने की डर से उसे घर से बाहर रखा जाता था। ऐसे समय उसके मन की अवस्था कोई भी समझ नहीं लेता था। कहीं जगहों पर मरे हुए व्यक्ति को उठाने के लिए भी कोई नहीं जाता था। इससे स्पष्ट होता है कि इस समय मानव मानव से भागता रहा था। कोरोना काल में माँ-बाप, पति-पत्नि, बेटा-बेटी, तथा परिवारवाले सब कुछ पराये बन गये थे।

भूल जाओ हिंदू हो या मुसलमान
तुम सब हो केवल हो इंसान
तुमसे इतनी सी अर्ज है अवाम

विश्व में फैली कोरोना महामारी ने कौन किस जात का या धर्म का है यह देखा नहीं था। इसलिए कवि कहते हैं कि इस कोरोना ने ही हमें सिखाया है कि मनुष्य को मानव बनकर रहना चाहिए। मनुष्य ही मनुष्य के काम आता है कठिन समय में अपना धर्म अथवा जात हमारी मद नहीं करती है।

हूक उठ रही है सब कुछ है कितना नश्वर
सच जो छूने से बनता था छूट गया है
रंग, गंध, आवाजें, स्वाद बिना छूने के
सिफर रहेंगे क्या तुमको है क्या छुआ किसी ने

कोरोना महामारी का डर इतना हर एक के मन में बैठ गया था कि कब किसकी मौत आयेगी पता नहीं चल रहा था। उस समय जीवन की नश्वरता समझ में आयी। जिन चीजों को छूकर उसकी सच्चाई देखी जाती थी आज उस चीज को छूना भी सम्भव नहीं रहा है। कवि कहते हैं कि इस समाज को छोड़कर सभी अलग होकर मनुष्य जीवित नहीं रह सकता है।

हाथ जोडकर करते हैं स्वागत,
हाथ हम मिला सकते नहीं,

तेरे आने से देश में मायूसी सी छाई है,
जैसे एक आंधी, काली घटा घर लायी है,
फिर भी नहीं डरेंगे तुमसे,
क्योंकि चिकित्सा पद्धति सबसे पहले भारत में ही आयी है,
निपटने का तुझसे हर सम्भव प्रयास जारी है,
तुमने तो फैला दिया अपना कहर,
अब निपटने की आयी तुम्हारी बारी है,
निकाल फेंकेंगे तुझको इस देश की जड़ों से हम,
जैसे तुम कभी यहां आये ही न थे,
डॉक्टर की मेहनत से बेफिक्र हो जाएगा,
यहां का हर एक नागरिक,
जैसे वो इससे कभी घबराए ही न थे,
डॉक्टर की मेहनत, समर्पण,
और उनके इस जज्बे को मैं दिल से सलाम करता हूँ।

कवि इस कविता में भारतीय संस्कृति में श्रेष्ठता को स्पष्ट करते हैं। उसीप्रकार जब हम अपने ही लोगो से दूर भागते थे तब डॉक्टर लोगो ने उन्हें जीवनदान देने का काम किया है। इस कार्य को कवि सलाम करता है।

निष्कर्षतः कह सकते है कि साहित्यकार साहित्य की निर्मिति केवल स्वयं के हित के लिए नहीं करता है। साहित्यकार समय, परिस्थिति, वातावरण के बदलाव के साथ अपने साहित्य के विषयों को बदलता है और अपना समाज के प्रति होनेवाला दायित्व पूर्ण करते हैं।

संदर्भ:

1. कवि सुभाष राय - www.hindiwi.org
2. www.hindiwi.org

कोरोना 19 का मानवी जीवन पर प्रभाव

श्री. विजय पाटील

एम. ए. हिंदी छात्र

श्रीपतराव चौगुले आर्ट्स अॅण्ड सायन्स कॉलेज कोतोली,

प्रस्तावना :-

कोविड 19 के चलते पुरे देश में ही नहीं पूरे विश्व में सामाजिक, आर्थिक, शैक्षणिक, व्यापार और उन साल डेढ साल की सामाजिक परिस्थिति पर एक नजर डालने से पता चलता है कि समाज में कई समस्याएं निर्माण हुई, कई लोग इस बिमारी के कारण घर से बेघर हो गये, कितनों ने अपने प्राण गवाएं, ना जाने कितने लोगों के अपनों का साथ छुटा आखरी दर्शन तक नसीब न हुए। यह हाल एक तरफ व्यापारियों द्वारा की गई लुट, कंपनियों का बंद होना, कई लोगो की नौकरी छुट जाना स्कूल बंद हो जाना ऐसी कई संकटों को और समस्या से झुंझते भारतीय संविधान में हम भारतियों को शिक्षा का मौलिक अधिकार दिया है। हर एक राज्य में शिक्षा के प्रति बहुत से नए नए पैतरो का अवलंब किया जाता है। व्यक्ति शिक्षित होता है, तो ही हर एक शिक्षित व्यक्ति समाज में शिक्षा का विकास कर सकता है। शिक्षा मानव संसाधन का विकासक सार है। भारत के नागरिक इसके मूल्यवान संसाधन है। भारत में शिक्षा का विकास तेजी से हो रहा है। लेकिन विकास की गति सभी राज्यों में एक सी नहीं है। कई राज्य शिक्षा के पैमाने में बहुत पीछे है। देश में देखा जाए तो बहुतशी जनसंख्या आज भी निरक्षर है। मानव को सभी और से सक्षम और स्वयंपूर्ण शिक्षा ही बनाता है। किन्तु भारतीय राज्यों के शैक्षणिक स्तर में बहुत असमानता विद्यमान है। ऐसे में विद्यार्थी भविष्य में देश का भावी नागरिक कैसे बने जिसमें प्रारम्भ से अभाव में आपना शिक्षण कार्य किया हो। ऐसे विद्यार्थी कई करनों से आपना अध्ययन बीच में ही छोड देते हैं। ऐसे हालात चलते पिछले दो सालों से सभी पाठशालाएं covid 19 की वजह से पूरी तरह बंद है। ऐसे में भारत का भविष्य क्या होगा इस बात को लेकर हमें अपने मन ही मन में सभी परीस्थितियों का अध्ययन करना चाहिए। ऐसी परिस्थितियों में हमें क्या करना चाहिए और ऐसे कठिन प्रसंगों में अपने बच्चों का क्या भविष्य होगा इसका भी अध्ययन करना होगा। covid 19 के चलते देश में ही नहीं बल्कि पूरे विश्व में बच्चों की और पाठशालाओं की यही स्थिति रही है, सभी बहुतही बुरी तरह से परेशान और भविष्य के बारे चिंतीत हैं।

कोविड के चलते समाज की समस्या :-

पिछले साल कोविड 19 की संसर्ग से चलते समाज, देश ही नहीं पूरे विश्व में भय का ऐसा माहोल चला कि मानो यह समस्या कभी खत्म ही नहीं होगी। सभी ओर मानो मृत्यू का ताण्डव ही चल रहा था। सभी लोग घर में ही बैठे रहे थे। सभी लोग परेशान थे कि कहीं से भी वह कोविड 19 संसर्ग के चपेट में ना आए, इसके चलते सब सुरक्षित अन्तर तथा दुरी बनाए रखते थे।

भय के कारण कोई किसी से मिलता नहीं, किसी से बातें नहीं करता सब लोग जैसे एक दुसरे को शाशांकित नजरों से देखा करते थे। कोई किसी की शिकायत नहीं करता, या किसी की हालत पुछता सब जैसे एक दुसरे के साथ होकर भी नहीं थे। ऐसी परिस्थिति समाज में निर्माण हो गई थी।

व्यापार और आर्थिक शोषण :-

covid 19 को लेकर जो 2020 में जो पहला लॉकडाउन हुआ इसी बीच में समाज में बहुत सी अफवाए उठीं इसे लेकर समाज के व्यापारियों ने जीवन में हररोज लगनेवाली सस्ती चीजों के दाम बढ़ा दिए इतनाही नहीं दुकानदारों ने सभी लोगों को अलग अलग समय पर थोड़े थोड़े करके दुकानों में बुलाकर रोज की लगनेवाली चीजे लोगों को बहुत ही कम और महंगी देना सुरु किया था।

पंद्रह दिन का लॉकडाउन चलते चलते महिना, छह महिना इतनाही नहीं पुरा साल इसमें गया इन दिनों व्यापारियों ने पहले से ही परेशान समाज को कोविड के अलावा आर्थिक विपत्ति में भी डाल दिया। शासन के कई नियमों को नजरान्दाज करके इन व्यापारियों ने समाज के लोगों को अपनी भी चपेट में लिया था। इसी दौरान कई कंपनियाँ बंद हो गईं कितनों की नौकरियाँ छूट गईं कितने लोग बेकार हो गये और इसी कारण लोगों को एक तरफ व्यापारी दुसरी तरफ नौकरी, पैसा और वो कोविड तो था ही सभी ओर से समाज में बुरा हाल हो रहा था।

अस्पतालों की स्थिति और कोविड :-

कोविड का जब हमारे देश में संसर्ग हुआ तब देश में सभी जगह भय और ताबाही का वातावरण चल रहा था। सभी अस्पतालों में कोविड बाधित लोगों को जगह मिल नहीं रही थी। सब लोग उन दिनों भय कंपित थे। दूसरी ओर मरीजों के परिजन और देखभाल करने वाले लोग खाली ऑक्सीजन सिलिंडरों को भरवाने के लिए दर-दर की ठोकरें खाने को मजबूर दिखे। अस्पताल के आईसीयू में भर्ती किए गए कई कोविड मरीजों की मौत हो गई और अस्पताल ने इन मौतों का ज़िम्मेदार ऑक्सीजन की कमी को बताया। मेडिकल ऑक्सीजन की कमी से बने भयावह हालात का सबसे विकराल रूप देश में देखा गया लेकिन इस गंभीर समस्या का हल ढूंढते वक़्त भी समाज में लोगों की स्थिति बहुतही गंभीर हो गई थी।

शिक्षा और कोविड :-

कोविड-19 की चुनौतियां और शिक्षा प्रक्रिया का परिवर्तित स्वरूप एक विवेचना भारत ही नहीं सम्पूर्ण विश्व 'कोविड-19' महामारी के चलते एक अभूतपूर्व कठिनाई का सामना कर रहा है। लॉकडाउन के कारण सारे शैक्षणिक संस्थानों को बंद करना पड़ा, जिससे शिक्षण-प्रक्रिया बाधित हुई है। ज्ञान के निर्बाध प्रसार को सुनिश्चित करने के उद्देश्य से विद्यालय से लेकर विवि तक समस्त शैक्षणिक संस्थानों को वैकल्पिक शैक्षणिक ऑनलाइन अधिगम अपनाना पड़ा है, जिसे डिजिटल लर्निंग, ईलर्निंग, वेबवेस्ट लर्निंग, वर्चुअल स्पेस लर्निंग, रिमोट लर्निंग, दूरस्थ शिक्षा या गृह शिक्षा इत्यादि नामों से भी जाना जाता है। अकादमिक विमर्श भी ऑनलाइन हो रहे हैं और प्रशासनिक व अकादमिक निर्णय लेने हेतु बैठकें भी ऑनलाइन हो रही हैं। इस तरह 'कोरोना' ने हमें परम्परागत रियल-वर्ल्ड प्लेटफॉर्म (जिसमें हम अधिक सहज हैं) के स्थान पर वर्चुअल प्लेटफॉर्म (जो अधिकांश के लिए नया है) से कार्य करने को विवश कर दिया है। बड़ी संख्या में शिक्षकों और विद्यार्थियों ने कई सीमाओं के बावजूद ऑनलाइन शिक्षा के नये तरीके को अपनाने में उत्साह दिखाया है। परिचर्चा, गृहकार्य, डिजिटल अध्ययन सामग्री उपलब्ध कराने और कुछ सीमा तक मूल्यांकन आदि प्रकारों से वे ऑनलाइन शिक्षण से जुड़ रहे हैं, इसलिए कुछ स्तर तक ही सही परन्तु ऑनलाइन शिक्षा को स्वीकारने के लिए वे अभिनन्दन के पात्र हैं।

डिजिटल शिक्षा के लिए डिजिटल अधोसंरचना व सहायक सेवाएं जैसे, संस्थानवार अधिगम प्रबंध प्रणाली (एलएमएस - जिस पर ऑनलाइन पाठ्यसामग्री उपलब्ध कराई जा सके) और शिक्षकों के

लिए ऑनलाइन शिक्षण हेतु प्रशिक्षण इत्यादि के अलावा शिक्षक, विद्यार्थी और अभिभावकों की मनोस्थिति में परिवर्तन की आवश्यकता है।

रिश्वतखोरी, मुनाफाखोरी, कालाबाजारी, जमाखोरी :

कोरोना काल में मानवता का दर्शन भी हुआ और हैवानियत का भी। वस्तुओं का अभाव निर्माण किया गया, गोदामों में भरे माल को ज्यादा दाम में बेचा गया। उसके चलते महंगाई बढ़ी। कहीं पर रिश्वतखोरी, मुनाफाखोरी, कालाबाजारी के मामले भी सामने आए पर उनकी संख्या जनसंख्या की तुलना में कम है। विशाल देश में यह होता ही रहेगा सरकार कहा था ध्यान देगी, किन किन को नियंत्रण में रखेगी? हैवान से इंसानों की संख्या अधिक है इसलिए तो कोरोना युद्ध विजय की ओर बढ़ रहा है। इंसान जब अपने मकसद में कामयाब हो जाएगा तो हैवान अपने कर्म पर पछताएंगे।

स्वच्छता का महत्व :

स्वच्छ भारत, सुंदर भारत, निरोगी भारत यह भारत का सपना है। इस सपने को साकार करने के लिए सरकार द्वारा अभियान चलाया जा रहा है। आज तक लोग यही समझते थे कि स्वच्छता अभियान सरकार का काम है मेरा इसमें कुछ भी लेना देना नहीं है। पर कोरोना वायरस ने सिखाया स्वच्छता रखो स्वस्थ रहो। आज हर व्यक्ति निजी स्वच्छता और सार्वजनिक स्वच्छता के प्रति सतर्क हो गया है। सरकार की बात नहीं मानी तो होगी स्वास्थ्य की हानि इस बात को आज तक करते आए अनसुनी पर कोरोना में मनुष्य को बना दिया ज्ञानी स्वच्छता के प्रति बरतने लगा सावधानी।

सोशल डिस्टेंसिंग :

मनुष्य समाज प्रिय प्राणी है, अपनी जरूरतें पूरी करने या वैचारिक लेन-देन के हेतु मनुष्य समूह में रहना पसंद करता है। कोरोना ने समूह सक्रियता पर रोक लगा दी। आदमी आदमी से दूर होता गया, मित्रों के साथ गपशप करना, रिश्तेदारों का आना जाना कम हो गया। सिर्फ अपना परिवार ही उसकी दुनिया बन गई। मनुष्य को अपने ही घर में कैद होना पड़ा। पड़ोसी को पड़ोसी का दर्शन भी दुर्लभ हो गया। आदमी आदमी से डरने लगा, एक दूसरे पर शक करने लगा, आदमी को अकेले जीने की आदत पड़ गई। जो हुआ अच्छा ही हुआ सामाजिक अंतर के नियम ने कोरोना संसर्ग पर रोक तो लगा दिया। यह तो बस कुछ दिनों की बात है एक बार कोरोना को मात दे दी तो फिर स्वतंत्रता पूर्वक जीना मनुष्य के हाथ में है।

संदर्भ सूचि -

1. www.hindiwi.org
2. www.hindishodh.com

कोरोना काल में प्रौद्योगिकी की भूमिका

प्रा. सौ. वेदिका विजय चौगुले.

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कॉलेज, मालवाड़ी- कोतोली.

भूमिका-

कोरोना वायरस के संक्रमण में सबसे पहले चीन सामने आई और उसके कुछ महीनों बाद पूरे विश्व में कोरोना महामारी ने रूप धारण कर लिया। इस महामारी के कारण दुनिया में एक दूसरे देश के साथ अच्छे संबंध थे वह अब बदल गए हैं। इस कोरोना वायरस पर काबू पाने के लिए अलग-अलग देशों की सरकारों ने आने-जाने पर निर्भर लगाए। लोग इस भयानक महामारी के कारण एक तरह से अपने घरों में बंद रहने पर मजबूर हुए। लोगों के लॉकडाउन का नियम बन गया। तब दुनिया के कई देशों की सीमाएं हवाईअड्डे, होटल और व्यवसाय बंद रहे। उसके साथ ही शैक्षिक संस्था भी बंद रही। कई लोगों की नौकरियां भी छूट गई। इससे भूख की छाया लोगों पर बढ़ गई। सामाजिक परिवर्तन के साथ जन-जीवन में व्यापक बदलाव हुए है। दुनिया भर में प्रौद्योगिकी का प्रभाव बढ़ा है। घर, परिवार, अर्थव्यवस्था, कार्यालय, सामाजिक जीवन, संस्कृति, साहित्य, शिक्षा हर जगह में प्रौद्योगिकी की पहुँच बढ़ी है। इस विपदा की घड़ी में बहुत कुछ सकारात्मक बदलाव हुए हैं। इसमें डिजिटलता के कारण और प्रयोग के कारण जीवन को कोरोनाकाल में अधिक रूप से उजागर हुआ है। तकनीक इंटरनेट आदि न होते तो इस महामारी से निपटना संभव नहीं होता।

प्रौद्योगिकी-

मानव ने इतिहास की खोज करने पर यह प्रारंभिक-आरंभिक मानव अन्य प्राणियों जैसा ही जीवन व्यतीत करता था। आगे का जीवन सुखकर बनाने के लिए उसने प्रगति के रहस्य को खोजना शुरू किया। इससे अलग-अलग युगों में उसका जीवन परिवर्तित हो गया। जीवन को सरल बनाने के लिए विज्ञान से उन्नति करता गया। विशेषज्ञों ने मानव जाति का विकास निम्न वर्गों में वर्गीकृत किया है- 1. आदिमानव 2. हिमयुग 3. जीवाश्ममानव युग 4. पाषाण काल आदि युगों में जिन-जिन नई चीजों की खोज की वह विद्वान था। उन चीजों की प्रतियोगिता करना मनो प्रौद्योगिकी है। प्रौद्योगिकी की बीसवीं शताब्दी के बाद से जो दूसरी औद्योगिक क्रांति के अंत में हुई।

प्रौद्योगिकी का स्वरूप-

प्रौद्योगिकी का अर्थ- विशेषज्ञों के अनुसार टेक्नोलॉजी पत्नी की सुविधा शास्त्र शिल्पा शिल्पा शास्त्र कहा जाता है। प्रौद्योगिकी का शाब्दिक अर्थ अकेला कला और हस्तकला है। प्रौद्योगिकी का मतलब प्रायोगिक एवं व्यवहारिक प्रक्रिया संबंधी है। विस्तृत संदर्भ में मुख्यतः दो अर्थ प्रयुक्त होती है।

1. संकुचित अर्थ-

“केवल औद्योगिक प्रक्रियाओं से संबंधित है। जिसने हस्तकला को व्यवस्थित और विस्थापित किया है।”

2. विस्तृत अर्थ-

“सभी पदार्थ के साथ होने वाली प्रक्रियाओं से संबंध है।”

प्रौद्योगिक व्यवहारिक ज्ञान है जिसे अक्सर सीखना पड़ता है। इसका सामान्य अर्थ विशिष्ट सैद्धांतिक ज्ञान का व्यवहारिक ज्ञान में रूपांतरण है। प्रौद्योगिकी का संबंध केवल उन्हीं वस्तुओं से नहीं बल्कि उन सभी वस्तुओं चीजों से है, जिसने हम अपने पर्यावरण पर नियंत्रण प्राप्त कर सकते हैं और जीवन में उसका उपयोग करते हैं। छोटे-मोटे औजारों से लेकर भारी भरकम जटिल माँग उपकरणों, संसाधनों सूक्ष्मास्तर पदार्थ जीवों आदि का समावेश प्रौद्योगिकी के विस्तृत क्षेत्र में आया है। मनुष्य का कोई भी कार्य प्रौद्योगिकी के तत्व से अनछुआ नहीं रहा है। प्रौद्योगिकी के नए-

नए रूप उभर रहे हैं। इसमें विभिन्न विज्ञान प्रौद्योगिकी के अलावा ग्राम प्रौद्योगिकी, जैव प्रौद्योगिकी, भाषा प्रौद्योगिकी आदि का समावेश है।

प्रौद्योगिकी की परिभाषा-

1. “चीजों अथवा कार्य को पूरा करने का तरीका प्रौद्योगिकी है।”
2. “वस्तु बनाने / निर्माण करने की तकनीक का व्यवस्थित अध्ययन।”
3. “जहां विज्ञान विशिष्ट ज्ञान के रूप में जाना जाता है वही प्रौद्योगिकी को विशिष्ट ज्ञान का व्यावहारिक रूप माना जाता है।”
4. ‘टेक्नोलॉजी टुडे’ इस किताब में एडवर्ग डी बोनो लिखते हैं- “तंत्रज्ञान ही काही तरी उपयुक्त निर्माण करण्याची प्रक्रिया आहे.”

अंत में हम यह कह सकते हैं कि, वस्तुओं को बनाने से उसका बाजार में विज्ञापन तक की प्रक्रिया और उसकी उपयोगिता के सिद्धांत को प्रौद्योगिकी कह सकते हैं। इससे मानव का जीवन सुख कर आनंददायी बनता है।

प्रौद्योगिकी के प्रकार-

वर्तमान समय में विभिन्न प्रकार प्रौद्योगिकी की है लेकिन, जो आज विकसित हुए हैं और वह विभिन्न है उनके बारे में जानते हैं-

1. संचार प्रौद्योगिकी -

संचार प्रौद्योगिकी में प्रत्येक व्यक्ति दूसरे व्यक्ति को जानकारी / डाटा भेजता है या प्राप्त कर इसके विकास की विशेषता यह है कि, इस उपकरणों में एनालॉग सिग्नल का उपयोग करते थे जो बाद में डिजिटल सिग्नल का उपयोग हुआ। जैसे- सेलफोन, ईमेल, टेलीग्राम, फ़ैक्स अन्य चाट करने के अनुप्रयोग है।

2. सूचना प्रौद्योगिकी-

सूचना प्रौद्योगिकी यह आईटी क्षेत्र में विभिन्न जानकारी देने में मदद करती है। यह लंबे समय से आस-पास है। उसका ब्लॉक जानकारी देने के लिए उपयोग किया जाता है। समय के साथ आधुनिक तकनीक से बनाया है। पिछली तकनीक के मूल्य को समाप्त नहीं करता है। जैसे- रेडियो, कंप्यूटर, नोटबुक, टेलीविजन इतने पर आदि नवीनतम सूचना प्रौद्योगिकी के उदाहरण है।

3. परिवहन प्रौद्योगिकी-

परिवहन प्रौद्योगिकी उपकरणों से संबंधित है। परिवहन जो आपको तेजी से कम से कम समय में यात्रा करता है। इसका विकास पशु शक्ति के उपयोग से शुरू हुआ। जैसे- घोड़े जब तक की मशीन द्वारा संचालित तकनीक का निर्माण हुआ। उसका कार्य पिछली तकनीक के समान था।

4. चिकित्सा प्रौद्योगिकी-

कंप्यूटर प्रौद्योगिकी का उपयोग करके चिकित्सा प्रौद्योगिकी का विकास हुआ। इसमें डॉक्टरों द्वारा रोगियों के बीमारियों का निदान करने के लिए और अनुसंधान करने के लिए किया जाता है। जैसे- सिटीस्कैन, माइक्रोस्कोप और विभिन्न कई सर्जिकल उपकरण है।

प्रौद्योगिकी के क्षेत्र-

हर साल तेजी से विकास तकनीकी खोजों से होता आया है। विभिन्न उपकरण अथवा मशीन यह तकनीकी विकास का परिणाम है। प्रौद्योगिकी के आगमन से मानव जीवन में कई लाभ होते हैं। इसमें एक सभी समस्याओं का हल निकालना और सुविधा गति देना है। इसके साथ अन्य भी तकनीकी लाभ है। जो निम्नलिखित क्षेत्र से जुड़े हैं-

1. शिक्षा क्षेत्र में-

पहले पारंपरिक रूप से प्रशिक्षक द्वारा शिक्षण प्रणाली का संचालन हुआ। शिक्षण सामग्री को छात्रों के सामने रखा गया। इंटरनेट प्रौद्योगिकी के बाद आधुनिक शिक्षा प्रणाली बनाई जाती है। इसे ई-लर्निंग प्रणाली के रूप में जाना

जाता है। शिक्षक की अनुपस्थिति होती है, तो छात्रों को सामग्री प्रदान करके शिक्षा प्रणाली का उपयोग किया जाता है। इस प्रणाली द्वारा शिक्षक के लिए प्रत्येक छात्र को समझना और समझाना आसान होता है।

2. परिवहन क्षेत्र में-

परिवहन प्रौद्योगिकी क्षेत्र में तकनीकी विकास की दुनिया को प्रभावित करती है। इससे पहले कार्य बसें, मोटरबाइक जैसे वाहन हैं। वर्तमान समाज में वाहन के साथ आप दुनिया के विभिन्न स्थानों पर आसानी से कमसे कम समय में यात्रा कर सकते हैं।

3. मेडिकल फील्ड में-

वर्तमान क्षेत्र में प्रौद्योगिकी का उपयोग मेडिकल क्षेत्र में हुआ। इससे दवा तेजी से विकसित हुई है। स्वास्थ्य संबंधी जांच के लिए आपको बार-बार अस्पताल नहीं जाना पड़ता है क्योंकि, अपने स्वास्थ्य के बारे में सभी शिकायतों का जवाब देने के लिए विभिन्न अनुप्रयोग उपलब्ध है। जिससे हमें इंटरनेट के माध्यम से पेशेवर डॉक्टर द्वारा जवाब मिलता है।

4. संचार क्षेत्र में-

संचार माध्यम के रूप में बहुत सारी तकनीकों का उपयोग होता है। जैसे मोबाइल फोन, स्मार्टफोन, टैबलेट या अन्य उपकरण आदि। यह सभी मनुष्य के काम को आसन बनाने के लिए प्रौद्योगिकी ने बनाई है ताकि, वे आमने-सामने न रहते हुए एक दूसरे से बात कर सके। इस माध्यम के द्वारा विभिन्न क्षेत्रों के लोगों के साथ संवाद कर सके।

5. व्यापार क्षेत्र में-

एटीएम (ATM) में ग्राहकों को सभी प्रकार के लेनदेन आसानी और जल्दी से करने की सेवा ही देता है। यह मशीन प्रौद्योगिकी के विकास का प्रमाण है। जो संगणक का उपयोग करके स्वयंचलित रूप से कार्य करता है।

प्रौद्योगिकी के लाभ और हानि-

प्रौद्योगिकी के कुछ लाभ में संचार-सूचना प्रणाली आसानी से पहुंची है। उससे मनुष्य की जीवनशैली में सुधार लाया है। दूसरी ओर इसके कुछ हानि में लोगों के काम का नुकसान, सामूहिक विनाश के हथियारों का निर्माण, इस तकनीक पर आधारित है। प्रौद्योगिकी लगातार विकसित हो रही है। पुरानी प्रौद्योगिकी को नई प्रौद्योगिकी द्वारा प्रस्तापित किया जाता है। आजकल सभी चीजें अधिक सुविधाजनक तथा सुलभ है। कई क्षेत्रों में तकनीकी प्रगति के लिए कृतज्ञता ज्ञापित करती है। इसके बावजूद तकनीक मनुष्य को बहुत आगे लेकर गया है। यह सुविधाजनक होता है लेकिन, इससे सफलता के स्तर पर कई नुकसान है।

प्रौद्योगिकी के लाभ-

1. सभी उद्योगों में तकनीकी विकास से लोग चीजों को खोजते हैं। इससे सकारात्मक परिणाम मिलता है। उदा-संगणक में तकनीकी प्रगति से शिक्षा की उन्नति हुई। छात्र कक्षा के बिना वैश्विक स्तर पर सीखते हैं। किसान प्रक्रियाएं एक बार में एक दर्जन श्रमिकों की आवश्यकता होती है, वह उन्हें स्वयं चलित किया जा सकता है। चिकित्सा खोजों में अधिक तेज होती है। मशीनें अनुसंधान प्रक्रिया में मदद कर सकते हैं।
2. प्रौद्योगिकी के माध्यम से प्रक्रियाओं में सुधार करके कार्यों को पूरा किया जाता है। मशीनें मनुष्य के समान या उससे अधिक परिणाम दे सकते हैं।
3. व्यवसाय में मालिकों की बचत होती है। जिससे वह अपना व्यवसाय वृद्धि के लिए उपयोग करते हैं। इससे सामान्य रूप से अर्थव्यवस्था पर सकारात्मक प्रभाव पड़ता है।
4. किसी भी समय प्रासंगिक जानकारी पहुंचाना सामान्य हो गई है। यह ब्रॉडबैंड, इंटरनेट जैसे आधुनिक सुविधा से सेवाएं संभव है। दिन में ऑनलाइन साइट पर बहुत सी जानकारी प्रकाशित होती है। जिसका उपयोग अनुसंधान के लिए किया जाता है। स्मार्टफोन, टैबलेट, सेल फोन, के द्वारा इंटरनेट नेटवर्क से हम जानकारी प्राप्त करते हैं।

5. संचार जीवन में पानी की तरह है, जिसके बिना विकास नहीं हो सकता। आधुनिक तकनीक ने संचार क्षेत्र में कई उन्नत प्रौद्योगिकी उपकरण विकसित किए हुए हैं। इसमें ईमेल, वीडियो, एप्लीकेशन, सोशल नेटवर्क, स्टेटमेंट मैसेजेस, कॉन्फ्रेंसिंग आदि शामिल हैं। इन सभी आधुनिक संचार साधनों ने मनुष्य और व्यापार में संचार के नए तरीके को सरल बनाया है।
6. आधुनिक परिवहन प्रौद्योगिकी से लंबी यात्रा करना आसान है। मनुष्य और व्यापार में एक परिवहन महत्वपूर्ण है। पहले लंबी दूरी की यात्रा बहुत ही महंगी होती थी लेकिन वर्तमान में आप कुछ मिनटों में, घंटों में, विमानों में, या ट्रेनों के द्वारा इन सभी परिवहन का उपयोग करके कई दूरी तक का सफर तय कर सकते हैं।

प्रौद्योगिकी से हुई हानि-

1. सामूहिक विनाश के हथियार यह आधुनिक तकनीक कई युद्धों और संघर्षों की वृद्धि में मददगार रही है। जिन्हें परीक्षण की आवश्यकता है। अपराधियों के हाथों में आने पर समाज को नुकसान होता है।
2. सामाजिक अलगाव बढ़ रहा है लोग वीडियो गेम खेलने सामाजिक नेटवर्क आधुनिक तकनीकों का उपयोग और इंटरनेट सर्फिंग और अपने जीवन की वास्तविकता को अनदेखा करते हैं। और सब में बर्बाद करते हैं। प्रौद्योगिकी ने बातचीत का तरीका ही बदल दिया है। अब सो दोस्तों से ऑनलाइन बातचीत कर सकते हैं। मनुष्य को बाहर जाकर दोस्ती करने की आवश्यकता नहीं है इससे मनुष्य अकेलेपन का शिकार होता जाता है।
3. समाज में तकनीकी के कारण प्रगति कर रहा है। संगणक और प्रौद्योगिकी के अन्य रूपों पर भरोसा करते हैं। जब मशीन का हल होने पर इंसान बेकार हो गया। प्रौद्योगिकी पर निर्भरता से लोगों को अलग-अलग नुकसान होता है क्योंकि वह कम ही आत्मनिर्भर हो जाते हैं।
4. उद्योगों और नौकरियों में प्रौद्योगिकी प्रगति मानव श्रमिकों का मूल्य कम है। मशीन प्रक्रियाओं स्वयं चलित करती है एक संगणक 10 लोगों का काम करता है। कंपनियों को नौकरी करने के लिए बहुत सारे लोगों की नियुक्ति करने की आवश्यकता नहीं होती बल्कि कम लोगों से इंटरनेट के द्वारा वह आसानी से अपना काम लोगों के साथ का कंपनी का कार्य कर सकते हैं।
5. आधुनिक उपकरणों में केलकुलेटर ने रचा रचनात्मकता को कम कर दिया है। यह युवा पीढ़ी और वृद्ध दोनों में स्पष्ट रूप से दिखाई दे सकता है। आमतौर पर केलकुलेटर के बिना एक साधारण गणित का समीकरण नहीं निकाल पाएंगे इससे इंसान अपने दिमाग का इस्तेमाल नहीं करता। इससे उसकी रचनात्मकता का स्तर तो कम होता है।

कोरोना काल में प्रौद्योगिकी की भूमिका

कोरोना काल में हुए हमें उन क्षेत्रों में क्रांति के दर्शन हुए जहां पहले इसका क्रम उपयोग होता था। प्रौद्योगिकी से मनुष्य का जीवन अधिक लाभान्वित हुआ है लेकिन दूर इसका दूसरा पहलू पर नजर डालना जरूरी है। कोरोना का लमी प्रौद्योगिकी का लाभ जो लोग डिजिटल रूप से साक्षर है उनको मिला। जिस दिन के पास लैपटॉप, हाईस्पीड संगणक, सेलफोन, स्मार्टफोन, कनेक्टिविटी है। यह सुविधा तो समृद्ध और शहरी लोगों के पास है इसीलिए लॉकडाउन में भी उनका काम चलता रहा। लेकिन, सड़क पर जो मजबूर मजदूर थे उनका काम तो छूट गया। प्रौद्योगिकी उनके घरों में उजाला नहीं ला सकी। प्रौद्योगिकी के ग्रामीण विभाग में पिछड़ा वर्ग और शिक्षित लोग, गरीब लोग कोई मायने नहीं रखता। ऐसे लोगों के पास न तो उपकरण है, न बिजली है, न धन है, अनुपलब्धता है इसी कारण करोड़ों छात्र ऑनलाइन शिक्षा से वंचित रहे। साथ ही भाषा चुनौती है जैसे ऑनलाइन पढ़ाई होती है लेकिन ज्यादातर उसमें अंग्रेजी का प्रयोग होता है लेकिन जो आदिवासी, पिछड़े ग्रामीण छात्र को इन सामग्रियों का उपयोग करते दिखाई देता है।

कोरोना वायरस ऑल मीडिया इस संकट काल में सूचनाओं के माध्यम से लोगों को एक दूसरे से जुड़े रखता है। इसमें गलत सूचनाओं ने भी जोर पकड़ लिया है। लॉकडाउन के समय लोग सोशल मीडिया पर अपना ज्यादातर

समय व्यतीत करते थे। भय और नफरत पैदा करने वाले लोगों को यह अच्छा समय मिला। लोगों को डराने के लिए सामाजिक कार्यक्रम और उत्सव का स्वरूप बदल गया। हजारों-लाखों संख्या में हो रहे कार्यक्रम पर निर्भन्ध लगाए गए और सीमित संख्या में कार्यक्रमों का आयोजन किया गया। इसके अलावा सामाजिक कार्यक्रमों का डिजिटलकरण अधिक हुआ। सेमिनार अब वेबीनार में बदल गए। बैठके आज भी ऑनलाइन रूप से जारी हुई है। जिससे कम से कम भौतिक स्पर्श और सुरक्षा शामिल है। ऐसे ही ऑनलाइन शिक्षा चल रही है।

चिकित्सा जगत में ऑनलाइन चिकित्सा में वृद्धि हुई है। कोरोना काल में आरोग्य सेतु यह महत्वपूर्ण उदाहरण है। कोरोना काल में प्रौद्योगिकी के कारण लॉकडाउन में देश में चोरी, हत्या, बलात्कार आदि अपराध कम हुए। इससे प्रौद्योगिकी से सकारात्मक बदलाव देश में हुआ है। परिवहन सामाजिक आर्थिक गतिविधियां कम हुई इसके कारण पृथ्वी पर प्रदूषण कम हुआ। शुद्ध हवा का संचार होने लगा। प्रदूषण मुक्त नदियों का जल पीने लायक हो गया।

लॉकडाउन के दौरान बाजार बंद हो गए। आवश्यक वस्तुओं की दुकानें निर्धारित समय पर खुली थी। इसके लिए लोगों ने ऑनलाइन माध्यमों का सहारा लिया। घर बैठे लोगों को घर का पूरा सामान बाजार जाए बिना होम डिलीवरी के द्वारा प्राप्त होता था। इस प्रणाली को काफी लोग पसंद करते थे। प्रौद्योगिकी के प्रभाव से बाजार स्वरूप में बदलाव आए।

देश में कोरोनावायरस साइबर बैंकिंग द्वारा आम नागरिक को अर्थव्यवस्था की मुख्यधारा से जोड़ा गया। सरकार ने डिजिटल लेनदेन को बढ़ावा दिया। ग्राहक घर बैठे-बैठे अपने सारे बैंकिंग कार्य करता है। आजकल सभी क्षेत्र में ऑनलाइन कंपनियों की बाढ़ आ चुकी है। रेल टिकट, हवाई जहाज का टिकट, बस का टिकट, सिनेमा का टिकट निकालना आसान हो गया। ऑनलाइन पर खरीदारी करना, सोशल मीडिया से ऑनलाइन भुगतान भरने तक का काम, बिजली, टेलीफोन पानी, मोबाइल रिचार्ज, सभी में डिजिटल बैंकिंग की आवश्यकता होती है। साइबर सुरक्षा की जिम्मेदारी जितनी बैंकों की है उतनी ही ग्राहकों की भी है।

कोरोनावायरस ने यह साबित कर दिया कि प्रौद्योगिकी साधन है, साध्य नहीं है। हम ऑनलाइन डिजिटल रूप से घर बैठे अपनी जरूरत की चीजें पा सकते हैं, कोई भी सामान हम खरीद नहीं सकते उसके लिए हमें पहले उसका उत्पादन करना आवश्यक है। कहने का मतलब यह है कि, कृत्रिमता विकास का आवास निर्माण करता है लेकिन प्रगति की वास्तविकता जमीन से जुड़कर होती है। मानवीय संवेदना प्रौद्योगिकी में महत्वपूर्ण है। नहीं तो मानवीय संवेदना के बिना प्रौद्योगिकी अर्थहीन होती है।

संदर्भ ग्रंथ -

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कोरोना के बाद की मानसिकता

श्रीमती एस. जी. कांबळे

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज

माळवाडी-कोतोली

हिंदी विभाग

“चिंता चिंता के समान है”। यह उकती हर रोज तनाव और निराशा से उत्पन्न और मौत के मुह में ले जाती गंभीर बिमारियों को देखते हुए एकदम सही लगती है। आजकल विश्व के स्तर पर हर आदमी की हालत ऐसी ही है। पिछले दो सालों से कोरोना की वैश्विक मरामारी ने सबको हिला दिया है। बड़े बड़े ताकतवर देश भी कोरोना की वजह से हिल गए। विश्व में लाखों लोगों की मृत्यु हो गई। covid-19 ने पुरे दुनिया को जैसे ब्रेक लगाया है। भागती दौड़ती जिंदगी में अचानक आए इस समस्या ने लोगों को हिला दिया। कोरोना का प्रभाव कम करने के लिए लॉकडाउन किया गया ऐसी स्थिति में विभिन्न स्तर पर विभिन्न प्रकार से लोगों पर किस प्रकार असर हुआ उसका विवेचन करना इस लेख का प्रमुख उद्देश्य है। लॉकडाउन से चिंता, डर, अकेलापण, बेरोजगारी इन समस्याओं से लोग झुजते रहें।

यदि हम आज कोरोना वायरस का नाम सुनते हैं तो, वस्तुस्थिति जो सर्वप्रथम उभरकर सामने आती है वह “क्वारेन्टाइन (अपनी गतिविधियों को स्वयं तक सीमित करना) या आइसोलेशन “(एकाकीकरण)” है। यह आइसोलेशन न केवल व्यक्ति या समाज के स्तर पर हुआ है बल्कि विभिन्न देशों की सीमाओं की स्तर पर भी हो गया है। इस वैश्विक आपदा की स्थिति में जहाँ एक और युद्ध स्तर पर भी बचाव के प्रयास किये जा रहे हैं तो वहीं दूसरी ओर इससे मुक्ति प्राप्त करने के उपाय भी खोजे जा रहे हैं।

पिछले कई दिनों से हम अस्पतालों के बाहर लोगों की चीख-पुकार, ऑक्सीजन की कमी रोते परिजन, इन खबरों को सून और देख रहे हैं। इन सूचनाओं से केवल डर ही नहीं बल्कि हमारे दिमाग और हमारी मानसिकता पर भी इसका गंभीर प्रभाव पड़ा है।

एथिक्स एंड मेडिकल रिजस्ट्रेशन बोर्ड (अध्यक्ष डॉ. बी. एन. गंगाधर) ने अपने एक शोध पत्र में इसका मानसिक स्वास्थ्य पर पड़ने वाले प्रभाव व उसके परिणामों के संदर्भ आगाह किया है।

पृष्ठभूमि

- * COVID - 19 महामारी के प्रसार को नियंत्रित करने के लिए भारत में 25 मार्च 2020 से देशव्यापी लॉकडाउन लागू करने की घोषणा की गई।
- * लॉकडाउन के कारण लोगों की आवाजाही, काम-काज, दैनिक जीवन शैली व गतिविधियाँ प्रभावित हुईं। आने वाले महीनों में विश्व के अन्य देशों के साथ भारत पर भी इसका व्यापक प्रभाव पड़ा।
- * इसी प्रकार वर्ष 2020-22 की पहली तिमाही में विनिर्माण क्षेत्र में 39.3% और खनन क्षेत्र में 23.3% की गिरावट, परिवहन व संचार के क्षेत्र में 47% की गिरावट देखी गई।

मानसिकता को प्रभावित करने वाले कारण :-

विश्व स्वास्थ्य संगठन के पहले महानिदेशक ब्रॉक चिशहोग जो कि एक मनोरोग चिकित्सक भी थे, की प्रसिद्ध उकती है”।

“बगैर मानसिक स्वास्थ्य के, सच्चा शारीरिक स्वास्थ्य नहीं हो सकता है”

कोरोना काल के बाद लोगों की बाद मानसिकता को इस काल खण्ड जिस प्रकार प्रभावित किया उसने वर्तमान में जीवनशैली, का काफी बदलाव प्रदान किए हैं। इन कारणों को हम इस प्रकार समझते हैं।

* बेरोजगारी में वृद्धि :-

कोविड के बाद लोगों की नौकरीयों जाना जिसके परिणाम स्वरूप समाज में एक बहुत बड़े वर्ग को बेरोजगारी की समस्या का सामना करना पड़ा।

- * **आर्थिक स्थिति :-** लोगों के जीवन को उनकी आर्थिक स्थिति व आर्थिक संसाधनों की कमी ने एक वर्ग विशेष नहीं बल्कि लगभग हर वर्ग को प्रभावित किया।
- * **स्वास्थ्य संसाधन :-** स्वास्थ्य संसाधन के अभाव के परिणाम स्वरूप भी लोगों की मानसिकता को व्यापक रूप से प्रभावित किया। जो हम खाते हैं उनमें पर्याप्त मात्रा में खनिज विटामिन होना आवश्यक हैं। इस समय लोगों इस समस्या से भी ग्रसित होना पड़ा।
- * **महामारी का भय :-** समाचार पत्रों, न्यूज चैनलो व अन्य सूचना संसाधानो के माध्यम से लोगों तक पहुँचनेवाली सूचनाओं (सही या गलत) ने भी लोगों की मानसिकता को काफी हद तक सकारात्मक व नकारात्मक मूल्यों पर प्रभावित किया है।
- * **घरेलू हिंसा की वृद्धि :-** घर सदस्य अपने अपने कार्यों में व्यस्त रहते थे, वह अपना अधिकांश समय कार्यस्थल पर व्यतित किया करते थे। लॉकडाउन के परिणाम स्वरूप एक स्थान पर लम्बे समय एक साथ रहने से सौहार्द के साथ -साथ घरेलू हिंसा के मामलों में वृद्धि देखी गई, जिसके परिणाम स्वरूप भी एक बड़े वर्ग समूह की मानसिकता में परिवर्तन आया।
- * **चिड़चिड़ापन व बच्चों की जिज्ञासा :-** स्कूल बन्द के परिणाम स्वरूप माता -पिता बच्चों को लेकर कुछ क्षेत्रों में चिड़चिड़े हुए तो दूसरी तरफ बच्चों के दुबारा पूछे जानेवाले प्रश्नों के उत्तर देने हेतु माता-पिता को जिज्ञासा भी बनाया सोशल मीडिया के सही इस्तेमाल ने इस क्षेत्र में सराहनीय योगदान प्रदान किया।
- * **स्वास्थ्य के प्रति संवेदनशीलता :** कोविड में लोगो की मानसिकता को स्वास्थ्य के प्रति जागरुक बनाया है, परन्तु कुछ क्षेत्र में लोगों की मानसिकता पर दुष्परिणाम भी देखने को मिले हैं। माना यह एक संक्रमक रोग है, लेकिन लोगों ने इसे अन्य वर्ग या एक क्षेत्र विशेष (चिकित्सा) के प्रति नकारात्मक रूप से लिया हालाकि इस प्रकार का दृष्टिकोण रखने वाले सीमित संख्या में है, परन्तु हमारे चिकित्सा व हमारे स्वास्थ्य कर्मचारीयों ने सराहनीय योगदान दिया।
- * **जीवन शैली में परिवर्तन :-** इस काल में लोगो जीवन में जो परिवर्तन आये उसने लोगों की दिनचर्या और जीवन शैली पूर्ण रूप बदलने का प्रयास किया। लोगों को पाश्चात्य जीवन शैली से हटकर पूर्व की या भारतीय जीवन शैली को अपनाते व इसके लाभों के महत्त्व का आकलन करने का अवसर प्राप्त हुआ। इस सोच ने भी लोगों पर गहरा प्रभाव डाला व समस्त संसार भर में भारतीय जीवन शैली के महत्त्व को विवेचित किया।
- * **सांस्कृतिक व प्राचीन चिकित्सा पद्धति :-** कोरोना ने लोगों की मानसिकता में सबसे बड़ा बदलाव किया है उसमें घरेलू चिकित्सा पद्धति व आयुर्वेद के महत्त्व साफ रूप से परिलक्षित होता है। इसके महत्त्व ने न अपितु भारत बल्कि संपूर्ण विश्व के देशों को यह संदेश दिया है, भारत की प्राचीन जीवन शैली, भोजन परम्परा, योग साधना व आयुर्वेद शास्त्र व विधियाँ किस प्रकार से स्वस्थ व जीवन यापन हेतु अति - आवश्यक है।

इस प्रकार अनेक अन्य कारणों ने भी कोरोना काल व कोरोना उपरान्त लोगों की मानसिकता पर सकारात्मक एवं नकारात्मक दोनो ही प्रकार के व्यापक एवं प्रभावी परिणाम डाले जिनके परिणाम स्वरूप लोगों के जीवन, जीवन शैली, रहन-सहन, व्यवहार, आचरण, संवाद व एक दुसरे से मिलने व वार्तालाप जैसे कार्य में परिवर्तन लाये है। जिसके कई परिणाम सामने आये हैं।

परिणाम

लोगों में सोशल डिस्टेंसिंग के पालन को बढ़ावा मिला, लोगों ने भिड-भाड़ वाले स्थानों पर जाने से परहेज करने की व्यवस्था को बल दिया।

- शादी या अन्य किसी प्रकार आयोजनों को सीमित लोगों व संसाधनों के साथ अपना स्वीकार किया।
- आत्मनिर्भर भारत व भारतीय जीवन शैली को प्रोत्साहित करने हेतु कदम बढ़ाया।

- स्वास्थ्य के प्रति जागरूक हुए, योग, ध्यान शाकाहार व देशज जीवन पद्धति को बढ़ावा दिया। उसके महत्त्व को समझा, सिमित संसाधनों के प्रयोग से सर्वोत्तम परिणाम की परिकल्पना के संदेश को सिद्ध करने की प्रवृत्ति विकसित करने का प्रयास किया।
- इलेक्ट्रॉनिक संसाधनों व संचार के संसाधनों के इस्तेमाल को बढ़ावा दिया, लोगों में इसके प्रति जागरूकता बढ़ी इसके प्रयोग के महत्त्व को समझकर अपने जीवन में इसे उचित स्थान दिया।
- जागरूकता वृद्धि हुई, अपने अधिकारों, सरकार द्वारा प्रदान की गई सुविधाओं को लेकर ज्ञान विकसित हुआ।
- भारतीय संस्कृति दर्शन की अनुभूती "हाथ मिलने" के स्थान पर "हाथ जोड़ने" का महत्त्व संसार को समझ आया।
- कुछ क्षेत्रों में कई परिणाम विचारणीय भी रहे हैं। स्कूली शिक्षा, रोजगार विनिर्माता चिकित्सा, प्रव दूरसंचार व प्रौद्योगिकी उसके विकल्पों को खोजना आदि महत्त्वपूर्ण हैं। बच्चों की शिक्षा का पर प्रतिकूल प्रभाव पड़ता हम देख सकते हैं। उनकी ज्ञानार्जन क्षमता में कमी देखी गई इसका परिणाम बच्चों में उनकी उम्र के अनुसार बुद्धिमत्ता का अभाव होना, एवं मोबाईल के अत्याधिक प्रयोग में बढ़ती के तौर पर देखा जा सकता है।

चुनौतियाँ :-

कोरोना के परिणाम स्वरूप कई चुनौतियाँ भी उभरकर सामने आई है।

- रोजगार के अवसर इस प्रकार उपलब्ध हो की भविष्य में इस प्रकार की स्थिति में लडा जा सके।
- शहरी पलायन ने यह स्थिति स्पष्ट की है, कि - भारत जैसे विशाल ग्रामीण क्षेत्रों वाले देश में कौशल विकास को बढ़ावा देकर उन्हीं क्षेत्रों में कौशल विकास रोजगार के पर्याप्त अवसर प्रदान कराये जा सके। ग्रामीण पलायन प्रारंभ में ही रुके, और शहरों पर अत्याधिक जनसंख्या का बोझ न बढ़े।
- आत्मनिर्भर भारत के संकल्पना को पूर्ण करने पर विशेष बल देना चाहिए विदेशी आयात व निर्भर न रहकर अपने उत्पादन व गुणवत्ता पर विशेष बल देना चाहिए।
- चिकित्सा क्षेत्र में सबसे बड़ी चुनौती आधारभूत संरचना के विकास, संसाधनों (चिकित्सकिय उपकरण) की उचित व्यवस्था व स्वास्थ्य कर्मचारियों के उचित प्रशिक्षण की है। इसके विकास पर ही चिकित्सकिय सुविधाएँ उपलब्ध कराई जा सकती है।
- चिकित्सकों व चिकित्सा कर्मचारियों की वृद्धि भी एक सबसे बड़ी समस्या है। भारत जैसे विशाल जनसंख्या वाले राष्ट्र में इसकी महत्ता पर विशेष बल देना अति आवश्यक है।
- राजनैतिक नेतृत्व को सुदृढ करना जो कि इस विश्वव्यापी समस्या के लिए वैश्विक स्तर पर हमारे राष्ट्र का प्रभावी प्रतिनिधित्व कर सके। जिस प्रकार से हमारे वर्तमान प्रधानमंत्री जी के नेतृत्व में भारत ने अपनी प्राचीन ऐतिहासिक संकल्पना "वसुदैव कुटुंबकम" को समस्त संसार में बढ़ावा दिया, "समस्त विश्व को एक परिवार" बताया।

समाधान

- देश की अर्थव्यवस्था को सृढ करना इस हेतु आवश्यक कदम उठाना।
- ग्रामीण पलायन को रोकने के प्रयास करना, "कौशल विकास कार्यक्रमों को बढ़ावा रोजगार के व्यापक अवसर स्थान विशेष पर ही उपलब्ध कराना।
- चिकित्सकीय क्षेत्र में आधारभूत संरचना विकास बढ़ावा देना।
- बजट के प्रावधानों में बदलाव लाना" चिकित्सा के क्षेत्र में निवेश को बढ़ावा देना।
- चिकित्सा बजट को बढ़ाना।
- लोगों में जागरूकता को बढ़ावा देना।
- लोगों में आत्मनिर्भरता के साथ-साथ स्वस्थ के प्रति जागरूकता को बढ़ाना।

- NGO. स्व-सहायता समूहों व अन्य संस्थानों को कार्य की (चिकित्सा, रोजगार, सामाजिक जागरूकता) विशेष अनुमति व आर्थिक संसाधन उपलब्ध कराना समय-समय पर उनका निरीक्षण, अंकेक्षण (audit) कर उनके कार्य आकलन करना व उन्हें नई सरकारी नीति, व योजनाओं से अवगत कराना)

इसी प्रकार समाज के विभिन्न वर्गों, आर्थिक संस्थाओं, बड़े-बड़े अथा उद्योगपतियों, स्व-सहायता समूहों, चैरेटीयों व धनी सम्पन्न वर्गों को आगे आकर सहयोग प्रदान करने हेतु प्रेरित करना चाहिए। उनका एक व्यापक डेटा बेस तैयार कराना चाहिए, जिससे उन्हें सरकारी नीतियों एवं एक सशक्त समूह निर्माण में सहयोग प्राप्त किया जा सके।

निष्कर्ष :-

COVID-19 या कोरोना महामारी ने वैश्विक अर्थव्यवस्था को गंभीर रूप से प्रभावित किया है। इस महामारी के दौरान आपूर्ति श्रृंखलाओं चिकित्सा, वित्त के बाधित होने, श्रमिकों के पलायन और वित्तीय तरलता, चिकित्सकीय सुविधाओं का अगात, दवाओं की अनुपलब्धता, चिकित्सा संसाधनों के अभाव की समस्या को उजागर किया! एक स्वस्थ व समर्थ समाज की परिकल्पना को गंभीर आघात पहुँचाया है। विकसित व विकास -शील देशों दोनों को एक ही समान पायदान पर लाकर खड़ा कर दिया।

हालाँकि देश की अर्थव्यवस्था को पुनः गति प्रदान करने और इस महागारी उपरान्त जन्मी विभिन्न परिस्थितियों से निपटने के लिए सरकार को सार्वजनिक निवेश के साथ-साथ स्थानीय आपूर्ति श्रृंखला को मजबूत करने का प्रयास करना चाहिए।

चिकित्सा व स्वास्थ्य सुविधा के क्षेत्र में विकास व सुविधाओं शिक्षा के उचित प्रचार-प्रसार व जनसामान्य में विशेष परिस्थिति में संयम रखने व संघटित होकर, विशेष रूपरेखा अनुसार भावी समस्या से अपने आप को स्वस्थ व सुरक्षित रखने का बोध करानेवाली नितियों को विकसित कर समय-समय पर उससे अवगत कराना चाहिए। सरकारी नीतियों और व योजनाओं में संशोधन व उसके और अधिक सट्टीकरण व मजबूतीकरण के लिए समय-समय पर जनता से सहयोग व विचार ग्रहण करते रहना चाहिए, जिससे एक संशक्त व समृद्ध राष्ट्र की अवधारणा को साकार किया जा सके।

संदर्भ

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महात्मा फुले स्त्री सुधारणावादी भूमिका

प्रा. सुषमा विलासराव जाधव
इतिहास विभाग
वारणा महाविद्यालय, ऐतवडे खुर्द.
ता. वाळवा जि. सांगली.

महात्मा फुले यांनी स्त्री उध्दारासाठी व विकारासाठी प्रत्यक्ष कृती करून समाजसुधारणा केलेली दिसून येते. स्त्री शिक्षणाला नुसता पुरस्कार करून ते थांबले नाहीत, तर त्यांनी मुलींची पहिली शाळा काढून एक आदर्श निर्माण केला. स्त्री-पुरुष समानतेचा पुरस्कार करणारे म.फुले स्त्री-मुक्तीचे आद्य कैवारी समजले जातात.

स्त्री उध्दारासाठी स्त्री शिक्षण, प्रौढविवाह, विधवा पुनर्विवाह, केशवपनविरुद्ध चळवळ, स्त्रीयांचे आर्थिक स्वावलंबन यासारख्या अनेक मुद्यांना म.फुले यांनी हात घातला होता. म.फुले हे समाजाची नव्याने पुनर्बांधणी करण्याच्या विचारांचे होते. स्त्रियांची गुलामगिरीतून मुक्तता करायची असेल तर त्यासाठी संपूर्ण सामाजिक संरचना क्रांतीकारकरीत्या बदलावी लागेल असे त्यांना वाटत होते.^१

● स्त्री-शिक्षणाचे आद्य जनक : जोतीबा फुले

पहिल्या स्त्री शिक्षिका-सावित्रीबाई फुले इ.स.१८४८ मध्ये जोतीबा फुले यांनी महाराष्ट्रात पुणे येथे भिडेवाडयात पहिली मुलींची शाळा सुरु केली. समाजात संकल्पाप्रमाणे सुधारणा घडवून आणण्याच्या दिशेने टाकलेले हे एक प्रथम पाऊल होते. शुद्रातिशूद्र स्त्रियांना खरा धर्म कळावा, न्याय अन्याय समजावा, पाप-पुण्य कळावे, कर्म-अकर्म समजावे, धर्म-अधर्म कळावा, सत्य-असत्य समजावे व आपले कर्तव्य आणि हक्क यांची जाणिव व्हावी यादृष्टीने स्त्रियांना पहिल्यांदा शिक्षण दिले पाहिजे असे म.जोतीबा फुल्यांचे प्रामाणिक मत होते म्हणून त्यांनी मुलींची शाळा सुरु केली पण शाळेत शिकवण्यासाठी शिक्षण किंवा शिक्षिका मिळेनात महात्मा फुले यांनी आपली पत्नी सावित्रीबाई यांना पहिल्यांदा साक्षर केले व याच पहिल्या महाराष्ट्राच्या स्त्री शिक्षिका होत्या.

सावित्रीबाई फुले यांचा शिक्षण क्षेत्रात प्रवेश झाल्यानंतर हिंदू स्त्री पुन्हा सार्वजनिक क्षेत्रात उतरले असे म्हणावे लागेल एका हिंदू स्त्रीने सनातनी समाजाची बंधने तोडून शिक्षिकेचे कार्य करावे, ही गोष्ट जेवढी अभुतपुर्व तेवढीच सामाजिक चालीरीतींना मोठा धक्का देणारी होती. समाजकंटक सावित्रीबाईंच्या कार्याची निदानालस्ती करून लागले. प्रत्येक दिवशी शाळेकडे जाताना सावित्रीबाईंना अपमानकारक शब्द ऐकावे लागत असत.एवढेच नव्हे तर शोणमारा व शडफेक यांना ही तोंड द्यावे लागे. परंतू सावित्रीबाईंनी अंगीकृत कार्यांना कधी त्याग केला नाही. म.फुलेंनी स्त्री-शिक्षण प्रसारासाठी ज्या खस्ता खाल्ल्या, त्यामुळेच त्यांना स्त्री शिक्षणाच्या आद्यजनकत्वाचा मान मिळाला. तत्कालीन ब्रिटीश सरकारकडून पुण्यातील विश्रामबाग वाडयात शालजोडी देवून त्यांचा बहुमान करण्यात आला.^२

म.जोतीबा फुले यांनी स्त्रीमुक्तीची जी स्पष्ट भूमिका घेतली, ती केवळ स्त्रियांचा उध्दार व्हावा किंवा त्या सुशिक्षित झाल्यातर कुटुंबाला पुढे जायला बरे होईल एवढ्यापुरतीच मर्यादित नव्हती, तर एकंदर पुरुषांकडून स्त्रियांवर लावल्या गेलेल्या एकुणच गुलामगिरीविरुद्ध होती आणि ती नष्ट होण्यासाठी स्त्री शिक्षित होणे आवश्यक आहे, असे त्यांना वाटत होते, म्हणून ते आपल्या एका अखडात म्हणतात.

“स्त्री पुरुषांसाठी शाळा त्या घालाव्या ॥

विद्या शिकवाव्या ॥ भेद नाही॥”^३

● निराधार विधवांना आधार

स्त्री शिक्षणाबरोबरच विधवांच्या दुःस्थितीकडे ही महात्मा फुले यांचे लक्ष वेधले होते. इंग्रज सरकारने १८२९ साली सतीबंदीचा कायदा केला आणि ही चाल बंद करण्यासाठी राजा राममोहन रॉय सरकारला फार मोठे सहाय्य केले. या अमानुष चालीला आळा घालण्यासाठी लोकमत तयार व्हावे म्हणून आपली वाणी व

लेखणी यांचा प्रभावी उपयोग त्यांनी केला. परंतु त्यांची कामगिरी बंगाल बाहेर फार प्रमाणात गाजली नाही. मात्र सतीबंदीचा कायदा सरकारने केल्यावर त्यांचे नाव सर्वतोमुखी झाले आणि भारतातील एक अग्रगण्य समाजसुधारक व स्त्री कैयारी म्हणून त्यांची कामगिरी इतिहासात नोंदिविली गेली. पण हा कायदा झाला तरी ही १८५१-५२ पर्यंत मधून मधून सतीचे प्रकार घडतच असत. १९८८ चे रुपकुंवरचे उदाहरणही आहेच. ज्या स्त्रिया सती जात नसत त्यांच्या पैकी बहुतेकींना जिणे असह्य केले जाई. केशवपनाची दुष्ट चाल त्या काळी वरिष्ठ जातीत होती विधवा अशुभ म्हणून तिला अंधा-या कोपत्यातून बाहेर येण्याचीही परवानगी नसे. बालविवाहांचा रिवाज सर्रास होता. त्यामूळे विवाह म्हणजे काय हे कळण्याआधीच विधवा झालेल्या मुली असत. त्यांची स्थिती फारच केविलवाणी असे. त्यांच्यापैकी काही शारिरीक भुकेला बळी पडत तर काही घरातील पुरुषांच्या वासनेची शिकार होत. अशा विधवा शेवटी अबुरक्षणासाठी अघोरी उपाय योजीत. गर्भपात करवून घेत अगर जन्मतःच बालकांला मारून टाकले जाई.^४

महाराष्ट्रात १८४० पासून विधवांच्या पुनर्विवाहाचा प्रचार झाला होता. विष्णूशास्त्री बाप हे गृहस्थ त्याचे पहिले प्रचारक होते. १८४२ मध्ये बेळगावला दोन ब्राह्मण विधवांचा पुनर्विवाह झाला. पण त्याला विशेष प्रसिध्द मिळाली नाही. २५ जुलै १८५६ रोजी सरकारने विधवा विवाहाचा कायदा पास केला. तर पुढील वर्षी घटस्फोटाचा कायदा पास झाला विधवा विवाहाचा प्रश्न उच्च जातींशी निगडीत असला तरी विधवांची दुःस्थिती पाहून फुले दांपत्यालादुःख होत असे. त्यांनी विधवापुनर्विवाहाच्या चळवळीला सक्रिय पाठिंबा दिला. १८६४ मध्ये महात्मा जोतीबा फुलेंची एका शेणवी जातीतील रघूनाथ जनार्दन या विधुराचा नर्मदा या नावाच्या विधवेशी पुनर्विवाह घडवून आणला.^५

● बालहत्या प्रतिबंधक गृहाची स्थापना

फसलेल्या विधवांसाठी म.जोतीबा फुलेंनी 'बालहत्या प्रतिबंधक गृह' काढले. त्याची माहिती देणारी भित्तिपत्रके पुण्यातील घराघरांवर लावण्यात आली त्यात असे म्हटले होते की "विधवांनो इथे गुप्तपणे आणि सुरक्षितपणे बाळंत व्हा. तुम्ही आपले मूल न्यावे किंवा इथे ठेवावे हे तुमच्या खुशीवर अवलंबून राहिल त्या मुलाची काळजी हा अनाथाश्रय घेईल." त्यांचे 'बालहत्या प्रतिबंधक गृह' ही भारतातील अशा स्वरूपाची पहिलीच संस्था होती. ब्राह्मण विधवांना दुष्कीर्ती, भुणहत्या व बालहत्या यांपासून वाचविण्यासाठी ही संस्था त्यांनी सुरु केली. त्यामुळे ख्रिस्ती मिशन-यांकडे अशी जी अनाथ मुले जात ते बंद झाले. न्या. म.गो.रानडे, लोकहितवादी, गोपाळ गणेश आगरकर या समाजसुधारकांचे सहाय्य या प्रश्नी त्यांनी मिळाले. कालांतराने अशी संस्था पंढरपूरला स्थापन झाली. अनेक विधवांनी महात्मा जोतीबा फुले यांच्या बालहत्या प्रतिबंधक गृहात आश्रय घेतला. सावित्रीबाई फुलेंनी सुईणीच्या मदतीने त्यांची बाळंतपण केली आणि अनाथ मुलांचा प्रेमाने प्रतिपाळ केला. फातिमा शेख आणि सरस्वतीबाई गोवंडे त्यांना सहाय्य करत असत.^६

स्त्रियांच्या सर्वांगीण प्रगतीचा विचार प्रथम महात्मा फुल्यांनीच केला होता. हा विचार केवळ दयाबुद्धी किंवा सहानुभूतीवर आधारलेला नव्हता, तर स्त्रियांना समान हक्क आणि त्यांच्या स्वातंत्र्य पुरस्कार करणारा होता ही बाब निर्विवाद सत्य आहे. एकुणच पुरुषांकडून एकंदर स्त्रियांवर लादल्या गेलेल्या गुलामगिरीतून होणारे शोषण थांबले पाहिजे. 'पितुसत्ताक' कुटूंबपध्दतीवर घणाघाती प्रहार करी म. जोतीबांनी स्त्री मुक्तीची वाट समस्त स्त्री जातीसाठी खुली केली.^७

● केशवपनविरुध्द चळवळ

'केशवपन ही महिलेची आणखी एक समस्या, इ.स. च्या चौदाव्या झालेल्या स्कंद पुराणातील 'मदन पारिजात' हया निबंध ग्रंथात (विधवा कवरीबंधो) ह्या श्लोकाचा उल्लेख आला आहे. त्यावरून ही रूढी त्या काळाच्या पूर्वी निदान काही शतके प्रचारात आली असावी.' कबरीबंध म्हणजे केसांचा बुचडा पतीच्या बंधास कारणीभूत होतो, ह्या खुळचट समजूतीमुळेच पतीच्या मृत देहाबरोबर पत्नीचे केस जाळण्याची पध्दत रूढ झाली. 'सर्व दुर्गुणांनी अलंकृत भर्ता स्वर्गवासी होताच, स्त्रीने आपल्या पतिप्रेताचा पायाचा अंगठा हातात धरून, परजातीच्या अशौच शूद्र नापिकाच्या हातून आपले बोडके भादरून घ्यावे' अशी केशवपनाची पध्दत

असे. ह्या वपन झालेल्या विधवेला अंगावर कोणताही दागिना घालता येत नसे, उंची वस्त्रे ही नेसता येत नसत. मादक मिष्टान्न तिला वर्ज्य असे. अनेक व्रतवैकल्यात तिला गुंतवून ठेवले जात असे.^८

विधवांच्या दुःखात भर टाकणारी आणखी एक केशवपनाची अनिष्ट प्रथा हिंदू ब्राह्मण समाजात रुढ होती, महात्मा फुलेंच्या सत्यशोधक चळवळीने याबाबत जनजागृती करून स्त्रीप्रश्नांच्या संबंधेने आणखी एक पाऊल टाकले. केशवपनाचा अन्याय ब्राह्मण स्त्रियांवर होत आहे म्हणून म.फुले आणि त्यांच्या अनुनयांनी न्हाव्यात प्रचार करून त्यांनाच 'केशवपन करावयाचे नाही' म्हणून तयार केले. त्यांचा संप घडवून आणला हे 'स्त्रीवपन विरोधी प्रबोधन' इंग्लंडमधील स्त्रियांच्या कानावर गेल्यावी त्यांनी तेथे निषेधांचे ठराव केले या जागृतीचा परिणाम ब्राह्मण स्त्री पुरुषांमध्ये ही झाला. १८६४ च्या सुमारातील विधवांचे केशवपनाच्या संदर्भातील न्हाव्याचा संप इतिहासाला नोंद करून घ्यावा लागला.^९

न्हाव्यांना एकत्र आणून, सामूहिकपणे त्यांनी विधवा केशवपनावर बहिष्कार टाकावा यासाठी म.फुले यांचे मित्र 'दीनबंधू' चे तत्कालीन संपादक भालेकर यांनी पुढाकार घेतला होता. 'दीनबंधू' मधून लेखमाला लिहून त्यांनी याबाबतीत आपली मत परखडपणे मांडली होती. या लेखांपैकी २३ फेब्रुवारी १८९० चा एक लेख 'यमुनापर्यटन' च्या दुस-या आवृतीला पुरवणीरूपाने जोडलेल्या आढळता. त्यात म्हटले आहे, "आपले सर्व सौंदर्य एकाएकी जाऊन आपणांस अशा छिन्नभिन्न झालेल्या पाहून त्यांचा देह जळत नाही काय? त्या सजीव स्त्रीच्या ज्वालाचा प्रखर ताप तुम्हाला पडत नाही काय? अहो न्हावी बांधव हो, शेकडो शाप तुम्हावर दररोज पडत असता तुमची उन्नती ती कशी होणार. तुमच्या वाडवडिलीस आपमतलवी ब्राह्मणांनी भुलथाप देऊन गरीग अबलांची तुमच्या हातून विटंबना करण्याचा प्रघात पाडला आहे. तुम्हांस सर्व पापाचे व शापाचे मालक केले आहे तर आता तरी सावध व्हा व विचार करा, जातीची सभा भरवून सर्व मंडळीची समज घालून सक्त ठराव करावा की आजदिनापासून तुमच्या मंडळीपैकी जो कोणी स्त्रियांचे केश काढील अथवा ह्या कामास साह्य करील तो जातीचा गुन्हेगार होईल व त्यास जातीतून बहिष्कृत केले जाईल व असे केल्याने तुम्ही तुमच्या मंडळीस पापसागरातून मुक्त कराल व पुण्याचा वाटा उचलाल..."^{१०}

महात्मा फुले यांच्या या चळवळीचा परिणाम ब्राह्मण सुधारकांवर झाला. 'सुबोधपत्रिके मध्ये याविषयी जागृती करणारे लेखन प्रसिध्द होऊ लागले त्यात अशी सुचना करण्यात आली होती की, जर विधवांचे केशवपन करावयाचे तर ते एक तर कुटुंबातील स्त्रियांनी करावे किंवा न्हावीणींकडून करवून घ्यावे. नाशिक येथे एक न्हावीण केशवपनाचे काम करित परंतू तिला जातबांधवांकडून जातिबहिष्कृत करण्याची दहशत घालण्यात आली. सार्वजनिक कार्यकर्त्यांनी या न्हावीणीला संरक्षण द्यावे तिला पुण्यास नेऊन तिचा धंदा चालविण्यास सहाय्य करावे, म्हणजे तिला आपला चरितार्थ चालविण्याची पंचाईत पडणार नाही आणि तिच्यावरील संकट टळेल, अशी सुबोध पत्रिकेने भूमिका घेतली होती.'^{११}

● बालविवाह प्रथेविरुध्द चळवळ

बालविवाहाची प्रथा केव्हा नि कशी सुरु झाली हा एक वेगळा विषय आहे. तथापि, या बालविवाहांच्या प्रथेमुळे लक्षावधी स्त्रियांच्या जीवनाची राख झाली हे सत्य महात्मा फुले यांच्या लक्षात आल्यावाचून राहिले नाही. स्त्रियांच्या अनेक अरिष्टांचे मुळ बालविवाहाल आहे असे त्यांचे मत होते. बालक्यात लग्न झाल्यामुळे निसर्गनियमाप्रमाणे न पेलवणारे गर्भारपण आणि मातृत्व मुलींच्या वाटयाला येत असते. आधीच कोवळे वय आणि त्यात जन्मलेल्या मुलांची भर यातून दोघांच्या ही आरोग्याचा प्रश्न निर्माण होत असला तरी बालविवाहामुळे स्त्री शिक्षणास ही अडथळा येतो. लहान वयातच विवाह झाल्याने अनेक स्त्रियांच्या नशिबात वैधव्य येते. समज येण्याच्या आधिच वा एखास मुल होताक्षणीच अनेक स्त्रियांना वैधव्याला सामोरे जावे लागते अशा स्त्रिया कमालीच्या तणावाखाली जगत असतात.

बालविवाहातून अनेक अरिष्टांनी मालिका निर्माण होत असल्यामुळे महात्मा फुलेंचा त्यास विरोध होता. स्त्रीपुरुषांच्या व त्यांना होणा-या बालकांच्या आरोग्याच्या दृष्टीनेही असे विवाह हानीकारक ठरतात, बालविवाह स्त्रीशिक्षणासही मारक असतात. स्त्रिया अशिक्षित राहिल्यामुळे प्रसंग पडल्यावर बालविधवेच वा परित्यक्तेचे परावलंबी जिणे जगण्याखेरीज त्यांना पर्याय राहत नाही. लहानपणी न विचारतर केलेली पत्नी न

आवडल्यामुळे दुसरी आणण्याचे निमित्त पुरुषाना मिळून बहूपत्नीत्वाची माती करण्यास मोकळीक येथील परंपरा देते. मात्र बालविधवा स्त्रियांना पुन्हा विवाह करण्यास ती प्रतिबंध घालते. अशा विधवांच्या अगतिकतेचा गैरफायदा पुरुष घेतात आणि अब्रु वाचविण्यासाठी त्यांना भ्रमहत्या करणे भाग पडते वा आत्महत्या करणे भाग पडते. स्त्रीपुरुषांसाठी असे वेगवेगळे निकष लावणे महात्मा फुले यांना अमान्य होते.

● स्त्रियांची समानता

पुरुष व स्त्री लग्नविधीनंतर एकमेकांचे सोबती होतात. लग्नाच्या वेळी जर स्त्री पुरुष समानता स्पष्ट होऊन तिचा स्वीकार पुरुषानी केला तर स्त्री-समानतेचा प्रश्न सोडवता येईल. यासाठी महात्मा फुलेनी सत्याशोधक पध्दतीचा लग्नविधी तयार केला. पारंपारिक पध्दतीच्या अक्षदांना अक्षदा दिली. लग्नाचे वेळी वधू घराकडून काही आश्वासने घेत. स्त्रीची अवहेलना होऊ नये.

तिला स्वातंत्र्य मिळावे, समानता मिळावी यासाठी ती वचन मागते. असे प्रसंग म.जोतीबांनी त्यात घातले आहेत.^{१६}

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इतिहास आणि वर्तमानातील महामारी व्यवस्थापन

डॉ. डी.आर पाटील,

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ता.शिराळा, जि.सांगली.

कोरोना महामारीने संपूर्ण जगास सर्वार्थाने जेरीस आणले. संपूर्ण जगाची आर्थिक घडी विस्कटून गेली होती. अजूनही जग याचे चटके सोसत आहे. इतिहासातही अशाच प्रकारच्या आपत्ती आल्या. विशेषतः कोल्हापूर संस्थानात राजर्षी शाहू महाराज यांनी अशाच प्रकारची महामारी आली असताना त्याचे काटेकोर नियोजन केले. संस्थानातील जनतेची जिवीत हानी होवू नये याची खबरदारी घेतली. भारतालाही महामारीला तोंड देत असताना लसीकरण व अन्य उपाययोजनांच्या माध्यमातून या महामारीवर अर्थात आपत्तीवर नियंत्रण मिळविणे शक्य झाले आहे.

कोव्हीड-१९ चे बदलणारे स्वरूप :

जगात डिसेंबर २०१९ पासून कोरोनाने हातपाय पसरले तर मार्च-२०१९ पासूनच भारतात कोरोनाने धुमाकूळ घालण्यास सुरुवात केली. या कोरोनाने आपली विविध रूपे (म्युटेशन) धारण करून वैद्यकीय क्षेत्रालाही अचंबित केले. जगाचा विचार केला तर जगाच्या पाठीवरती सर्वात चांगली आणि आधुनिक आरोग्य यंत्रणा असलेला देश म्हणजे इटली. हा देशही कोरोनापुढे पुरता कोलमडून गेला किंवा जागतिक महासत्ता असलेल्या अमेरिकेसमोरही कोरोनाच्या बदलणाऱ्या स्वरूपाने आव्हान उभे केले. अगदी शेवटी-शेवटी ओमिक्रॉन हा व्हेरीएंटही युरोपीय राष्ट्रे आणि अमेरिका या देशात धुमाकूळ घालत होता. तुलनेने भारतात लसीकरण मोठ्या प्रमाणात झाल्याने याची फारशी झळ देशाला बसली नाही. एका अभ्यासांती फ्रान्समध्ये २५ आक्टोबर ते १८ डिसेंबर, २०२१ या कालावधीत १ लाख २१ हजार २४७ नमुने तपासले गेले व यातून असे लक्षात आले की, ओमिक्रॉन हा व्हेरीएंट १०५% वेगाने फैलावतो.^१ असे असूनही लसीकरणामुळे भारताला याचा फटका कमी बसला.

कोरोना काळातील सामाजिक समस्या :

कोरोनामुळे जगाची अर्थव्यवस्था डळमळीत झाल्याचे संपूर्ण जगाने अनुभवले. पण याच दरम्यान मात्र स्त्रियांवरील हिंसाचारात वाढ झाल्याचे दिसून येते. २७ फेब्रुवारी २०२० ते २२ मार्च २०२० पर्यंत महिलांच्या १२३ तक्रारी दाखल झाल्या. मात्र लॉकडाऊन सुरू झाल्यापासून म्हणजेच २३ मार्च २०२० ते १६ एप्रिल २०२० पर्यंत राष्ट्रीय महिला आयोगाकडे तब्बल ५८७ स्त्रियांवरील अत्याचाराच्या तक्रारी मेल आणि फोनच्या माध्यमातून दाखल झाल्या.^२ पंजाब राज्यात महिला अत्याचाराचे प्रमाण अधिक दिसून येते. २००९ च्या जागतिक मंदीच्या काळातही सध्याच्या कोरोनाप्रमाणेच नोकरी, उद्योग, व्यवसायांना मोठ्या समस्येला सामोरे जावे लागले होते. फक्त त्याचे स्वरूप वेगळे होते.

कोरोना काळातील कर्तव्यावर असलेल्या अनेक लोकांचे प्राण गेले. विशेषतः आरोग्य कर्मचाऱ्यांना मोठ्या संकटांचा सामना करावा लागला. पोलीस आणि आरोग्य कर्मचारी वगळता काही अत्यावश्यक सेवांचा अपवाद वगळता लॉकडाऊनने अनेक सामाजिक समस्या उद्भवल्या. परंप्रांतीय मजुरांचा प्रश्न, शेती कर्मचाऱ्यांचा

प्रश्न, प्रवासावरील निर्बंध, शाळांचा ऑनलाईन फंडा असे एक ना अनेक सामाजिक प्रश्न उभे राहिले. यातले काही प्रश्न अजूनही सुटलेले नाहीत.

कोल्हापूर संस्थानातील महामारी :

राजर्षी शाहू महाराजांच्या काळातही प्लेगच्या साथ रोगाने धुमाकूळ घातला होता. १८९४ ला राजर्षी शाहूंना करवीर राज्याचा अधिकार प्राप्त झाला. १९९६ साली प्लेगसारख्या भयानक रोगाने मुंबई इलाक्यात तर १८९८ ला करवीर राज्यात प्रवेश केला. या अनोख्या आणि अज्ञात आजारारवर मात करण्यासाठी करवीर संस्थानास जवळपास दोन वर्षे खर्ची घालावी लागली. विशेषतः राजर्षी शाहू महाराजांनी या रोगामध्ये करवीर संस्थानातील मनुष्यहानी जास्त प्रमाणात होवू नये म्हणून विशेष असे कार्यक्रम हाती घेतले. लोकांच्यात या आजाराविषयी जागृती व्हावी यासाठी लोकप्रबोधनाची चळवळ हाती घेतली. सर्व सरकारी यंत्रणा कामी लावली.

आजच्या कोरोना लाटेत ज्या पध्दतीने आयुर्वेदिक व घरगुती उपचारांची मदत घेतली गेली त्याच पध्दतीने राजर्षी शाहूंनी होमिओपॅथिक औषधोपचारांची मदत घेऊन महामारीचा मुकाबला केला. शाहू छत्रपतींची अॅलिओपॅथीपेक्षा होमिओपॅथी औषध योजनेवर अधिक श्रद्धा होती.^३ या साथीच्या रोगाबरोबर त्या कालखंडात पडलेल्या दुष्काळात महाराजांनी अनेकांच्या दुःखावर फुंकर घातली. मदत केली व मोडून पडलेली माणसं उभी केली. मदत करत असताना दुष्काळ आणि साथीचे रोग याबाबत दरबारास वस्तुस्थिती माहित व्हावी यासाठी सरकारी आदेश काढून सेवकांना कामास जुंपले. आपल्या संस्थानात दुष्काळ कामाची तरतूद करण्याकडे आपण प्रत्यक्ष जे लक्ष पुरवीत आहात त्याबद्दल मी आपले अभिनंदन करणे अत्यंत जरूरीचे आहे.^४ असे राजर्षी शाहूंच्या कार्याचा गौरव करताना त्यावेळचे पोलिटिकल एजंट जॅक्सन यांनी असे प्रशंसोद्गार काढले असल्याचेही आपणांस दिसून येते.

एकदा का साथीचा रोग आला की कोल्हापूरसारख्या संस्थानातसुध्दा पाच-दहा हजार लोकांचे प्राण जात असत. या साथीच्या रोगांचा तात्काळ प्रभाव कमी करून रोगाचे उच्चाटन करणारी औषधे नसत. कोरोनाच्या लसीबाबत जसा पहिल्यांदा गैरसमज होता त्याच पद्धतीने तेंव्हाही जनता लसीकरणासाठी तयार होत नसे. कोल्हापूर संस्थानात सुरूवातीला प्लेगची लागण १८ खेड्यातून झाली. शिरोळ व गडहिंग्लजमध्ये प्लेगचा जोर जास्त होता.^५ कोरोना रोगास प्रतिबंध करण्यासाठी क्रॉनटीन सेंटर ज्या पद्धतीने स्थापन करण्यात आली होती, अगदी तशाच पद्धतीची क्रानटीन सेंटर्स कोल्हापूर संस्थानात स्थापन करण्यात आली होती. आजच्या प्रमाणेच सर्व जत्रा, सार्वजनिक मेळावे व गर्दीच्या ठिकाणावर निर्बंध आणले. रेल्वे अथवा तत्सम मार्गाने शहरात येणाऱ्या प्रवाशांची वैद्यकीय तपासणी करण्यात येत होती. साथ रोग लपवणाऱ्यांची संस्थाही लक्षवेधी होती म्हणून अशा लोकांना शोधून काढण्यासाठी महाराजांनी बक्षिसे जाहीर केली. लस टोचून घेणाऱ्यांना दोन-तीन दिवसाची सुट्टीही दिली. परिणामी लसीचा टक्काही वाढला. महाराजांनी लोकांचा गैरसमज मिटावा यासाठी स्वतःसह नोकरांना लस टोचून घेतली.

निष्कर्ष :

इतिहास आणि वर्तमानात येणाऱ्या साथीच्या रोगाचा विचार केल्यास त्यांची रूपे, स्वरूपे आणि या रोगांची दाहकता कमी अधिक प्रमाणात एकसारखीच होती. राजर्षी शाहू महाराजांच्या काळातील साथीच्या अनुषंगाने येणारे आपत्ती व्यवस्थापन धोरण असो अथवा सध्याच्या काळातील कोरोना विरुद्धच्या लढाईचे व्यवस्थापन असो दोन्ही

काळात कोल्हापूर संस्थानाने व देशाने चांगल्या प्रकारचे साथीच्या रोगांचे व्यवस्थापन केल्याचे अभ्यासांती दिसून येते. लसीकरणाची मोहिम असो अथवा विलगीकरणाची भूमिका असो त्या-त्या काळात त्यावेळच्या सरकारने सर्वस्व पणाला लावल्याचे दिसून येते. म्हणूनच जगात एवढी हानी होऊनही कोल्हापूर संस्थान असो अथवा भारत असो तुलनेने कमी प्रमाणात हानी झाली. याचे कारण म्हणजे त्या काळात राबविली गेलेली शासकीय धोरणे आणि शासकीय यंत्रणा त्यासाठी कारणीभूत आहे.

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(संलग्नता : शिवाजी विद्यापीठ, कोल्हापूर) महाराष्ट्र

सारांश :

‘कोरोना’सारख्या महामाऱ्या या अगोदरच्या कालखंडातही येवून गेलेल्या आहेत. कॉलरा, पटकी, कुष्ठरोग, डेंगी, टायफाईड, पोलियो यासारख्या महामाऱ्यांच्यावर जगातील ज्या त्या देशांनी यशस्वीपणे उपाययोजना केलेल्या आहेत. या रोगांचे जरी समूळ उच्चाटन झाले नाही तरी त्यांच्यावर प्रभावी उपचार पध्दती मानवाने शोधून काढल्या आहेत. त्यामुळे कोरोना या आजारावरही त्यांच्या लक्षणांचा अभ्यास करून आपल्याला मात करता येईल असा आशावाद वाटतो. कोरोना विषाणू फैलावण्यामध्ये आपलाच निष्काळजीपणा आहे. एकमेकांच्यावर वरचढ होण्याच्या अभिलाषेपायी नको नको त्या जीवाणूंना जन्म देणे आणि त्याचा वापर विघातक कार्यासाठी करणे हेच ध्येय जगातील बहुतांशी देशांचे झालेले आहे. राजकीय उन्नती साधण्यासाठी सामाजिक मूल्यांची पायमल्ली करणे हे संपूर्ण जगाला परवडणारे नाही. आपल्या कर्तृत्वाच्या जोरावर जसे आपण कोणत्याही क्षेत्रात प्रावीण्य मिळवितो त्याच्या मानसिक आणि शारिरीकरित्या आपण सक्षम असेल तरच त्याचा उपयोग आहे अन्यथा आपले मन मृतावस्थेत असल्यासारखे होईल. त्यामुळे आपण सर्वांनी एकत्र येवून संपूर्ण मानवजातीच्या कल्याणासाठी आरोग्यवर्धक सुविधा जनतेला उपलब्ध करून दिल्या पाहिजेत. आज जगात अन्न, वस्त्र निवारा या मूलभूत गरजांबरोबरच आरोग्य ही देखिल मूलभूत गरज आहे. आगामी काळात अशा महामाऱ्या आल्यानंतर प्रगत आरोग्याच्या सुविधा आपणाकडे असतील तर श्रीमंत व गरीब या दोहोनांपण आपण समानतेची सुश्रुषा करू शकू. अत्यावश्यक आरोग्य सुविधांचे मूबलक उत्पादन आपल्याच देशात केले तर भारताची आर्थिक प्रगतीही होईल. त्यामुळे आपल्याला सीमा सुरक्षेपेक्षा मानवी सुरक्षेला अधिक प्राधान्य द्यावे लागेल.

उद्दिष्ट्ये :

१. ‘कोरोना’ या महामारीचा उगम व फैलाव अभ्यासता येईल.
२. ‘कोरोना’ या महामारीमुळे झालेले आर्थिक, सामाजिक व राजकीय परिणाम अभ्यासता येतील.
३. ‘कोरोना’ महामारीचा प्रकोप कोणत्या देशांच्यावर अधिक का झाला. त्यावर मात करण्यासाठी ते अपयशी का ठरले याचा अभ्यास करता येईल.
४. ‘कोरोना’ या महामारीचा निपटारा करण्यासाठी मानवी मानसिकता अभ्यासता येईल.
५. ‘कोरोना’ महामारीमुळे विकसनशील व अविकसनशील देशातील आरोग्याच्या समस्या अभ्यासता येतील.
६. ‘कोरोना’ सारख्या महामारीला तोंड देण्यासाठी आरोग्य प्रतिबंधक उपाययोजनांचा अभ्यास करता येतील.

संशोधन पध्दती :

प्रस्तुत शोध निबंधासाठी वर्णनात्मक संशोधन पध्दतीचा अवलंब केलेला आहे. तसेच शोधनिबंधाच्या संदर्भात विविध लेख, दैनिके, वेबसाईट, यूट्युब, फेसबुक.संदर्भग्रंथ यासारख्या दुय्यम स्त्रोतांचा वापर करण्यात आलेला आहे. त्याचबरोबर सहायक प्राध्यापक, वेगवेगळे तत्वज्ञ यांच्या मुलाखतीचा वापर, त्यांचा अनुभव म्हणूनही प्राथमिक स्त्रोत वापरले गेलेले आहे.

विषय विवेचन :

‘कोरोना’चा विषाणू प्रथमतः चीनमधील ‘वुहान’ या शहरात सापडला आणि बघता बघता त्याने जगभर आपले हातपाय पसरले. गेल्या दोन वर्षांपासून आपण सर्वजण याचा अनुभव घेतो आहोतच. आता थोड्याफार प्रमाणात सगळीकडचे निर्बंध उठायला लागले आहेत. पण गेल्या २००० सालापासून आपण अलिप्तवादी, एकलकोंडे, समाजाशी नाळ तुटलेले असेच जगत आलेलो आहोत. सर्वांनी पावलोपावली आपला मृत्यू अगदी जवळून अनुभवला आहे. ‘जग एक खेडेगाव आहे’ या संकल्पनेलाच सुरूंग लावला गेला. संपूर्ण जग जागच्याजागी ठप्प झाले. जगभरात जवळजवळ आजपर्यंत सत्तेचाळीस कोटी सत्याहत्तर लाख पंच्चावन हजार नऊशे छपन्न अडतीस कोरोनाचे रूग्ण आहेत. तर सहा लाख न्यानों हजार एकशे सात लोकांचा मृत्यू झालेला आहे.

‘जागतिक आरोग्य संघटनेने’ कोरोना ही ‘जागतिक महामारी’ आहे हे घोषित करायला खूप उशीर लावला. कोरोनाचे चीन हे उगमस्थान असूनही त्यांनी स्वतःच्या स्वाभिमानाला धक्का पोहोचू नये म्हणून कोरोना व्हायरसची जी कारणे सांगितली त्या गोष्टीवर जागतिक आरोग्य संघटनेने अंधविश्वास ठेवला व तेथेच त्यांची फार मोठी चूक झाली. संपूर्ण जग या समस्येवर तोडगा काढण्याचा प्रयत्न करत असताना अमेरिकेसारखे काही देश मात्र अप्पलपोटेपणाने आपल्याच लोकांना लस मिळावी म्हणून सतत प्रयत्न करत होते. जगाने ‘कोविड – १९’ हे संकट नसून आपल्या जागतिक समुदायाची परस्परावलंबित्वाची गरज आहे. एखादया समस्येला आपण धीराने तोंड कसे दयावे, त्याचे सामर्थ्य वाढविण्यासाठी आपला कसा कस लागतो हे ठरविले गेले पाहिजे. सर्व जगाची शासनपध्दती परिणामकारकरित्या आपले काम करत असती तर ‘कोरोना’ हा विषाणू या भूतलावर अवतरल्यानंतर लगेचच जगाला त्याचा असलेला धोका समजला असता व साऱ्या जगाला तात्काळ धोक्याचा इशारा दिला गेला असता. त्याचा प्रादुर्भाव रोखण्यासाठी सर्वांनी मिळून उत्तमोत्तम उपाययोजना आखल्या असत्या. स्वतःला प्रगत देश समजणारे देश ही काही करू शकले नाहीत यातच या समस्येचे मूळ लपलेले आहे.

संपूर्ण जगाला आपल्या मगरमिठीत घेणारा ‘कोरोना’ विषाणू हा काही या भूतलावरचा पहिला विषाणू नाही. याअगोदरही अनेक विषाणूनी साथीचे आजार पसरविले आहेत. उदा. इन्फ्ल्युएन्झा, कांजिण्या, चिकुनगुनिया, टायफाईड, डांग्या खोकला, डेंगी, देवी, धनुर्वात, नारू, मलेरिया, पटकी, पोलिओ, प्लेग, महारोग, क्षय इ. या रोगांच्यावर थोड्याफार प्रमाणात उपचार पध्दती शोधल्या आहेत काही आजारांच्यावर मातही केली आहे. पण जे मानसिकरित्या आजारी देश आहेत त्यांचं काय ? एकमेकांच्यावर कुरघोडी करण्यासाठी व वर्चस्वासाठी दुसऱ्या देशाचे आपण किती नुकसान करतो, त्या देशातील जनतेच्या भावना किती दुखावतो याचा काही विचारच हे देश करत नव्हते यातून जहालता निर्माण होत गेली व त्याचे परिणाम सर्व जगानी पाहिलेही आहेत. २००१ साली अफगाणिस्तानातील संतापाचा स्फोट होवून त्यांनी न्यूर्याकमधल्या वर्ल्ड ट्रेसेवर विमानाचा हल्ला केला. आर्थिक घोटयाळ्यांनी तर भारताबरोबरच इतर देशांनाही मंदीच्या खाईत लोटले. अशा सर्व बाबी टाळायच्या असतील तर सर्व जगाला एक नवी सामाईक शासनपध्दती अवलंबावी लागेल.

कोरोनासारख्या महामारीचा प्रभावीपणाने सामना करायचा असेल तर प्रथमतः आपल्याला सर्व लोकांना समान संधी उपलब्ध करून दयावी लागेल. भारतात नोंदणी नसलेले जे कामगार आणि मजूर आहेत त्यांना कोरोनाचा सर्वाधिक फटका बसलेला आहे. याचा नकळत का होईना आपल्या भारतीय अर्थव्यवस्थेवर परिणाम होताना दिसतो. नोंदणी नसलेले मजूर, कामगार, छोटोमोठे लघुउद्योग, व्यवसाय यांना आर्थिक सुरक्षा हमी हवी. नजीकच्या काळात भारत सरकार अशा व्यावसायिकांना आर्थिक पाठबळ देईल अशी आशा बाळगूया. या जागतिक महामारीने विकसनशील देशांच्यापुढे मोठया प्रमाणात आव्हान निर्माण केलेले आहे. त्याचा फायदा भारतासारख्या देशाने करून घ्यायला पाहिजेत. तरच आपण विकसित अर्थव्यवस्था म्हणून उदयाला येवू शकतो. जसे कोरोनाचे संकट आशिया खंडावर आले त्याचवेळी भारताने सार्क देशांशी संपर्क साधून संकटावेळी एकत्र येण्याचे आवाहन केले. सर्व जी – २० देशांनी याला

प्रतिसादही दिला. येथे जशी वाक्बगार निती भारताने अवलंबिली तशीच देशांतर्गत धोरणातही वाक्बगार निती अवलंबिली तर भारत अशा समस्यांना केंव्हाही आणि कसाही सामोरा जावू शकतो. भविष्यात येणारे अशा महामारीचे कोणतेही संकट असो आपण जर सर्व देशांनी सार्वभौमत्वाचा अनाठाही अभिमान न बाळगता प्रत्येकाने आपआपल्या जबाबदारीने वागले तर आपोआपच अशा संकटातून बाहेर पडता येते. तेंव्हा सर्व आंतरराष्ट्रीय यंत्रणांनी आपल्या मजबुतीकरणाला महत्त्व दिले पाहिजे. स्वतःला आत्मकोषात बंदिस्त न करता जगाला नविन दिशा देण्याचे काम या दहा वर्षात भारताकडून होईल यात शंका नाही.

भारताने कोरोना विषाणूवर मात करण्यासाठी प्रयत्नांची नोंद जागतिक आरोग्य संघटनेने घेतली आणि युरोपीय प्रगत देशांनी या काळात भारताचे मार्गदर्शन घ्यावे अशी सुचना पुढे आली यातच भारताच्या यशाचे गमक आहे. संपूर्ण जगावर कोरोनाचे आरोग्य संकट कोसळले त्यामुळे सर्वच देश आर्थिक संकटात सापडलेले आपल्याला दिसतात. कोविड – १९ मुळे इतर कोणत्याही क्षेत्रापेक्षा आरोग्य सेवेवर फार मोठा परिणाम जाणवला. जर आपण वेळीच लक्ष दिले नाही तर भविष्यात ही समस्या अधिक तीव्रतेने आपणाला जाणवेल.आज ज्या देशांच्याकडे अत्याधुनिक आरोग्य सोयी – सुविधा उपलब्ध आहेत त्यांनाही या कोरोनाचा प्रचंड फटका बसला आहे. इंग्लंड, अमेरिका या देशांना आपल्या आरोग्य सोयी सुविधांवर पूर्ण भरोसा होता तो देखिल कुचकामी ठरलेला आहे.त्यांना या महामारीतून आजपर्यंत काही बोध घेतलेला आहे असे जाणवत नाही. कोरोना विरुद्ध लढणारे संसर्गबाधित योध्यांनाही या देशांनी किंवा आपण आयसीयू ;पदजमदेपअम बंम न्दपजद्ध बेडस्, कृत्रिम श्वसन उपकरणे (व्हेंटिलेटर्स), वैयक्तिक सुरक्षा उपकरणे (पीपीई किट्स) आपण मुबलक पुरवू शकलो नाही.ज्या देशांमध्ये आरोग्याच्या अत्याधुनिक प्रणाली उपलब्ध होत्या त्या देशांनाही कोरोनाचा फटका अधिक बसलेला जाणवतो. जपान, न्यूझिलंड, तैवान, सिंगापूर या देशांनी थोड्याफार प्रमाणात या महामारीवर नियंत्रण मिळविले.कारण त्यांच्याकडे एकसमान आरोग्य सुविधा होत्या. या देशातील नागरिकांना मोफत किंवा त्यावर अनुदान सरकार देत असल्यामुळे त्यांच्या वेळेवर चाचण्या होत होत्या. त्यामुळे यापुढे जेव्हा एखाद्या देशांवर आर्थिक संकट कोसळेल त्यावेळी प्रामुख्याने आरोग्य सेवेचा प्रश्न महत्त्वाचा ठरला जाईल. आधुनिक किंवा नाविन्यपूर्ण आरोग्य सुविधा पुरवण्यासंदर्भात जागतिक मोबाईल संचार प्रणालीच्या (जी.एस.एम.) वापरामुळे देशभरात या प्रणालीच्या कनेक्टिव्हिटीला मदत झाली आहे. त्याचबरोबर लोकांच्या वेगवेगळ्या आजारावर वेळीच निदान करणे आणि नियंत्रण मिळविणे या गोष्टीला प्रयोगशील उपचार पध्दतींना यश मिळते हे सिध्द झालेले आहे.

आपल्या अंतर्गत गरजा भागविण्यासाठी भारताने विकसित केलेले तंत्रज्ञान इतर देशांना निर्यात करणेसाठी ठोस पावले उचलली पाहिजेत. ज्या ज्या देशांमध्ये कोरोनाची दहशत माजली त्या त्या देशांनी त्यांच्यावर मात करण्यासाठी प्रयत्न केलेले जाणवतात.या सर्वांचा आपल्या देशाने अनुभव घेवून आरोग्यासाठी चांगल्या उपाययोजना करू शकतो हे फक्त आपल्यावर संकट आल्यानंतर गरज भागविण्यासाठी नसून भविष्यात कोणतीही महामारी आली तरी आरोग्य सेवेवरचा अतिरिक्त ताण कमी करण्यासाठी होईल असा विश्वास मला वाटतो.सध्या आपल्या प्राथमिक आरोग्य सुविधा प्रतिबंधात्मक, प्रोत्साहन, उपचार, पुनर्वसन आणि उपाय अशी विस्तारलेली आहे. लोकसंख्येच्या मानाने अपुरी सुविधा आहे. भविष्यात त्यात सुधारणा आणि ठोस वाढ आपल्याला करावी लागेल.त्याचबरोबर सर्वसमावेशक आरोग्य सेवा प्रणाली प्रभावी ठरण्यासाठी व्यापकपणे प्रयत्न करावे लागतील.येणारा कालखंड हा खूप महत्त्वाचा आणि कणखरपणाचा असेल. आपण सर्वांनी आपल्याला मानसिक दृष्टिने सक्षम करावे लागेल.

देशाच्या अर्थसंकल्पामध्ये अत्याधुनिक वैद्यकीय उपकरणासाठी विशिष्ट निधीची तरतूद करावी लागेल. आपल्या देशात श्रीमंत आणि गरीब या दोन्ही वर्गांसाठी समान प्राथमिक आरोग्याच्या सुविधा पुरवाव्या लागतील.आज देशात आर्थिक दृष्ट्या परवडणाऱ्या प्राथमिक सुविधा चांगल्या पध्दतीने आपल्याला पुरवता आल्या पाहिजेत.त्याचबरोबर सर्वांसाठी आरोग्य सुविधांच्या गरजा पूर्ण करण्यासाठी पीपीई किट्स, टेस्टिंग किट्स, मास्क इ.अत्यावश्यक उपकरणे, व्हेंटिलेटर्स, ऑक्सिजनचे प्लांट्स राखीव असले पाहिजे. सध्या आपण दुसऱ्या देशाकडून या प्रणाली आयात करतो.पण त्याची निर्मिती आपण आपल्या देशात

करायला लागलो तर त्याचा उत्पादनाचा खर्च कमी येईल व आपल्या देशाच्या आर्थिक उन्नतीला त्याचा हातभार लागेल. त्यासाठी तात्काळ सर्वसमावेशक धोरण आखून अशा आरोग्य सेवा पुरवण्यासाठी आपण तत्पर असायला हवे.त्याची आज आवश्यकता आहे.आरोग्याच्या सुविधांचे उत्पादन करून आपण आत्मनिर्भर होवून इतर देशांना आपली उत्पादने निर्यात करून उत्पन्नाचे एक चांगले साधन प्राप्त करून देवू शकतो.

कोरोनाचा प्रादुर्भाव रोखण्यासाठी बाधित व्यक्तींचा शोध आणि चाचण्या या महत्त्वाच्या होत्या. पीपीई किट्सचा प्रभावी वापर, बाधित व्यक्तीच्या विलगीकरणाच्या उपाययोजना त्यासाठी करावी लागणारी जागृती. अत्यावश्यक वस्तूंच्या सुनियोजनासाठी डिजीटल माध्यमाचा वापर यातील प्रत्येक गोष्टींचे तातडीने निराकरण करण्यासाठी स्टार्टअप उद्योग यानिमित्ताने पुढे आलेले आहेत.

भारतीय वैद्यकीय संशोधन परिषदेचे (ICMR) महासंचालक डॉ. बलराम भार्गव यांनी ग्लासगो येथे झालेल्या 'रॉयल कॉलेज ऑफ फिजिशियन अॅण्ड सर्जन मध्ये जे भाषण केले त्या भाषणात ते म्हणतात – "भारतात नाविन्यपूर्ण कल्पनांसाठी पोषक वातावरण निर्मिती तसेच त्याला आर्थिक पाठबळ, उद्योगाला आणि त्याच्या नाविन्यपूर्ण कल्पनेचा यथोचित सन्मान केला जात आहे का हे सुनिश्चित करण्याचे काम आम्ही करत आहोत." थोडक्यात भारताकडून नाविन्यपूर्ण कल्पना आणि अत्याधुनिक तंत्रज्ञानाची अमलबजावणी करण्याची जबाबदारी ही गांभीर्याने घेतली जाते. उच्च प्रतिभाशक्ती असल्यामुळे कमी खर्चात अधिकची उत्पादन क्षमता वाढविण्यात भारतीय वाक्बगार आहेत. त्यामुळे एक चांगल्या प्रकारचा स्टार्टअप घेवून आपण आंतरराष्ट्रीय पातळीवर आपला ठसा उमठवू शकतो.

१९९० सालच्या संयुक्त राष्ट्रांच्या विकास आराखड्यात 'मानवी विकास निर्देशांक' ही संकल्पना प्रथमतः प्रसिद्ध अर्थतज्ज्ञ अर्मत्य सेन व पाकिस्तानी अर्थतज्ज्ञ मेहबूब-अल-हक यांनी मांडली. यामध्ये सीमा सुरक्षेपेक्षा 'मानवी सुरक्षे'ला अधिक प्राधान्य द्यावे असे ठरविले गेले. मानवाच्या अन्न, वस्त्र, निवारा व आरोग्य या विषयांना अधिक महत्त्व दिले गेले पाहिजे असे ठरविले गेले. परंतु प्रत्यक्षात मात्र ते झाले नाही. जागतिकीकरणामुळे आशिया, आफ्रिका, दक्षिण अमेरिका या देशामध्ये आरोग्याचा प्रश्न सर्वात महत्त्वाचा होता. पण सर्वच देश सीमा सुरक्षेलाच अधिक महत्त्व देत गेले. परिणामी सीमेवरिल युद्धापेक्षा नागरी युद्धाचा धोका वाढला. आर्थिक दृष्ट्या संपन्न असणाऱ्या देशांनी तंत्रज्ञानाचा विकास केला. वाढती लोकसंख्या, नागरी संघर्ष, नियोजनाचा अभाव असणारी शहरे, मर्यादेपेक्षा लोकांचे स्थलांतर, संरक्षणावर अतोनात खर्च यामुळे जग महायुद्धाच्या खायीत लोटले जाते की काय? असे प्रश्नचिन्ह उभे रहाते.या सर्व सत्तासंघर्षात अन्न, वस्त्र, निवारा व आरोग्य या गरजांच्याकडे जाणीवपूर्वक आपले दुर्लक्ष झालेले आहे हे दिसून येते.अमेरिकेसारख्या राष्ट्रांचा संरक्षणावरचा व आरोग्यावरचा तुलनात्मक खर्च बघितला तर यातील फरक आपल्याला जाणवेल. अमेरिका, भारत, चीन, सौदी अरेबिया, रशिया, हे देश स्वतःच्या संरक्षणावर वारेमाप खर्च करताना दिसतात.याउलट जपान, ब्रिटन, सिंगापूर, आस्ट्रेलिया, न्यूझिलंड हे देश आरोग्यावर पैसा खर्च करताना दिसतात. भारताचेच उदाहरण घ्यायचे झाल्यास अर्थसंकल्पामध्ये संरक्षणासाठी कलेली तरतूद ही आरोग्यावरच्या तरतूदीपेक्षा पाच पट जास्त असते.हेच उदाहरण कमी जास्त प्रमाणात इतर देशांचेही आहे.जागतिक आरोग्य संघटना व जागतिक बँक या दोनच संघटना कार्यरत असल्यामुळे जागतिक पातळीवरही मर्यादा येताना दिसतात.

कोरोनामुळे जगातील सर्वत्र क्षेत्रांत अल्प व दीर्घकालीन बदल घडणार आहेत. कोरोनाचा संसर्ग झालेल्या सर्वच लोकांना कोरोना झालेला नाही. यातील काही लोक अतिगंभीर होतात व त्यांना आयसीयूची गरज भासते. इतके करूनही मोठया प्रमाणात लोकांचे मृत्यू होताना दिसतात. यामुळे कोरोनाचा उपचार करणारे आणि सरकारी रूग्णालये गंभीर समस्येला सामोरे जाताना दिसतात. त्यामुळे अशा पेशंटवर उपचार करणारे डॉक्टरर्स, त्यांचे सहकारी, पेशंटचे नातेवाईक हे सर्वच मानसिक तणावातून जात आहेत. हा तणाव कोरोना संपल्यानंतर जाणार नाही तर त्याचे दूरगामी परिणाम या सर्वांच्यावर होणार आहेत. हे सर्व होत असताना कोरोना सोडून इतर आजार झालेल्या रूग्णांचे काय? हा प्रश्न अनुत्तरीय आहे. अशा लोकांचेही मृत्यूचे प्रमाण वाढल्याचे अहवाल समोर येताहेत त्यामुळे गैर कोरोना रूग्णांच्याकडे आपण अक्षम्य दुर्लक्ष

केलेले आहे. त्यामुळे गैर कोरोना रूग्णालयांची पूर्वीपेक्षा जास्त संख्या वाढवावी लागेल. व्हीडीओ कॉन्फरन्सद्वारे, दूरध्वनीद्वारे संभाषण साधून अशा लोकांना उपचार किंवा सेवा पुरवावी लागेल. कोरोनामुळे आर्थिक कुचंबना झालेल्या लोकांचे आरोग्याचे खूप हाल होतील. कमी उत्पन्न असलेल्या लोकांना महागडी आरोग्य सेवा परवडणारच नाही. त्यामुळे आपल्या देशातील भटके, गरीब, मध्यमवर्गीय, अस्थायी, आदिवासी, मजूर, बालके, महिला, अल्पसंख्याक यांच्यावर विशेषतः लक्ष देवून त्यांच्यासाठी आरोग्याच्या चांगल्या योजना राबवाव्या लागतील.

कोरोना महामारीचा विचार केला तर आपल्याला असे जाणवेल की कोरोनाचा प्रसार काही आठवडे वाढतो आणि नंतर तो कमी कमी होत जातो. चीन, ब्रिटन, इटली आदि देशांमध्ये हे अनुभवायला आले. गंभीर आजारी, वयोवृद्ध लोकांना याचा प्रादुर्भाव मोठ्या प्रमाणात होतो. लहान मुले, महिला, तरूणांच्यात काही अशीं हे प्रमाण कमी आहे. अनेकांना कोरोनाची लागण होवूनही याचा काहीच त्रास झालेला नाही. त्यामुळे हा अजार अतिगंभीर आहे असे नाही. त्याच्यावर योग्य वेळी योग्य उपचार झाले तर निश्चितच या आजाराला आपण पळवून लावू शकतो. कोरोनावरील प्रभावी लस शोधण्यासाठी मोठ्या प्रमाणात शोधमोहिम चालू आहे. याच्यावर एकदा का उपचार सापडले तर हा अजार सर्वसामान्य होवून जाईल. त्यासाठी सर्वांनी आपली प्रतिकारशक्ती वाढवायला पाहिजेत. कोरोनाची लागण जितक्या लोकांना झाली आणि त्यात ते मृत्यूमुखी पडले त्याहीपेक्षा अधिक लोकांना कोरोनाच्या दुष्परिणामांना सामोरे जावे लागेल. कदाचित कोरोनाची इष्टापिती अजून काही वर्षे आपल्यावर असेलही पण आपण त्यावर प्रभावी उपचार व प्रबळ प्रतिकारशक्तीने मात करू हा आशावाद वाटतो.

निष्कर्ष :

१. 'कोरोना' या महामारीचा उगम व फैलाव अभ्यासता आला.
२. 'कोरोना' या महामारीमुळे झालेले आर्थिक, सामाजिक व राजकीय परिणाम अभ्यासता आले.
३. 'कोरोना' महामारीचा प्रकोप झालेल्या देशांचा व प्रकोप न झालेल्या देशांचा अभ्यास करता आला. याचा अभ्यास करता आला.
४. 'कोरोना' महामारीमुळे विकसनशील व अविकसनशील देशातील आरोग्याच्या समस्या अभ्यासल्या.
५. 'कोरोना' सारख्या महामारीला तोंड देण्यासाठी आरोग्य प्रतिबंधक उपाययोजनांचा अभ्यास केला.
६. कोणत्याही महामारीचा यशस्वीपणे मुकाबला करण्यासाठी कोणत्या उपाययोजना करता येतात याचा अभ्यास करता आला.

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कोरोना : भारतीय अर्थव्यवस्थेला लागलेले ग्रहण

कु. मयुरेश जयेंद्र हसोळकर.

इतिहास विभाग ,
श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज
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प्रस्तावना :-

1991 ला आर्थिक धोरण स्वीकारून भारतीय अर्थव्यवस्था हळुवारपणे जागतिक अर्थव्यवस्थेला जोडली गेली. भारताची अर्थव्यवस्था हळुहळू विकासाच्या प्रक्रियेत असताना, जानेवारी 2019 ला चीनमधील वूहान शहरात कोरोनाने जन्म घेतला. हा विषाणू फक्त चीनपुरता मर्यादित न राहता याने जगातील 190 देशात प्रवेश केला. तसेच भारताच्या अर्थव्यवस्थेला विकासाच्या मार्गावर अडथळा निर्माण करून उभा राहिला . शाळा- महाविद्यालये, उद्योगधंदे बंद करण्यात आले. कधी न ऐकलेला लॉकडाऊन , जनता कर्फ्यू यांसारखे शब्द अमलात आणण्यास भाग पडले. याचा सर्वांचा परिणाम विविध क्षेत्रावर पडला. जसे की कृषी, शिक्षण , सेवा , इत्यादी. यांचा अभ्यास आपण करणार आहोत. :-

उद्दिष्टे :-

- काळातील भारतीय अर्थव्यवस्थेची स्थिती जाणून घेणे.
- महामारी व बेरोजगारी वर प्रकाश टाकणे.
- उद्योगधंद्यातील अस्थिरता जाणून घेणे.
- कोरोना काळातील कृषी, शिक्षण व सेवा क्षेत्रातील परिणाम जाणून घेणे.

ग्रहीतके :-

- लॉकडाऊन काळात भारतीय अर्थव्यवस्थेमध्ये अस्थिरता निर्माण झाली आहे.
- बेरोजगारी वाढत आहे.
- कच्चा माल पुरवठा न झाल्याने उद्योगधंद्यात गोंधळ निर्माण झाला आहे.
- कृषी, शिक्षण व सेवा क्षेत्रामध्ये प्रतिकूल परिणाम झाला आहे.

अभ्यासाची व्याप्ती :-

प्रस्तुत संशोधनाची व्याप्ती ही खूपच मोठी असून Covid -19 मुळे जगात निर्माण झालेल्या महामारीमुळे भारतातीलच नव्हे तर जागतिक अर्थव्यवस्था कोलमडली आहे. Covid -19 मुळे भारतातील सर्वच क्षेत्रावर परिणाम झालेला असला तरी प्रस्तुत संशोधनासाठी फक्त भारतातील काही निवडक क्षेत्रावर झालेले परिणामांचा अभ्यास करण्यात येणार आहे.

संशोधन पद्धती :-

प्रस्तुत संशोधनासाठी पूर्णपणे द्वितीय साधने अवघड वापरलेली असून यामध्ये विविध दैनिके, मासिके, वेबसाईट व संदर्भ ग्रंथ इत्यादींचा आधार घेऊन माहिती व आकडेवारी संकलित करण्यात आली आहे.

विषय विस्तार :-

1) कृषी क्षेत्र –

भारतीय अर्थव्यवस्थेचा कणा म्हणून कृषी क्षेत्राला ओळखली जाते. लॉकडाऊनमुळे शेतकरी बळीराजा व शेती उद्योग मोठ्या प्रमाणात अडचणीत सापडले आहेत. शेतकरी वर्षभराचे नियोजन करून पीक लागवड करीत असतो

खरीप पिक अति पावसामुळे उत्पादन घटले बाजार भावामुळे उत्पादन फारसे हाताला लागली नाही शेताती माल नाशवंत असल्यामुळे त्याचे तोडणी ,भरणी आणि विक्री वेळेवर होणे गरजेचे असते.

शेतीतील मालाच्या मागणीत घट, निर्यातीतील घट, औद्योगिक कामगारांची शेतमालाला असलेली मागणीत घट, वाहतूक व्यवस्था बंद असल्यामुळे कृषिमालाच्या वितरण प्रक्रियेत येणाऱ्या अडचणी या सर्वांचा परिणाम शेतकऱ्यांच्या आर्थिक स्थितीवर प्रतिकूल परिणाम झालेला दिसून येतो. मार्केट बंद असल्याने विक्री बंद झाली यामुळे शेतकऱ्यांचा पिकावर केलेला खर्च सुध्दा त्याला मिळाला नाही. शेतमालाला योग्य भाव दिला जातो असे नाही, शेतमाल बाजारात विकला जाईलच याची खात्री दिली जात नव्हती. यामुळे शेतमाल व शेती व्यवसायाचे मोठ्या प्रमाणात नुकसान झाले. अन्नधान्याची महागाई ची सुरुवात 2019 पासूनच झाली होती. जानेवारी 2020 पर्यंत हा महागाईचा दर हा 2013 -14 ला असणाऱ्या उच्चांकाएवढा गेला.

2) शिक्षण क्षेत्र –

Covid-19 या महामारीचा सर्वाधिक फटका हा शैक्षणिक क्षेत्रावर बसलेला दिसून येतो. सर्वाधिक नुकसान हे शैक्षणिक क्षेत्रावर झालेले आहे. हे नुकसान किती झाली याची मोजमाप करता येत नाही. शाळा - महाविद्यालय बंद झाली आणि ऑनलाइन टिचिंग सुरु झाली. पण भारतासारख्या विकसनशील देशांमध्ये ऑनलाइन टिचिंगसाठी लागणारी पुरेशी साधने उपलब्ध नाहीत. त्यामुळे ऑनलाइन शिक्षणापासून अनेक विद्यार्थी वंचित राहात आहेत. यामुळे गळतीचे प्रमाण मोठ्या प्रमाणात वाढले आहे. शिक्षकांना मुक्तपणे शिकवता येत नाही. एकाच घरात ऑनलाइन धडे घेताना मुलांचे लक्ष लागत नाही. नेटवर्क चा प्रॉब्लेम निर्माण झाल्यामुळे मुलांच्या मानसिकतेवर ताण पडला आहे. सतत मोबाईलवर राहावे लागत असल्याने ताण आणि चिडचिडपणा वाढतो आहे. डोळ्यावर देखील याचा दुष्परिणाम होत असल्याचे दिसून येत आहे. थोडक्यात शैक्षणिक वर्ष संपत आले आहे. या परिस्थितीत शिक्षण सर्वापर्यंत पोहचले का ? हा फार मोठा प्रश्न आपल्यापुढे आहे. या सर्व गोंधळामुळे विद्यार्थ्यांची गुणवत्ता कशी लक्षात येईल. कोरोनाच्या भीती पुढे अनेक विद्यार्थी हे आपल्या जवळच्या भागातच प्रवेश घेणे पसंत केले. पुर्वी पेक्षा प्रवेश कमी झाले आहेत. याचच अर्थ अनेक विद्यार्थी प्रवेशा पासून वंचित आहेत.

3) सेवा क्षेत्र –

Covid-19 विषाणूचा प्रसार होत असल्याने राज्य सरकारांनी मुक्त संचारावर लावलेल्या निर्बंधांमुळे सर्वात मोठा परिणाम सेवा क्षेत्रावर झाला. भारतातील बहुसंख्य रोजगार व संघटित क्षेत्रातील असल्याने कामाच्या अभावाने लाखो स्थलांतरित मजुरांना त्यांच्या मूळ गावी परतावे लागले. पर्यटन, रिटेल आणि हॉस्पिटालिटी क्षेत्रावरही नकारात्मक परिणाम झाला. भारताचा समग्र अर्थव्यवस्थेवरही कोरोनाचा गंभीर परिणाम झाला. लॉकडाऊनचा कालावधी वाढल्याने भारतातील सर्वात मोठ्या सेवा क्षेत्रातील नोकऱ्या कमी झाल्या आणि अर्थव्यवस्थेमधील मागणी घटली याचा उत्पादन, निर्मिती क्षेत्रावर मोठा फटका बसला. मुळात सेवाक्षेत्र हे प्राथमिक व द्वितीयक क्षेत्रावर अवलंबून असल्यामुळे नफ्यामध्ये 20 टक्के घटीची शक्यता निर्माण झाली आहे.

4) उद्योगधंदे –

Covid-19 संकटाचा सर्वात वाईट परिणाम भारताच्या उद्योग क्षेत्रावर अधिक सखोल आणि व्यापक झालेला आहे. देशाच्या क्षेत्राचा वृद्धी दर लॉकडाऊनपुर्वी जानेवारी 2020 मध्ये 2.1 टक्के होता तो जुलैमध्ये – 18.3 टक्के इतका झालेला दिसून आला. एप्रिल 2020 मध्ये भारतातील उद्योग क्षेत्राचे 38 टक्क्यांनी नुकसान झालेले दिसून आले. लॉकडाऊनमुळे उद्योग क्षेत्रातील रोजंदारी व अस्थायी कामगारांच्या नोकऱ्या गेल्या.कारण मोठ्या उत्पादकांनी पुरवठादारांकडे नोंदवलेल्या मागण्या कमी झाल्या. छोटे उत्पादक हे रोकड नसल्याने धास्तावून थंडावले याचा अर्थव्यवस्थेवर स्वाभाविकच प्रतिकूल परिणाम होऊन अर्थव्यवस्था वेगाने घसरली. अर्थव्यवस्थेची घसरगुंडी उडत असतानाच उत्पादन क्षेत्रात 39.3 टक्के, बांधकाम क्षेत्रात 50.3 टक्के, व्यापार, हॉटेल्स, वाहतूक व संदेशवहन क्षेत्रात 47.0 टक्के इतकी घासरण ही कल्पनेपेक्षा खूपच जास्त होती. भारतात नोंदणीकृत सूक्ष्म आणि लघु उद्योगातील संस्थांची संख्या एक कोटीपेक्षा अधिक आहे. covid-19 ची झळ या क्षेत्रात कार्यरत असणाऱ्या अंदाजे अडीच कोटी लोकांना बसली आहे. भारतातील लघु उद्योगाचे वार्षिक उत्पादन 28 लाख कोटी रुपये असून भारताच्या निर्यात क्षेत्रात 50 टक्के इतका वाटा उद्योगांचा आहे. तर 2019 मध्ये या क्षेत्राचा देशाच्या GDP तील वाटा 29 टक्के इतका होता. परंतु COVID-19 च्या उद्रेकानंतर अनेक सूक्ष्म, लघु व मध्यम उद्योगांना ग्रहण लागले व त्यांच्या तीव्र फटका देशाच्या आर्थिक वृद्धीला बसला . जून 2020 च्या ऑल इंडिया मॅन्युफॅक्चरर्स (AIMO) यांच्या लघु व मध्यम उद्योग क्षेत्राबाबत केलेल्या

निरीक्षणाद्वारे MSMEs मधील 35 टक्के आणि 43 टक्के स्वयंरोजगार यांना लॉकडाऊनमुळे त्यांच्या उद्योगांमध्ये कुठल्याही अशीचे किरण न दिसता त्यामध्ये सतत होत असलेल्या घटीमुळे त्यांना त्यांचे उद्योगधंदे बंद करण्याचा निर्णय घेतला. ज्याचा परिणाम लाखो लोकांना रोजगार सोडावा वा गमवावा लागला.

5) बेरोजगारी –

लॉकडाऊनपूर्वी देखील भारतात बेरोजगारीचा दर चढताच होता. 'सेंटर फॉर मॉनिटरिंग द इंडियन इकॉनॉमी' (CMIE) च्या आकडेवारीनुसार जून 2017 मध्ये भारतातील बेरोजगारीचा दर 3.4 टक्के होता. लॉकडाऊन सुरु होण्यापूर्वी म्हणजेच मार्च 2020 मध्ये भारतातील बेरोजगारीचा दर हा 8.7 टक्के होता. हा दर तेव्हा 43 महिन्यातला सर्वोच्च होता आणि लॉकडाऊनच्या काळात म्हणजेच एप्रिल 2020 मध्ये बेरोजगारीचे प्रमाण झपाट्याने वाढून ते 127.1 टक्क्यांवर पोहोचले. जो आत्तापर्यंतचा बेरोजगारी दरामध्ये सर्वाधिक ठरला असून तो अमेरिकेच्या बेरोजगारी दराच्या चौपट होता. अत्यावश्यक सेवा क्षेत्र सोडून इतर सर्व बंद करण्यात आले होते. हताश, असहाय्य स्थलांतरित मजूर आपापल्या गावाकडे पायीच निघाले. CMIE च्या आकडेवारीनुसार संघटित क्षेत्रात 12.2 कोटी लोकांच्या नोकऱ्या गेल्या. यापैकी 9.13 कोटी हे लहान व्यापारी आणि मजूर होते तर 1.78 कोटी पगारदार कर्मचाऱ्यांच्याही नोकऱ्या या काळात गेल्या. स्वतःचा उद्योग असणारे 1.82 कोटी लोकही या काळात बेरोजगार झाले.

निष्कर्ष :-

- नियोजनाशिवाय अचानक पुकारण्यात आलेल्या लॉकडाऊनमुळे शेती व अत्यावश्यक बाबी वगळता सर्वच वस्तू व सेवांचे उत्पादन बंद झाले.
- त्यामुळे भारताच्या इतिहासातील सर्वधिक म्हणजे 30 टक्केहून अधिक बेरोजगारी निर्माण झाली.
- यातून एका बाजूला पुरवठा व दुसऱ्या बाजूला मागणी प्रचंड प्रमाणात कमी झाली.
- रोजंदारीवरील बहुतेक कामगार गावाकडे स्थलांतरित झाल्याने लॉकडाऊन नंतरच्या काळात कामगारांचा तुटवडा, शहरी उद्योग व व्यवसायांना भासणार आहे.

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कोरोना (कोवीड-१९) महामारीचे शेतीवरील परीणाम व शासकीय धोरण

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सारांश –

कोरोना (कोवीड – १९) या महामारीने सर्व जगाला व्यापून टाकले. सर्व जग या महामारीने थांबले गेले. कोरोना महामारी ही मानव निर्मित आहे की नाही या पेक्षा तीचा जगावर झालेला परीणाम अभ्यासणे महत्वाचे ठरते. कोरोनाचा विषाणू कोवीड १९ हा नवा असल्याने व त्याच्या वरील इलाजासाठी उपलब्ध असलेली औषधे तसेच संसर्गाने वाढणारी रुग्णसंख्या यामुळे पुरे जग हादरून गेले. चीन देशात प्रथम कोविड रुग्ण आढळलेला व तो इतर देशात पसरला परंतु इतर प्रगत देशांच्या मानाने तो भारतात काही प्रमाणात उशीरा पसरला. भारतात प्रथम शहरात याची लागण झाली आणि तदनंतर तो ग्रामीण भागात पसरला. या महामारीने शहरी तसेच ग्रामीण अर्थव्यवस्था ठप्प केली, सहाजीकच भारताची आर्थिक प्रगती रोखली गेली, भारतीय अर्थव्यवस्थेवर त्याचा फार वाईट परिणाम झाला. भारतात सर्वात जास्त उद्योगधंदा व रोजगार हे शेती व्यवसायातून निर्माण होतात. शेती व्यवसाय हा भारतीय अर्थव्यवस्थेचा मुख्य भाग आहे. व ग्रामीण भागातील मुख्य व्यवसाय शेती असल्याने त्याचा परीणाम शेतकरी, शेतमजुर व इतर शेती पुरक व्यवस्थेवर झाला. कोरोना महामारी मध्ये शेती, शेतकरी व जोडधंदे यांच्यावर झालेल्या आर्थिक व इतर बाबीवरील परीणामांचा अभ्यास या संशोधन लेखात केला आहे. या महामारी मध्ये शासनाने शेतक-यांसाठी घेतलेले निर्णय, शासन यंत्रणा अशा महामारी प्रसंगी कार्यक्षमपणे कार्य करते का याचा आढावा घेतला आहे. महामारी काळातील शेती, शेतकरी यांच्या समस्या व उपाययोजना याचा अभ्यास मांडण्यात आला आहे. पारीभाषीक शब्द – शेती, शेतकरी, शासन, महामारी, आर्थिक.

प्रस्तावना –

कोरोना (कोवीड – १९) या विषाणूमुळे उद्भवलेल्या महामारीची सुरुवात चीन या देशामधून झाली. भारतात तो इतर प्रगत देशांच्या तुलनेत काहीसा उशीरा पोहचला. भारतात या महामारीचा फैलाव रोखण्यासाठी शासनाने कठोर निर्बंध लावले. त्यातीलच संपूर्ण लॉकडाऊन हा एक भाग जो एप्रिल ते मे २०२० या कालावधीमध्ये लागू केला. आणि याचा परिणाम भारतातील प्रमुख उद्योग जो शेती आहे त्यावर फार मोठ्या प्रमाणात झाला. कोरोना महामारीचा परिणाम हा शहरी भागासोबतच ग्रामीण भागातही झाला. ग्रामीण अर्थव्यवस्था त्यामुळे ठप्प झाली. त्याचा परिणाम शहरी भागासोबतच भारताच्या अर्थव्यवस्थेवरही झाला. कोरोना काळात शासनाने शहरी, ग्रामीण (खास करून शेतकरी) भागासाठी अनेक उपाययोजना लागू केल्या परंतु शेतक-यांच्या शेतमालांसाठी आवश्यक असलेली उत्पादन, विक्री व वितरण साखळी बंद पडल्याने शेतक-यांचे नुकसान झाले. त्याचबरोबर शेतीपुरक व्यवसाय (शेतमजुर, पशुपालन, दुग्धव्यवसाय) व मासेमारी, कुकुटपालन या व्यवसायांवरही विपरीत परिणाम झाला. शासनाने ज्या उपाययोजना राबविल्या त्या अपु-या पडल्या व त्यातील काही योजना उपभोगत्यापर्यंत पोहचल्याच नाहीत. त्यामुळे शेतक-याला ह्या महामारी मध्ये सावरणे अवघड गेले.

उद्देश –

१. महामारी सारख्या परिस्थितीमध्ये शेतीवर होणारे परिणाम अभ्यासणे.
२. महामारी सारख्या परिस्थितीमध्ये शेतक-यावर होणारे परिणाम अभ्यासणे.
३. महामारी सारख्या परिस्थितीमध्ये शासनाच्या योजनांचा आढावा.
४. महामारी सारख्या परिस्थितीमध्ये शेतीपुरक जोडधंद्यांचा अभ्यास.

अभ्यास पद्धती –

सदरचे संशोधनासाठी दुय्यम (साधने) पद्धती अवलंबली आहे.

शेतक-यांनवरील आर्थिक परिणाम –

१. शेती व्यवसाय –

कोरोना महामारी ज्या प्रमाणात संसर्गतेने फैलावत होती त्यावर व्यक्तीनी समाजामध्ये वावरताना सामाजिक दूरी ठेवणे आवश्यक होते. परंतू समाजाने ही बंधने पाळली नसल्याने सरकारने संपूर्ण लॉकडाऊन एप्रिल ते मे २०२० मध्ये लागू केले यात अत्यावश्यक सेवांना वगळण्यात आले. शेतीचाही त्यात समावेश होता. परंतू दळणवळणांच्या साधनांचा, शासकीय कार्यालये बंद असणे, बाजारपेठा बंद, शेतमाल मिळण्याची असलेली व्यवसाय बंद असल्याने शेतक-याला आवश्यक मशागतीसाठी व पेरणीसाठीची साहित्ये उपलब्ध झाले नाही. सरकारने शेतीसाठी जाहीर केलेली कर्जमाफी ही फार विलंबानी कार्यान्वीत झाली. त्याचा फायदा शेतक-यांना योग्य वेळी व योग्य प्रमाणात मिळाला नाही. लॉकडाऊन मुळे खते व पेरणीसाठी बियाने शासनाने शेतक-याला त्याच्या ठिकाणी मिळाले असे जाहिर केले परंतू ते मिळाले नाही. शेतकरी पावसाच्या सुरुवातीला जी संसाधने वापरतो ती त्याला स्थानिक ठिकाणाहून ज्या किंमतीत मिळेल त्या किंमतीमध्ये खरेदी कराव्या लागल्या. शासनांच्या या योजनांचा फायदा शेतक-याला झाला नाही. शासनाने नियोजन पद्धतीने त्या राबविल्या नाहीत. शेतक-याला पेरणीसाठी आवश्यक असलेली कर्ज त्याला वेळेवर मिळाले नाही त्यामुळे शेतक-यांनी सावकरांकडून किंवा मित्रनातलगांकडून उधारीवर तसेच कर्ज काढून रक्कम घेतली. पीक तयार झाल्यावर बाजारपेठ व बाजार समित्या बंद असल्याने शेतमाल विक्री करताना अडचणी आल्या. त्यामुळे शेतक-यांच्या शेतमालाला भाव योग्य मिळाला नाही. दळणवळणाची साधने, साठवणूक करण्याच्या अडचणी त्यामुळे नाशवंत माल वाया गेला. रब्बी हंगामातील – चना, ज्वारी, गहू हे नगदी पिके डिसेंबर ते मार्च अखेर तयार होतात यांना बाजारभाव न मिळाल्याने शेतकरी अधिक अडचणीत आला.

खरीप हंगामात सोयाबीन सारखी नगदी पिके बहुतांश शेतकरी घेतात. परंतू साठवणूकीच्या अपु-या सोयी व साठवणूक केल्यावर वजनात होणारी घट यामुळे शेतकरी हतबल झाला. शेतमजुरांना काम मिळेना व मोबदलाही वेळेत मिळेना कारण शेतक-यानकडे पैसाच नव्हता.

२. शेतीपुरक व्यवसाय –

दुग्ध व्यवसाय हा शेतक-यांचा शेतीबरोबरचा जोडधंदा. परंतू दळणवळणाची सोय नसल्याने दुग्ध विक्री करता येईना, मागणी घटल्याने दुधाचे दर खाली आले. त्यामुळे खर्च व मिळकत याचा मेळ बसेना. त्यामुळे शेतक-यांनी जनावरे विकली.

३. शेतक-यांची गुंतवणूक –

शेतमाल विकून हाती राहिलेल्या पैशातून शेतकरी शेतीक्षेत्र वाढविणे, गुरेदोरे खरेदीकरणे, शेतीच्या नवीन पद्धती प्रमाणे शेती करणे, शेतीचे आधुनिकिकरण या गोष्टी करण्याकडे कल असतो परंतू पैश्याअभावी या सर्वांवर परिणाम होऊन यावर आधारित असलेल्या व्यवसायावरही त्याचा परिणाम झाला. आणि स्थानिक बाजारपेठेला त्याचा फार मोठा फटका बसला.

सरकारच्या उपाययोजना –

१. शेतक-याला कर्जमाफी.
२. पेरणी व पुरक कामासाठी जलद कर्ज पुरवठा.
३. महामारीकाळातील खास आर्थिक तरतूद.
 - अ. शेती व ग्रामीण उद्योगांसाठी – २५ हजार कोटी तरतूद
 - ब. मध्यम व लघु उद्योग – १५ हजार कोटी
 - क. गृहबांधकाम – १० हजार कोटी
 - ड. बँकांसाठी निधी – १ लाख कोटी

परंतू लॉकडाऊन मुळे वाहतूक सुविधा नसणे, शासकीय कार्यालये व बँका बंद असणे तसेच कर्मचा-यांना कमी उपस्थिती व विलगिकरण यामुळे सरकारणे केलेली उपाययोजना शासनाला पूर्ण क्षमतेने अंमलबजावणी करता आली नाही. त्यामुळे या उपाययोजनांचा फायदा शेतीसाठी व शेतक-याला झाला नाही.

महामारी कालावधीतील परिणाम –

अ. उत्पादन घट –

१. शेती उत्पादनात घट – (–२.७:)
२. कुक्कुटपालन घट – (–१९.५:)
३. मत्स्यव्यवसाय घट – (–१३.६:)

ब. किंमतीमध्ये वाढ –

१. बि- बियाने किंमतीतील वाढ – (८.८:)
२. खते किंमतीतील वाढ – (१०:)
३. किटकनाशके किंमतीतील वाढ – (९:)
४. पशुखाद्य किंमतीतील वाढ – (११.६:)

क. भारताची आयात ३०: पर्यंत खाली आली.

ड. भारताची निर्यात ३२: पर्यंत खाली आली.

निरीक्षणे –

१. महामारी परिस्थितीमध्ये शेती व शेतमालाबाबत निर्णय घेण्याचे पारंपारिक ज्ञान तसेच अन्य ज्ञान शेतक-याला नाही.
२. सरकारचे निर्णय अंमलबजावणीसाठी शासन स्तरावर प्रणाली व कार्यप्रणाली व्यतिरिक्त अन्य कोणतीही प्रणाली नाही.
३. ग्रामीण भागात सरकारच्या शेतीसाठीच्या मोठ्या उणीवा आहेत.
४. शेतीच्या आधुनिक तंत्रज्ञानाबाबत अजुनही बहुतांश शेतकरी वंचीत आहेत.
५. कोवीड महामारीच्या कालावधीत शेतकरी राजाने आर्थिक नुकसान सोसूनही अन्नधान्य उत्पादन सुरक्षित केले.

निष्कर्ष –

१. सरकारने पुरेशा प्रमाणात रोखता वाढविणे आवश्यक आहे.
२. पी. एम. किसान निधीची मर्यादा वाढवून हंगामापूर्वी निधी शेतक-यांच्या हाती पडेल याची व्यवस्था करावी.
३. महामारीकाळात कृषी कर्जावरील व्याज संपूर्ण माफ करावे. व त्यासाठी शासनाने स्वतंत्र निधी उभारावा.
४. राज्य सरकारावरील वित्तीय ताण कमी करावा.
५. बाजार व्यवस्थेला चालना द्यावी जेणेकरून पूर्ण क्षमतेचे काम करेल.
६. सर्व वित्तीय संस्था तथा बँका यांनी शेतक-याला वित्त पुरवठा करण्यासाठी सरकारने प्रोत्साहित करावे.
७. सुक्ष्म वित्तपुरवठा संस्था व गृहनिर्माण क्षेत्र यावर सरकारने प्राधान्य द्यावे जेणे रोजगार अर्थचक्र फिरण्यास मदत होईल.
८. शेतमाल प्रक्रियेचे ज्ञान शेतक-यांना द्यावे. तसेच सहकारी तत्वावर शेतक-यांनी प्रक्रिया केंद्रे उभारावी.

९. महात्मा गांधी रोजगार हमी योजनेत कामाच्या स्वरुपाची संख्या वाढवावी.

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वृत्तपत्रांसमोरील आव्हाने आणि कोरोनाकाळातील झालेले परिणाम

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वृत्तपत्रे ही आजच्या युगात एक प्रभावी प्रसारमाध्यम म्हणून ओळखली जातात. आजच्या 'इलेक्ट्रॉनिक मिडीयाच्या' काळात प्रिंट मिडीयाने आपले स्थान अबाधित राखले आहे. वृत्तपत्रांचा संबंध सर्वसामान्य जनतेच्या थेट प्रश्नांशी येतो. लोकांचा कल, आवडीनिवडीनुसार आजची वृत्तपत्रे आपला चेहरा जास्तीत जास्त लोकाभिमुख करण्याचा सातत्याने प्रयत्न करत असतात. त्यामुळे प्रसारमाध्यमे समाजाचा अविभाज्य भाग बनली आहेत. भारतामध्ये 'हिकीज गॅझेट' नंतर वृत्तपत्रांच्या विकासास प्रारंभ झाला. भारतात प्रादेशिक वृत्तपत्रांची उत्तरोत्तर निर्मिती, विकास, विस्तार घडून आला. स्वातंत्र्य लढ्यावेळी ही वाढ मोठ्या प्रमाणावर घडून आली. एका बाजूस लोकमत जागृत करणे आणि दुसऱ्या बाजूने लोकमताचे संघटीत दडपण शासनावर आणण्याची अवघड कामगिरी भारतीय पत्रकारितेने केली आहे. स्वातंत्र्य चळवळीत राष्ट्रीय नेत्यांनी एक प्रभावी साधन म्हणून वृत्तपत्रांचा वापर सुरु केला आहे. महाराष्ट्रात लोकमान्य टिळकांनी केसरी, मराठा, महात्मा गांधीजींनी हरिजन, यंग इंडिया, नवयुग, पंडित नेहरूंनी नॅशनल हेरॉल्ड, मौलाना आझाद यांनी 'अल हिलाल' ही वृत्तपत्रे सुरु केली. वृत्तपत्रांबाबत म.गांधीजींनी मत व्यक्त केले कि, 'लोकांना काय हवे,' या प्रश्नांचा संपादक जसा विचार करतात तसाच 'लोकांना काय दिले पाहिजे' याचा विचार संपादकांनी करणे आवश्यक आहे.

वृत्तपत्रांची ताकद ब्रिटिशांना ज्ञात असल्यामुळे त्यांनी इ.स १७९९ पासून वृत्तपत्रांवरती अनेक निर्बंध घातले. भारत स्वातंत्र्यानंतर भारतीय राज्यघटनेत कलम १९ (१) 'अ' नुसार सर्व नागरिकांना भाषण व अविष्कार स्वातंत्र्यात (फ्रीडम ऑफ स्पीच अॅण्ड एक्सप्रेशन) वृत्तपत्र स्वातंत्र्याचा समावेश केला आहे.^१ पुढे सातत्याने शासकीय पातळीवर अनेक आयोग, समित्या नेमून वृत्तपत्रांच्या नियमन विषयक धोरण आखण्यात आले. वृत्तपत्रांमध्येही व्यावसायिकता येत जाऊन वृत्तपत्रांचे बाजारीकरण झाले. प्रचंड स्पर्धेत दर्जा वाढविताना तत्वांची तडजोड करण्यात आली. छपाई तंत्रामध्ये गती, तंत्र या बाबतीत अचूकता आणण्याचा प्रयत्न झाला. शिळाप्रेस नंतर छपाई तंत्रात सातत्याने बदल होत गेले. ऑफसेट, लेजर, डिजिटल या पद्धती महत्वाच्या असून खर्चिक असल्याने सद्या या पद्धतींचा वापर केला जात नाही.^२ भविष्यात या आधुनिक पद्धती स्वस्त झाल्यास त्यांचा वापर सुरु होईल.

इ.स. २००० नंतर वृत्तपत्रांच्या मांडणी, स्वरूप, तंत्रज्ञान आणि रचनेत अमुलाग्र बदल होत गेले. त्याचे चांगले वाईट परिणाम घडून आले. या वृत्तपत्रांसमोरील आव्हानांचा विविध संपादकांच्या दृष्टीकोणातून मांडणी सदर संशोधन पेपरमध्ये पाहणार आहोत.

कोल्हापुरातील दै.पुढारीची भूमिका -

दै. पुढारीचे व्यवस्थापकिय संपादक योगेश जाधव यांच्या मते, आधुनिक तंत्रज्ञान युगात वृत्तपत्राच्या आशय, विश्लेषण, मांडणीत कालानुरूप झपाट्याने बदल होत आहेत. इ.स 2010 नंतर वाढता सोशल मिडिया आणि त्याचा वेग यामुळे प्रिंट मीडियासमोर मोठे आव्हान उभे राहिल्याचे त्यांनी मत मांडले. तरीही विश्वसनीय पुरावा म्हणून वृत्तपत्राचे महत्त्व अबाधित आहे. बदलत्या कालानुरूप वृत्तपत्रांनी वेब आवृत्त्या आणि ऑनलाईन पत्रकारितेमध्ये महत्वाचे स्थान प्राप्त केले आहे. पुढे मत व्यक्त करताना त्यांनी मराठी वृत्तपत्रांच्या वेब आवृत्त्यांची माहिती विषद केली. मुद्रित स्वरूपात असलेली वृत्तपत्रे जगभरातील वाचकांपर्यंत पोहोचविणे कठीण जात होते. त्यातून जागतिक पातळीवर वृत्तपत्रे पोहोचवून त्याचा जाहिरात स्वरूपात आर्थिक फायदा व्हावा या उद्देशाने वर्तमानपत्रांच्या वेब आवृत्त्यांची संकल्पना उदयास आली. सर्वप्रथम अमेरिकेत 'न्यूयॉर्क टाइम्स' ने आपल्या दैनिकाची वेब आवृत्ती सुरु केली. भारतात 'द हिंदू' या इंग्रजी वृत्तपत्राने इ.स. १९९५ ला चेन्नई येथून आपली पहिली ई-आवृत्ती (E-Paper) सुरु

केला आणि भारतात इंटरनेट पत्रकारीतेची सुरवात झाली. मराठी वृत्तपत्रांमध्ये सर्वप्रथम दैनिक केसरीने ई-आवृत्ती सुरु केली. इ.स.२०१७ पर्यंत जगभरात ५००० हून ज्यादा दैनिके इंटरनेटवर, भारतात ५०० हून अधिक, मराठीमध्ये १०० हून ज्यादा वृत्तपत्रे इंटरनेटवर उपलब्ध आहेत अशी त्यांनी माहिती दिली.^३

दै.सकाळ माध्यम समूहाचे मत-

दैनिक सकाळ वृत्तपत्रसमूहाचे व्यवस्थापक, मुख्य संपादक मा.श्रीराम पवार यांनी मुलाखतीमधून वृत्तपत्रांसमोरील आव्हाने, योजना, परिस्थिती विषयी विस्तारपूर्वक मते मांडली. तंत्रयुगाचा प्रभाव मांडताना त्यांच्या मते, 'मुळात वृत्तपत्रांचा उगम हा तंत्रज्ञानाच्या शोधातून लागला. हस्तलिखितापेक्षा जास्त मोठ्या समूहापर्यंत पोहोचविण्यासाठी छपाई तंत्रातून वृत्तपत्रे विकसित होत गेली. तंत्रज्ञानाच्या बदलानंतर वृत्तपत्राच्या आशय, मांडणीमध्येही बदल होत गेले. दर दोन-तीन वर्षांमध्ये नवनवीन तंत्रज्ञान बदलामुळे वृत्तपत्रात अमुलाग्र बदल होत आहेत. इ.स २०१० नंतर सोशल मिडीयाचा प्रिंट मिडीयावर विलक्षण प्रभाव पडला. फेसबुक, व्हॉट्स अॅप, हार्डक, इंस्टाग्राम अशा ऑनलाईन माध्यमातून क्षणात वृत्त मिळण्याची व्यवस्था निर्माण झाली. त्यामुळे वृत्त, समाजमाध्यमे ही सर्वसामान्यांच्या हाती आलेली आहेत. रोज बातमी देणे हे वृत्तपत्राचे प्रधान कार्य त्यामुळे नष्ट झाले आणि वृत्तपत्राच्या मुळ हेतूला लगाम बसला. पूर्वी संपादक मते व्यक्त करत व त्या अनुषंगाने समाजाची जडणघडण होत असे. आता ते दिवस संपल्याचे मत पवार यांनी व्यक्त केले. अंतर्संवाद साधणारा समाज निर्माण झाला आहे. मुख्य बातमी देण्याचे कार्य सामाजमाध्यामांच्या हाती आल्याने फायद्यासोबत तोटेही मोठे झाले. सोशल मीडियातून चारित्र्यहनन, प्रतीमाहनन, बनावट अतिशयोक्तीपूर्ण वृत्तांची मांडणी केली जाते. त्या तुलनेने वर्तमानपत्रे प्रगल्भ, जबाबदारीने कार्य करतात. कारण वृत्तपत्रांना ४०० वर्षांहून अधिक इतिहास आहे. त्या तुलनेने सोशल मिडीयाचा इतिहास केवळ १० ते १५ वर्षांचा असल्याने अजूनही परिपक्वतेकडे वाटचाल झालेली नाही. प्रिंट मिडीयाचा बातमीदार हा योग्य, प्रशिक्षित असतो त्याची मांडणी अभ्यासपूर्ण आणि समतोल असते. शेकडो वर्षांच्या वाटचालीतून वृत्तपत्रांनी विश्वासहार्थता प्राप्त केली आहे. आजच्या युगात सर्वसाधारण एखादी घटना, प्रसंग घडल्यानंतर ती घटना वृत्तपत्रांमधून दुसऱ्या दिवशी समाजेपर्यंत जवळपास ३००० वेळा एकच घटना विविध माध्यमातून जाते. परंतु तेच वृत्त दुसऱ्या दिवशी का वाचावे याचे कारण म्हणजे वृत्तपत्राची विश्वासाहार्थता होय. खपाच्या आकडेवारीचा विचार करता सोशल मिडीयाचा वाढता प्रभाव असूनही वृत्तपत्रांच्या खपामध्ये वाढ होत आहे. त्याचे कारण स्पष्ट करताना श्रीराम पवार यांच्या मते, भविष्यात वर्तमानपत्रांची गरजच लागणार नाही असे होण्याची शक्यता कमी आहे. पाश्चात्य विकसित देशांमध्ये वृत्तपत्राचा खप कमी झाला आहे. त्या तुलनेत दक्षिण आशियामध्ये दैनिकाच्या खपात तुलनेने वाढ झाली आहे. त्याचे कारण या विकसनशील देशामध्ये इ.स.१९८० नंतर साक्षरतेमध्ये वाढ होत आहे. हा नवसाक्षरवर्ग सहजपणे उपलब्ध होणारे वर्तमानपत्र वापरतो. तसेच भाषिक अस्मितेतून भारताच्या दक्षिणेकडील राज्यात वृत्तपत्राचा खप वाढत आहे. अत्याधुनिक मोबाईल आणि सातत्याने स्वस्त होणारे इंटरनेट यामुळे माध्यम युगात बदल होत गेले आहेत.

वृत्तपत्रांचा खप आणि जाहिरातीबाबत मत व्यक्त करताना संपादक पवार यांच्या मते, वृत्तपत्र हे एकमेव जगातील उत्पादन आहे जे त्याच्या खर्चाच्या कितीतरी कमी मूल्यात विक्री होते. १२ ते १४ पानी एक वृत्तपत्र निर्मितीस ८ ते १० रुपये खर्च येत असतो. मुद्रित माध्यमासमोरील आव्हाने, अंतर्गत स्पर्धा, किंमतयुद्ध यामुळे किंमती वाढवणे शक्य होत नाही. त्यातच व्यवसायवृद्धीस सातत्याने वाढीव भांडवलाची गरज असते अशा वृत्तपत्र व्यवसायातील अडचणी ते मांडतात.^४

दै. तरुण भारतचा वृत्तपत्रासमोरील आव्हानाविषयी दृष्टीकोण-

दैनिक तरुण भारतचे तात्कालिक निवासी संपादक जयसिंग पाटील यांनी वृत्तपत्राच्या वाटचालीमधील बदलत्या परिस्थितीचा नेमकेपणाने आढावा घेतलेला आहे. वृत्तपत्रांबाबत भूमिका मांडताना गॉर्सिया ह्या अमेरिकन सुप्रसिद्ध पत्रकाराच्या मते 'contain is King' म्हणजे आशय हा वृत्तपत्राचा राजा असतो. परंतु कालानुरूप

वाचकांच्या सवयी बदलत आहेत. विश्लेषणात्मक दीर्घ लेख लिहणारे आणि वाचणारे यांची संख्या कमी होत आहे. मुद्रित माध्यमाचे स्वरूप भविष्यामध्ये बदलण्याची शक्यता आहे. त्यामुळे 'डिजिटल न्यूजपेपर' हा ट्रेंड वृत्तपत्रात रूढ होत आहे. म्हणून वृत्तपत्रांनी आपली इंटरनेट आवृत्ती जास्तीत जास्त सक्षम करणे आवश्यक आहे आणि वृत्तपत्रामधील कर्मचारी वर्गानेही तंत्रज्ञान आत्मसाद करून स्पर्धेत टिकून राहण्यासाठी प्रयत्न करावेत. युरोपियन देशांमध्ये बहुसंख्य शहरांमध्ये मध्यवर्ती चौकात नामांकित वृत्तपत्रे एका स्टॅण्डवर अडकवून ठेवलेली असतात. दुर्दैवाने इ.स २०१८ मध्ये झालेल्या सर्वेक्षणानुसार या वृत्तपत्रांची घडीसुद्ध्या वाचकांकडून मोडली जात नाही त्यामुळे मुद्रित माध्यमापुढे ही धोक्याची घंटा मानतात. म्हणून कालानुरूप बदलास सामोरे जाणे जरूरीचे आहे. असे त्यांनी मत व्यक्त केले.^५

दै.लोकमतच्या संपादकांचा दृष्टीकोण-

दै.लोकमतचे संपादक वसंत भोसले यांनी वृत्तपत्राच्या अनुषंगाने सखोल विश्लेषण केले आहे. वृत्तपत्रांची प्रदीर्घ परंपरा आणि कालानुरूप होत जाणारे बदल आत्मसात करावेत असे मत त्यांनी व्यक्त केले. वृत्तपत्रांच्या छपाई तंत्रात बदल झाले आहेत. २०-२२ वर्षापूर्वी वृत्तपत्रात रंगीत छपाई चालू झाली. सुरवातीस किचकट असणारी छपाई प्रक्रिया कालांतराने सुलभ होत गेली. परंतु वृत्तपत्राच्या छपाईचा खर्च वाढू लागला त्यातुलनेने सोशल मिडिया हे माध्यम सोपे आणि त्याच्या उपलब्धतेचे प्रमाण चांगले असल्याने अल्पकाळामध्ये सर्वसामान्यांपर्यंत पोहोचले. कारण वृत्त देण्यापर्यंत सीमित न राहता सोशल मिडियामार्फत छायाचित्रे, वृत्तस्थळांचा व्हिडीओ उपलब्ध असल्याने मुद्रित माध्यमापेक्षा प्रभावी ठरते. परंतु विश्वासाहर्षतेचा प्रश्न सोशल मिडियासमोर आहे. मुद्रित माध्यमातील वृत्त भलेही दुसऱ्या दिवशी सकाळी प्राप्त होत असले तरी संपूर्ण बातमीची खातरजमा, पडताळणी करून मांडणी केली जात असल्याने वृत्तपत्रामधून जबाबदारीचे तत्व निश्चित झाले आहे. इलेक्ट्रॉनिक मिडियातील वृत्ते जलदगतीने प्रसारित होतात. परंतु त्याची जबाबदारी निश्चित होत नाही. मुद्रित माध्यमाचे व्यापारीकरण झाले असले तरी मूळ तत्वे काही प्रमाणात प्रभावी आहेत. त्या तुलनेने इलेक्ट्रॉनिक मिडियामध्ये उथळ, भडक मांडणी होते कारण वृत्त मांडणी करणारा वर्ग, लेखकवर्ग अभ्यासू असेलच असे नाही.

इलेक्ट्रॉनिक मिडियाच्या आव्हानांसोबत अंतर्गत स्पर्धेस वृत्तपत्रांना तोंड द्यावे लागते. उत्पादित किमतीपेक्षा कितीतरी कमी किमतीत वृत्तपत्राची विक्री होते. कारण वृत्तपत्र जिवनावश्यक सेवा/वस्तू म्हणून मानले जात नाही. अजूनही वृत्तपत्रांच्या किमती अल्प आहेत. वृत्तपत्राच्या खर्चाच्या ताळमेळासाठी जाहिराती गरजेच्या आहेत. वाचकांच्या प्रतिसादाबद्दल मत मांडताना संपादक भोसलेंनी विचार व्यक्त केला कि, सक्रीय वाचकांचा दैनिकांना प्रतिसाद कमी होत चालला आहे. पूर्वी वाचकवर्ग सजग होता. वृत्तपत्रामध्ये वापरलेल्या भाषेपासून देण्यात आलेल्या वृत्तांपर्यंत वाचकांचे बारकाईने लक्ष असे. चुकीच्या वृत्तांकनावर टीकाही केली जात असे. वाचक आणि वृत्तपत्र यांच्यामध्ये भावनिक नाते असे. परंतु उत्तरोत्तर ते कमी होत चालले आहे. युरोपात वृत्तपत्रांच्या अल्प खपाबाबत दोन मते व्यक्त केली आहेत. इलेक्ट्रॉनिक मिडियाचा वाढता प्रभाव आणि तुलनेने कमी लोकसंख्या असलेने वृत्तपत्रे घरापर्यंत पोहोचविणे खर्चिक ठरत असते. संपादक भोसले यांच्या मते, उत्पन्न वाढीसोबत इतर आव्हाने वृत्तपत्रांना पार पाडावी लागतात. जास्तीत जास्त कालानुरूप बदलणे गरजेचे आहे.^६

'उत्पादन' म्हणून वृत्तपत्राचे स्थान-

अत्याधुनिकतेच्या जगात वृत्तपत्रीय सर्व संदर्भ बदलले आहेत. पत्रकारिता हे समाजसेवेचे माध्यम म्हणून मानले जात होते. परंतु कालानुरूप व्यापारीकरणामुळे माध्यमविश्वाचा प्रत्यक्ष, प्रचंड प्रभाव समाजजीवनावर, त्यांच्या मानसिकतेवर पडला आहे. अमेरिकी विचारवंत टॉफ्लर याने आपला ग्रंथ 'पाँवर शिफ्ट' मध्ये याचे विस्तृत विवेचन केले आहे. त्यानुसार, अमेरिकेमधील दैनंदिन गरजा, राष्ट्रीय उत्पन्न माध्यमांवर अवलंबून आहे. कोएक्सल, केबल, फायबर ऑप्टीक्स, उपग्रह संचार, कॉम्प्युटर, टेलिफोन, फॅक्स, इंटरनेट, मोडेम यामुळे प्रत्येक अमेरिकन घर माध्यम घर बनले. टेलीटेक्स, व्हिडीओटेक्स, डिजीटल साउंड, इंटरएक्टिव्ह टेलिव्हिजन उपग्रह यामुळे समाजजीवनात मोठे बदल झाले आहेत. सकाळी उठून अमेरिकन लोक टी.व्ही स्क्रीनवर वृत्तपत्र वाचतात, बँक व्यवहार, खरेदी

विक्री,आरक्षण(रेल्वे,बस इतर)ही सर्व कामे घरी संगणक,मोबाईलवर करतात.भारतातही त्याचे अनुकरण सुरु झाले आहे. अमेरिकेमधील इलिनॉईड विद्यापीठाचे पत्रकारितेचे प्राध्यापक रॉबर्ट मेक यांनी या स्थितीविरोधी इशारा दिला आहे.त्यांचे पुस्तक 'रिच मिडिया पुअर डेमोक्रेसी'मध्ये ते लिहितात'पत्रकारांची स्वायत्तता भविष्यात धोक्यात आली आहे.आता हा संपूर्ण व्यवसाय झाला आहे.कोणत्याही सिद्धांत,नैतिक मूल्यांशी याचा काही संबंध नाही.नैतिक पत्रकारिता हा तोट्याचा व्यवसाय झाला आहे आणि दुर्दैवाने हलक्या पत्रकारितेचा व्यवसाय फायद्याचा मानला जातो.त्यामुळे सामाजिक जबाबदारीचे तत्व नष्ट होऊन जास्तीत जास्त बाजारीकरण आणि त्यातून वैचारिक,अभ्यासू मांडणीपेक्षा चटपटीत,भडक वृत्त प्रसारणाकडे लक्ष दिले जाते.इलेक्ट्रॉनिक माध्यमाचे मोठे आव्हान दैनिक वृत्तपत्रासमोर आहे.परंतु त्याबाबत समीरण वाळवेकर हे इलेक्ट्रॉनिक क्षेत्रामध्ये कार्यरत जेष्ठ पत्रकार मत व्यक्त करतात कि," इलेक्ट्रॉनिक माध्यमे वर्तमानपत्रांच्या आधी सारे काही दाखवतील कुरघोडी करतील,पण विचार करायला लावण्या इतपत प्रभाव टाकू शकणार नाहीत,ते कार्य वर्तमानपत्रांना करावे लागेल"^७

वृत्तपत्र व्यवसायामध्ये अनेक राजकारणी,उद्योगपतींनी प्रवेश केलेला आहे. परिणामी लोकशिक्षणाच्या मुळ हेतूपासून वृत्तपत्रे दूर जात आहेत. प्रचंड आर्थिक गुंतवणूक,वृत्तपत्रांतर्गत स्पर्धा यामुळे समाजाचा विकास,भाषेची जडणघडण अशा नैतिक मुल्यांऐवजी राजकीय फायदा,काहीजण उद्योगांना संरक्षण मिळावे या हेतूने या व्यवसायामध्ये आहेत. आता तर उपभोक्त्याच्या गरजेप्रमाणे निर्माण होणाऱ्या बाजारपेठेतील घटक/उत्पादित वस्तू म्हणून वृत्तपत्राकडे पाहतात. इंटरनेट,टी.व्ही,इतर प्रसारमाध्यमाद्वारे बातमी पाहिली,ऐकली जाते. परंतु चिकित्सक सर्वसामान्य वाचक त्यावर समाधान न मानता त्या घटनेचा अधिक तपशील जाणून घेण्यासाठी,वृत्ताची मांडणी,विश्लेषण जाणून घेण्यासाठी वृत्तपत्र वाचतो थोडक्यात वाचकांची उत्सुकता वृत्तपत्रे टिकवून आहेत.

दैनिकापुढे मोठी आव्हाने उभी असताना साप्ताहिके,पाक्षिके ही अस्तित्वाची लढाई लढत आहेत. बहुतांश साप्ताहिकांनी नियमितपणे साप्ताहिकांच्या छपाई शिवाय इतर छपाईची स्थानिक कामे घेण्यास सुरुवात केली. काही साप्ताहिके बाहेरून छापून घेतली जातात. कारण ठराविक नियमित वाचकांशिवाय साप्ताहिकांचा फारसा खप नसल्याने मूलतः उत्पन्न कमी मिळते. दैनिकामधील मोठे वृत्तपत्र समूह आणि काही प्रमाणात लहान वृत्तपत्रे नावीन्यातून कार्यरत राहत असतात. वाचकांसाठी विविध सवलती,योजना,आमिषे याद्वारे खप वाढविण्याचा सतत प्रयत्न सुरु असतो. इ.स.२००० नंतर वृत्तपत्र व्यवसायामध्ये 'किंमतयुद्ध' भडकले. तोटा सहन करून परवडत नसतानाही नाममात्र एक रुपये,दोन रुपये दराने वृत्तपत्रांची विक्री सुरु झाली. यात मोठे वृत्तपत्रसमूह टिकून राहिले. स्थानिक वृत्तपत्रांची मात्र या किंमतयुद्ध स्पर्धेत खूप पिछेहाट झाली.

वृत्तपत्रांसमोर प्रचंड मोठी आव्हाने असताना दुर्दैवाने आज अंतर्गत स्पर्धेतून एकमेकांना सहकार्य करण्याऐवजी शत्रुभावनेने वृत्तपत्र कार्यरत आहेत. इ.स. १९९१ नंतर भारताने स्विकारलेल्या नवीन आर्थिक धोरणानुसार जागतिकीकरण,उदारीकरण,खाजगीकरण हे सर्वच क्षेत्रात घडून आले. त्यामध्ये वृत्तपत्र व्यवसायही मागे राहिला नाही. मोठी वृत्तपत्रे प्रचंड भांडवलातून पूर्ण क्षमतेने या व्यवसायामध्ये उतरल्याने स्थानिक मोठ्या वृत्तपत्रांसमोर आव्हान तर लहान वृत्तपत्रांना अस्तित्त्व टिकवण्यासाठी धडपड करण्याची वेळ आली आहे. आपापसात स्पर्धा करण्यापेक्षा नित्य नवीन आव्हानांना एकत्रितपणे हाताळणे गरजेचे आहे. मुद्रित माध्यमांच्या अस्तित्वावरती आव्हान येत असल्याने वाचकांच्या बदलत्या गरजा मागणीनुसार वृत्तपत्रांमध्ये प्रभावी बदल करताना आकर्षक मांडणी,उत्कृष्ट विश्लेषण,विश्वसनीय आकडेवारी,कमी शब्दात ज्यादा आशय मांडणीचे कौशल्य,दुर्गम-ग्रामीण भागापर्यंत प्रभावी वृत्तपत्र वितरणाचे जाळे निर्माण करून वाचक संख्या आणि एकूण वृत्तपत्राच्या खपामध्ये वाढ करणे आवश्यक आहे.

नमुना दाखल महाराष्ट्रामधील कोल्हापूरातील वृत्तपत्रांचा आढावा घेता,कोल्हापूर जिल्हयामध्ये १००० हून ज्यादा नियमित अनियमित वृत्तपत्रे आहेत.त्यामध्ये मोठ्या वृत्तपत्रसमूहाची,पक्षीय विचारसरणीचीस्थानिक नेत्यांच्या प्रभावाने कार्य करणारी,स्थानिक प्रश्नांची मांडणी करणारी,गावातील जत्रा,यात्रा,निवडणुका,वाढदिवस अशावेळी प्रसिद्ध होणारी तत्कालीक वृत्तपत्रे आहेत.परंतु ती अनियमित असलेने व काही हेतू,आर्थिक उद्देशाने ठराविक दिवशी

किंवा प्रासंगिक प्रसिद्ध होतात. २०१५ मधील शासनमान्य वृत्तपत्रांच्या यादीचा विचार करता कोल्हापूरमध्ये १७ दैनिके आणि १४ साप्ताहिके कार्य करतात. हि किमान निकष पूर्ण करणारी आहेत. त्या स्थानिक स्तरावर या दैनिकांना, साप्ताहिकांना अनेक समस्यांना सामोरे जावे लागते. कोल्हापूर जिल्हा शासनमान्य यादीवर बेळगाव जिल्हयामधील वृत्तपत्रे असलेले शासनाच्या येणाऱ्या जाहिराती रोटेशन पद्धतीने विभागल्या जाऊन त्याचा आपसूक तोटा कोल्हापूरमधील छोट्या स्थानिक वृत्तपत्रांना होतो. शासनमान्य यादी खपनिहाय अ, ब आणि क श्रेणीद्वारे अनुदान, जाहिराती वितरीत करत असते. त्यामुळे केवळ खप असा निष्कर्ष न लावता कोल्हापूरमधील शतकोत्तर परंपरा लाभलेल्या, समृद्ध इतिहासाचा वारसा असलेल्या आणि कोल्हापूरचे मुखपत्र म्हणून एक काळ गाजविलेल्या वृत्तपत्रास केवळ खपाच्या आधारे 'क' गटात समाविष्ट करणे चुकीचे आहे. अत्याधुनिक साधने, भांडवल छोट्या वृत्तपत्रांना परवडत नाही. त्यामुळे खपाच्या निष्कर्षाऐवजी समाजासाठी केलेल्या कामगिरीचा विचार करून नियमित, प्रामाणिकपणे नफा तोट्याचा विचार न करता प्रसिद्ध होणाऱ्या स्थानिक पत्राचा विचार करून शासकीय यादी प्रसिद्ध करावी. २०१८ नंतर शासकीय जाहिरातीचे प्रमाण कमी झालेने लहान वृत्तपत्रांवर त्याचा परिणाम झाला आहे. दुसरी महत्वाची समस्या भाषेची शुद्धता ही असून नवीन पत्रकारांची पिढी वृत्त जलद देण्याच्या गडबडीत भाषा शुद्धतेकडे दुर्लक्ष करतात. त्यामुळे वृत्ताच्या शिर्षकांमध्येही चुका होत आहेत. आतील मजकुराच्या चुका तर सर्रास होत आहेत. मराठी भाषेमध्ये अनेक बोलीभाषा असून त्यामध्ये वऱ्हाडी, अहिराणी, नागपुरी, कोकणी, मराठवाड्यामधील, कोल्हापुरी, सातारी, पुणेरी, मुंबईकडील हिंदी मिश्रित अशा आहेत. गरजेनुसार प्रमाण भाषेचा आग्रह न धरता बोलीभाषेमधून वर्तमानपत्राची छपाई होणे गरजेचे आहे. आज मराठी वृत्तपत्रामध्ये भाषा मिश्रणाची गंभीर समस्या निर्माण झाली आहे. अनेक वृत्तपत्रामधून मराठीस सक्षम पर्यायी शब्द असताना इंगजी शब्दांचा वापर वाढला आहे.^९

इ.स २००० नंतर वृत्तपत्रे अडचणीमधून मार्गक्रमण करत आहेत दैनिकांमध्ये अंतर्गत स्पर्धा प्रचंड मोठ्या प्रमाणात असलेने प्रसंगी कमी किमतीत वृत्तपत्राची विक्री करावी लागते. वृत्तपत्राच्या विस्तार, वृद्धीसाठी मोठे भांडवल लागते जे मोठे वृत्तपत्रसमूह उभे करू शकतात परंतु लहान दैनिकांना मर्यादा असलेने अशी पत्रे या स्पर्धेमधून बाहेर फेकली जातात. तसेच इतर समस्यांना तोंड द्यावे लागते. त्यामध्ये उत्कृष्ट कार्यक्षम मराठी भाषेवर प्रभुत्व असलेल्या पत्रकारांची वानवा, वृत्तपत्रामध्ये प्रशिक्षित कामगार वर्गाची वानवा, छपाईसाठी लागणाऱ्या कागदांच्या सतत वाढणाऱ्या किमती, छपाई यंत्रे, शाईच्या दरात सतत होणारी वाढ, शासकीय बंधने, शहराबाहेर वृत्तपत्रवहन करणाऱ्या वाहनांची भाडेवाढ अशा अनंत अडचणीमधून वृत्तपत्रे जात आहेत. वाचकांसाठी विविध सवलती, योजना, आमिषे याद्वारे खप सातत्याने वाढविण्याचा प्रयत्न सुरु असतो. त्यातून इ.स २००५ दरम्यान वृत्तपत्रामध्ये 'किंमत युद्ध' भडकले. प्रचंड आर्थिक तोटा सहन करून नाममात्र एक रुपया दराने दै. पुढारी, दै. सकाळ या वृत्तपत्रांनी आपल्या दैनिकाची विक्री सुरु केली. या स्पर्धेमधून अग्रलेख, विशेष लेख, बातम्या लिहून परस्परांच्या अंतस्थ गोष्टी सांकेतिक भाषेत उघड करण्याची स्पर्धा या दोन मोठ्या दैनिकामध्ये सुरु झाली. त्यामुळे वाचकवर्गाचा आर्थिक फायदा, मनोरंजन झाले. परंतु वृत्तपत्रीय नैतिकता, संकेत पायदळी तुडवले गेले. त्यामुळे अशा मोठ्या वृत्तपत्रसमूहांनी अगोदरच नित्यनुतन संकटे असताना आपापसातील स्पर्धेमधून टीकेची निचतम पातळी गाठणे या व्यवसायास आत्मपरीक्षण करण्यास लावणारी गोष्ट आहे. इ.स १९४३ दरम्यान बंगाल दुष्काळावेळी दै. सकाळने मदतनिधी गोळा करण्यासाठी प्रयत्न सुरु केले. तेव्हा सकाळकारांच्या या सामाजिक कार्याचे जाहीर कौतुक 'सकाळकारांचा स्तुत्य उपक्रम' असा अग्रलेख लिहून कौतुक केले. आणि कोल्हापूरमधील सकाळ वृत्तपत्राची मदत पुढारीच्या कोल्हापूर कार्यालयात गोळा केली. कै. ना. भि परुळेकर आणि कै. ग. गो जाधव यांनी पत्रकारीतेची मुल्ये सांभाळताना राष्ट्रकार्यामध्ये एकमेकांना सहकार्याची भूमिका घेतली. दुर्दैवाने आजच्या एकविसाव्या शतकात अंतस्थ स्पर्धेमधून सहकार्याऐवजी शत्रुभावेने ही वृत्तपत्रे कार्यरत आहेत.

४०० ते ४५० वर्षांच्या वैभवशाली परंपरेमुळे वृत्तपत्रसृष्टी प्रगल्भ झाली आहे. त्या तुलनेत ३० ते ४० वर्षापूर्वी अस्तित्वात आलेल्या सोशल मिडीयाच्या आव्हानापुढे गोंधळून न जाता मार्गक्रमण करणे गरजेचे आहे.

‘विश्वसनियतेचा अभाव’ हा सोशल मिडीयापुढील मोठा प्रश्न आहे आणि तेच वृत्तपत्राचे बलस्थान आहे. त्यामुळे जोपर्यंत सोशल मिडीया विश्वसनियतेच्या आघाडीवर प्रगल्भ होत नाही तोपर्यंत वृत्तपत्रांचे स्थान, महत्त्व अबाधित आहे. मुद्रित माध्यमांसोबत ऑनलाईन वृत्तपत्रांसारखे प्रयोग करून चित्रे, छायाचित्रे, व्हीडीओ आकर्षक आणि वाचनीय मजकूर, क्षणाक्षणाला बदलती वृत्ते, विश्वसनीय पद्धतीने वृत्तांची मांडणी अशा नवीन पद्धतीने मुद्रितचे इंटरनेटद्वारे प्रसारणाकडे लक्ष देऊन आधुनिक आव्हानांना आधुनिक पद्धतीने उत्तर देण्यातून मुद्रित माध्यमे भविष्यातही प्रदीर्घ काळ प्रभावी राहतील.

कोरोना काळामुळे निर्मित आव्हाने-

वृत्तपत्रे नवीन आव्हानांना सामोरे जात असताना इ.स. २०२० मध्ये भारतासहित संपूर्ण जगावर ‘कोरोना’ रुपी विचित्र संसर्गजन्य आजाराने संकट उभे राहिले. चीनमधील वूहान शहरात इ.स. २०१९ मध्ये सर्वप्रथम या रोगाची माहिती झाली आणि अतिजलद वेगाने हा व्हायरस विविध देशात पसरला. आरंभी हा रोग, रोगाची लक्षणे, उपाय याबाबत अनभिज्ञ असलेले अल्पावधीत भारतातही फेब्रुवारी २०२० मध्ये कोरोनाचा विषाणू आढळला आणि पुढील ८ ते १० दिवसात संपूर्ण भारतातील विविध राज्यात हजारो कोरोनाचे रुग्ण सापडू लागले. हजारोंची संख्या लाखांमध्ये गेली. त्यानंतर केंद्र आणि राज्य सरकारलाही या रोगाचे गांभीर्य लक्षात आल्यानंतर आणि अलगीकरण हा एकमेव उपाय असलेले व्यवहार थांबवून संपर्क कमीत-कमी होईल अशी वातावरण निर्मिती अपेक्षित होती. त्यातून ‘लॉकडाऊन’ म्हणजे संपूर्ण संचारबंदी हाच एकमेव उपाय असलेले मा.पंतप्रधान नरेंद्र मोदी यांनी २४ मार्च २०२० रोजी संपूर्ण देशभरात सर्वप्रथम २१ दिवसांचा लॉकडाऊन लावला. परिणामी देशभरात त्याची कडक अंमलबजावणी होऊन संपूर्ण व्यवहार बंद करण्यात आले आणि कडक संचारबंदी करण्यात आली. पुढे जवळपास १ वर्ष लॉकडाऊनची प्रक्रिया सातत्याने राबवल्याने देशाचे अर्थचक्र गाळत रुतले. परिणामी सर्वच क्षेत्रांना याचा मोठा आर्थिक फटका बसला त्यातून वृत्तपत्र व्यवसायही सुटला नाही.^{१०}

संपूर्ण लॉकडाऊनची कडक अंमलबजावणी सुरु झाल्यानंतर याचा फटका सर्वप्रथम घरोघरी वृत्तपत्र पोहोचविणाऱ्या विक्रेत्यांवर झाला. त्यांनाही अनेक निर्बंधांना सामोरे जावे लागले. प्रशासनाच्या कडक भूमिकेमुळे वृत्तपत्र पोहोचवताना अनेक मर्यादा आल्या. कोरोना संसर्गजन्य रोग असलेले ‘वृत्तपत्रे हि कोरोना वाहक आहेत’ अशी समजूत निर्माण झाली. आणि त्यातून अनेक कुटुंबियांना वृत्तपत्रे आपल्या घरी टाकण्यासही विक्रेत्यांना मनाई केली. त्यावर उपाय म्हणून ‘सॅनिटायझ’ करून वृत्तपत्रे पाठवावीत असा उपाय पुढे आला. कोरोनामुळे अगोदरच वृत्तपत्र निर्मिती खर्च वाढलेला आणि त्यामध्ये असा इतर खर्चही जादा झाला. शिवाय मागणीही कमी झालेले या सर्वांचा एकत्रित परिणाम म्हणून अगोदरपासून अडचणीत असलेला वृत्तपत्र व्यवसाय हा जास्तच अडचणीत आला. परिणामी आर्थिक अडचणीमुळे वृत्तपत्र खर्च-उत्पन्नाचा ताळमेळ घालत सुरु होती अशी वृत्तपत्रे बंद पडली त्यातून मुद्रित माध्यमापुढील संकटे वाढली. त्यातच वृत्तपत्रांतर्गत स्पर्धेमधून वृत्तपत्रांच्या किंमतीही वाढविता येत नसल्याने मोठ्या वृत्तपत्र समूहांनी केवळ आपले वृत्तपत्र चालू ठेवण्यासाठी इतर उपयोग व्यवसायामधील नफा वृत्तपत्रांमध्ये वापरला.^{११}

कोरोना संसर्ग आणि उद्भवलेला लॉकडाऊन यामुळे देशभरातील वृत्तपत्र उद्योगांना ८ ते १० हजार कोटींचा पहिल्या ४ महिन्यात तोटा झाला. आणि या उद्योगांवर प्रत्यक्ष-अप्रत्यक्ष अवलंबून ५५ ते ६० लाख लोकांची आर्थिक स्थिती बिघडत गेली. प्रचंड तोटा, ठप्प झालेले आर्थिक चलनवलन यामुळे वृत्तपत्रांना कर्मचाऱ्यांचे पगार भागविणे आणि विक्रेत्यांची देणी देणेही अशक्य बनले. वृत्तपत्रांच्या उत्पन्नाचा महत्वाचा स्रोत असलेल्या जाहिराती जवळपास बंद झाल्या. त्यामुळे काही मोठे वृत्तपत्र समूह वृत्तपत्र बंद करण्यापर्यंत विचार करू लागली. महाराष्ट्रातही अनेक वृत्तपत्रांनी आपल्या विविध आवृत्त्या बंद केल्या अशी माहिती वृत्तपत्रांची शिखर संस्था असलेल्या ‘इंडियन न्यूजपेपर सोसायटी’ ने केले आहे. वृत्तपत्र व्यवसायातील वेतन कपात, मनुष्यबळ कपात, अचानक घसरलेला खप, जाहिरातींचे कमी प्रमाण असे परिणाम झाले.^{१२}

इ.स. २०२२ पर्यंत कोरोनाच्या तीन लाटा येऊन गेल्या सुदैवाने रोगाच्या प्रसाराची गती कमी झाली आहे. ‘लसीकरण आणि सावधता’ हा एकमेव उपाय कोरोनावर आहे. ‘मानवप्राणी सतत आशावादी असतो’ या

उक्तीप्रमाणे पुन्हा भविष्यात अनुकूल बदल होऊन प्रिंट आणि डिजिटल मिडिया नव्या बदलांना नव्या उपायांनी सामोरे जाण्याचा प्रयत्न करीत आहे.

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कोरोना काळानंतर शैक्षणिक क्षेत्रातील अपेक्षित बदल

सुवर्णा संभाजी पाटील

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज,
माळवाडी-कोतोली, ता. पन्हाळा.

प्रस्तावना

1998 च्या स्पॅनिश फ्लूच्या साथीनंतर बरोबर शंभर वर्षांनी कोरोनाविषाणू चा उद्रेक झाला आहे. गेली जवळपास दोन वर्षे याच्या लाटेत सगळे जग लपेटले गेले आणि जगाची घडी संपूर्ण विस्कळीत झाली आता हे अगदी सिद्ध होत आहे की ही चीनची जगाला देण आहे आणि त्याबद्दल चीन जराही शर्मिंदा नाही विषाणू हे संघर्षाचे नवे हत्यार असल्याचा बोध घेऊनच आता आपल्याला जगायचे आहे अजूनही लस उपलब्ध नाही लस आल्यावर सुद्धा तिची परिणाम कारक शक्ती तिचा यास विषाणूचा सर्व लक्षणांना अटकाव करू शकेल असा प्रभाव समजायला वेळ लागेल आपण जिथे आहोत तिथे आहोत आणि जसे आहोत तसेच आहोत.

शेती आणि उत्पादन या प्रक्रिया मार्गी लागल्या तरी आपण जवळपास पंचवीस कोटी रोजगार सुरक्षित करू शकतो. यामुळे सरकारच्या आत्मनिर्भर योजने उत्पादन वाढ होईल हे अशासाठी सांगितले की या सगळ्या क्षेत्राच्या बळकटीकरणाने शिक्षण व आरोग्य ही क्षेत्रे उभी असतात तिथे एक चांगली बातमी म्हणजे शिक्षण पद्धतीत यानिमित्ताने जर बदल झाला तर ती कमी खर्चाची बाब होईल आणि मग ते सगळ्यांपर्यंत पोहोचणे सोयीचे होऊ शकते.

शिक्षण क्षेत्रातील ऑनलाइन पद्धतीसाठी डिजिटल व्यवहाराची व्यवस्था उपलब्ध असणे ही मोठी गोष्ट आहे सर्वदूर व दूरवर पसरलेल्या ग्रामीण मुलांच्या शिक्षणासाठी या डिजिटल व्यवस्थेचा मोठा हातभार लागणार आहे डिजिटल व्यवस्था उभी राहिली आणि आता तीच ऑनलाइन शिक्षण पद्धतीला प्रचंड फायद्याची ठरणार आहे पारंपारिक शिक्षण पद्धतीवरून ऑनलाईन शिक्षण पद्धतीचा हा बदल किती पटकन झाला हे आपण पाहतो आहोत. अगदी अनागरी भागात सुद्धा ऑनलाईन व्यवस्थेत मोबाईल वापरून मुले केलेला अभ्यास शिक्षकांना पाठवतात आणि त्यावरून शिक्षक त्यांना मार्गदर्शनही करतात. ही मुले उद्याच्या जगातील डिजिटल व्यवस्थेसाठी किती मोठ्या प्रमाणात तयार होतील. याचा अंदाज तुम्हाला अजून पाच ते दहा वर्षांनी येईल कोरोनाच्या काळाचा ढागांना ही चंदेरी किनार आहे.

उद्दिष्टे

1. कोरोना आधीची शिक्षण व कोरोना नंतरची शिक्षणपद्धती यातील बदल समजावून घेणे.
2. ऑफलाईन शिक्षण व ऑनलाईन शिक्षण यातील चांगले वाईट फरक स्पष्ट करणे.
3. ऑनलाईन शिक्षण पद्धतीमुळे नवनवीन टेक्नॉलॉजी विकसित होत आहे याचा आढावा घेणे.
4. शाळा बंद पण शिक्षण सुरू या उपक्रमाचा आढावा घेणे.
5. व्हर्च्युअल शिक्षणासाठी पालकांनी केलेले सहकार्य.
6. ऑनलाईन शिक्षण पद्धतीमुळे भविष्यात होणाऱ्या बदलांचा आढावा घेणे.

संशोधन पद्धती:-

प्रस्तुत शोधनिबंध साठी वर्णनात्मक संशोधन पद्धतीचा अवलंब केला आहे. तसेच शोधनिबंधाच्या संदर्भात तथ्य संकलनासाठी मासिके, विविध संशोधनपर लेख, वर्तमानपत्र, न्यूज चॅनेल्स, साप्ताहिके, वेबसाईट्स यासारख्या स्रोतांचा वापर करण्यात आला आहे. त्याचबरोबर समाजातील पालक व विद्यार्थ्यांचे अनुभव प्राथमिक स्रोत म्हणून वापरण्यात आलेले आहेत.

विषय विवेचन:-**कोरोना आधी आणि नंतर चे शिक्षणविश्व:-**

आपल्या देशात केजी ते बारावी पर्यंत एकूण पन्नास कोटी विद्यार्थी आहेत. तर एकूण शाळा अकरा लाखांच्या आसपास आहेत. यात खाजगी आणि सरकारी अशा सर्व शाळा येतात, याचा एक अर्थ असा की शाळांची संख्या विद्यार्थी संख्येला पुरेशी नाही. म्हणजे पुरेशा शाळा उघडणे आणि आहे त्या सुस्थितीत सुरु ठेवणे, ही प्रचंड खर्चिक बाब आहे. ज्यासाठी गेली सत्तर वर्षे आपण पुरेशी आर्थिक तरतूद करू शकलेलो नाही. कॉलेजेसची संख्या तर अत्यंत तुटपुंजी आहे, आणि त्याहूनही वैद्यकीय किंवा उच्च अभियांत्रिकी महाविद्यालयाचे प्रमाण पुरेसे नाही. शेतीवर अवलंबून असणारी 62 टक्के लोकसंख्या आणि त्यातही 80 टक्के शेतकरी अल्पभूधारक या विसंगतीने कृषी संख्येला शिक्षण हा पर्याय ठेवलेला असूनही असणारी तुटपुंजी सोय यामुळे शिक्षण हा प्राधान्याचा विषय नाही. ज्या नागरी वसाहतीला शिक्षणाशिवाय पर्याय नाही, तिथे पुरेशी महाविद्यालये अथवा शाळा असतीलही पण त्यातून बाहेर पडणाऱ्या विद्यार्थ्यांना नोकरीची हमी मिळेल असे शिक्षण नाही.

शिक्षणाची परवड असताना या देशात मोबाईल वापरणारे लोक तब्बल १०० कोटी आहेत त्यातील 40 कोटी स्मार्ट फोन वापरतात 2013 पासून मोबाईल डेटा वापरण्याच्या खर्चात 93 टक्के घट झाली आहे. 2019 मध्ये दर ग्राहक सरासरी मोबाईल डेटा चा वापर अकरा जीबी इतका आहे हे सगळे ऑनलाईन शिक्षण पद्धतीला पूरक आहे त्यामुळे डिजिटल पद्धती आणि डिजिटल साधनांचा वापर हे योग्य वेळी अशा उंचीवर पोहोचले आहे की या देशातील शिक्षण आपली कूस बदलू शकते ही संधी वारंवार येत नाही.

ऑनलाईन शिक्षण:-

ऑनलाईन शिक्षणाच्या प्रणालीची अत्यंत प्रभावीपणे अंमलबजावणी झाली तर त्याचा अनेक स्तरावर फायदा होऊ शकतो. ज्ञानदानासाठी किंवा क्षमताविकसनासाठी, एका शारीरिक वयाच्या पन्नास-शंभर मुलांना एकाच छाताखाली रोज जमवून त्यांना एकाच पद्धतीचे शिक्षण देणे औद्योगिक काळाची गरज होती. केवळ त्याच पद्धतीने शिक्षण देणे तेव्हा शक्य होते. पण अगदी कोरोना येण्यापूर्वी पर्यंत या परिस्थितीत काहीच फरक पडला नव्हता. कोरोनाच्या या झटक्याने आपण अचानक नव्या पद्धतीत आलो आहोत.

भविष्यात या नव्या ऑनलाईन शिक्षण पद्धतीत प्रत्येकासाठी व्यक्तिगत शिक्षणाचे नियोजन (लर्निंग प्लॅन) शिक्षणाचा मार्ग (लर्निंग पाथ) असू शकतात. वयानुसार आणि व्यक्तिगत क्षमतेनुसार त्या नियोजनामध्ये लवचिकता येऊ शकते. म्हणजे दहा वर्षांचे एक मुल त्याच्या नैसर्गिक क्षमतेनुसार चौथीचे तर दुसरे मूल त्याच्या क्षमतेनुसार सातवी आठवीचे गणित शिकू शकते. हे आज घडत नाही,

पण उद्या कदाचित असे घडू शकेल प्रत्येकजण आपल्याला क्षमतेनुसार आणि आवडीनिवडीनुसार आपल्या शिक्षणाचा मार्ग निवडू शकेल.

शाळा चालवण्यासाठी शाळेच्या इमारती मैदाने यांचे इन्फ्रास्ट्रक्चर लागते. शहरापासून ते खेड्यापर्यंत प्रत्येक मुलाच्या घराजवळ शाळा हवी असेल तर त्यासाठी लागू शकणार या इन्फ्रास्ट्रक्चर साठी महाकाय गुंतवणूक करावी लागते. शाळा घराजवळ नसेल तर मुलांच्या वाहतुकीची व्यवस्था आणि त्यासंबंधी इन्फ्रास्ट्रक्चर लागते वाहतुकीमध्ये मुलांचा जाणारा वेळ आणि त्या दरम्यानच्या त्यांच्या सुरक्षिततेचा प्रश्न ही देखील एक मोठी समस्या असते. अत्यंत प्रभावीपणे राबवल्या गेलेल्या ऑनलाईन शिक्षणामुळे या समस्यांचे निराकरण होऊ शकते. शाळांच्या इन्फ्रास्ट्रक्चरमध्ये मोठ्या प्रमाणावर गुंतवणूक न करता शिक्षण सर्वदूर पोहोचवता येऊ शकते.

ऑनलाईन शिक्षणाच्या मर्यादा:-

शाळांमध्ये मुले पारंपारिक शिक्षणासोबत सामाजिक वर्तन (सोशल स्किल) सुद्धा शिकत असतात. सामाजिक वर्तनाचे नियम, सामाजिक शिस्त आणि संबंधित सोशल स्किल ही ऑनलाईन शिक्षणातून देता येत नाहीत. ऑनलाईन शिक्षणाची ही सगळ्यात मोठी मर्यादा आहे.

शालेय शिक्षणात काही उपक्रम हे प्रत्यक्ष उपस्थित राहून आणि शिक्षकांच्या देखरेखीखालीच करावे लागतात. प्रयोग शाळांमध्ये केलेले प्रयोग हे त्यांचे ठळक उदाहरण आहे. अशा प्रकारचे प्रयोगशाळांमधून दिले जाणारे शिक्षण ऑनलाईन माध्यमातून देता येणे अत्यंत अवघड कदाचित अशक्य आहे.

याशिवाय ऑनलाईन शिक्षणासाठी शिक्षक व विद्यार्थी या दोघांकडे पुरेशी तांत्रिक उपकरणे व हाय स्पीड इंटरनेट असणे गरजेचे असते .

त्याचबरोबर पुरेशी इंटरनेट कनेक्टिव्हिटी ही आपल्या कडची मोठी समस्या आहे मोबाईलच्या 3g / 4g सेवा काही ठिकाणी जोमात चालतात तर काही ठिकाणी केवळ नावाला उपलब्ध असतात.

ऑफलाईन आणि ऑनलाईन शिक्षण याचा सुरेख मेळ:-

Covid-19 मुळे आपल्या शाळा 14 मार्च पासून बंद आहेत. तेव्हापासून विद्यार्थी शिक्षणापासून वंचित आहेत. ग्रामीण भागातील विद्यार्थी शिक्षणापासून वंचित राहू नये म्हणून अनेक शाळांमध्ये विविध उपक्रम राबवून विद्यार्थ्यांना या शिक्षण प्रवाहात ठेवण्याचा प्रयत्न केला जात आहे. तसे पाहायला गेले तर कोल्हापूर जिल्ह्यातील आमचा पन्हाळा तालुका डोंगराळ आणि दुर्गम भागात आहे. आजदेखील पन्हाळा तालुक्यातील जवळपास साठ टक्के भागामध्ये रेंज पोहोचलेली नाही. त्याशिवाय बऱ्याचश्या मुलांच्या पालकांकडे अँड्रॉइड मोबाईल नाहीत.

ग्रामीण भागातील विद्यार्थी या covid-19 च्या काळात शिक्षणापासून दूर राहू नयेत यासाठी आणि त्यांना शक्य तितके आभ्यासात गुंतवून ठेवण्यासाठी जिथे रेंज आहे आणि ज्या पालकांकडे अँड्रॉइड मोबाईल आहेत त्याठिकाणी ऑनलाईन अध्यापन आणि ज्या ठिकाणी रेंज नाही व पालकांकडे मोबाईल नाही अशा ठिकाणी प्रत्यक्ष गट पद्धतीचा वापर करून अध्यापन केले गेले.

लॉकडाऊनमुळे शाळा बंद असल्या तरी विद्यार्थ्यांना शिक्षणाच्या प्रवाहात ठेवण्यासाठी वेगवेगळे मार्ग अनुसरले जात आहे. ऑनलाईन शिक्षण सुरू केले पण त्यातही काही अडचणी आल्या. अशा वेळी जमेल तिथे ऑनलाईन आणि जमेल तिथे ऑफलाईन असा शिक्षणाचा सुरेख मेळ घालत शिक्षण प्रवाह वाहत ठेवला जात आहे.

सरकारची भूमिका उपक्रम आणि धोरणे:-

केंद्र सरकारने ई लर्निंगच्या प्रचार-प्रसारासाठी काही लक्षणे उपक्रम गेल्या काही वर्षांमध्ये सुरू केले आहे. स्वयम् नावाचे ॲप आणि त्यामागे शैक्षणिक साहित्य निर्माण करणारी मोठी परिसंस्था सरकारने उभी केली आहे.

AICTE, NCERT, UGC सारख्या राष्ट्रीय पातळीवरच्या नऊ संस्थांमध्ये समन्वय साधून त्यांच्याकडील शैक्षणिक साहित्य स्वयम् या एका व्यासपीठावर उपलब्ध करून दिले आहे. शिवाय कोणत्याही शिक्षकाला कोणत्याही विषयावरचा अभ्यासक्रम आणि शैक्षणिक साहित्य तयार करून त्यावर टाकण्याची सुविधा दिली आहे.

“स्वयम्” मधील सर्व अभ्यासक्रम आणि शैक्षणिक साहित्य हे देशातील कोणत्याही विद्यार्थ्याला पूर्णपणे मोफत उपलब्ध आहे.

त्याचबरोबर केंद्र सरकारचे माहिती तंत्रज्ञान खाते देशभरातल्या अनेक संस्थांमध्ये ई-लर्निंग संबंधीचे संशोधन प्रकल्प गेली काही वर्षे राबवत आहे आणि केंद्र सरकारने स्थापन केलेल्या राष्ट्रीय मुक्त विद्यालय शिक्षा संस्था National institute of open schooling द्वारे अनेक पारंपारिक किंवा व्यवसाय शिक्षणाचे अभ्यासक्रम चालवले जात आहे.

केबल चॅनेलद्वारे शिक्षण:-

वीस वर्षांपूर्वी कवी राम एवळे यांची टीव्ही वरची शाळा ही कविता प्रकाशित झाली होती आज कोरोनाच्या पार्श्वभूमीवर त्या कवितेची आठवण झाली.

22 मार्च 2020 हा दिवस सर्व भारतीयांच्या स्मरणात कायमस्वरूपी राहिल. अवघ्या जगाला covid-19 विळखा घातल्यानंतर याच तारखेला संपूर्ण देशात पंतप्रधानांनी लॉकडाऊन जाहीर केला. आणि सर्व व्यवहार थांबले शिक्षण क्षेत्रही त्याला अपवाद नव्हते यामुळे परीक्षांवीणा शैक्षणिक सत्र संपवावे लागले आणि ऑनलाईन शिक्षणाचा नवा फंडा उदयास आला.

अशा परिस्थितीमध्ये शाळेची मोठी पटसंख्या पाहता सर्वच विद्यार्थ्यांना शिक्षण देता यावे यासाठी अनेक शाळांनी नवीन प्रयोग करण्याचा निर्णय घेतला व त्या अंतर्गत स्थानिक केबल चॅनल ची मदत घेतली. यासाठी सर्वे करण्यात आला मात्र हे चॅनल सुरु करताना आर्थिक प्रश्न समोर उभे राहिले. त्यासाठी विद्यार्थ्यांच्या पालकांनी चॅनलचे भाडे देण्यासाठी सहकार्य केले.

मोबाईल पेक्षाही स्थानिक केबल चॅनल द्वारे दिल्या जाणाऱ्या शिक्षणामुळे विद्यार्थ्यांमध्ये आनंदाचे वातावरण निर्माण झाले आहे. विद्यार्थ्यांना घरबसल्या व्यवस्थित शिक्षण घेता यावे यासाठी स्थानिक टीव्ही चॅनेल चा वापर केल्याने विद्यार्थ्यांना लॉकडाऊन काळात घरबसल्या ऑनलाईन शिक्षणाचा आनंद मिळत आहे.

व्हिज्युअल ते व्हर्च्युअल :-

महाराष्ट्रमध्ये मार्च महिन्याच्या उत्तरार्धात कोरोनाची साथ शिक्षण क्षेत्रामध्ये एक संक्रमणाची लाट घेऊन आली. विद्यार्थ्यांच्या सुरक्षितेसाठी अनिश्चित काळासाठी शाळा बंद करण्यात आल्या. शाळा बंद राहण्याचा कालावधी वाढणार आहे हे जाणवताच महाराष्ट्र राज्यामध्ये शाळा बंद पण शिक्षण सुरु या बदलत्या आव्हानात्मक परिस्थितीमध्ये मुलांचे शिक्षण सुरु राहण्यासाठी व्हिज्युअल ते व्हर्च्युअल या उपक्रमाचे केंद्र स्तरावर नियोजन करण्यात आले.

सर्वात प्रथम digital literacy तंत्रज्ञान साक्षरता या संकल्पने संदर्भात काम करण्याचे ठरवले फक्त व्हाट्सअप मेसेज विविध लिंक फॉरवर्ड करणे म्हणजे तंत्रज्ञान साक्षरता नव्हे तर त्यापुढे जाऊन शिक्षक पालक व विद्यार्थी यांच्या दृष्टीने तंत्रज्ञानाचा उपयोग शैक्षणिक दृष्टीने करण्यासाठी शिक्षण प्रक्रिया अधिक सोपी आणि आनंददायी करण्यासाठी तंत्रज्ञानाची संकल्पना साहित्य उपयुक्तता संशोधन या सर्व गोष्टी व्यापक अर्थाने समजावून घेणे म्हणजे तंत्रज्ञान साक्षरता होय हा विचार शिक्षक व पालकांमध्ये पोहोचविण्यासाठी व्हिज्युअल ते व्हर्च्युअल उपक्रम राबवण्यात आला.

लॉकडाऊनमध्ये विद्यार्थ्यांचे ऑनलाईन शिक्षण सोयीस्कर व्हावे यासाठी ऑडिओ कॉन्फरन्स कॉल, व्हिडिओ कॉल, व्हिडिओ कॉन्फरन्स, शिक्षक झूम मीटिंग, गुगल मीट शिक्षण, गुगल मीट तंत्रज्ञान कार्यशाळा शैक्षणिक ऑडिओ, व्हिडिओ फाईल्स व पीडीएफ निर्मिती यांद्वारे शाळांमधून विद्यार्थ्यांना ऑनलाईन शिक्षण देण्यात आले. आणि या उपक्रमामुळे सकारात्मक दृष्टिकोनामुळे व्हिज्युअल ते व्हर्च्युअल असा शिक्षणाचा प्रवास सुरु झाला.

शाळेचे प्रयत्न व समाजाची साथ :

शासनाने विद्यार्थ्यांना शिक्षणाच्या प्रवाहात ठेवण्यासाठी Learn from home आणि शिक्षकांसाठी work ham home चा पर्याय दिला.

यांमुळे शाळा बंद असतानाही आपली मुले शिक्षण घेऊ शकतात, हा विश्वास पालकांमध्ये निर्माण होऊन पालकांचे सहकार्य मिळण्यास सुरुवात झाली. विद्यार्थी व पालकही फोन करून अभ्यासातील अडचणी सांगू लागले व नवीन अभ्यासाची मागणी करू लागले.

शाळा आणि शिक्षक करीत असलेले प्रयत्न पाहून, शाळा बंद असूनही आपल्या मुलांचे शिक्षण सुरु झालेले पाहून, ज्या पालकांकडे अँड्रॉइड फोन नव्हते त्यांनी मुलांच्या शिक्षणासाठी अँड्रॉइड फोन विकत घेतले, डीडी सहाद्रीवरील 'टिली मिली'हा कार्यक्रम बघण्यासाठी काही पालकांनी नवीन टी व्ही सुद्धा घेतले. शिक्षकांसोबतच पालक व गावातील तरुण मंडळींची अभ्यासात सहकार्य मिळू लागले. त्यामुळे विद्यार्थ्यांना ऑनलाईन शिक्षण घेणे अधिक सोयीस्कर झाले.

संमिश्र शिक्षण हीच भविष्याच्या दिशा :

ऑनलाईन शिक्षण व्यवस्था ही काळाची गरज आहे. अत्यंत कमी खर्चात प्रत्येक विद्यार्थ्यांपर्यंत पोहोचू शकेल आणि प्रत्येकाला आपापल्या आवड आणि क्षमतेनुसार घेता येईल असे शिक्षण खरोखर महत्त्वाचे आहे. मात्र ऑनलाईन शिक्षणाच्या काही महत्त्वाच्या मर्यादांमुळे पारंपारिक शालेय शिक्षण आणि शाळांना तो संपूर्ण पर्याय ठरेलच असे नाही. संमिश्र शिक्षण पद्धत [Blended Learning] ही भविष्यातली महत्त्वाची शिक्षण पद्धत असेल.

जे विषय ऑनलाईन शिक्षाता येणे शक्य आहे त्यांचे अध्यापन अध्ययन ऑनलाईन होणे. जे विषय प्रत्यक्ष एकत्र घेऊन शिकावे लागतात यासाठी शाळांसारख्यासंस्थांमध्ये एकत्र येणे, अशा दोन्ही पद्धतीचा वापर येणाऱ्या काळात करावा लागेल. त्याचबरोबर मुल्यमापनाच्या पद्धतीमध्ये प्रमाणीकरण करून त्या ऑनलाईन पद्धतीने - राबवल्या तर देशातल्या कोणालाही कुठूनही हव्या त्या. अभ्यासक्रमाची परिक्षा देता येणे शक्य होईल.

या सर्व एखाद दुसऱ्या वर्षात घडणाऱ्या गोष्टी नाहीत. वर्षानुवर्षे अनेक सरकारी आणि खासगी संस्थांनी एकमेकांशी समन्वय साधत प्रयत्न केले तर संपूर्णपणे - आधुनिक आणि सर्वांना उपलब्ध अशी नवी शिक्षण व्यवस्था आपण उभी करू शकू.

निष्कर्ष :

- 1) विद्यार्थ्यांच्या शिक्षण पद्धतीत बदल झालेला दिसून येत आहे.
- 2) ऑनलाईन शिक्षणाला अधिक महत्त्व दिले जात आहे.
- 3) ऑनलाईन शिक्षणामुळे विविध प्रकारचे ऑनलाईन कोर्स उपलब्ध झालेले पाहायला मिळतात.
- 4) बदललेल्या शैक्षणिक व्यवस्थेमुळे ज्ञानाच्या कक्षारुंदावल्या आहेत.
- 5) ऑनलाईन एज्युकेशनमुळे विद्यार्थी 24 तास शिक्षण होऊ शकतात.
- 6) बदललेल्या शैक्षणिक व्यवस्थेमुळे जगाची वाटचाल - आधुनिकीकरणकडे सुरु झालेली पाहायला मिळते.

उपाय :

- 1) ऑनलाईन शिक्षणाचा अधिक वापर होण्यासाठी विद्यार्थ्यांना त्याचे महत्त्व पटवून दिले पाहिजे.
- 2) गरीब विद्यार्थी स्मार्टफोन विकत घेऊ शकत नाहीत. विद्यार्थ्यांना शक्य असेल त्यांनी-मदत करणे गरजेचे आहे.
- 3) ग्रामीण भागातील नेटवर्क प्रॉब्लेम सोडवण्यासाठी प्रयत्न केले पाहिजेत ज्यामुळे ऑनलाईन शिक्षण अधिक सोयीस्कर होईल.
- 4) ऑनलाईन एज्युकेशन साधनांबाबत अजून विद्यार्थ्यांन एवढी माहिती नाही. त्यांची माहिती शिक्षकांनी व समाजातील शिक्षित लोकांनी विद्यार्थ्यांना समजावून सांगायला हवी
- 5) विद्यार्थ्यांच्या ऑनलाईन शिक्षणाच्या विकासाबाबतीत त्यांच्या पालकांबरोबर नियमित सभा घेतल्या पाहिजेत.

संदर्भ :

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- 2) ओ.आर.एफ मराठी न्यूज.
- 3) सकाळ मराठी न्यूज
- 4) world Health organisation (2020) various healthreports and updates in the mont of July andAugust.
- 5) <https://www.nhsconfed.org>, Retrived on15th July 2020
- 6) जीवन शिक्षण, ऑगस्ट [2020]

कोरोना काळात भारतीय शिक्षण व्यवस्थेवर झालेला परिणाम

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सारांश

सन २०१९ मध्ये सर्वप्रथम कोरोनाचा रुग्ण चीन या देशात सापडला. त्यावेळेपासून आजपर्यंत जगातील सर्व देशांमध्ये कोरोनाचा प्रभाव मोठ्या प्रमाणात झाल्याचे दिसून येते. कोरोना काळात रुग्णसंख्या आटोक्यात आणण्यासाठी सर्वच राष्ट्रांनी टाळेबंदी (Lock Down) या प्रभावी तंत्राचा वापर केला. भारत देश सुद्धा याचा साक्षीदार आहे. भारतीय समाजव्यवस्थेवर कोरोना काळात अनेक आघात झाला. त्याचे दूरगामी परिणाम आजसुद्धा आपणास पाहावयास मिळतात. सदर संशोधनात कोरोना काळात भारतीय शिक्षण व्यवस्थेवर झालेल्या परिणामांचे समाजशास्त्रीय अध्ययन करण्यात आलेले आहे. सदरचे संशोधन ही दुय्यम साधनावर आधारित आहे. यामध्ये वर्तनात्मक संशोधन आराखड्याचा अवलंब केला आहे. ऑनलाइन शिक्षण पद्धतीमध्ये साधनाचे स्रोत नसल्याने विद्यार्थी व पालक यांना आर्थिक, मानसिक ताणतनावला सामोरे जावे लागले. वाचन संस्कृतिचा रहास झाला. परीक्षा पद्धतीतील बदल असे परिणाम प्राथमिक शिक्षणापासून विद्यापीठिय शिक्षणापर्यंत कोरोना काळात भारतीय शिक्षण व्यवस्थेमध्ये झाल्याचे दिसून येते.

प्रस्तावना: (Introduction)

कोरोना व्हायरसच्या संकटामुळे जगभरातील लोकांच्या जीवनावर गंभीर परिणाम झाला. शालेय मुलांपासून ते नोकरी करणाऱ्या लोकांपर्यंत कोरोनाने प्रत्येकाच्या आयुष्यावर परिणाम केला. कोविड - १९ विषाणूने जगभरात कार्य संस्कृती पूर्णपणे बदलली आहे, त्याच वेळी कोरोना काळात विद्यार्थ्यांना शिकवण्यासाठी ऑनलाईन शिक्षणाचा नवा ट्रेड सुरू झाला. शाळेपासून महाविद्यालयीन विद्यार्थ्यांसाठी ऑनलाइन वर्ग सुरू करण्यात आले. अगदी परीक्षाही ऑनलाइन घेतल्या गेल्या.

कोरोना विषाणूची साथ हे दुसऱ्या महायुद्धानंतरचे जगासमोरचे मोठे संकट आहे. मानवी जीवनाच्या सर्वच बाजूंवर या संकटाने प्रभाव टाकला आहे. या रोगाला अजून प्रतिजैविके न सापडल्यामुळे रोग होऊ नये, म्हणून प्रतिबंधक उपाय योजणे एवढाच आता सर्वासमोर पर्याय आहे. म्हणून लॉकडाउनचे धोरण अवलंबून हा रोग आटोक्यात आणण्याचा सर्व देशांत प्रयत्न चालू आहे. या परिस्थितीतून निर्माण झालेल्या अनिश्चिततेमुळे जगभर भीतीचे वातावरण पसरले आहे.

जागतिक व देशाच्या अर्थव्यवस्था लॉकडाउनमुळे मंदी, बेरोजगाराच्या चक्रात अडकल्यामुळे डळमळीत होत आहेत. ठप्प झालेल्या अर्थव्यवस्थेमुळे हातावर पोट असणाऱ्या कष्टकऱ्यांचे तांडे, शहराकडून गावाकडे निघाले आहेत व उपासमारीचे मरायचे, की कोरोनामुळे; या पेचात हा कष्टकरी वर्ग अडकला आहे. चीन-अमेरिका यांच्या आर्थिक सत्तासंघर्षाला 'जैविक युद्धाचे' स्वरूप येत आहे का, या भीतीने जग ग्रासले आहे. जागतिक सत्ता केंद्र युरोप-अमेरिका खंडाकडून आशिया खंडाकडे सरकत आहेत. लॉकडाउनमुळे येणाऱ्या सक्तीच्या रिकामेपणामुळे व एकटेपणामुळे कौटुंबिक-सामाजिक-मानसिक आरोग्याच्या समस्या निर्माण होऊ लागल्या आहेत.

कोरोनाला रोखण्यासाठी अनेक देशांनी शिक्षणसंस्थासुद्धा बंद केल्या आहेत. 'युनेस्को'च्या अहवालानुसार एप्रिल २०२०मध्ये १८८ देशांत १५४ कोटी विद्यार्थी घरी बसले आहेत. भारतात १५ लाख शाळा बंद आहेत. त्यामुळे २६ कोटी विद्यार्थी व ८९ लाख शिक्षक घरी बसले आहेत, तर उच्च शिक्षणात ५० हजार शिक्षणसंस्था बंद आहेत व ३.७० कोटी विद्यार्थी आणि १५ लाख महाविद्यालयीन शिक्षक घरी बसले आहेत. ३० कोटी विद्यार्थ्यांनी रिकामेपणे

घरी बसणे हा एक टाइमबॉम्ब आहे. सध्या कोरोनाची समस्या ही केवळ आरोग्याची समस्या आहे, असे मानले जात आहे; पण या संकटाला शैक्षणिक समस्यांची बाजू आहे, हे सुद्धा लक्षात घेणे आवश्यक आहे.

संशोधन उद्दिष्टे:(Research Objectives)

कोरोना महामारी काळात भारतीय शिक्षण व्यवस्थेवर झालेला परिणामांचा अभ्यास करणे हे या संशोधनाचे प्रमुख उद्दिष्ट आहे

संशोधन आराखडा:(Research Design)

प्रस्तुत संशोधनात कोरोना महामारी काळात भारतीय शिक्षण व्यवस्थेवर झालेल्या परिणामांचा अभ्यास या संशोधनात करण्यात आला आहे. यासाठी संशोधकांनी वर्णनात्मक संशोधन आराखडाचा (Descriptive research Design) अवलंब केला आहे.

नमुना निवड:(Sample method)

प्रस्तुत संशोधनासाठी संशोधकाने भारत देशाची व शिक्षण क्षेत्राची निवड ही हेतुपूर्वक केली आहे. कारण संशोधक हा भारतीय नागरिक असून, कोरणा काळात भारतीय शिक्षण व्यवस्थेवर कोण- कोणता परिणाम झाला हे अभ्यासण्यासाठी संशोधकाचा भर आहे.

माहितीचे संकलन:(Source of data collection)

प्रस्तुत संशोधन हे दुय्यम साधना वर आधारित आहे. यामध्ये वर्तमानपत्र, मासिके, पुस्तके, संशोधन अहवाल, संशोधन प्रकल्प व संगणक वेबसाईटचा वापर हा माहिती संकलनाचे स्रोत म्हणून वापरण्यात आले आहेत.

संशोधनाच्या मर्यादा:(Limetation of research)

प्रस्तुत संशोधनात कोरोना महामारीच्या काळामध्ये भारतीय शिक्षण व्यवस्थेवर झालेल्या परिणामांचा अभ्यास करण्यात आला आहे . हे अभ्यासत असताना या संशोधनात काही मर्यादा आहेत त्या मर्यादा पुढील प्रमाणे. कोरणा महामारी च्या काळात भारतीय शिक्षण व्यवस्थेवर जे परिणाम झाले आहेत ते फक्त कोरोना महामारी चेच आहेत असे म्हणता येणार नाही कारण कोरोना महामारीच्या आधी भारतीय शिक्षण व्यवस्थेवर जागतिकीकरण,व खाजगीकरण यांचादेखील परिणाम शिक्षण व्यवस्थेवर झाल्याचा दिसून येतो तरी देखील कोरोना महामारीमुळे भारतीय शिक्षण व्यवस्थेवर झालेल्या परिणामांचे अध्ययन करत असता अन्य घटकांचे देखील प्रभाव पडू शकतात ही या संशोधनाची मर्यादा आहे.

माहितीचे विश्लेषण :(Data Analysis)

जेव्हा सर्व शैक्षणिक संस्था कोरोनामध्ये बंद झाल्या, विद्यार्थ्यांसाठी परीक्षा घेणे हे एक मोठे आव्हान बनले. कोरोना संकटामुळे सीबीएसई आणि सीआयएससीई बोर्डाच्या देशभरातील अनेक राज्यांच्या बोर्ड परीक्षा रद्द कराव्या लागल्या. युनेस्कोने शाळाबाह्य झालेल्या विद्यार्थ्यांच्या समस्येवर तातडीने मार्ग काढण्याच्या सूचना आपल्या सभासद देशांना दिल्या आहेत. शिक्षणात आलेल्या या व्यत्ययाने मुलांना शिक्षण हक्कापासून वंचित राहावे लागत आहे, असे मत 'युनेस्को'ने नोंदविले आहे. दूरशिक्षण, माहिती तंत्रज्ञानाचा वापर, यू-ट्यूब, हॅंगआउट, मल्टिमीडिया, मोबाइल फोन, ई-लायब्ररी, दूरदर्शन इ. माध्यमांतून अनेक देशांनी तातडीने, मुलांचे शिक्षण खंडित होऊ नये, म्हणून वरील प्रकारचे उपक्रम सुरू केले आहेत. भारतात मात्र परीक्षा रद्द करणे, परीक्षा पुढे ढकलणे, परीक्षा न घेता मुलांना पुढच्या वर्गात प्रवेश देणे एवढ्यापुरतेच निर्णय घेतले जात आहेत. परिस्थितीची अनिश्चितता लक्षात घेतली, तर भारतानेसुद्धा दीर्घ काळासाठी शैक्षणिक धोरण ठरविणे आवश्यक आहे. भारतात उच्च शिक्षणात व मेडिसीन, इंजिनीअरिंग, कॉमर्स व मॅनेजमेंट यांसारख्या व्यावसायिक अभ्यासक्रमात माहिती तंत्रज्ञानाचा वापर मोठ्या प्रमाणावर केला जातो. विद्यार्थी आर्थिकदृष्ट्या वरच्या स्तरातील असल्यामुळे लॅपटॉप, इंटरनेट इ. खर्च त्यांना परवडतो. त्यामुळे प्रामुख्याने अभिजन वर्गाच्या छोट्या गटांचा अभ्यास, ऑनलाइन चालू आहे. हाच अनुभव शालेय शिक्षणातही आहे. ज्या उच्च मध्यमवर्गीयांची मुले, सर्व सोयींनी युक्त अशा पंचतारांकित शाळेत जात आहेत, त्यांचेही ऑनलाइन शिक्षण चालू आहे.

समस्या आहे, ती बहुसंख्य कष्टकरी, गरीब वर्गातील मुलांची. भटके-विमुक्त, आदिवासी, ग्रामीण भागांतील सरकारी किंवा अनुदानित शाळेत जाणाऱ्या मुला-मुलींची माहिती तंत्रज्ञानामुळे शिक्षणाचा प्रसार, शिक्षणाचा विस्तार, शिक्षणाचा दर्जा, शिक्षणाची संधी वाढविण्यास भरपूर वाव आहे. 'ट्राय'च्या अहवालानुसार भारतात २०२०मध्ये इंटरनेट वापरणाऱ्यांची संख्या ६८.४५ कोटी आहे. मोबाइल फोन वापरणाऱ्यांची संख्या ४८.८२ कोटी आहे. तर, इंटरनेटसह स्मार्टफोन वापरणाऱ्यांची संख्या ४०.७२ कोटी आहे. तर टीव्ही पाहणाऱ्यांची संख्या ७६ कोटी आहे. हा माहिती तंत्रज्ञानाचा विस्तार झालेला दिसत असला, तरी त्यात प्रचंड विषमता आहे. भारतात ५२ टक्के जनता इंटरनेटचा वापर करते. म्हणजे निम्मा भारत इंटरनेटच्या लाभापासून वंचित आहे. ग्रामीण भागात ३६ टक्के जनता व शहरात ६४ टक्के जनता इंटरनेटचा वापर करते, तर ६७ टक्के पुरुष व ३८ टक्के स्त्रिया भारतात इंटरनेटचा वापर करतात. माहिती-तंत्रज्ञान हे शहरी, सधनवर्ग व पुरुष यांचीच सध्या तरी मक्तेदारी होत आहे. त्यामुळे 'नॅशनल डिजिटल लायब्ररी', 'स्वयम', शोध गंगा इ. सरकारी प्रकल्पांचा फायदा मर्यादित होत आहे. या प्रकल्पांच्या ऑनलाइन शिक्षणात, कम्प्युटरची किंमत, इंटरनेटचा खर्च, विजेचा पुरवठा इ. प्रमुख अडचणी आहेत. त्यामुळे ऑनलाइन शिक्षण ही चैन शहरातील सधनवर्गाला परवडते. अनेक अप्रगत देशातसुद्धा अशीच परिस्थिती आहे. म्हणून त्या देशांनी टीव्ही माध्यमाचा वापर शाळा बंदच्या काळात जास्त करायला सुरुवात केली आहे. भारतात मात्र अशा कोणत्याही योजनेची साधी चर्चाही सुरू झालेली नाही. भारतात नऊशेहून अधिक चॅनेल्स आहेत व घरी बसलेल्या विद्यार्थ्यांसाठी या चॅनेलचा वापर कसा करून घेता येईल, याबद्दल शिक्षण खात्याकडून काही पावले उचलली जाणे आवश्यक आहे. परदेशात शिक्षणासाठी गेलेले भारतीय विद्यार्थी व त्यांचे पालक यांच्यासमोर लॉकडाऊनमुळे अडचणीचे डोंगर उभे राहिले आहेत. अभ्यासक्रमाचे बिघडलेले वेळापत्रक, आर्थिक ताण, व्हिसाच्या मुदतीचे प्रश्न, नोकरी मिळण्याची अनिश्चितता, शिक्षणकर्जाच्या हप्त्यांचे दडपण इ. मुळे परदेशातील भारतीय विद्यार्थी दडपणाखाली आहेत. काही परदेशी विद्यापीठे या काळात पर्याय म्हणून चौथ्या औद्योगिक क्रांतीचे तंत्रज्ञान, कृत्रिम बुद्धिमत्ता, रोबोटिक याचा वापर करण्याचा प्रयत्न करीत आहेत. पण, एकूण ७,५०,००० परदेशातील भारतीय विद्यार्थी संकटात आहेत. त्यांना मदत करण्यासाठी परराष्ट्र मंत्रालय, अर्थ मंत्रालय व मानव विकास मंत्रालयांनी एकत्रित योजना करणे ही काळाची गरज आहे.

मार्च 2020 मध्ये भारतात कोरोनाची साथ आली आणि सर्व स्तरांतील शिक्षणाचा बट्ट्याबोळ झाला. कोरोनाची तिसरी लाट येणार म्हटल्यावर आता नेमके काय होणार या भीतीने प्रत्येकाच्या मनात काहुर माजले आहे. अशा भयावह परिस्थितीत शाळा कशा सुरू करायच्या हा राज्यातील सरकारपुढे गंभीर पेच निर्माण झाला आहे. गेल्या वर्षी विद्यार्थ्यांना अवघड वाटणारे इंग्रजी, गणित, विज्ञान यांसारखे विषय प्रत्यक्ष शिकवले गेले. याच विषयांच्या शिक्षकांना शाळा, महाविद्यालयात नियमित यावे लागले. उर्वरित शिक्षकांनी 'वर्क फॉम होम' किंवा ऑनलाईन शिकवले. विद्यार्थ्यांना शाळेत येण्याची सवयच राहिली नाही तर, पालकही त्यांना शाळांमध्ये पाठवण्याचा आग्रह धरणार नाही. भविष्यात फक्त ऑनलाईन शिक्षणाचा 'ट्रेंड' सुरू झाला तर तंत्रस्नेही नसलेल्या शिक्षकांना नोकरीचा प्रश्न निर्माण होऊ शकतो. सद्यस्थितीला शिक्षण संस्था चालवणे डोईजड झाले आहे. इंग्रजी माध्यम शाळा मनाप्रमाणे शुल्क आकारणी करून विद्यार्थ्यांना शिकवतात. या तुलनेत विनाअनुदानित खासगी शिक्षण संस्थांना हा आर्थिक डोलारा आता पेलवत नसल्याचे उघडपणे दिसून येते. जिल्हा परिषद, महापालिका शाळांना विद्यार्थी मिळत नाहीत.

श्रीमंत घरातील मुले चांगले शिक्षण घेतील. वाटेल त्या शाळेत शिकतील. पण गरिबांच्या मुलांना शिकवण्यासाठी शिक्षकांना थोड्या टाचा उंच कराव्याच लागतील. 'टाचा उंच केल्याशिवाय चांदण्या खुडण्याचं भाग्य लाभत नाही,' याचे भान ठेवूनच शिक्षकांना आपली जबाबदारी पार पाडावी लागेल. कोरोनाच्या काळात अनेक शिक्षकांनी हे व्रत जोपासले. गावात, वाड्या-वस्त्यांवर जावून विद्यार्थ्यांना शिकवले. लॉकडाऊनच्या काळात आणि अनलॉकची प्रक्रिया सुरू झाल्यानंतरही अनेक शिक्षकांनी, शिक्षण संस्थांनी आपल्या पातळीवर योग्य ती काळजी घेऊन विद्यार्थ्यांना शिकवण्याचे कार्य महत्प्रयासाने साध्य केले. त्यांच्या या जिद्दीला सलामच आहे. केवळ सुटी आहे म्हणून वेळ वाया घालवायची आणि शासनाने घेतलेल्या निर्णयांना विरोधच करत बसायचा, या अपप्रवृत्तीने विचार

करणार्या शिक्षकांच्या नाकर्तेपणामुळे कार्यतत्पर शिक्षकांवर बोट उचलण्याची वेळ येते. ज्या शिक्षकांनी जीवाची पर्वा न करता विद्यार्थ्यांचे शिक्षण अहोरात्र सुरू ठेवले, त्यांच्या कार्याचा गौरव करण्याचा दिवस म्हणजे शिक्षक दिन आहे.

केवळ पुरस्कारांसाठी काम करण्यापेक्षा विद्यार्थ्यांच्या आवडीचा शिक्षक म्हणून लौकिक मिळवणारे आजही प्रसिध्दीपासून दूर असतात. शाळा सुरू झाली किंवा नाही, याचा त्यांना फारसा फरक जाणवला नाही. ऑनलाईन म्हणा किंवा ऑफलाईन कोणत्या तरी माध्यमातून त्यांनी शिक्षणाची गंगा वाहती ठेवली. आता शाळा सुरू होण्याच्या मार्गावर आहेत. सांगली जिल्ह्यात शाळा 100 टक्के विद्यार्थ्यांच्या उपस्थितीत सुरू करण्याचा निर्णय घेण्यात आला. त्याच धर्तीवर नाशिक जिल्ह्यात शाळा सुरू करण्याची मागणी आता होत आहे. दिवाळीनंतर शाळा सुरू झाली तर काय फरक पडेल, असे विचार करणारेही शिक्षक अन् पालक आहेत. परिस्थितीत हाताबाहेर होती तेव्हा सर्व गोष्टी सांभाळणे आणि योग्य निर्णय घेण्याची आवश्यकता होती. परंतु, आता दीड वर्षांपासून विद्यार्थी शाळेत आलेले नाही तर त्यांना शाळेची सवयच उरणार नाही. हातावर पोट भरणार्या गरीब कुटुंबातील मुले आजही रोजंदारीवर काम करतात. त्यांना शाळा सुरू होणे म्हणजे आपल्या कामातील अडथळा वाटतो. ग्रामीण भागातील विद्यार्थ्यांना ऑनलाईन शिक्षण फारसं रुचलेलं नाही. त्यांची पटसंख्या दिवसेंदिवस कमी होत आहे. अशा परिस्थितीत विद्यार्थी संख्या टिकवणे आणि वाढवणे ही देखील यातून एक समस्या निर्माण होण्याची चिन्हे सध्या दिसत आहेत.

गेल्या वर्षी सर्व परीक्षा उशिरा झाल्याने, व्यावसायिक अभ्यासक्रमांना प्रवेश घेतलेल्या मुलांचे एक सत्र वाया गेले. जे चालू आहे ते ऑनलाईन. जरा विचार करा, प्रयोगशाळेविना अभियंते, डॉक्टर, तंत्रज्ञ कसे घडणार? याही वर्षी तेच चित्र आहे. अभ्यासक्रम उशिरा सुरू होण्याचे चक्र थांबले पाहिजे. शाळा व महाविद्यालये बंद आहेत; पण कुणीही थोडेदेखील शुल्क कमी केलेले नाही. ऑनलाईन शिक्षणासाठी मध्यमवर्गीय पालकांना मुलांना स्मार्ट फोन विकत घेऊन यावे लागले आणि इंटरनेटसाठी अजून पैसे खर्च. आधीच नोकरी-धंदा गमावलेल्या पालकांच्या खिशाला ही झणझणीत फोडणी आहे. हे सगळे उपव्याप करून मुलांचा अभ्यास म्हणावा तसा तर झाला नाहीच आणि परीक्षाही नाहीत. ऑनलाईन परीक्षा घरातून घेतल्यामुळे, त्यामध्ये विश्वासाहता किती आहे, हे मिळालेल्या गुणांवरून आतापर्यंत कळले असेलच. वीस-बावीस दिवस चालणार्या परीक्षा, तज्ज्ञांची मते घेऊन कमी कालावधीत होऊ शकल्या असत्या. 'इच्छा तिथे मार्ग' याप्रमाणे, केंद्र व राज्य सरकारने आणि दोन्ही बोर्डांनी एकत्र प्रयत्न केले, असते तर परीक्षा घेणे कठीण नव्हते. लसीकरणाने नियोजन करून, तिसऱ्या लाटेसाठी तरी शिक्षणासहित सर्व बाबतीत सज्ज व्हावे, म्हणजे दुसऱ्या लाटेसारखी तारांबळ उडणार नाही. भविष्यातील धोकेही टळतील आणि शिक्षणाचा चाललेला खेळ थांबेल.

शाळांपेक्षा कमी सुविधा असलेले खासगी कोचिंग क्लासेस अनेक महिन्यांपासून परवानगी मिळण्याची वाट बघत आहेत. त्यांना योग्यवेळी परवानगी मिळेलही. पण सरकारने शाळांना प्राधान्य दिले असून टप्प्याटप्प्याने त्या सुरू झाल्या तर शैक्षणिक वर्ष वाया जाणार नाही, या भावनेतूनच निर्णय घ्यायला हवा. हा निर्णय योग्य की अयोग्य याचे मापदंड पूर्णतः शिक्षकांच्याच हाती असणार आहेत. मात्र, आपल्या शिक्षक संघटनांनी प्रथमतः शाळा सुरू करण्याच्या निर्णयास विरोध करतील. प्रायोगिक तत्त्वावर एक वर्ग किंवा तुकडी सुरू करून त्याचा अभ्यास करण्याची हीच वेळ आहे. एखाद्या शाळेतील विद्यार्थी दुर्दैवाने कोरोनाबाधित झालाच तर त्याविषयी योग्य ती काळजी घेण्याची तयारी आता शाळांनी ठेवली पाहिजे. एकिकडे मुलांना कोरोना होत नसल्याचेही काही लोक छातीठोकपणे सांगतात. तर दुसऱ्या बाजूला विद्यार्थ्यांची काळजी वाहणारेही आहेत. त्यामुळे या दोघांच्या समन्वयातून योग्य तोडगा काढून शिक्षण अविरतपणे सुरू ठेवण्याची 'हीच ती वेळ' म्हणावी लागेल. वर्ष वाया गेले तर विद्यार्थ्यांच्या आयुष्यावर त्याचा निश्चितच परिणाम होईल. अनेक विद्यार्थी शाळेबाहेर राहण्याचीही शक्यता मुख्याध्यापकांनी व्यक्त केली.

रोजंदारीवर, घरकाम करणारे, भाजीपाला व्यवसाय किंवा हॉटेलमध्ये काम करणार्या लोकांना लॉकडाऊनच्या काळात खूप हालअपेष्टा सहन कराव्या लागल्या. त्यातून सावरण्याचे प्रयत्न अजूनही थांबलेले नाहीत. घरातील प्रत्येक व्यक्तिला काहीतरी कामधंदा करणे अपरिहार्य ठरले. जगण्याची भ्रांत असणार्या व्यक्तींना शिक्षणाचे अप्रुप राहिलं का, हादेखील प्रश्न आहे. दुरस्थ शिक्षण पध्दतीचा प्रसार करणार्या यशवंतराव चव्हाण

महाराष्ट्र मुक्त विद्यापीठातील विद्यार्थ्यांचे प्रवेशही यंदा एक लाखाने कमी झाले आहेत. ही फक्त एका विद्यापीठाची व्यथा नाही. तर त्यापेक्षाही वाईट अवस्था ही अभियांत्रिकी महाविद्यालयांची आहे. नोकरीची शाश्वती वाटत नसल्याने पदविका आणि पदवी अभ्यासक्रमासाठी विद्यार्थी प्रवेश घेत नसल्याने ही महाविद्यालये आता शेवटच्या घटका मोजत आहेत. या तुलनेत सर्वोत्तम महाविद्यालयात प्रवेश मिळावा म्हणून हुशार विद्यार्थ्यांमध्ये आजही 'रेस' लागली आहे. आयआयटी, आयआयएम यांसारख्या नामांकित संस्थांमध्ये प्रवेशाचे दिवास्वप्न अनेक विद्यार्थ्यांना भुरळ घालते. या संस्था म्हणजे फक्त श्रीमंत विद्यार्थ्यांची मक्तेदारे नव्हे, ही ओळख निर्माण करण्याचे खरे सामर्थ्य हे फक्त चांगल्या शिक्षकांमध्येच आहे. त्यासाठी चार भिंतींच्या शाळेत ज्ञानाचे धडे देण्यापेक्षा परिघाच्या पलिकडे शिकवण्याचे धारिष्ठ्य या शिक्षकांना दाखवावे लागेल.

कोरोना महामारीच्या पर्वकाळानंतर शाळा, महाविद्यालये सुरू करताना खरी आव्हाने ही शिक्षकांसमोरच असतील. वेळेचे योग्य नियोजन, मर्यादित विद्यार्थी संख्या, सोशल डिस्टन्सिंग ठेवल्यास शाळाही व्यवस्थितरित्या चालू शकतील. त्यासाठी शिक्षकांची मानसिक तयारी फक्त असायला हवी. पालकांमध्ये शाळांचे महत्व टिकवून ठेवण्यासाठी शिक्षकांना पुढाकार घ्यावा लागेल. जे विद्यार्थी शाळेत येऊ इच्छिता त्यांना शिकवण्याची तयारी ठेवली पाहिजे. प्रत्येक विद्यार्थी हा घरीच बसलाय असेही नाही. तो बाहेरगावी जातो, फिरण्याचा आनंद घेतो. त्याअर्थी विद्यार्थी व पालक हे फक्त शिक्षणापासून दूर पळत असल्याचे दिसते. काही व्यक्तींच्या दबावाला बळी पडून शाळा बंद ठेवण्याची भूमिका योग्य नाही. शाळा ऐच्छिक केल्यास विद्यार्थी हे निश्चितपणे प्रत्यक्ष शाळेलाच प्राधान्य देतील. ऑनलाईन शाळांचे अप्रुप संपल्यामुळे वैतागलेल्या विद्यार्थ्यांना शाळा सुरू होण्याची प्रतीक्षा आहे. त्यांना फक्त ऑनलाईनची सक्ती करून वर्षे ढकलण्याचा विचार हा एकदिवस शाळांच्या मुळावर घाव घातल्याशिवाय राहणार नाही. शिक्षक हेच यातून योग्य मार्ग निवडतील. शिक्षकांना आयुष्यातील पहिला गुरू म्हटले जाते. गुरुजनांनी दाखवलेल्या मार्गावरच शिक्षण विभागाचे महत्व आजवर टिकून आहे.

कोरोना असेल किंवा सर्वसाधारण परिस्थिती, शिक्षकांचे कार्य हे आयुष्यभर आदर्शवत असते. विद्यार्थ्यांचे आयुष्य उज्वल करणारे शिक्षकच देशाची भावी पिढी घडवतात. परंतु, इतरांचे आयुष्य घडवणार्या शिक्षकांना स्वतःच्या समस्या सोडवण्यासाठी 'चिरीमिरी' द्यावी लागते, तेव्हा खूप दुःख होते. डॉक्टर, इंजिनियर, प्राध्यापक इतकेच नव्हे तर राजकीय पुढारीही शिक्षकांच्या हाताखालून गेलेले असतात. या सर्वांचे गुरू म्हणून शिक्षक हे नेहमी आदर्शस्थानी राहिले पाहिजेत, अशा स्वरूपाचे कार्य शिक्षकांच्या हातून घडत रहावे, हीच माफक अपेक्षा!

प्रमुख निष्कर्ष:

कोरोना महामारीने शिक्षण प्रक्रियेला वेगळे वळण मिळालंय असं आपण म्हणून शक्यतो. शैक्षणिक संस्थांना आपल्या रचनेमध्ये अनेक बदल करावे लागणार आहेत. शाळा-कॉलेजमध्ये प्रत्यक्ष विद्यार्थ्यांसमोर शिकवणे आणि ऑनलाईन विद्यार्थ्यांना शिकवणे यात फरक आहे. अनेक विद्यार्थी ऑनलाईन शिकवणीमध्ये प्रश्न उपस्थित करणे टाळतात असा अनुभव आहे. शिवाय शिक्षक वर्गात जसे मार्गदर्शन करू शकतात तसंच आणि तितक्या प्रभावीपणे ऑनलाईन क्लासमध्ये शक्य आहे का असा प्रश्न पडतो. ऑनलाईन शिक्षण पद्धती ही विद्यार्थी आणि शिक्षक या दोघांसाठी नवीन आहे. त्यामुळे यासाठी या दोघांना आणखी वेळ देणे आवश्यक आहे. येत्या काळात ही पद्धती सर्वांच्या अंगवळणी पडेल अशी आशा आहे.

कोरोना महामारीच्या पार्श्वभूमीवर यावर्षी अनेक वर्गांच्या परीक्षा रद्द करण्यात आल्या आहेत. दहावी आणि बारावीच्या विद्यार्थ्यांना अंतर्गत मूल्यांकनाद्वारे पास करण्यात आलं आहे. यामुळे विद्यार्थ्यांच्या पात्रतेचे योग्य आकलन कितपत होईल याबाबत शंका उपस्थित केली जाते. विद्यार्थी एखाद्या विषयात किती निपूण आहे, हे पाहण्यासाठी परीक्षा असायला हवी. पण, कोरोना संसर्गाच्या भीतीमुळे परीक्षा न घेता विद्यार्थ्यांना पास करण्याचा निर्णय अपवाद म्हणून घेण्यात आला आहे. विद्यार्थी पास झाले असले तरी त्यांच्यासमोर आता एक नवीन समस्या उभी राहिली आहे. कोरोना काळात अनेकांना वर्क फॉर्म होम करण्याची सवलत देण्यात आली होती. पण ज्यांना वर्क फॉर्म होम करणं शक्य नव्हतं अशांना काहीही न करता घरात बसून राहावं लागलं. अनेकांना बेरोजगार व्हावं लागलं. ऑनलाईन

पद्धतीने काम असणाऱ्यांना महामारीचा कमी प्रमाणात फटका बसल्याचं दिसून आलं. त्यामुळे येत्या काळात विद्यार्थी अशाच प्रकारच्या शिक्षणाला पसंती देण्याची शक्यता आहे.

बारावी पास झालेल्या विद्यार्थ्यांसमोर भविष्यात कोणत्या क्षेत्रात करिअर करावं असा प्रश्न उभा राहतो. इंजिनिअरिंग, कला, सामाजिक शास्त्र, मीडिया, मास कम्युनिकेशन, नर्सिंग, डिझाईन, हॉटेल मॅनेजमेंट, सेवा आणि पर्यटन, वाणिज्य, कायदा असे अनेक क्षेत्र विद्यार्थ्यांसाठी खुले आहेत. पण, विद्यार्थी क्षेत्र निवडण्यामध्ये कायम गोंधळलेले दिसून येतात. त्यामुळे या वळणावर त्यांना योग्य मार्गदर्शन आणि दिशा देणे महत्त्वाचे ठरते. या कामात विद्यार्थ्यांना अनेक संस्था मदत करत असतात. याचा लाभ विद्यार्थी घेऊ शकतात.

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कोरोना महामारीनंतरचे शारीरिक, मानसिक आणि सामाजिक स्वास्थ्य

प्रा.संग्रामसिंह संजय मोरे
शारीरिक शिक्षण संचालक
श्रीपतराव चौगुले आर्ट्स & सायन्स
कॉलेज, माळवाडी-कोतोली.

सारांश –

कोरोना महामारीनंतर शारीरिक आणि मानसिक स्वास्थ्य कसे राखावे हे माहिती असणे अत्यंत महत्त्वाचे आहे. कोरोना महामारीमुळे व कोरोनाच्या प्रभावामुळे मानवी शरीरावर व माणसाच्या मानसिकतेवर नकारात्मक परिणाम होत गेला जो समाजासाठी अत्यंत धोकादायक होता. कोरोना ही जागतिक महामारी असल्याने प्रत्येक व्यक्तीच्या मानसिकतेमध्ये समानता दिसून येते परंतु या मानसिकतेचा प्रभाव व परिणाम हे अत्यंत नकारात्मक असल्यामुळे अशा मानसिकतेचा परिणाम शारीरिक स्वास्थावर ही दिसून आला. एकंदर शारीरिक व मानसिक स्वास्थ्य बिघडण्यासाठी माणसाची मानसिकता कारणीभूत आहे. त्यामुळे कोरोना महामारीनंतरच्या काळात मानवाने शारीरिक आणि मानसिक सुदृढता राखणे अत्यंत महत्त्वाचे मानले जाते.

मुख्य शब्द -शारीरिक शिक्षण, शारीरिक स्वास्थ्य, मानसिक स्वास्थ्य,सामाजिक स्वास्थ्य.

प्रस्तावना -

निरोगी शरीर हे निरोगी मानले जात नाही एक निरोगी व्यक्ती अशी मानली जाते जी त्याच्या शरीराचे सर्व अवयव आंतरिकरित्या योग्यरित्या कार्य करण्यास सक्षम आहे आणि स्वतःला बाह्य वातावरणाशी जुळवून घेऊ शकते. निरोगी व्यक्ती नेहमी आनंदी असते त्याला कोणत्याही प्रकारच्या मानसिक आणि शारीरिक तणावाचा सामना करावा लागत नाही त्याच्यामध्ये कोणतीही शारीरिक कमतरता नसते वेगवेगळ्या लोकांच्या आरोग्याविषयी वेगवेगळ्या कल्पना असतात. वर्गातील विद्यार्थ्यांना योग्यरित्या शिकवणे हे शिक्षकाचे आरोग्य आहे. आरोग्य हे डॉक्टर किंवा हकीमचे आरोग्य आहे जे त्यांच्या उपचाराद्वारे लोकांना रोगांपासून वाचवते. तर एखाद्या खेळाडूसाठी आरोग्य म्हणजे खेळातील शारीरिक तंदुरुस्ती आणि आरोग्य चांगले करणे होय. सामान्य माणसासाठी आरोग्य हे फक्त आजारांपासून दूर राहण्यासाठी असते पण या सर्व विचारांमध्ये किंवा भावनांमध्ये काही कमतरता असते आरोग्य हा एक वेगळा घटक आहे त्यासाठी कोणतीच व्याख्या देता येत नाही तरीही त्याची व्याख्या करण्याची गरज आहे. आरोग्याची व्याख्या जागतिक आरोग्य संघटनेने अशा प्रकारे केली आहे “आरोग्य हे शारीरिक मानसिक आणि सामाजिक दृष्टीने पूर्णपणे निरोगी राहण्याचे नाव आहे”.

चांगले आणि निरोगी जीवन जगण्यासाठी आपल्या शारीरिक आरोग्याबरोबरच मानसिक आरोग्याचीही काळजी घेतली पाहिजे. कारण जर आपण आपल्या मानसिक आरोग्याची काळजी घेतली नाही तर आपण आपले जीवन कधीही आनंदी आणि तणावमुक्त जगू शकणार नाही. त्यामुळे सर्व लोकांमध्ये मानसिक आरोग्याविषयी जागरूकता पसरवण्यासाठी दरवर्षी १० ऑक्टोबर रोजी जगभरात मानसिक आरोग्य दिन साजरा केला जातो.

अभ्यासाची उद्दिष्टे –

- १) नागरिकांचे शारीरिक स्वास्थ्य अभ्यासणे.
- २) नागरिकांचे मानसिक स्वास्थ्य अभ्यासणे.
- ३) नागरिकांचे सामाजिक स्वास्थ्य अभ्यासणे.

अभ्यासपद्धती —

प्रस्तुत शोधनिबंधासाठी दुय्यम सांमग्रीचा वापर केलेला आहे, त्यामध्ये संदर्भ पुस्तके, इंटरनेट, पाक्षिक, वर्तमानपत्रे यांचा वापर करण्यात आलेला आहे.

१) शारीरिक स्वास्थ्य -

निरोगी अन्न खा आणि जेवणाच्या वेळा निश्चित करा-

निरोगी खाणे खूप महत्वाचे आहे. साखरयुक्त पेयांऐवजी जास्त पाणी प्या आपल्या आहारात सोडियम आणि मीठाचा वापर कमी करा. कमी तूप तेल आणि लोणी घालून अन्न शिजवा. उच्च चरबीयुक्त मांसाऐवजी सीफूड खा अधिक भाज्या आणि फळे खा. घरात राहिल्याने तुमच्या खाण्याच्या सवयींवरही परिणाम होऊ शकतो. संशोधन असे सूचित करते की अनियमित आणि अनियमित जेवण खाल्ल्याने तुमच्या आरोग्यावर नकारात्मक परिणाम होऊ शकतो. घरी असताना तुम्हाला तुमचा जेवणाचा नित्यक्रम सांभाळण्याचा सल्ला दिला जातो.

थोडीशी झोप घ्या-

आपण नियमितपणे झोपण्यासाठी वापरलेली रक्कम पूर्ण करण्याचा प्रयत्न करा कारण पुरेशी झोप खूप महत्वाची आहे. दररोज झोपण्याची आणि उठण्याची सामान्य वेळ सेट करा. यामुळे तुम्हाला चांगली झोप येईल आणि सकाळी ताजेतवाने होऊन जागे होईल. पुरावे असे सूचित करतात की ज्या लोकांना पुरेशी झोप मिळत नाही त्यांना मानसिक आणि शारीरिक समस्या जास्त असतात. झोपेची कमतरता तुमच्या विद्यमान मानसिक आणि शारीरिक आरोग्याच्या समस्या देखील वाढवू शकते. जर तुम्हाला रात्री पुरेशी झोप मिळाली (प्रौढांसाठी 7 ते 9 तास) यामुळे तुमची शिकण्याची क्षमता स्मरणशक्ती मनःस्थिती आणि हृदयाचे आरोग्य सुधारेल तसेच रोगप्रतिकारशक्ती सुधारेल.

व्यायाम/योग-

आजकाल तुम्ही नक्कीच घरी आहात परंतु सक्रिय राहणे आणि शारीरिक क्रियाकलाप सुरू ठेवणे खूप महत्वाचे आहे. व्यायाम आणि योगासने तुमचे शारीरिक आणि मानसिक आरोग्य दोन्ही सुधारू शकतात. तुमच्या परिसरात यावर कोणतेही बंधन नसेल तर तुम्ही बाहेर जाऊन फेरफटका मारू शकता. बाहेर जाण्याची परवानगी नसली तरीही असे बरेच व्यायाम आहेत जे तुम्ही सहजपणे घरामध्ये करू शकता जसे की उभे उडी बेंच स्क्वॅट्स किंवा पुश-अप. किंवा घरात एकाच जागी बसण्याऐवजी काही वेळ आत मर्यादित ठिकाणी चालत राहण्याचा प्रयत्न करा. तुम्हाला हवे असल्यास तुम्ही तुमच्या व्यायामामध्ये काही वेट लिफ्टिंगचाही समावेश करू शकता. यासाठी डंबेल वगैरे नसल्यास पाण्याची बाटली किंवा डबा वापरू शकता. त्याचप्रमाणे लहान खोलीतही योगा करता येतो.

कामाची जागा तयार करा-

घरातील तुमच्या मर्यादित जागेत तुमचे कामाचे ठिकाण सेट करा. मग ती रिकामी गेस्ट रूम असो किंवा तुमच्या जेवणाच्या टेबलाचा कोपरा. हे तुम्हाला ऑफिसमध्ये किंवा कामावर असल्याची भावना देईल. त्याचबरोबर घर आणि ऑफिसच्या कामातही फरक राहिल. जर या ठिकाणी काही नैसर्गिक प्रकाश ताजी हवा काही झाडे किंवा घराबाहेरचे दृश्य असेल तर ते तुमचा मूड सुधारेल आणि तुमची सर्जनशीलता आणि उत्पादकता टिकवून ठेवेल.

काम करताना दर तासाला किमान एक किंवा दोन मिनिटे उभे राहण्याची खात्री करा. जास्त वेळ बसल्याने तुमच्या शरीरातील चयापचय कमी होऊ शकतो ज्याचा आरोग्यावर नकारात्मक परिणाम होतो. काही मिनिटे उभे राहणे स्ट्रेच करणे चालणे यामुळे तुमचे कामावरचे लक्ष वाढेल.

नवीन छंद जोपासा-

तात्काळ समस्येचा विचार करण्याऐवजी काहीतरी नवीन करून पहा! काहीतरी नवीन शिजवा. नवीन कला प्रकार वापरून पहा जो तणाव कमी करण्यासाठी सर्जनशीलता वाढवण्यासाठी चिंता आणि नैराश्य दूर करण्यासाठी आणि वृद्धांमध्ये स्मरणशक्ती राखण्यासाठी प्रभावी असल्याचे आढळले आहे

2. मानसिक आरोग्य -

सजगतेचा सराव करा-

लक्ष ही अशी अवस्था आहे ज्यामध्ये आपण आपल्या मेंदूमध्ये आणि आपल्या सभोवतालच्या गोष्टींबद्दल जागरूक असतो परंतु त्यावर प्रतिक्रिया देत नाही. आपण प्रत्येक क्षण पुरेपूर जगतो आणि त्याचा पुरेपूर वापर करतो. याचा सराव करण्यासाठी तुमचे संपूर्ण लक्ष 'या वेळी किंवा वर्तमानावर केंद्रित करा. तुमच्या मनातील सर्व विचारांची जाणीव ठेवा आणि त्यावर कोणताही निर्णय घेऊ नका. पुराव्यांवरून असे सूचित होते की जर आपण आपल्या दैनंदिन जीवनात या जागरूकतेचा सराव केला तर आपण भावनिक उलथापालथीचा सामना करण्यास आपल्या भावनिक स्थितीवर नियंत्रण ठेवण्यास आणि चिंता आणि तणावाची लक्षणे कमी करण्यास अधिक सक्षम होऊ शकतो.

प्राणायाम किंवा श्वासोच्छ्वासाची आसने शिका-

जेव्हा तुम्हाला तणाव असेल तेव्हा दीर्घ आणि दीर्घ श्वास घ्या! "जाणीव श्वास घेण्याची प्रक्रिया" सहज शिकता येते. सामान्यपणे श्वास घ्या आणि प्रत्येक उत्तीर्ण श्वासाने तुमच्या शरीरातील संवेदना जाणवा. प्राणायाम किंवा सजग श्वासोच्छ्वासावर संशोधन करून आपण आपल्या भावना आणि तणावावर नियंत्रण ठेवू शकतो. लक्षपूर्वक श्वास घेण्याची एक महत्त्वाची पद्धत देखील विकेंद्रीकरण आहे. यामध्ये आपण आपल्या मनात चालू असलेले नकारात्मक विचार अनुभवायला शिकतो आणि त्या दरम्यान आपण त्यातून कोणताही निष्कर्ष काढत नाही. अशा प्रकारे आपण स्वतःला नकारात्मक भावनांपासून वेगळे करू शकतो.

बातम्यांसाठी फक्त विश्वसनीय स्रोत वापरा-

कोविड-19 बद्दल अचूक आणि वेळेवर माहिती मिळणे खूप महत्त्वाचे आहे. मात्र यासाठी सेंटर फॉर डिजीज कंट्रोल, वर्ल्ड हेल्थ ऑर्गनायझेशन आणि आरोग्य मंत्रालय यांसारख्या विश्वसनीय स्रोतांनी दिलेल्या सल्ल्यावरच अवलंबून राहावे. या विषाणूबद्दल खूप जास्त बातम्या पाहिल्याने भीती आणि चिंतेची भावना निर्माण होऊ शकते. विशेषतः नवीनतम वैज्ञानिक संशोधन इत्यादींबद्दल येणारी माहिती तुमच्या दैनंदिन वापरासाठी उपयुक्त नाही. बातम्या वाचणे आणि पाहणे किंवा सोशल मीडियावर वेळ घालवण्याऐवजी वाचन संगीत ऐकणे इतरांशी बोलणे किंवा काही सकारात्मक क्रियाकलाप करण्यात वेळ घालवा.

इतरांसाठी दयाळू आणि उदार व्हा-

सध्याच्या परिस्थितीत असे घडेल की लोक फक्त स्वतःचा आणि कुटुंबाचा विचार करतात. अन्न आणि औषधांचा तुटवडा या अपेक्षेने आपण ते मोठ्या प्रमाणावर जमा करू लागतो, त्यामुळे तुटवडा निर्माण होतो. अशा प्रसंगी अन्न आणि आवश्यक साहित्याची उपलब्धता सुनिश्चित करणे आवश्यक आहे परंतु अशा परिस्थितीत इतर लोकांची देखील काळजी घ्या आणि त्यांना देखील त्यांची गरज भासू शकते हे विसरू नका. अशा औदार्य आणि दयाळूपणामुळे आपल्यामध्ये समुदायाची भावना निर्माण होऊ शकते आणि या गोष्टी सर्वांना समान प्रमाणात उपलब्ध आहेत याची देखील खात्री होईल.

विषाणू कोणाशी भेदभाव करत नाही मग आपण हे का करावे! कोविड-19 च्या प्रसारामुळे निर्माण होणारी भीती आणि चिंता काही लोकविरुद्ध किंवा समुदायांविरुद्ध गैरप्रकार घडू शकतो. यामुळे बाधित व्यक्तींच्या मानसिक आरोग्यावर गंभीर परिणाम होतात अविश्वासाचे वातावरण निर्माण होते तसेच संबंधितांना अशा प्रकरणात तक्रार करण्यास किंवा चौकशी करण्यास घाबरतात. या कलंकाचा सामना करण्यासाठी आपल्याला हे समजून घेणे आवश्यक आहे की विषाणू सामाजिक वर्ग वंश समुदाय किंवा राष्ट्रीयत्वाकडे पाहत नाही. अशा परिस्थितीत आपण स्वतःला इतर व्यक्ती किंवा समुदायाच्या जागी ठेवले पाहिजे आणि त्या लोक किंवा समुदायांबद्दल औदार्य दाखवले पाहिजे. त्यांच्याबद्दल कोणत्याही प्रकारची भेदभाव किंवा धर्मांध माहिती प्रसारित करणे बंद केले पाहिजे.

3. सामाजिक आरोग्य -

तुम्ही निरोगी आणि उत्साही असाल तर कोविड-19 च्या काळात सक्रिय राहण्याचे अनेक मार्ग आहेत. सकारात्मक बदलात सहभागी व्हा-

ज्या वेळी कोविड-19 ची समस्या गंभीर वाटत आहे अशा वेळी असहाय्य वाटण्याऐवजी तुम्ही तुमच्याकडून करू शकणार्या सकारात्मक गोष्टींवर लक्ष केंद्रित करा. हे तुम्हाला तुमचे योगदान देण्याची संधी देईल. कोविड-19 चा प्रसार रोखण्यासाठी नमूद केलेल्या उपायांचा वापर करा आणि स्वच्छतेला तुमच्या सरावाचा एक भाग बनवा. काही लक्षणे आढळल्यास संबंधित अधिकाऱ्यांना कळवा. जर तुम्ही एखाद्या संक्रमित व्यक्तीच्या संपर्कात आला असाल आणि तुम्हाला काही लक्षणे दिसत असतील तर इतरांपासून अंतर ठेवण्यास विसरू नका आणि वेगळे राहा. स्वयंसेवक-

कोविड-19 महामारीच्या काळात तुमच्यापेक्षा जास्त संकटात सापडलेल्या इतरांच्या मदतीसाठी पुढे या. हे तुम्हाला एक उद्देश देईल. यावेळी तुम्ही अनेक गोष्टी करू शकता जसे की रिलीफ फंडाला ऑनलाइन दान करणे आरोग्य कर्मचारी म्हणून मदत करणे रक्तदान करणे. सोशल डिस्टन्सिंगमुळे यावेळी अनेक रक्तदान शिबिरे रद्द करण्यात आल्याने रुग्णालयांमध्ये रक्ताची तीव्र टंचाई आहे. तुम्ही पुढे जा अशा कोणत्याही शिबिरासाठी अगोदरच तुमची संमती घ्या तिथे विचारलेल्या प्रश्नांची बरोबर उत्तरे द्या.

सोशल मीडियावर सकारात्मक वातावरण निर्माण करण्यात मदत करा-

सोशल मीडियावर केवळ सामग्री वेबसाइट पत्ते आणि विश्वसनीय स्रोतांकडून बातम्या सामायिक करा आणि कोणतीही संशयास्पद सामग्री सामायिक करू नका. जर एखाद्या मित्राने तुम्हाला संशयास्पद वाटणारी एखादी गोष्ट शेअर केली तर त्यांना स्रोताबद्दल विचारा. हीच वेळ आहे जेव्हा तुम्ही जगभरात घडणाऱ्या चांगल्या गोष्टींची माहिती लोकांसोबत शेअर केली पाहिजे.

निष्कर्ष —

आपल्या आरोग्याची काळजी घेणे खूप महत्वाचे आहे. कोणत्याही प्रकारची आरोग्यास हानी पोहचेल अशी परिस्थिति उदभवेत तेंव्हा तुम्ही तंदुरुस्त असणे महत्वाचे आहे. जेव्हा तुम्ही निरोगी असाल तेव्हा तुम्ही तुमच्या जीवनातील इतर पैलूंची देखील काळजी घेण्यास सक्षम असाल. म्हणूनच प्रत्येकाने आपले शारीरिक, मानसिक आणि सामाजिक स्वास्थ्य जपणे महत्वाचे आहे.

संदर्भ -

- १) इंटरनेट.
- २) शारीरिक शिक्षण एक समग्र अभ्यास - डॉ. श्याम नारायण सिंह
- ३) पाक्षिक व वर्तमानपत्रे.

‘ कोरोना ’ महामारी परिणाम व उपाययोजना

श्रीमती यु. यु. पाटील

प्रमुख, इतिहास विभाग

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज,

माळवाडी – कोतली

गोषवारा

२१ वे शतक हे विज्ञानाचे शतक मानले जाते .ज्ञानाचा प्रचंड स्फोट झाला आहे .विज्ञानामुळे सर्वच क्षेत्रात कमालीची प्रगती घडून आली आहे . जगभरात किड्या मुंग्यांसारखी माणसे अखंड धावताना दिसतात .विज्ञानाने जग खूप जवळ आले. मात्र पराकोटीच्या जीवघेण्या स्पर्धा अखंड सुरु झाल्या. स्पर्धेच्या बाजारात माणसातील माणूसपण हरवत चालले. हे चित्र सर्वत्र आढळते .विविधतेने नटलेला आमचा सुंदर भारत देश पण गेल्या दोन दशकात खूप बदलला. खरेच कलियुग म्हणतात, ते हेच का ? दैनंदिन जीवनात खून, दरोडे, चोरी ,मारामारी, लाचलुचपत, भ्रष्टाचार, बलात्कार, दंगेधोपे, मोर्चे, जीवघेणी स्पर्धा सुरु आहेत. समाजव्यवस्थेला काळीमा फासणाऱ्या घटना एका बाजूला घडत आहेत. म्हणजेच एकीकडे चंगळवाद तर दुसरीकडे कमालीची गरीबी असे चित्र आज भारतात दिसत आहे. मानवी नात्यातील ओलावा संपत आला की काय? असे वाटते . नाती व्यवहारात तोलली जाऊ लागली. एकत्र कुटुंब पद्धती लोप पावली आणि त्रिकोणी, चौकोनी कुटुंब व्यवस्था उदयास आली .मानवातील मानवता संपते कि काय अशी अवस्था निर्माण झाली.तरीही माणूस सगळ्यामागे अखंड धावतो आहे .

कोरोना विषाणूने संपूर्ण विश्वावरच परिणाम घडवून आणला आहे. पण त्यामध्ये सामान्य लोकांच्यावर अधिक परिणाम झालेला आपणास दिसत आहे. जगाच चाकच बंद कराव लागलं. त्यामुळे आपोआप जनसामान्यांचेही जीवन थांबलं, जिथं काम करत होता .तिथलं काम बंद झालं , काम बंद तर चूलही बंद झाली. जिथं कामाला होता तिथं थांबण मुश्कील झालं. मग पायी प्रवास करून शेकडो कि. मी. चालत आपल्या मूळ गावाकडे पायी चालू लागले. पोटाने अन्न नाही, बाहेर काही खावं तर सगळं बंदच आहे. पाणी पिऊन-पिऊन ही सर्वसामान्य कष्टकरी जनता रस्त्यावरून उन्हाळ्याच्या रखरखत्या झळा सोसत गावाकडे निघाली. तर गावकऱ्यांनी शीव अडवून धरली. अशा अनेक संकटांना सामोरे जाणारा सर्वसामान्य माणूस कोरोना महामारीमुळे पुर्णपणे हतबल झाला . सर्व जनजीवन विस्कळीत झाले . शेती , उद्योग , व्यापार यावर फार मोठा परिणाम झाला . शिक्षणव्यवस्थेत आमलाग्र बदल घडून आले . कौटुंबिक हिंसाचारात वाढ झाली . तंत्रज्ञानाच्या वापरात वाढ झाली .एकंदरीत सामाजिक , आर्थिक , शैक्षणिक , राजकीय सर्वच क्षेत्रावर कोरोना महामारीचा दूरगामी परिणाम झाला असे दिसते .

प्रस्तावना

२१ वे शतक हे विज्ञानाचे शतक,ज्ञानाचा प्रचंड स्फोट. जगभरात किड्या मुंग्यांसारखी माणसे अखंड धावणारी. विज्ञानाने जग खूप जवळ आले.जीवघेण्या स्पर्धा अखंड सुरु झाल्या. स्पर्धेच्या बाजारात माणसातील माणूसपण हरवत चालले. विविधतेने नटलेला आमचा सुंदर भारत देश पण गेल्या दोन दशकात खूप बदलला. खरेच कलियुग म्हणतात, ते हेच का ? दैनंदिन जीवनात खून, दरोडे, चोरी ,मारामारी, लाचलुचपत, भ्रष्टाचार, बलात्कार, दंगेधोपे, मोर्चे, जीवघेण्या स्पर्धा सुरु आहेत. समाजव्यवस्थेला काळीमा फासणाऱ्या घटना एका बाजूला घडत आहेत. म्हणजेच एकीकडे चंगळवाद तर दुसरीकडे कमालीची गरीबी असे चित्र आज भारतात दिसत आहे. मानवी नात्यातील ओलावा संपत आला की काय? असे वाटते .नाती व्यवहारात तोलली जाऊ लागली.मानवातील मानवता संपते कि काय अशी अवस्था निर्माण झाली.तरीही माणूस सगळ्यामागे अखंड धावतो आहे .

कोरोना : आपत्ती

कोरोना अर्थात ‘कोविड-१९’ या विषाणूच्या साथीला केंद्र सरकारने राष्ट्रीय आपत्ती म्हणून घोषित केले. मोठ्या प्रमाणात प्राणहानीस कारणीभूत ठरणारे महापूर, वादळे, देशावरील परकीय आक्रमण किंवा कोणत्याही

भयंकर दुर्घटनेच्यावेळी राष्ट्रीय आपत्ती घोषित केली जाते. 'आपत्ती' हा शब्द मुख्यतः नैसर्गिक संकटाबरोबर जोडलेला असला तरी साऱ्या देशभराला विळखा घालणाऱ्या या संकटावेळीही राष्ट्रीय आपत्तीची घोषणा करण्यात येते. 'आपत्ती अधिनियम २००५' नुसार नैसर्गिक संकटाबरोबर आण्विक, जैविक किंवा रासायनिक या मानवनिर्मित संकटावेळीही राष्ट्रीय आपत्तीची घोषणा होते. कोरोना हे संकट चीन देशांमध्ये उद्भवले . त्यानंतर एक एक करीत जगातील सर्व देशात त्याने शिरकाव केला.

सुरुवातीला अडीच महिन्यांमध्ये त्याचा पुरेसा अंदाज आला नाही. त्यानंतर मात्र लोकांच्या लक्षात आले आणि पायाखालची वाळू सरकली. कोरोनाचा सुरुवातीच्या काळातील आलेख जमिनीवर सरपटणारा दिसतो . त्यानंतरचा आलेख मात्र उड्डाण (टेक ऑफ) केल्याचे दिसते. त्यानंतर तर तो जागतिक व भारतीय स्तरावरील आलेखात पठारासारखा झालेला दिसतो. त्याचा उतार केव्हा सुरु होणार याबाबत भाकित करायला कोणीही तयार नव्हते. युद्ध न करता शत्रुपक्षावर विजय मिळवायचा ही (कन्फ्युशिअसची) युद्धनिती होय. त्याचाच एक भाग चीनने निर्माण केलेले जैविक अस्त्र म्हणजेच कोरोना अस्त्राची निर्मिती म्हणता येईल. याचा अर्थ साम्राज्यवादाची वृत्ती निर्माण करण्याची बाळगलेली अभिलाषा वाटते .

कोरोना : प्रारंभीची स्थिती

सुप्त अवस्थेत असणारा हा कोरोना विषाणू प्रचंड वेगाने फैलावत होता . मृत्यूचे तांडव सुरु झाले होते . कोरोनाशी दोन हात करण्यासाठी आरोग्य यंत्रणा तुटपुंजी ठरत होती .या जैविक संकटातून वाचण्यासाठी मानवी समूह शिस्तबद्ध वागणे आवश्यक वाटत होते .पहिला रुग्ण भारतात केरळमध्ये ३० जानेवारी २०२० मध्ये सापडला. त्यानंतर पहिल्या ३० दिवसात रुग्णांची फारशी संख्या वाढली नाही. त्यानंतर पहिल्या ५० दिवसात ही भारतात कोरोना रुग्णांची संख्या २०० पेक्षाही कमी होती. एप्रिल महिन्यात मात्र रुग्णांची संख्या वेगाने वाढू लागली. पुढे मे महिना सुरु होताच दररोज कोरोना रुग्णांच्या संख्येत २००० पेक्षा जास्त वाढ होत होती

यानंतर अमेरिका व ब्रिटन या देशांच्या तुलनेत भारतात कोरोना रुग्णांची संख्या वेगाने वाढत चालली . याहीपेक्षा अमेरिका व ब्रिटन मधील कोरोना रुग्णांची संख्या खूप जास्त झाली .पण त्यानंतर तेथील रुग्णांचे प्रमाण कमी झाले. मात्र भारतात हेच प्रमाण खूप जास्त वाढले . कोरोनावर नियंत्रण मिळवायचे असल्यास बाधितावर वेळेचे उपचार होणे गरजेचे आहे. त्यासाठी कोरोना चाचण्यांची संख्या वाढविण्याची आवश्यकता होती . मात्र टेस्ट किट्सची अपुरी संख्या, आरोग्याच्या सोयीसुविधा, बेड्सची कमतरता, प्रचंड लोकसंख्या यामुळे देशासमोर मोठे आव्हान होते .

कोरोना : सामाजिक जीवन

कोरोनाच्या काळात लोक असहाय्यतेने रस्त्या – रस्त्यांवर फिरत होते. उदा . हैदराबाद ते बालाघाट अशा पायी प्रवासाला निघालेल्या मजूर कुटूंबातील एका बाळाने रस्त्यावर प्राण सोडले. नाथजोगी भटक्या जमातीचा रघुनाथ शितोळे या भिक्षेकरी युवकाने उपासमारीने आत्महत्या केली. भटक्यांच्या उघड्या पालाला लॉकडाऊन केल्याने सर्वाधिक बळी या समुदायातून झाले . आपल्या गावाकडे जाणाऱ्या १४ मजुरांना औरंगाबादजवळ रेल्वेने चिरडले. देशभरात अनेक ठिकाणी मजुरांचे अपघाती मृत्यू झाले. भूक आणि आर्थिक ताणामुळे अनेकांचे प्राण गेले . आपल्या राज्यात वा गावात परतण्यासाठी ऑनलाईन ई पास मिळण्याचे साधन नाही. अशी स्थिती मजूर व रोजंदारीवर कंत्राटी काम करणाऱ्या मानव समाजाची झाली .

वरुन ऊन, खालून डांबरी रस्ता, गरमागरम झळा अंगावर झेलत जागेवर उभा मजूर, पायात प्लॉस्टिकच्या चपला, पाठीवर गोणपाटं, भांड्या कुड्यांची बायकांच्या डोक्यावर बोचकी, एकाच्या काखेत कापड भरलेली पट्ट्यांनीच आवळलेली साधी बॅग होती . घामाने डबडबलेले कुटूंब चार पुरुष, चार बायका तितकीच मुलं. त्यांना पोलिस दरडावतो कुठं? कुठे चेक पोस्ट आहे, गावी जायचे असे चित्र राज्यात सर्वत्र दिसत होते . या कोरोना महामारीने सर्वसामान्यपणे जीवन जगणे असह्य केले होते . मानवासमोर हे भयावह निर्माण झाले असे मजुरांचे लॉंढेच लॉंढे महानगरांतून बाहेरील राज्यांत, जिल्ह्यात जात होते .

कोरोना विषाणूने संपूर्ण विश्वावरच परिणाम घडवून आणला आहे. पण त्यामध्ये सामान्य जनांवर अधिक परिणाम झालेला आपणास दिसत आहे. जगाच चाकच बंद कराव लागलं. त्यामुळे आपोआप जनसामान्यांचेही जीवन थांबलं, जिथं काम करत होता .तिथलं काम बंद झालं ,काम बंद तर चूलही बंद झाली. जिथं कामाला होता तिथं थांबण मुश्कील झालं. मग पायी प्रवास करून शेकडो कि. मी. चालत आपल्या मूळ गावाकडे पायी चालू लागले. पोटाने अन्न नाही, बाहेर काही खावं तर सगळं बंदच आहे. पाणी पिऊन-पिऊन ही सर्वसामान्य कष्टकरी जनता रस्त्यावरून उन्हाळ्याच्या रखरखत्या झळा सोसत गावाकडे निघाली. तर गावकऱ्यांनी शीव अडवून धरली. अशा अनेक संकटांना सामोरे जाणारा सर्वसामान्य माणूस हतबल झाला आहे.

कोरोना : लॉकडाऊन

कोरोना विषाणूचा प्रसार रोखण्यासाठी केवळ लॉकडाऊन हे एकमेव साधन नाही. या विषाणूच्या चाचण्यांची संख्या वाढवणे व विषाणूच्या प्रसाराची योग्य आकडे उपलब्ध होऊन नियोजन, विलिगीकरण, सामाजिक दुरावा (सोशल डिस्टेंसिंग) या गोष्टींना प्राधान्य देऊन त्याची काटेकोरपणे अंमलबजावणी होणे आवश्यक होते. तरच विषाणूचा प्रसार रोखला गेला असता . संपूर्ण देशात लॉकडाऊन वाढविणे हे आर्थिकदृष्ट्या धोक्याचे ठरते . देशात ज्याठिकाणी बाधितांची संख्या जास्त आहे असे 'हॉटस्पॉट' ओळखून त्याच ठिकाणी कडक नियम करावे. त्याठिकाणी आवश्यक ती सुविधा ही पुरविली गेली पाहिजे.या संकटाचा मुकाबला करण्यासाठी जगभर एकमेव मोठा पर्याय म्हणून लॉकडाऊन अवलंबिला गेला.

तरीही कोरोना भूमितीच्या वेगाने पसरत चालला होता. त्याचा विपरित परिणाम म्हणजे अर्थव्यवस्था ठप्पच झाली होती. लोकांच्या सहनशिलतेचा अंत जवळच आल्याचेही चित्र दिसते होते. या प्राप्त परिस्थितीमध्ये सरकारकडे यावर काहीच इलाज नव्हता. लॉकडाऊन क्रमाक्रमाने हटवून या संकटाला दोन हात करावेच लागणार होते. १३३ कोटी लोकसंख्येचा भारत देश कोरोना महामारीमुळे सलग ४ वेळा लॉकडाऊन करावा लागणे. यालाच ' टाळेबंदी ' असेही म्हटले जाते. मात्र याचा परिणाम फारच वाईट होता. पुढील काळात देशास प्रचंड आर्थिक महामंदीचा सामना करावा लागणार हे निश्चित होते. एका बाजूला कोरोना विषाणू रोखण्यासाठी प्रचंड प्रयत्नाची पराकाष्ठा सुरू होती .

कोरोनाच्या संकटामुळे संपूर्ण भारत देशाला लॉकडाऊन अनुभव सलग ६० दिवस घ्यावा लागला. जीवनावश्यक वस्तूच्या उपलब्धेसाठी विशिष्ट वेळेपुरतीच शिथिलता होती. संपूर्ण भारत देशातील व्यवहार व आदान-प्रदान बंद ठेवण्याची ज्ञात इतिहासातील ही पहिलीच वेळ होती. पाश्चिमात्य देशातील अनेक प्रगत देश या कोरोना संकटाने हैराण झालेले होते. त्यामुळे संकट गुणाकाराच्या वेगाने घोंगावत होते . या संकटाला तोंड देण्यासाठी भारताने संपूर्ण देश लॉकडाऊन करण्याचा निर्णय जाहीर केला .त्यावेळी भारतात नुकताच कोरोनाचा प्रवेश झाला होता.पुढे २१ दिवस कोरोनाची लागण व त्यामुळे मृत्यु याबाबत भारताचे आकडे अन्य देशांच्या तुलनेत नगण्य म्हणावे असेच होते . पण भारतात तपासण्या,चाचण्या कमी झाल्याने ही आकडेवारी कमी दिसते आहे असे काहींचे निष्कर्ष होते .

लॉकडाऊनचा दुसरा कालावधीत मात्र अस्वस्थता आकार घेऊ लागली. मजूर व कामगार यांचे पहिल्या लॉकडाऊनमध्ये जे हाल झाले त्याची तीव्रता अधिक प्रमाणात अधोरेखित होऊ लागली. त्याचे विदारक चित्र क्रमाक्रमाने पुढे येऊ लागले. कोंडून घेण्यासाठी घर आणि उपजिवीकेसाठी आवश्यक साधनसामुग्री शिल्लक आहे. अशा लोकांसाठी दुसरा लॉकडाऊनचा कालावधी सुसह्य गेला. पण उलट चित्र ज्यांच्याकडे त्या दोन्ही सुविधा नाहीत. त्यांचे हाल मात्र उग्र रूप धारण करू लागले. तशातच लॉकडाऊनचा तिसरा टप्पा सुरू झाला. या कालावधीत मात्र सर्व स्तरावरील खदखद बाहेर पडू लागली. कामगार व नोकर वर्गाला आगामी काळातील रोजगार व वेतन मिळणार का नाही. याची अधिक चिंता भेडसावू लागली. उद्योगक्षेत्रात आपला डोलारा कसा सावरला जाणार याची काळजी वाटू लागली. तर शेतकरी वर्गासमोर आपल्या शेतमालाच्या विक्रीची व त्यातून मिळणाऱ्या भावाची गत काय होणार हा प्रश्न उभा राहिला .

कोरोना : अर्थव्यवस्था

राजकर्त्यावरही राज्यातील आर्थिक स्थिती पूर्वपदावर कशी आणावयाची याचे उत्तर मिळनासे झाले. त्यात भर म्हणजे लॉकडाऊनच्या तिसऱ्या टप्प्यात भारतातील कोरोनाची लागण व त्यामुळे मृत्यु हे दोन्ही आकडे मोठ्या गतीने वाढतच चालले . सरकारची चिंता आणखीनच वाढली. अशा या टप्प्यावर हळूहळू जीवन व्यवहार सुरळीत होण्यास सुरुवात झाली. तोपर्यंत लॉकडाऊनचा चौथा टप्पा वाढविण्यात आला. प्रसार माध्यमातून मिळणारी माहिती ऐकली की अस्वस्थता वाटायला लागली . एकूणच देशासमोरील परिस्थिती पुढे जाऊन काय वळण घेईन हे सांगणे अवघड झाले. कोरोनाच्या विरुद्ध तर लस आणि औषध दोन्हीही नाही म्हणजेच आजार होऊ न देणे आणि त्यासाठी संसर्ग टाळणे एवढंच आपण करू शकतो. कोरोना व्हायरसमुळे जगाला मोठा आर्थिक फटका बसण्याची शक्यता आहे. जगभराच्या व्यवहारांवर कोरोनाचा परिणाम झाला आहे. शेअर बाजारांचे निर्देशांकही कोसळत आहेत .कोरोनातून बाहेर पडत असतानाच जगाबाहेर पुढचं आव्हान या ढासळत्या अर्थव्यवस्थेस सावरण्याचे आहे. कोरोना नंतरची स्थिती कशी असेल याचे उत्तर अनेक संशोधकांनी दिले आहे. मुळात चालू असलेली मंदी आणि कोरोनामुळे अनेक सांधे निखळल्यामुळे छिन्नविछिन्न झालेली अर्थव्यवस्था कशा स्वरूपात सावरेल याविषयी जगभरातल्या अभ्यासकांना चिंता आहे.

आंतरराष्ट्रीय मुद्रा कोषाने असे म्हटले आहे की, सन १९३० च्या महामंदीनंतरचे हे सगळ्यात मोठे संकट आहे व जागतिक उत्पादन वृद्धीचा दर शून्य राहू शकतो. अर्थशास्त्राचा एक नियम आहे की, मानवाच्या गरजा अमर्याद असतात आणि एक गरज पूर्ण झाली की दुसरी गरज आपल्यासमोर तयार असते. परंतू विद्यमान जागतिक कोरोना महामारीच्या काळात आणि ५० दिवसांहून अधिकच्या लॉकडाऊनमुळे हे पुन्हा सिद्ध झाले आहे की, मनुष्याच्या मूलभूत गरजा मर्यादितच असून तो अनावश्यक गरजा पूर्ण करण्यामागे आपली मर्यादित संसाधने नष्ट करित असतो. मात्र या मंदीच्या काळात कोणालाही अनावश्यक वस्तू खरेदी कराविशी वाटली नाही. याउलट सेवाभावी संस्था, सरकार, अशासकीय संस्था ह्या सामाजिक भावनेने गरिब व गरजू लोकांच्या मूलभूत गरजा पूर्ण करताना दिसत होत्या

कोरोना : शेती व्यवस्था

कोरोना महामारीच्या काळात जगभर मानवजातीच्या अस्तित्वाला धोका निर्माण झाला . या काळात समाज व्यवस्थेला जगविणारा देशाचा आर्थिक डोलारा शेतीच्या खांद्यावर पेलणारा शेतकरी, शेतमजूर, पुरता हतबल झालेला होता .शेतीमालाला उत्पादन खर्चावर आधारित भाव मिळत नाही. शेतात पिके पडून, ते विकायचे कुठे? शेतमजुराचा पगार कशाने द्यायचा, पीक कर्जाची परतफेड कशी करावयाची .तुटपुंज्या उत्पन्नावर वर्षभराची गुजराण कशी करायची? असे अनेक प्रश्न त्यांच्यासमोर आ वासून उभे राहिले . बाजार समित्या बंद, शेतकरी ही दुर्लक्षित, पूरकव्यवसाय , दुग्ध व्यवसाय ठप्प, शेतकऱ्यांचा रोजगार ,मुलांचे व्यवसाय डबघाईला आलेले शेती व शेतकरी उद्ध्वस्त होतो आहे. सर्व पिके, फळबागा ओस पडल्यात. कांदा सडून चालला आहे. कापूस उत्पादकही हवालदिल, शेतकऱ्यांची अग्निपरीक्षा घेणारा काळ. घोषणाची आतिषबाजी. पण त्या फाटलेल्या आभाळाला ठिगळ लावू शकत नाहीत. त्यांच्या अशाप्रकारे कोरोनाचे काहूर शेती व शेतकरी व इतर घटकांच्या मुळावर आलेले आहे. शेती व्यवसायाची पिछेहाट, शेतकरी हवालदिल, सरकार व प्रशासन उदासीन असे हे काहूर निर्माण झाले होते . एकंदरीत शेतकरी व कृषी व्यवसाय पुणपणे कोलमडून गेला होता .

कोरोना : पर्यटन

उन्हाळ्यात बऱ्यापैकी सरकारी कार्यालयांना सुट्टी असल्याने तसेच खाजगी कर्मचारीही उन्हाळ्यात सुट्ट्या काढून पर्यटनाचा मनसोक्त आनंद घेत असतात. परंतु कोरोना महामारीमुळे पर्यटनस्थळे लॉकडाऊन अर्थात बंद करण्यात आली होती. त्यामुळे या पर्यटनाच्या माध्यमातून छोट्या छोट्या वस्तूंची विक्री करून गुजराण करणाऱ्या लोकांवर उपासमारीची वेळ आली होती. शिवाय या व्यवसायातून सरकारलाही मोठा कर जात असतो. मात्र, कोरोना काळात हा व्यवसायच बंद असल्यामुळे सरकारचाही मोठ्या प्रमाणात तोटा झाला . फेब्रुवारी आणि मे महिन्यात पर्यटकांची झुंबड उडते. पण त्या वेळी लॉकडाऊनमुळे सर्वच ठप्प असल्याने व्यापाऱ्यांचे कोट्यवधींचं आर्थिक

नुकसान झाले होते. हॉटेल, रेस्टॉरेट मालक यांना मोठा फटका बसला होता. शेफ, मॅनेजर्स अशा अनेकांच्या नोकऱ्याही गेल्या पर्यटन व्यवसाय बुडाला. भारताच्या सकल राष्ट्रीय उत्पन्नामध्ये पर्यटन व्यवसायाचा हिस्सा ९.२ टक्के, तर जगाच्या जीडीपीत दहा टक्के इतका आहे. भारतात सुमारे २.६७ कोटी जणांना पर्यटनातून रोजगार मिळतो. सन २०१८ या वर्षात पर्यटन व्यवसायातून भारताला २८.६ अब्ज डॉलरची कमाई झाली आहे. गेल्या काही वर्षात पर्यटनाला जाणाऱ्यांची संख्या झपाट्याने वाढत चालली असल्यामुळे आणि सोयीसुविधांची उपलब्धता वाढत गेल्यामुळे, या क्षेत्राची उलाढाल २०२५ पर्यंत २०१८ सालाच्या जवळपास दीडपट होईल, असे अनुमान अगदी फेब्रुवारीपर्यंत वर्तवले जात होते; पण एकाएकी कोरोनाचे संकट आले आणि तसे पाहता त्याचा पहिला बळी गेला पर्यटनाचा. या विषाणूचा संसर्ग एका देशातून दुसऱ्या देशात होऊ नये, यासाठी देशादेशांनी आपल्या सीमा बंदीस्त करण्यास, विमान वाहतूक बंद करण्यास सुरुवात केली. परिणामी, आधी विदेशातील आणि नंतर देशांतर्गत सहली रद्द झाल्या. लाखोनी बुकिंग रद्द झाले. हॉटेल इंडस्ट्री संकटात सापडली. विविध पर्यटनस्थळी पर्यटकांवर अवलंबून असणारे टॅक्सी व्यावसायिक, अन्य सेवा देणारे व्यावसायिक, छोटे-मोठे विक्रेते या सर्वांची रोजीरोटी बंद झाली.

कोरोना : परिणाम

- १) कोरोना महामारीने शेती, उद्योग आणि सेवा क्षेत्राचा पाया उध्वस्त झाला.
- २) कोरोनामुळे भारतात सर्व देशभर सामाजिक आणि आर्थिक घटकावर अनिष्ट परिणाम झाला.
- ३) कोरोनामुळे बेरोजगारी मोठ्या प्रमाणात वाढली.
- ४) कोरोना महामारीचा सर्वात जास्त फटका शिक्षण क्षेत्राला बसला. शिक्षण क्षेत्रात मोठा बदल झाला.
- ५) आंतरराष्ट्रीय व्यापार कमी झाला आहे.
- ६) कोरोना महामारीमुळे कौटुंबिक हिंसाचार वाढले.
- ७) स्वदेशी उद्योगाला चालना मिळाली.
- ८) तंत्रज्ञानाचा वापर करण्यास विद्यार्थी - पालक सक्षम बनले.
- ९) पैसा व वेळेची बचत झाली.
- १०) सेंद्रिय शेती आणि आयुर्वेदाला महत्व प्राप्त झाले.

कोरोना : उपाययोजना

- १) १००% लसीकरण प्रक्रिया संपूर्ण राष्ट्रात राबवणे गरजेचे आहे.
- २) नैसर्गिक रोगप्रतिकार क्षमता वाढविणेसाठी वैयक्तिक स्वच्छता, निरोगी जीवनशैली आणि शरीराला आवश्यक पोषण प्रदान करणारे घटक असणारा आहार घेणे गरजेचे आहे.
- ३) मानवी विकासावर राष्ट्राचा विकास अवलंबून असतो, त्यासाठी मानवी विकास घडवून आणण्याचा सर्वतोपरी प्रयत्न करणे.
- ४) कोविड -१९ ग्रस्त शेतकऱ्यांना नुकसान भरपाई मिळावी यासाठी मोठे पॅकेज द्यावे.
- ५) कोरोना महामारीच्या परिस्थितीने लोकविज्ञान चळवळ पुन्हा सुरू करण्याची नितांत आवश्यकता आहे.
- ६) आरोग्य व्यवस्थेचे विकेंद्रीकरण करणे गरजेचे आहे.
- ७) स्वच्छता तेथे आरोग्य, निसर्ग तेथे सुरक्षितता' आपणच आपले रक्षक ही भावना वाढीस लागणे आवश्यक आहे.
- ८) कोरोनामुळे शेती क्षेत्रावर जास्त परिणाम झाला आहे. त्यासाठी शेती पूरक धोरणे राबविणे गरजेचे आहे.
- ९) राष्ट्र विकास घडवून आणण्यासाठी शाश्वत विकास चळवळीला प्रोत्साहन देणे अत्यावश्यक आहे.
- १०) उद्योगांना अखंडपणे कार्य करण्यास सक्षम करणे गरजेचे आहे..

- ११) भारतात साथीच्या रोगाचे संक्रमण आणि प्रसार रोखण्यासाठी कायदेशीर तरतुदी अधिक भक्कम करणेचे गरजेचे आहे .
- १२) साथीच्या रोगाला आळा घालण्यासाठी आपल्याला एकात्मिक , सर्वसमावेशक , कृतिशील कायद्याची गरज आहे .

संदर्भ ग्रंथ

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- ४) आरेकर नीतिन . द . 'कोरोनापूर्व आणि कोरोनानंतर काळात भाषेचे स्वरूप ' उल्हासनगर .३
- ५) लोकराज्य ऑगस्ट २०२०
- ६) लोकमत १७ मे २०२०
- ७) महाराष्ट्र टाइम्स १५ मार्च २०२०
- ८) साप्ताहिक साधना ९ मे २०२०
- ९) साप्ताहिक साधना ४ एप्रिल २०२०
- १०) साप्ताहिक साधना १८ एप्रिल २०२०
- ११) डॉ .पारिख राजेश अनुवाद डॉ . शेजवळ मिलिंद ' दि कुरोना वायरस - महामारीवर प्रभुत्व मिळवणे ' प्रकाशक संगणक प्रकाशन , अंबरनाथ मे २०२१
- १२) लोकसत्ता १९ जानेवारी २०२०
- १३) पुस्तक संस्कृती साहित्य और संस्कृति की द्विमासिकी जुलाई - अगस्त २०२०
- १४) महाराष्ट्र टाइम्स ९ मे २०२०
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कोरोना महामारीनंतर भारतीय अर्थव्यवस्थेचा विकास

डॉ. मनिषा हिं.पाटील

अर्थशात्र विभाग प्रमुख

श्रीपतराव चौगुले आर्ट्स अँड

सायन्स कॉलेज, माळवाडी- कोतोली

ता. पन्हाळा, जि. कोल्हापूर

प्रस्तावना :

कोवीड -19 ने गेल्या दोन वर्षात म्हणजे डिसेंबर 2019 ते डिसेंबर 2021 संपूर्ण जगात जे थैमान घातले ते न भूतो न भविष्यती असे आहे असे म्हणावेसे वाटते. प्रगत-अप्रगत अशी विभागणी केलेल्या जगात संपूर्ण जगच कोरोनाने आपल्या कवेत घेतले. कॉम्प्युटरच्या भाषेत जग 'रिबूट' होते असे म्हटल्यास ते अतिशयोक्ती ठरणार नाही.

भारतात 27 जानेवारी 2020 रोजी केरळमध्ये कोरोनाचा पहिला रुग्ण आढळून आला आणि जागतिक आरोग्य संघटनेच्या सूचनेनुसार 23 मार्च 2020 रोजी संपूर्ण भारतभर लॉकडाऊन केला गेला, त्यामुळे औद्योगिक, कृषी, सेवा, पर्यटन, आंतरराष्ट्रीय व्यापार अशा सर्वच क्षेत्रावर मोठ्या प्रमाणात विपरीत परिणाम झालेला दिसून येतो. RBI ने आपल्या अहवालात असे नमूद केले आहे की भारतीय अर्थव्यवस्थेस कोविड -19 चे भविष्य काळात विपरीत परिणाम भोगावे लागणार आहेत.

माहिती तंत्रज्ञानातील प्रचंड प्रगतीमुळे या महामारीची माहिती पटकन समाजातील तळागाळातील लोकांपर्यंत पोहोचल्याने या महामारीची साथ काही प्रमाणात आटोक्यात आल्याचे दिसून येते. रहदारीचा कर्कश्य आवाज नसल्याने विरून गेलेल्या पक्षांचा किलबिलाट स्पष्टपणे सुखाऊ लागला. पिझ्झा-बर्गरच्या ऑर्डर झोमॅटो,स्विगी वापरून करण्यापेक्षा घरीच केलेला डाळ-भात लोकांची भूक शमवू लागला .

संशोधन पेपर ची उद्दिष्टे :

- 1) कोरोना काळातील भारतीय अर्थव्यवस्थेवरील परिणाम अभ्यासणे.
- 2) भारत सरकारने जाहीर केलेल्या आर्थिक मदतीचा अभ्यास करणे.
- 3) कोरोना महामारी नंतर भारतातील बदललेल्या स्थितीचा अभ्यास करणे.
- 4) अर्थव्यवस्थेच्या विकासासाठी उपाययोजनां सुचविणे.

संशोधन पद्धती :

प्रस्तुत शोधनिबंध लिखानासाठी दुय्यम साधनसामग्रीचा वापर करण्यात आलेला आहे. वर्तमानपत्रातील लेख, प्रकाशित पुस्तके, संशोधनपर लेख, इंटरनेट, भारत सरकारची प्रकाशने इ.चा वापर करून सदर शोधनिबंध पूर्ण करण्यासाठी केला आहे.

कोरोनाचा भारतीय अर्थव्यवस्थेवरील परिणाम :

कोरोना महामारीच्या काळात भारतीय अर्थव्यवस्थेतील विविध क्षेत्रावर दुरगामी परिणाम झालेले दिसून येतात. या काळात भारतातील औद्योगिक क्षेत्र ठप्प झाल्याने आर्थिक उलाढाल तर थांबलीच त्याचबरोबर भारतातील रोजगारावर अतिशय प्रतिगामी परिणाम झाला. कोट्यावधी भारतीय नागरिकांना आपला रोजगार गमावावा लागला.कोरोनाच्या महामारीमुळे देशातील जवळ जवळ ६ कोटी लोकांचे रोजगार गेले.C.M.I.E या संस्थेने 5 एप्रिल 2020 रोजी संपलेल्या आठवड्या पर्यंत भारतातील बेरोजगारीचा दर तब्बल 23.4.% ने वाढण्याचा अंदाज केला होता.

देशातील वाहतूक व दळणवळण क्षेत्राची कोरोना काळात अधिक पीछेहाट झाली.सेवा क्षेत्रावर या महामारीचा गंभीर परिणाम झाला. वित्तसंस्था, बँका, हॉटेल, रेस्टॉरंट, रस्त्यावरील, दुकाने आणि बाजार,मनोरंजन,पर्यटन व्यवसाय

पूर्णपणे संकटात सापडला. परंतु ई-बिझनेस,ई- व्यवसाय, ई-शिक्षण यामध्ये अधिक प्रमाणात वाढ झाली. बांधकाम क्षेत्र मंदीत सापडले. बांधकाम व्यवसाय पूर्णतः बंद झाल्याने बांधकाम कामगार बेकार झाले.

देशाच्या आयात- निर्यातीवर विपरीत परिणाम झाला. कारण जगातील सर्वच राष्ट्रांनी विदेशी व्यापारावर प्रतिबंध लादले. त्यामुळे विदेशी चलन व्यवहार थंडावले.

उत्पादन क्षेत्रात मोठ्या प्रमाणात मंदीचे सावट निर्माण झाले.कारण पहिल्या लॉकडाऊन मध्ये जास्त व कोरोनाच्या दुसऱ्या लाटेत काही प्रमाणात उत्पादन क्षेत्रात आर्थिक व्यवहार बंद झाले किंवा मंदावले असे दिसून येते.

शेती क्षेत्रावर या काळात विशेष असे विपरीत परिणाम झाल्याचे दिसून येत नाही. विशेषतः फुलशेती,भाजीपाला व इतर अनुषंगिक शेती उत्पादने यावर मात्र काही प्रमाणात उत्पादन घटले. परंतु भात,गहू,तेलबिया,साखर उत्पादन, तंबाखू यामध्ये आर्थिक वाढ झाल्याचे दिसून येते .देशातील छोटे व्यवसाय मात्र पूर्णतः मोडकळीस आल्याचे दिसून येते.

भारत सरकारचे स्टिम्युलस पॅकेज-2020-21 आणि 2021-22 :

कोरोनाच्या प्रभावामुळे देशातील विविध क्षेत्रावर जे गंभीर परिणाम झाले,ते दूर करण्यासाठी तसेच प्रतिबंधात्मक उपाययोजना करण्यासाठी आणि अर्थव्यवस्थेला उभारी देण्यासाठी 2020-21 व 2021 -22 मध्ये सरकारने वेळोवेळी आर्थिक पॅकेजीस जाहीर केली त्यामुळे अर्थव्यवस्थेचा कोंडलेला श्वास मोकळा होऊन पुन्हा अर्थव्यवस्था प्रगतीकडे वाटचाल करू लागली.

अ) मार्च -2020(1,92,800 कोटी) पॅकेज जाहीर करण्यात आले यामध्ये महसूल वाढीसाठी 4%,आरोग्यासाठी 8%, व अन्न/ उपजीविका 88 % याप्रमाणे तरतूद केली.

ब) मे-जून 2020 (118 55 61 कोटी)पॅकेज जाहीर केले यामध्ये शेतीसाठी 30 % ,मागणीवाढीसाठी 6%, इतर तरलता उपाययोजना 15 %, व्यवसायसाठी 37% ,अन्न/ उपजीविका साठी 12 %अशी तरतूद केली.

क) ऑक्टोबर 2020(73 000कोटी)

गुंतवणूक बुस्टरसाठी 51% तर उपभोग वाढीसाठी 49% तरतूद केली.

ड) नोव्हेंबर 2020(2,65,080 कोटी)

यामध्ये तरलता उपाययोजनेसाठी 3%, जिवितांसाठी 6%, शेतीसाठी 25%, आरोग्यासाठी 0.3%,, घरबांधणी क्षेत्रासाठी 7%, गुंतवणूक बुस्टसाठी 59 % याप्रमाणे सरकारने नियोजन केले.

इ) जून ते डिसेंबर 2021 (6,97,338 कोटी)

या पॅकेजनुसार शेती विकासासाठी 2%, अन्नपुरवठा 21 %, आरोग्य 4% ,गुंतवणूक बूस्टसाठी 17 % , निर्यात बुस्टसाठी 17 %, तरलता वाढीसाठी 39 % इतकी तरतूद केली.

वरील प्रमाणे पाच पॅकेजिस सरकारने देऊन देशातील कोरोना काळात अर्थव्यवस्था पूर्वपदावर आणण्यासाठी विविध क्षेत्रांना आर्थिक मदत जाहीर करून, विशेषतः गुंतवणूक चालना देण्यासाठी अधिक तरतूद केल्याने अर्थव्यवस्था पुन्हा गतिमान झाली आणि आर्थिक वाढ झपाट्याने होऊ लागली.

कोरोना महामारीनंतर भारतातील आर्थिक विकास :

भारतासारख्या विकसनशील देशात कोरोनाच्या महामारीचा मोठ्या प्रमाणात गंभीर परिणाम झाला कारण देशात कोरोनाने थैमान घातले. प्रचंड प्रमाणात वाढलेल्या रुग्ण संख्येमुळे प्रशासनाच्या कार्यात अडथळे निर्माण झाले..देशातील रुग्णांची संख्या 3 कोटी पेक्षा जास्त झाली.साधारणपणे पाच लाखांच्या दरम्यान कोरोनाने लोकांचे मृत्यू झाले. भारतात ओमायक्रोन रुग्णांच्या संख्येत वाढ झाल्याने चिंतेत भर पडली.जागतिक आरोग्य संघटनेचे

डॉ.टेड्रॉस घेब्रेयसेस यांनी ओमायक्रोन व्हेरिएंट विषयी जगातील सर्व देशांना गंभीर इशारा दिला आणि त्यास रोखण्याची योग्य वेळ हीच आहे हे स्पष्ट करून जगाला सतर्क केले.

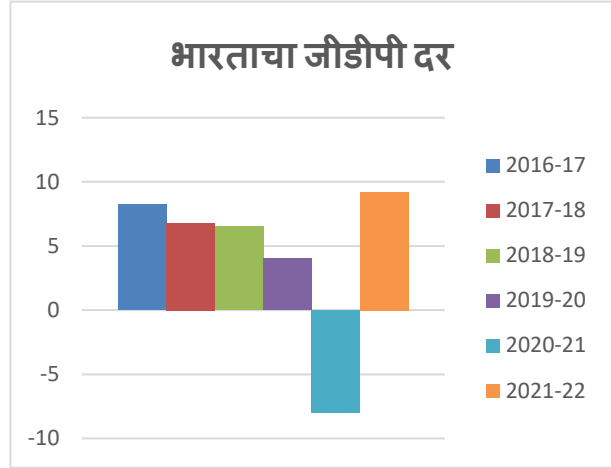
त्यादृष्टीने भारत सरकारने कोरोना प्रतिबंधात्मक उपाययोजना करण्यास सुरुवात केली.भारतातील सर्व नागरिकांना कोरोना डोसेस देण्याची योजना आखून त्याची तत्परतेने अंमलबजावणी केली.लहान मुलांपासून वृद्धांपर्यंत प्रत्येकी दोन कोरोना प्रतिबंधक डोस देण्यात आले आणि भारत हा जगातील पहिला देश ठरला की, ज्याने उचांकी डोस दिले.आजही भारत सरकारकडून हे कार्य सुरू आहे

भारत सरकारने घेतलेली काळजी आणि जनतेने दिलेली साथ यामुळे कोरोना स्थितीतून भारतीय अर्थव्यवस्था बाहेर पडली आणि पुन्हा नव्याने आर्थिक वाढ झपाट्याने होऊ लागली.

भारताचा जीडीपी दर :

जीडीपीचा दर देशाच्या आर्थिक प्रगतीचे प्रतीक मानले जाते. हा दर वाढला तर आर्थिक विकासाचा दर उंचावला असे म्हटले जाते तर हा दर कमी झाला तर देशाच्या आर्थिक विकसात घसरण झाली असे म्हटले जाते. पुढील आकडेवारी वरून हे स्पष्ट होते.

वर्ष	वाढीचा दर (%)
2016	8.26
2017	6.80
2018	6.53
2019	4.04
2020	- 7.96
2021	9.2



स्रोत:- India/gdp-growth >India growth rate [2016-2020-21](#)

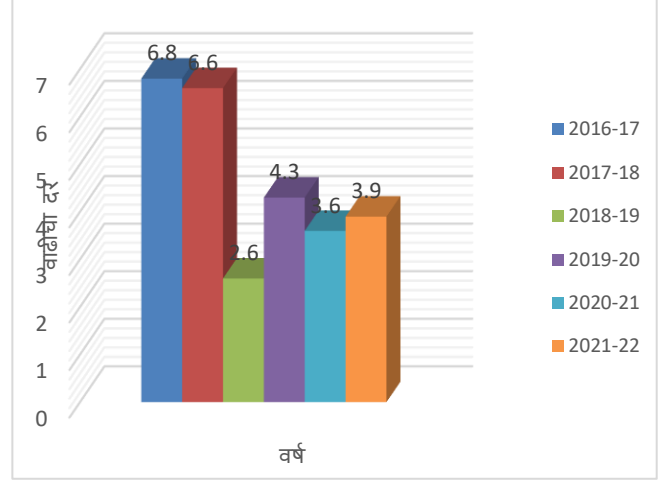
वरील आकडेवारीवरून हे स्पष्ट होते की, भारताच्या जीडीपीचा दर 2016 ते 2018 या काळात घसरला.परंतु त्यापेक्षा कोरोनाच्या काळात म्हणजे 2019 ते 2020 या दोन वर्षात अधिक गतीने घटला. 2020 मध्ये तर जीडीपी दर- 7.96% इतका खाली गेलेला दिसून येतो.याचाच अर्थ असा की,देशातील सर्वच क्षेत्रावर कोरोना महामारीचा गंभीर परिणाम झाला.परंतु सरकारने दिलेल्या विविध पॅकेजेसमुळे अर्थव्यवस्थाने पुन्हा उभारी घेतल्याचे दिसून येते. कारण 2021 मध्ये 2020 च्या तुलनेत 17.5% ने विकास दरात वाढ झालेली आहे. म्हणजे कोरोना नंतर भारतीय अर्थव्यवस्थेच्या वाढीचा वेग ऋण वरून धन झालेला आहे.

कृषी क्षेत्र वाढीचा दर :

भारतीय अर्थव्यवस्था ही कृषिप्रधान अर्थव्यवस्था असली तरी स्वातंत्र्यपूर्व काळातील भारतीय शेतीवरील अवलंबित्व हळू-हळू कमी होत असल्याचे दिसून येते.भारतीय अर्थव्यवस्थेचा कणा म्हणून शेतीकडे पाहिले जाते

.कारण शेती ही देशातील उद्योग आणि सेवा क्षेत्राच्या विकासासाठी उपयुक्त ठरते. रोजगार निर्मिती, उपजीविकेचे साधन, विदेशी व्यापारातील योगदान, अन्नधान्य उत्पादन यामध्ये शेतीची भूमिका महत्त्वाची ठरते

वर्ष	कृषी क्षेत्र वाढीचा दर %
<u>2016-17</u>	6.8
<u>2017-18</u>	6.6
<u>2018-19</u>	2.6
<u>2019-20</u>	4.3
<u>2020-21</u>	3.6
<u>2021-22</u>	3.9



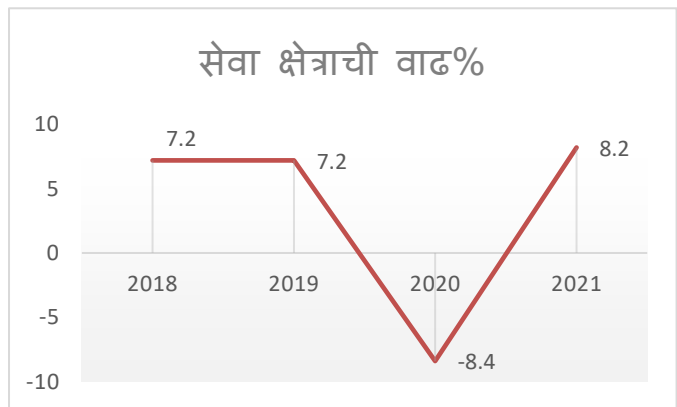
स्रोत-NSO Central Water Commission

भारतीय शेतीच्या वार्षिक वाढीच्या दराचा अभ्यास केला असता असे दिसून येते की 2016-17 ते 2018-19 या काळात शेतीच्या वाढीचा वेग 6.8 टक्के वरून 2.6 टक्के इतका खाली आला आहे याचे मुख्य कारण म्हणजे पहिल्या दोन वर्षात पावसाचे असमाधानकारक प्रमाण हे म्हणता येईल 2019-20 मध्ये ही वाढ 4.3 टक्के इतकी झाली आहे परंतु कोरोनाच्या प्रभावामुळे 2020 -21 मध्ये कृषी वाढीची गती 3.6 टक्के इतकी कमी झाली. त्यानंतर 2021 -22 मध्ये त्यात वाढ होऊन 3.9 टक्के इतकी झालेली आहे. याची कारणे म्हणजे पावसाचे समाधानकारक प्रमाण, सरकारने आखलेल्या उपाययोजनांमुळे उपलब्ध केलेल्या कर्जपुरवठ्याची सोयी, वाढवलेली गुंतवणूक, बाजार सुविधा आणि शेतीसाठी उपलब्ध करून दिलेली दर्जेदार आदाने हि आहेत. तसेच आत्मनिर्भर भारत करण्याच्या निर्धाराने आखलेले नियोजन या बाबी शेतीतील वाढ होण्यास कारणीभूत ठरल्या आहेत.

सेवा क्षेत्राची प्रगती :

भारताच्या आर्थिक प्रगतीमध्ये सेवा क्षेत्राची भूमिका महत्त्वपूर्ण आहे. कारण भारतीय अर्थव्यवस्थेत सेवा क्षेत्राचा जीडीपी मधील हिस्सा 2021 -22 मध्ये 53 % इतका आहे. या क्षेत्रात बँका वित्तीय, संस्था, विमा संस्था, वाहतूक व दळणवळण, कुरिअर सेवा, हॉटेल्स, रेस्टॉरंट अशा अनेकविध सेवांचा समावेश होतो कोरोनाच्या काळात सर्वात जास्त फटका कोणत्या क्षेत्राला बसला असेल तर ते क्षेत्र म्हणजे सेवा क्षेत्र. कारण या काळात बँका, विमा व वित्तीय संस्था सोडल्या तर बाकी सर्व सेवा क्षेत्र मंदीत सापडले. त्यांच्या प्रगतीचा आलेख झपाट्याने घसरला.

वर्ष	सेवा क्षेत्राची वाढ%
<u>2018</u>	7.2
<u>2019</u>	7.2
<u>2020</u>	-8.4
<u>2021</u>	8.2

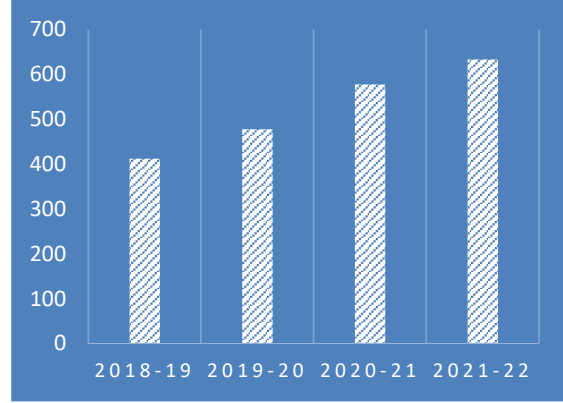


स्रोत-MOSPI ministry of statistics and programme implementation

वरील तक्त्यावरून हे स्पष्ट होते की, 2018-19 व 2019-20 मध्ये या क्षेत्राची वाढ 7.2% इतकी म्हणजे समान राहिलेली आहे. मात्र कोरोनाचा प्रभाव वाढल्याने सरकारला लॉकडाऊन करावे लागले. त्यामुळे सर्व व्यवहार ठप्प झाले. परिणामी 2020-21 मध्ये सेवा क्षेत्राची प्रगती घटली. ती उणे होऊन -8.4% इतकी झाली. सरकारने केलेल्या अंदाजानुसार 2021-22 मध्ये या क्षेत्राची वाढ 8.2% इतकी होऊ शकते. कारण सरकारने या क्षेत्रात केलेली बंदी उठविल्या मुळे व विविध उपाययोजना केल्याने या क्षेत्राच्या विकासाला गती मिळाल्याचे दिसून येते.

विदेशी चलन साठा :

वर्ष	विदेशी चलन साठा (डॉलर बिलियनमध्ये)	
2018-19	411.9	-
2019-20	477.8	16%
2020-21	577.7	40.08%
2021-22	633.6	53.82%

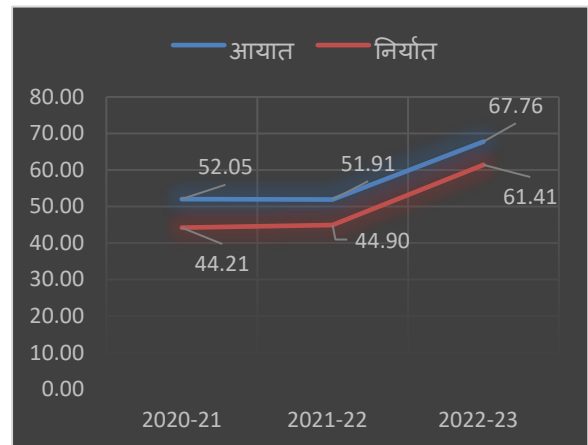


स्रोत-आर्थिक सर्वेक्षण भारत सरकार २०२१-२२

वरील आकडेवारीवरून हे स्पष्ट होते की विदेशी चलनाचा साठा 2018-19 च्या तुलनेत 2019-20 ते 2020-21 मध्ये मोठ्या प्रमाणात वाढ झालेली आहे. ही वाढ 2019-20 मध्ये 16 टक्के इतकी आहे तर 2020-21 मध्ये 40.08% इतकी आहे याचा अर्थ असा की या काळातही भारतीय विदेशी गंगाजळीत वाढ झाली आहे 2018-19 च्या तुलनेत 2021-22 मध्ये (31 डिसेंबर 2021) विदेशी चलनाचा साठा 53.82% वाढला.

आयात-निर्यात :

वर्ष	आयात (बिलियन डॉलर मध्ये)	निर्यात (बिलियन डॉलर मध्ये)	व्यापारी तूट
जाने. 2020	52.05	44.21	7.83
जाने. 2021	51.91	44.90	7.00
जाने. 2022	67.76	61.41	6.35

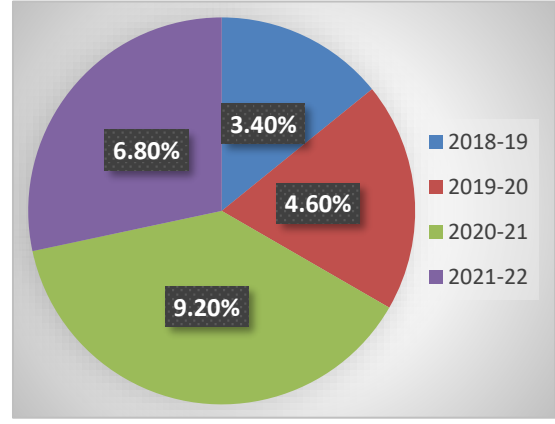


स्रोत- ministry of Commerce and Industry

एप्रिल ते जाने 2019-20 दरम्यान भारताची एकूण निर्यात गेल्या वर्षीच्या याच कालावधीच्या तुलनेत 37.68% जास्त होण्याचा आणि एप्रिल ते जाने 2019-20 या कालावधीच्या तुलनेत 23.29% जास्त होण्याचा अंदाज आहे एप्रिल ते जाने. 2021-22 या काळात एकूण आयात 616.91 अब्ज डॉलर होण्याचा आणि त्यामुळे गेल्या वर्षीच्या तुलनेत ही वाढ 54.35% आणि एप्रिल ते जाने 2019-20 या काळाच्या तुलनेत 20.15% वाढ होण्याची शक्यता आहे.

वित्तीय तूट :

वर्ष	वित्तीय तूट टक्के जीडीपीच्या
2018-19	3.4%
2019-20	4.6%
2020-21	9.2%
2021-22	6.8%



स्रोत-PIB. India.gov.in

कोरोनाच्या काळात वित्तीय तूट वाढत गेल्याचे दिसून येते. याचे मुख्य कारण म्हणजे सरकारने अर्थव्यवस्थेच्या बळकटीसाठी वाढविलेले खर्चाचे प्रमाण होय. परंतु खर्चाच्या तुलनेत उत्पन्नात वाढ झाली नाही. 2019-20 च्या तुलनेत 2021-22 मध्ये वित्तीय तूट दुप्पटीने वाढली आहे.

निष्कर्ष :

कोरोना महामारी नंतर अर्थव्यवस्था पूर्वपदावर आणण्यासाठी सरकारने मोठ्या प्रमाणात आर्थिक पॅकेजेस दिल्याने अर्थव्यवस्थेला बळकटी मिळाली.

1. जीडीपी वाढीचा दर ऋण वरून धन झाला.
2. शेती व शेतीशी संलग्न उत्पादनात वाढ झाली.
3. औद्योगिक उत्पादन घटले परंतु त्यात पुन्हा वाढ झाली.
4. सेवा क्षेत्राचा विकास झपाट्याने होऊ लागला.
5. विदेशी चलन गंगाजळीत अधिक वाढ झाली.
6. दूरगामी परिणाम म्हणून वित्तीय तूट वाढत गेली ही चिंतेची बाब आहे.
7. भारताचा विदेशी व्यापार वाढला परंतु आयात व निर्यात या दोन्हीमध्ये ही वाढ झाली परंतु व्यापारी तूट कमी होत असल्याचे दिसून येते.

उपाय योजना : सरकारने देशातील नागरिकांना मोफत कोरोना प्रतिबंधक लस व बूस्टर डोस देण्याची व्यवस्था नियमितपणे सुरु ठेवावी.

1. देशातील अति लहान, लहान व मध्यम उद्योगांना सरकारने भांडवली मदत केली पाहिजे.
2. उद्योगांना कमी व्याजदरात कर्जे उपलब्ध करून दिली पाहिजे.
3. सरकारने वित्तीय खर्चात वाढ करणे आवश्यक आहे.
4. रोजगार निर्मिती व्यवसायांना सरकारने चालना दिली पाहिजे.
5. कौशल्य विकास योजनांची अंमलबजावणी केली पाहिजे.
6. डिजिटल आर्थिक व्यवहार करण्यास प्रोत्साहन दिले पाहिजे.
7. भारतातील आरोग्य व्यवस्था सक्षम करण्यावर सरकारने भर दिला पाहिजे.
8. लॉकडाऊन नंतर पूर्ववत पणे कामगारांना नोकरीत सामावून घेतले पाहिजे.
9. विविध रोजगार योजनांची त्वरित अंमलबजावणी करावी.

संदर्भ यादी :

1. कोरोना नंतरचे जग संपादक प्राचार्य डॉक्टर प्रकाश कुंभार प्रकाशक तेजश्री प्रकाशन कोल्हापूर
2. भारताचा आर्थिक पाहणी अहवाल 2020 21
3. आर्थिक सर्वेक्षण 2019- 20 ,2020-21 भारत सरकार नवी दिल्ली
4. Ministry of agriculture of Farmers welfare,2020-21
5. Statistics.com
6. www.nabard.org.

कोविड -19 चा ताळेबंदी परिस्थितीत विद्यार्थी शिक्षकांच्या जाणीव-जागृतीचा अभ्यास

राजनंदिनी विलास खोत
श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज
माळवाडी-कोतोली, ता. पन्हाळा
हिंदी विभाग

प्रस्तावना

आज आपण सर्व कोविड - 19 सारख्या जागतिक स्तरावरील संसर्गजन्य आजारात सामोरे जात आहोत. या आजाराने सर्व जगाला हादरून टाकले असून यावर कोणतीही लस उपलब्ध नसल्याने ताळेबंदी हाच एकमेव पर्याय जगभर अवलंबिला जात होता. याचा प्रभाव सर्व क्षेत्रावर होत आहे. सर्व क्षेत्र आहे तिथेच थांबले होते याचा परिणाम शिक्षण क्षेत्रावर सुद्धा झाला. त्यामुळे तिथे सुद्धा इतर क्षेत्रासारखी परिस्थिती निर्माण झाली. याची आपल्या सर्वांना जाणीव आहे. परंतु शिक्षकांना थांबून कसे चालेल? ते सतत कार्य प्रवीण असावे लागतात. कारण शिक्षक समाजपरिवर्तनाचे गतीवर्धक असतात. त्यांना सामाजिक स्थित्यंतरे जाण्यासाठी आणि शिक्षण गतिमान होण्यासाठी अद्ययावत असावे लागते. त्यांना सद्यस्थितीचे ज्ञान, समयसूचकता, सतर्कता समस्येविषयीचे सखोल ज्ञान, त्यांच्या नोंदी ठेवण्याची सवय असणे आवश्यक असते. तसेच नवीन तंत्रज्ञान आत्मसात करण्यासाठी विविध स्रोतांचा उपयोग करता येणे आवश्यक असते. शिक्षकांना माहिती तंत्रज्ञानाच्या या युगात आपले ज्ञान अद्ययावत ठेवून अत्याधुनिक तंत्रज्ञानाचा वापर करता येणे क्रमप्राप्त ठरते. आज रोजीच्या या ताळेबंदी परिस्थितीत कोविड - 19 या आजाराविषयी आजचा शिक्षकांनी भावी शिक्षक किती जागरूक आहेत. हे जाणून घेण्यासाठी नवीन तंत्रज्ञानाच्या आधारावर गुगल फॉर्मचा वापर करून याचा शोध घ्यावा या विचाराने प्रेरित होऊन प्रस्तुत संशोधन कार्य हाती घेतले आहे.

समस्या विधान

कोविड - 19 चा ताळेबंदी परिस्थितीत विद्यार्थी शिक्षकांच्या जाणीव जागृतीचा अभ्यास करणे.

उद्दिष्टे

1. विद्यार्थी शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणे जागृतीचा अभ्यास करणे.
2. माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 चा ताळेबंदी परिस्थितीच्या जाणीव जागृतीचा अभ्यास करणे.
3. महाविद्यालयातील विद्यार्थी शिक्षक आणि माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीचा जाणीव जागृतीचा तुलनात्मक अभ्यास करणे.

परिकल्पना

विद्यार्थी शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणीव जागृतीमध्ये सार्थ फरक आढळत नाही.

संशोधन पद्धती

प्रस्तुत संशोधनासाठी वर्णनात्मक संशोधन पद्धतीतील सर्वेक्षण पद्धतीचा वापर करण्यात आलेला आहे. विद्यार्थी शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणीव-जागृती याविषयी जाणून घेण्यासाठी या पद्धतीचा वापर करण्यात आला आहे. त्यात त्यांना मिळालेल्या गुणांचे विश्लेषण करून परिकल्पना परीक्षण व निष्कर्ष मांडणी केली आहे.

जनसंख्या

प्रस्तुत संशोधनासाठी विद्यार्थी शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील शिक्षक वर्गाचा समावेश आहे.

न्यादर्श

प्रस्तुत संशोधनासाठी न्यादर्श म्हणून जनसंख्येत समाविष्ट विद्यार्थी, शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षक यांना व्हाट्सअप द्वारे संशोधक निर्मित गुगल फार्मची लिंक पाठवण्यात आली होती. त्यातून 172 जणांनी सदर प्रश्नावली भरून दिली. त्या सर्वांचा प्रस्तुत संशोधनातील न्यादर्शात करण्यात आला आहे.

संशोधन साधने

प्रस्तुत संशोधनासाठी कोविड - 19 जाणीव जागृती प्रश्नावली विकसित केली. प्रस्तुत प्रश्नावली कोविड - 19 आजारविषयी शास्त्रीय माहिती याविषयी घ्यावयाची काळजी, ताळेबंदी काळातील राबविलेले कार्यक्रम, शिक्षण प्रणालीतील बदल, यावर आधारित एकूण 20 प्रश्नांचा समावेश करण्यात आलेला आहे. यामध्ये प्रत्येक प्रश्नासाठी चार पर्याय दिलेले असून अचूक पर्यायास एक गुण अशा एकूण 20 गुणांची आहे. प्रतिसाधकांनी दिलेल्या प्रतिसादांचे विश्लेषण करून संशोधनाचे निष्कर्ष मांडण्यात आले आहे.

संख्याशास्त्रीय परिमाणे

प्रस्तुत संशोधनासाठी संकलित माहितीचे विश्लेषण करण्यासाठी प्रतिसादकांना मिळालेल्या गुणांचे मध्यमान व शेकडा प्रमाण काढून आलेखाद्वारे तुलनात्मक विश्लेषण करण्यात आले आहे. तसेच संशोधनात मांडलेल्या परीकल्पनेचे टी (t)परीक्षेद्वारे परीक्षण करून त्याबाबत निर्णय घेण्यात आले आहे.

उद्दिष्टनिहाय परीक्षण

उद्दिष्ट क्रमांक 5. विद्यार्थी शिक्षकांच्या कोविड - 19 परिस्थितीच्या जाणीव जागृतीचा अभ्यास करणे.

एकूण विद्यार्थी संख्या	टक्केवारी
80	84.58%

निरीक्षण

वरील कोष्टकावरून विद्यार्थी शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणीव-जागृतीचे प्रमाण 84.58 टक्के इतकी दिसून आली.

निष्कर्ष

वरील कोष्टकावरून दिसून येते की विद्यार्थी शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणीव-जागृतीचा स्तर उच्च प्रतीचा आहे.

उद्दिष्ट क्रमांक 2

माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणीव जागृतीचा अभ्यास करणे.

एकूण शिक्षक संख्या	टक्केवारी
50	85.60%

निरीक्षण

वरील कोष्टकावरून माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या ताळेबंदी परिस्थितीच्या जाणीव-जागृतीचे प्रमाण 85.60% टक्के इतके दिसून आले आहे.

निष्कर्ष

वरील कोष्टकावरून असे दिसून आले की माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या टाळेबंदी परिस्थितीच्या जाणीवजागृतीचा स्तर उच्च प्रतीचा आहे.

उद्दिष्ट क्रमांक 3

विद्यार्थी शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या टाळेबंदी परिस्थितीचा जाणीव जागृतीचा तुलनात्मक अभ्यास करणे.

एकूण संख्या	टक्केवारी
एकूण विद्यार्थी संख्या	84.58%
एकूण शिक्षक संख्या	85.60%

निरीक्षण

वरील कोष्टकावरून विद्यार्थी शिक्षकांच्या जाणीव-जागृतीचे प्रमाण 84.58% इतके दिसून आले तर माध्यमिक शाळांमध्ये कार्यरत शिक्षक विद्यालयातील शिक्षकांच्या जाणीव-जागृतीचे प्रमाण 85.60% इतकी दिसून आले.

निष्कर्ष

वरील कोष्टकावरून असे दिसून येते की, विद्यार्थी शिक्षक व महाविद्यालयीन शिक्षण शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 चा टाळेबंदी परिस्थितीच्या जाणीव-जागृतीमध्ये माध्यमिक शाळांमध्ये कार्यरत शिक्षक विद्यार्थी व शिक्षकांच्या कोविड - 19 टाळेबंदी परिस्थितीच्या जाणीव-जागृतीचा स्तर विद्यार्थी शिक्षकापेक्षा अधिक दिसून आला आहे.

परिकल्पना परीक्षण

विद्यार्थी शिक्षकांनी माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 चा टाळेबंदी परिस्थितीच्या जाणीव-जागृतीमध्ये सार्थ फरक आढळत नाही.

अर्थनिर्वचन

वरील कोष्टकावरून असे दिसून येते की, प्राप्त हे मूल्य नमुना मूल्यापेक्षा कमी आहे. त्यामुळे दोघांतील फरक सार्थ आहे. म्हणून शून्य परिकल्पना याचा स्वीकार करावा लागेल. यावरून असे स्पष्ट होईल की विद्यार्थी शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड महाविद्यालयातील शिक्षकांच्या कोविड - 19 च्या टाळेबंदी परिस्थितीच्या जाणीवजागृतीमध्ये सार्थ फरक आढळत नाही.

निष्कर्ष

विद्यार्थी शिक्षक आणि माध्यमिक शाळांमध्ये कार्यरत शिक्षक विद्यालयातील शिक्षकांच्या कोविड - 19 च्या टाळेबंदी परिस्थितीच्या जाणीवजागृतीमध्ये फरक पडत नाही ही परिकल्पना स्वीकारावी लागेल. निष्कर्ष व चर्चा

उद्दिष्ट निहाय निष्कर्ष

1. विद्यार्थी शिक्षकांच्या कोविड - 19 च्या टाळेबंदी परिस्थितीच्या जाणीव-जागृतीचे स्तर 84.58% इतका म्हणजेच उच्च प्रतीचा दिसून आला आहे.
2. माध्यमिक शाळांमध्ये कार्यरत शिक्षक डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या टाळेबंदी परिस्थितीच्या जाणीव-जागृतीचे प्रमाण 85.60 टक्के इतका म्हणजेच उच्च प्रतीचा दिसून आला आहे.
3. विद्यार्थी शिक्षकांच्या कोविड - 19 च्या जाणीव-जागृतीचा स्तर 84.57 टक्के असून माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड -19 च्या जाणीव-जागृतीचे प्रमाण 85.60 टक्के

इतका आहे. अर्थात, विद्यार्थी शिक्षकांच्या कोविड -19 च्या जाणीव जागृती च्या स्तरापेक्षा माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या कोविड - 19 च्या जाणीव जागृतीचा स्तर तुलनेने 2 नेअधिक आहे व तो संख्या शास्त्रीय दृष्टीने लक्षणीय नाही.

परिकल्पना निष्कर्ष

विद्यार्थी शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डीटीएड विद्यालयातील शिक्षकांच्या कोविड -19 च्या ताळेबंदी परिस्थितीच्या जाणीवजागृती मध्ये फरक आढळत नाही त्यामुळे शून्य परिकल्पनेचा स्वीकार केला आहे.

सारांश

कोविड - 19 चा ताळेबंदी परिस्थितीत विद्यार्थी शिक्षकांच्या जाणीव-जागृतीचा अभ्यास करण्यासाठी वर्णनात्मक संशोधन पद्धतीतील सर्वेक्षण पद्धतीचा अवलंब केला आहे. माहितीचे संकलन करण्यासाठी 20 प्रश्नांची प्रश्नावली तयार करण्यात आली. विद्यार्थी, शिक्षक म्हणून शिक्षणशास्त्र महाविद्यालयातील 80 विद्यार्थी शिक्षक आणि 50 माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड महाविद्यालयातील शिक्षकांनी प्रश्नावलीतील प्रश्नांना दिलेल्या प्रतिसादांना गुणदान करून त्या आधारावर शिक्षणशास्त्र महाविद्यालयातील विद्यार्थी, शिक्षक आणि माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या जाणीव-जागृतीचा स्तर तपासला. संकलित माहितीचे विश्लेषण करण्यासाठी शेकडेवारी, मध्यमान, प्रमाण विचलन, टी-मूल्य या संख्याशास्त्रीय परिमाणंचा उपयोग केला आहे. त्यात शिक्षणशास्त्र महाविद्यालयातील विद्यार्थी, शिक्षकांच्या जाणीव-जागृतीचा स्तर 84.57 टक्के तर माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड विद्यालयातील शिक्षकांच्या जाणीव-जागृतीचे स्तर 85.60 टक्के दिसून आला. तसेच शिक्षणशास्त्र महाविद्यालयातील विद्यार्थी, शिक्षक व माध्यमिक शाळांमध्ये कार्यरत शिक्षक, डी.टी.एड महाविद्यालयातील शिक्षक यांच्या कोविड - 19 चा ताळेबंदी परिस्थितीत जाणीवजागृती मध्ये लक्षणीय फरक नसल्याचे आढळले.

संदर्भ ग्रंथ सूची

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कोरोना महामारीतील भारतीय समाज आणि मानवी विकासाचा न्हास

गीता कृष्णात पाटील.

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज

माळवाडी-कोतोली, ता. पन्हाळा

राज्यशास्त्र विभाग

प्रस्तावना

जागतिकीकरण, खाजगीकरण, उदारीकरणाच्या या युगात विज्ञानाने मानवी जीवनात आमूलाग्र असा बदल केला आहे. विज्ञान आणि तंत्रज्ञानाच्या माध्यमातून मानवाने आपल्या बुद्धीच्या जोरावर नैसर्गिक साधन संपत्तीचा वापर करून खूप प्रगती केली आहे. आज प्रत्येक जण भौतिक सुखाच्या पाठीमागे लागला आहे. आर्थिक विकास साध्य करण्यासाठी प्रत्येक देश एकमेकांच्या खूप जवळ आले आणि जगाची एक अर्थव्यवस्था बनली. त्यास आपण जागतिक अर्थव्यवस्था म्हणतो. आज या जागतिकीकरणाच्या युगात कोणताही देश स्वतःला इतरांपासून वेगळा ठेवू शकत नाही. जागतिकीकरणामुळे स्पर्धा वाढली, लोकांचे उत्पन्न वाढले, खर्च वाढला, राहणीमानाचा दर्जा सुधारला, भौतिक सुखात वाढ झाली, आर्थिक प्रगतीबरोबरच आर्थिक विषमता वाढत गेली. कर्ज काढून उपभोग घेण्याची प्रवृत्ती वाढली. मनुष्य संपत्तीच्या भौतिक सुखाच्या पाठीमागे एवढा लागला की त्याला स्वतःच्या आरोग्याकडे लक्ष देण्यासाठी वेळ मिळेनासा झाला. मानसिक ताण तणाव वाढला. प्रदूषणामध्ये वाढ झाली. या स्पर्धेच्या युगात जो थांबला तो संपला असे त्याला वाटू लागले आणि त्यामुळे बहुतेक सुखासाठी प्रत्येक जण स्पर्धा करू लागला. मनुष्याची ही जीवनशैली एका सूक्ष्म अशा कोरोना विषाणू मुळे बदलली. चीन मधील वूहान शहरातून पसरलेली ही साथ अवघ्या बघता बघता जगभरात पसरली आणि डब्ल्यू एच ओ ने यास महामारी घोषित केले. या महामारी ने आज संपूर्ण जगात थैमान घातले आहे. यापुढे जगातील बलशाली सत्ता देखील हतबल झालेल्या आहेत. या साथीने मानवी समूहाला भौतिक सुख किंवा आर्थिक प्रगती पेक्षा जिवंत राहणे हीच प्राथमिकता असल्याची जाणीव करून दिली. संपूर्ण जगाला वेठीस धरलेल्या कोरोना विषाणूचा हल्ल्यामुळे मानवजातीच्या दिनचर्येत, जीवनशैलीत आमूलाग्र बदल घडून आला आहे. या कोरोनाच्या प्रकोपापासून भारत देखील स्वतःला रोखू शकला नाही. भारतात देखील कोरोनाची साथ दिवसेंदिवस वाढत असलेली दिसून येते. पहिली लाट, दुसरी लाट व येऊ घातलेल्या संभाव्य लाटेच्या भीतीने देशातील संपूर्ण समाज जीवन झाले आहे कोरोना महामारी मुळे भारतीय समाज जीवन पूर्णता विस्कळीत होऊन उध्वस्त झाले आहे.

संशोधनाची उद्दिष्टे

1. कोरोनाचा मानवी विकासावर परिणाम अभ्यासणे.
2. कोरोनाचा सामाजिक संबंधावर, अनावश्यक खर्चावर झालेला परिणाम अभ्यासणे.
3. कोरोनाचा सूक्ष्म उद्योग, कामगार व विद्यार्थी जीवनावरील परिणाम जाणून घेणे.
4. कोरोनाचा कृषी आणि कृषी वर आधारित उद्योगावरील परिणाम अभ्यासणे.

संशोधनाची गृहितके

1. कोरोनामुळे मानवी विकासावर परिणाम झाला आहे.
2. कोरोनामुळे अनावश्यक खर्चाला आळा बसला आहे.
3. कोरोनाचा सूक्ष्म उद्योग आणि कामगार वर्गावर विपरीत परिणाम झाला आहे.

4. कोरोनाचा वृद्ध आणि विद्यार्थी जीवनावर परिणाम झाला आहे.

5. कोरोनाचा कृषी आणि कृषीवर आधारित उद्योग यावर विपरीत परिणाम झाला आहे.

संशोधन पद्धती

प्रस्तुत शोधनिबंधासाठी द्वितीय साधनसामग्रीचा वापर करण्यात आलेला आहे. त्यामध्ये संदर्भग्रंथ, कोश, शोधप्रबंध, मासिक, साप्ताहिके दैनिक, वेबसाईट्स इत्यादीचा आधार घेण्यात आला आहे.

धोरणाचा भारतीय समाज जीवनावर परिणाम

कोरोनाच्या साथीने संपूर्ण जगाला आपल्या विळख्यात घेतले असून संक्रमित लोकांची संख्या दिवसेंदिवस वाढत आहे. आजपर्यंत जगात 18 कोटी लोकांना कोरुनाचा संसर्ग झाला आहे. तर चाळीस लाख लोकांचा मृत्यू झाला आहे. भारतात कोरोनाच्या पहिल्या लाटेपेक्षा दुसरी लाट भयानक ठरली. आरोग्य व्यवस्थेची दानादान उडाली. अक्सिजनसाठी तर युद्धपातळीवर प्रयत्न, रुग्णांना व नातेवाईकांना करावे लागले. दुसऱ्या लाटेत लोकांचे प्राधान्य हे जीव वाचवणे हेच प्रमुख होते. आणखी संभाव्य तिसऱ्या लाटेच्या भीतीखाली समाज दबक्या स्वरात जीवन जगत आहे.

सामाजिक संबंधात दुरावा

कोरोना विषाणूमुळे सामाजिक संबंध पूर्वीसारखे राहिले नाहीत. तर त्यामध्ये दुरावा निर्माण झाल्याचे दिसते. कोरोना विषाणूपासून आपला बचाव करण्यासाठी आपण सध्या सामाजिक अंतराचे पालन करत आहोत. कोरोना च्या भितीमुळे जे सामाजिक अंतर आपण राखत आहोत त्यामुळे सामाजिक संबंधात दुरावा निर्माण झालेला आहे. आपण पूर्वी मुक्तपणे कसलेही बंधन न पाळता मित्र-मैत्रिणी, शेजारी, आपले नातेवाईक यांच्याकडे आवडीने जात होतो. शॉपिंग, खरेदी, विक्री किंवा इतर कोणत्याही कारणासाठी घराच्या बाहेर पडल्यावर आपला अनेकांशी संबंध येत होता. यातूनच आपल्या मित्रपरिवारात वाढ होत होती. आणि आपण अशा आपल्या मित्र, नातेवाईक, शेजारी यांच्या सुखदुखात सामील होत होतो. एकमेकांना समजून घेऊन लोकांना आधार, धीर देत होतो. आणि त्यातून आपसात एक प्रकारची प्रेम, आपुलकीची भावना निर्माण होत होती. पण कोरोनामुळे एकमेकांकडे जाण्याचे प्रमाण खूप कमी झाले आहे. सोशल मीडियाद्वारे केवळ विचारपूस होऊ लागली. एकमेकांना टाळण्याची प्रवृत्ती वाढत आहेत. याचा परिणाम कुटुंब एकलकोंडी बनत असल्याचे चित्र आपणाला दिसत आहे. सामाजिक संबंध दुरावत आहे. गावातील एखाद्या व्यक्तीच्या अंत्यविधीसाठी नातेवाईक मित्रमंडळी जवळचे लोक यायचे पण कोरोनाच्या भितीमुळे, कोरोनामुळे जरी एखाद्या व्यक्तीचा मृत्यू झाला नसला तरी त्याच्या अंत्यविधी मध्ये फारसे लोक येत नाहीत. अगदी कुटुंबातील व्यक्ती देखील अंत्यविधी करण्यासाठी पुढे येत नसल्याची उदाहरणे आपल्याला दिसली आहेत. विवाह सोहळ्याच्या बाबतीत पण असाच बदल झाला आहे. आता पन्नास लोकांच्या उपस्थितीत सामाजिक अंतर ठेवून विवाह होत आहेत. सण-उत्सव, विवाह सोहळा या सारख्या उपक्रमात लोकांचा सहभाग कमी झाला आहे. जर लोकांचा सहभाग असाच कमी राहिला तर माणसातील आपुलकी, दया, प्रेम हे कमी होईल. आपल्या समाजात काही असे लोक आहेत की जे फक्त सोशल मीडियाच्या माध्यमातून लोकांच्या संपर्कात राहतात पण प्रत्यक्षात मात्र ते त्यांच्या संपर्कात आल्यास एक शब्दही बोलू शकत नाहीत. आणि म्हणून जर या सामाजिक अंतरामुळे मनुष्य असा वागू लागला तर समाजाच्या दृष्टीने हे खूप घातक आहे. यामुळे मनुष्याचा ताण वाढेल, मानसिक रुग्णांचे प्रमाण वाढेल लोक एकलकोंडी बनतील. आत्महत्येचे प्रमाण वाढेल थोडक्यात, धोरणामुळे सामाजिक संबंधात दुरावा निर्माण झाला आहे.

लोकांच्या खर्चात घट

कोरोना साथी पूर्वी मागील 20-25 वर्षांपासून लोकांच्या उत्पन्नात भरमसाठ वाढ झाली होती. आपण आपल्या देशात एक लाखांपासून 70-75 लाखांच्या दर वर्षीच्या पॅकेजेस ची भाषा बोलत होतो. काही हजारात उत्पन्न कमावणाऱ्यांच्या घरात आता लाखाने उत्पन्न येऊ लागले होते. त्यांना सर्व उत्तम दर्जाच्या आणि आकर्षक अशा गोष्टींचे आकर्षण वाटू लागले. महागड्या गोष्टींकडे कल वाढला. त्यांना अधिक खर्च करणे शक्य आहे म्हणून ते

साध्या दुकानात न जाता मॉल्सच्या वाटेने जाऊ लागले होते. या ग्राहक वर्गाने "महागड्या जीवनशैलीचा" मनापासून स्वीकार केलेला दिसून येत आहे. परंतु कोरोना विषाणूमुळे हे चित्र बदलत असलेले दिसत आहे.

आता कोरोनाच्या भितीमुळे आणि लॉकडाऊनमुळे कामगार गावाकडे गेले आहेत अनेकांच्या नोकरी जाण्याच्या मार्गावर आहेत त्यामुळे अनावश्यक खर्च कमी केला जात आहे. पूर्वी काही लोकांचा घरापेक्षा बाहेरच खाण्याकडे कल जास्त होता. मुंबई-पुणे-अहमदाबाद अशा काही शहरात किचन लेस होम ही संकल्पना रूढ होत होते तरुण जोडप्यांनी तिचा अवलंब करायला सुरुवात केली होती. सकाळी रात्री पर्यंत घराबाहेर असलेल्या या तरुण जोडप्यांना किचनची आवश्यकताच भासत नव्हती. सकाळचा चहा नाश्ता बाहेर दुपारचे जेवण ऑफिसच्या कॅन्टीनमध्ये आणि रात्रीचे घरी परतताना चांगल्या हॉटेलमध्ये ही जीवनशैली बनली होती.

पण कोरोनामुळे ही जीवनशैली बदलत असलेली दिसते. आता रेस्टॉरंट मध्ये जाण्यासाठी लोक इच्छुक नाहीत. मार्केट,पर्यटन, रेस्टॉरंट बंद असल्यामुळे लोकांच्या खर्चात मोठी घट झाली आहे.लोक बाहेरचा साधा चहा सुद्धा टाळण्याचा प्रयत्न करताना दिसून येतात. सण, उत्सव,लग्न यासारखे सोहळे घरच्या घरी किंवा मर्यादित लोकांच्या उपस्थितीत साजरी केली जात आहेत. त्यामुळे या कार्यक्रमाचा खर्च देखील कमी झालेला आहे थोडक्यात कोरोनामुळे खर्च घटलेला आहे हे स्पष्ट होते. कोरोनाच्या या काळामध्ये लोकांना एखाद्या प्रसिध्द ठिकाणी देवदर्शनासाठी सुद्धा जाता आले नाही. सर्व देवधिकांचे दरवाजे बंद होते. लोकांचे कार्यक्रम मागे पडले. त्यांना परंपरागत चालत आलेले कार्यक्रम बंद झाले.

सूक्ष्म उद्योग

देशाच्या अर्थकारणात सूक्ष्म उद्योग खूप महत्त्वाची भूमिका बजावत असतात. हे छोटे उद्योग आणि त्यांच्या उपजीविकेचे साधन आहेत. कोरोनाच्या महामारी ला रोखण्यासाठी भारतात लॉकडाऊन केले. या लॉकडाऊनमुळे आणि कोरोनाच्या साथीने अनेकांच्या निर्वाहाचे साधन असलेला हा सूक्ष्म उद्योग अडचणीत आला. लॉकडाऊन मुळे या उद्योगातून उत्पादन किंवा विक्री होत नसल्याने मात्र भाडे, घर खर्च, कर्ज परतफेड यासारख्या गोष्टी वरील खर्च कसा पूर्ण करायचा आणि जीवन कसे जगायचे हा फार मोठा प्रश्न या कमी भांडवलावर चालणाऱ्या उद्योगापुढे भेडसावत आहे. लॉकडाऊन शिथिल केल्यामुळे काही प्रमाणात या उद्योगांना दिलासा मिळाला. तरी झालेले नुकसान पचवण्याची ताकद या उद्योगांना नाही. सलून आणि ब्युटी पार्लर यासारखे व्यवसाय तर फार अडचणीत आले आहेत. कोरोनात पार्लर यासारखे व्यवसाय तर फार अडचणीत आले आहेत. लोकांचे उत्पन्न कमी झाले. लोकांनी खर्च कमी केला. याचा परिणाम या छोट्या व्यवसायाच्या मागणीवर झालेला दिसतो.

कामगार वर्गाचे शहरी भागाकडून ग्रामीण भागाकडे स्थलांतर

कामगार हा उत्पादनाचा एक महत्त्वाचा घटक असून देशाच्या अर्थव्यवस्थेत याचे महत्त्व अनन्यसाधारण आहे. देशात स्वस्त व मुबलक आणि गतिशील श्रमिक असतील तर देशाची आर्थिक प्रगती होण्यास फार मदत होते. भारतासारख्या कृषिप्रधान जास्त लोकसंख्येच्या देशात कृषी आणि कृषी वर आधारित 58 टक्के लोक लोकसंख्या गुंतलेली आहे. इंग्लंड, अमेरिका यासारख्या विकसित देशात हेच प्रमाण केवळ दोन ते तीन टक्के आहे. भारतामध्ये शेती क्षेत्रामध्ये बेकारीचे प्रमाण फार मोठ्या प्रमाणात आहे गावाकडे पोट भरत नसल्यामुळे आणि स्वतःची प्रगती करण्यासाठी स्वतःचे नशीब आजमावण्यासाठी अनेकांनी ग्रामीण भागातून शहरी भागात स्थलांतर केले होते. मोठ्या शहरांमध्ये अनेक व्यवसायांमध्ये रोजंदारीवर छोटे-मोठे काम करणारे कामगार आलेले होते. महाराष्ट्रातील मुंबई पुणे नाशिक यासारख्या शहरांमध्ये अनेक व्यवसायांमध्ये अनेक शहरांमध्ये अनेक वर्षांपासून अनेक राज्यातून कामगार आले होते. परंतु कोरोना संसर्गाच्या पार्श्वभूमीवर सरकारने मार्चअखेर देशभर टाळेबंदी केली त्यामुळे हे कामगार बेरोजगार झाले यात बहुसंख्य लोक हे रोजंदारीवर जगणारे होते. बेरोजगारीमुळे होत असलेले आर्थिक नुकसान सातत्याने वाढत जाणारा अनिश्चित स्वरूपाचा लॉकडाऊन संपत चाललेला पैसा आणि शहरातील कोरोना संसर्गाची वाढती भीती यांचा एकत्रित परिणाम म्हणून काही प्रवासी कामगार आपल्याला आपापल्या मूळ गावाकडे वळलेली दिसतात. कामगारांना गावाकडच्या या प्रवासात अनंत हालअपेष्टा सहन कराव्या लागल्या. काही जणांचा दुर्दैवी मृत्यू

झाला. त्यामुळे कामगारांचे जीवनच बदलून गेले. गावाकडून शहराकडे कामासाठी जाणाऱ्या कामगारांचे जीवन हलाखीचे झाले. काही गरीब कामगार कुटुंबाच्या उपासमारीने आत्महत्या करून घेऊ लागले. प्रत्येक कुटुंबातील कर्ती व्यक्ती म्हणून त्या घरातील पुरुषाला ओळखले जाते. आणि यामध्ये करून आणि सर्व उद्योगधंदे बंद केल्यामुळे ग्रामीण कामगार वर्गाला खूप हाल वनवास भोगावा लागला.

विद्यार्थी आणि वृद्ध

कोरोनापासून शिक्षण क्षेत्र देखील सुटले नाही. विद्यार्थ्यांचे नुकसान झाले शाळा महाविद्यालय बंद केली गेली. शिक्षणाच्या प्रवाहातून विद्यार्थी दूर चालले असल्याचे चित्र दिसत होते. कोरोनामुळे विद्यार्थ्यांच्या परीक्षा ही घेता येत नव्हत्या. अभ्यास नाही, मैदानी खेळ नाही, बाहेर फिरणे नाही, घरात विद्यार्थी कैद होऊन बसले आहेत. त्यातच ऑनलाइन टिचिंग चा प्रयोग या सर्वांचा मुलांच्या जीवनावर थोडासा प्रभाव पडत आहे. मुलांना मोबाईल ची सवय लागत आहे. मुले शिक्षणाकडे दुर्लक्ष करून मोबाईलचा वापर जास्त करू लागले आहेत. विद्यार्थ्यांचा चिडचिडेपणा वाढत आहे. मुले घराबाहेर पडत नसल्याने त्यांचे मित्र त्यांच्यापासून दुरावत आहेत मित्रांसोबत यांचा संपर्क तुटत चालला आहे. विद्यार्थ्यांनी अभ्यासाकडे पूर्ण दुर्लक्ष केले आहे. ऑनलाइन टिचिंग च्या नावाखाली विद्यार्थी मोबाईलचा गैरवापर करू लागले आहेत. वृद्ध व्यक्तींना देखील कोरोनाचा खूप मोठा धक्का बसला आहे. त्यांना कोरोनाची लागण जलद गतीने होत आहे. वृद्धांना मोकळ्या हवेमध्ये फिरणे खूप सोयीस्कर वाटत होते पण कोरोना संसर्गामुळे हे त्यांना शक्य नव्हते.

कृषी आणि कृषीवर आधारित उद्योग

कोरोनाच्या साथी पासून स्वतःला वाचवण्यासाठी भारतात लॉकडाऊन केले गेले. आणि या लॉकडाऊन चा फटका शेतकरी वर्गाला फार मोठ्या प्रमाणात झालेला दिसतो. टरबूज, द्राक्षे, आंबे, भाजीपाला यासारख्या पिकांचे उत्पादन हाती आले असताना देखील शेतकऱ्यांना लॉकडाऊन मुळे आपल्या मालाची विक्री करता आली नाही. बेभाव किमतीमध्ये त्यांना विक्री करावी लागली विक्री करण्याचे नवीन आव्हान शेतकऱ्यांपुढे होते. या शेतकऱ्यांची फार मोठे आर्थिक नुकसान झाल्याचे दिसून येते. दुधाला देखील योग्य भाव मिळत नसल्याने दुधाची नासाडी झाली. शेतकऱ्यांनी शेती मध्ये घेतलेल्या पिकाची नासाडी झाली शेतीमध्ये घेतलेल्या शेतात बियानासाठी लागणाऱ्या औषधांचा पुरवठा तो त्यावेळी त्यांना करू शकत नव्हता. त्यामुळे ते पीक वाढू शकले नाही कोणाच्याही संपर्कात न जाता आल्यामुळे त्याला उत्पादनाचा भाव समजला नाही. शेतकऱ्याला जगात पोशिंदा मानला जातो. त्यांनी पिकलेल्या धान्यावर आपण जगतो. आणि जर त्यांना त्यासाठी लागणाऱ्या भांडवलाचा पुरवठा झाला नाही तर आपण खाणार काय? असा प्रश्न सर्व जनतेपुढे होता घरातून बाहेर जायचे नाही? कोणा व्यक्तीच्या संपर्कात यायचे नाही, अश्याने शेतकरी राजा सर्व बाजूंनी पेचाट्यात अडकला होता. शेतकरी म्हणजे शेती करणाऱ्या व्यक्ती मग अशा शेतकऱ्यांचे जीवन त्याच्या वाढ वडिलांनी कमावलेल्या शेतजमिनीवर असते. तो कोठे कामाला जात नाही. त्याचे जीवनच शेतीचे कामे असत मग जर अशा गावांमध्ये तो घराबाहेर जाऊ शकत नसेल तर त्याची शेती कोण करेल. आणि तो शेतकरी आपल्या कुटुंबाचे पोट कसे भरेल.

आरोग्य आणि पर्यावरण

कोरोनाच्या साथी पासून स्वतःला वाचवण्यासाठी प्रतिकारशक्ती वाढवणे गरजेचे असल्याने आता मनुष्य आरोग्याकडे लक्ष देऊ लागला आहे. लोक पायी फिरणे योगासन प्राणायाम करू लागली आहेत. आरोग्याबाबत जागरूक झाले आहेत. अनावश्यक प्रवास लोक टाळत असल्याने प्रदूषण कमी होऊन पर्यावरणाचा सुधारणा होत आहेत. पूर्वी शहरी भागात रात्री घराबाहेर लोक जास्त वेळ राहत होती. आता मात्र चित्र बदललेले दिसते लोक फार वेळ घराच्या बाहेर जात नाहीत त्यांना घरात राहण्याची सवय लागली आहे. अनावश्यक फिरणे कमी झाले आहे. अशा प्रकारचा बदल करून यामुळे मनुष्याच्या जीवनात घडून आलेला आहे. व्यायाम प्राणायाम यामुळे लोकांच्या आरोग्य सुधारणा झालेली दिसून येत आहे. लोक डॉक्टरांच्या सल्ल्याने अन्नाचे सेवन करू लागले आहेत. कोरोनाच्या भीतीने मानवी जीवनात बदल झालेला दिसून येत आहे. त्याचबरोबर लोक कोरोनाची लागण होऊ नये

म्हणून लस घेत आहेत, कुटुंबाची काळजी घेत आहेत. कोरोना संसर्गामुळे लोक आपापल्या कुटुंबाकडे लक्ष देऊ लागले आहेत. त्यामुळे पालकांना आपल्या मुलांना वेळ देता आला आहे. तो रुग्णांमध्ये लोकांनी प्रवास करणे टाळल्यामुळे जल प्रदूषण हवा प्रदूषण कमी होताना दिसत आहे. लोकांनी रस्त्यावरचे खाद्यपदार्थ पदार्थ खाणे टाळल्यामुळे त्यांचे आरोग्य सुदृढ झाले आहे. कुटुंबामध्ये राहून लोक नवनवीन गोष्टी शिकू लागल्या आहेत. आरोग्यासाठी डॉक्टर आणि नवनवीन योजना राबवल्या आहेत. लोकांना लस देणे, त्यांची कोरोना तपासणी करणे, ऑक्सिजन तपासणी यासारखे उपक्रम राबवण्यात आले. कोरोनामुळे लोकांच्या आरोग्यावर खूप जास्त परिणाम झाला. त्याला प्रत्येक वृद्ध, विद्यार्थी, तरुण लोकांना सामोरे जावे लागले.

रोजगारावर परिणाम

देशात कोरोनाच्या संकटाने बेरोजगारी मध्ये मोठी भर टाकली आहे. देशात पहिल्यांदा ते चौदा कोटी तर दुसऱ्याला एक कोटी लोक बेरोजगार झाले आहेत. देशात बेरोजगारीचा दर 14.7 टक्क्यांपर्यंत वाढला आहे. ही एक गंभीर बाब आहे. अर्थतज्ञ रघुराम राजन यांच्या मते कोरोनाचा मोठा फटका असंघटित कामगार वर्गाला बसला आहे. लॉकडाऊन असंघटित मजुरांकडून उपजीविकेचे साधन राहिले नाही. त्यामुळे त्यांच्या पुढे अन्न-वस्त्र-निवारा याचा प्रश्न उभा राहिला आहे. बेरोजगार लोकांना करुणा मध्ये कोणत्या सुख सुविधा उपलब्ध नव्हत्या. याचा मोठा फटका या बेरोजगाराना बसला आहे.

निष्कर्ष

कोरोना महामारी मध्ये भारतीय समाजाच्या मानवी विकासाचा न्हास झाला.

1. कोरोनाच्या वाढत्या संसर्गामुळे लोक आरोग्याची काळजी घेताना दिसत आहेत.
2. विद्यार्थ्यांच्या शिक्षण पद्धतीत बदल झालेला दिसून येत आहे.
3. विद्यार्थ्यांनी अभ्यासाकडे दुर्लक्ष करून मोबाईलचा वापर वाढवला आहे.
4. लोकांनी प्रवास करणे त्याचबरोबर जास्त लोकांच्या संपर्कात जाणे टाळले आहे.
5. शेतकऱ्यांच्या पिकाचे नुकसान झाले आहे.

उपाययोजना

1. विद्यार्थ्यांचे शिक्षण कडक शिस्तीचे झाले पाहिजे.
2. शेतकऱ्या साठी नवीन उपाय योजना राबवल्या.
3. लोकांनी जास्त लोकांच्या संपर्कात जाणे टाळले पाहिजे.
4. बेरोजगार लोकांना रोजगार कसा मिळेल यावर विचार केला पाहिजे.
5. कोरोना संसर्गापासून जास्तीत जास्त लोक कसे बचावले जातील यावर विचार करणे.

संदर्भसूची

1. कोसंबी राजरत्नरू कोरोना भारतातील सामाजिक, आर्थिक परिस्थिती, द वायर मराठी न्यूज- 2020
2. मार्थ हेनरिकस रु. मानवता पर कोरोना का कहर प्रकृति को क्या फायदा बीबीसी हिंदी न्यूज 9 जून- 2020

कोरोना काळातील ग्रामीण भागातील शैक्षणिक जीवन

कु. प्रणिता बाळू खोत

भूगोल विभाग

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज

माळवाडी-कोतोली, ता. पन्हाळा

प्रस्तावना :-

शिक्षण हे एकमेव उन्नतीचे साधन आहे असे महामानव डॉ. बाबासाहेब आंबेडकर म्हणतात "पण कोरोना या जागतिक संकटामुळे शिक्षण क्षेत्रात मोठी अस्वस्थता निर्माण झाली आहे. विद्यार्थ्यांना अनेक अडचणींना सामोरे जावे लागत आहे. आज आपला भारत देश प्रगतीच्या अतिउच्च शिखराकडे वाटचाल करत असताना कोरोना विषाणू म्हणजे covid-19 सारख्या संकटाने जगभर थैमान घातले. या विषाणूने सर्वच क्षेत्रात मोठ्या अडचणी निर्माण केल्या आहेत. कोरोनाच्या संकटासमोर जागतिक बलशाली महासत्ता असलेले राष्ट्र देखील हतबल झालेली आपण पाहत आहोत. "शिक्षण हे साध्य नसून साधन आहे" ज्यातून नवचैतन्य, नवसंस्कृती, नवसमाज निर्माण करायचा आहे असे आपले माजी शिक्षण मंत्री विनोद तावडे यांनी म्हटले आहे.

याचा प्रादुर्भाव रोखण्यासाठी 22 मार्च 2020 पासून काही कालावधीसाठी संपूर्ण देशात लॉकडाऊन करण्यात आला. शाळा, महाविद्यालयांना सुट्टी देण्यात आली. दरम्यानच्या काळात विद्यार्थ्यांच्या शिक्षणात खूप अडचणी निर्माण होऊ लागल्या. त्यामुळे सर्व शैक्षणिक उपक्रम ऑनलाइनरित्या पार पाडण्यास सुरुवात झाली. महाविद्यालये, विद्यापीठे आणि शाळांमध्ये ऑनलाइन शिक्षणाला महत्त्व दिले जाऊ लागले. पुढे सर्व शैक्षणिक उपक्रम ऑनलाइन पद्धतीने होऊ लागले.

उद्दिष्टे :-

1. बदलत्या शैक्षणिक धोरणाचा आढावा घेणे.
2. कोरोना येण्यापूर्वीचे विद्यार्थ्यांचे शैक्षणिक जीवन आणि कोरोना आल्यानंतरचे विद्यार्थ्यांचे शैक्षणिक जीवन यातील पूरक समजावून घेणे.
3. ऑनलाइन शिक्षणाबाबतीतचा ग्रामीण भागातील विद्यार्थ्यांचा दृष्टिकोन समजावून घेणे.
4. ऑनलाइन शिक्षणामुळे ग्रामीण भागातील विद्यार्थ्यांना येणाऱ्या अडचणींना जाणून घेणे.
5. ऑफलाईन शिक्षण पद्धती आणि ऑनलाईन शिक्षण पद्धती यातील फरक, परिणाम, फायदे, तोटे यांचा अभ्यास करणे.
6. ऑनलाईन शिक्षण पद्धतीमुळे कोणकोणत्या तंत्रज्ञानाचा विकास झाला याचा आढावा घेणे.
7. ऑनलाईन शिक्षण पद्धतीचा वापर करताना शिक्षकांना आलेल्या अडचणींना मांडणे.
8. ग्रामीण भागातील अपुर्या सुविधांचा अभ्यास करणे.
9. ग्रामीण भागातील विद्यार्थ्यांच्या अडचणी जाणून घेणे=
10. ऑनलाईन शिक्षण पद्धतीमुळे भविष्यात होणाऱ्या बदलांचा आढावा घेणे.

गृहितके :-

1. ग्रामीण भागात वीज, ब्रॉडबँड नेटवर्क कनेक्टिविटी सुविधांचा अभाव.
2. इंटरनेट सुविधा व्यवस्थित नसेल तर पूर्ण सुरळीतपणे करता येत नाही.
3. ग्रामीण भागात ऑनलाइन शिक्षणासाठी पायाभूत सुविधांचा अभाव.
4. डिजिटल संस्कृतीचा अभाव.
5. ऑनलाईन शिक्षणाच्या प्रवेशास बळकट करण्यासाठी ठोस प्रयत्नांचा अभाव.

6. ई-लर्निंग तंत्रज्ञानाचा अभाव.
7. सर्वच शिक्षकांना आधुनिक तंत्रज्ञान वापरता येते असे नाही.
8. सर्वच विद्यार्थ्यांकडे स्मार्टफोन उपलब्ध होतो असे नाही.
9. सर्वच विद्यार्थ्यांना स्मार्टफोन हाताळण्यासंबंधी माहिती होती असे नाही.
10. नवीन स्मार्टफोन खरेदी करण्याची सर्वांची परिस्थिती होती असे आहे.

संशोधन साधने :-

या संशोधनामध्ये मिळवलेली माहिती ही विविध प्रकारची आहे. ही माहिती विविध पुस्तके, नियतकालिके, मासिके, न्यूज चॅनल, विविध पब्लिकेशन आणि विविध माध्यमिक स्रोतांद्वारे गोळा केली आहे. त्यामध्ये प्रामुख्याने लोकसत्ता वृत्तपत्र, मराठी न्यूज चॅनल जसे की, साम टीव्ही, एबीपी माझा, झी न्यूज, बी न्यूज इत्यादी पुन्हा विविध प्रसार माध्यमांतून मिळवली आहे.

विषय विस्तार :-

सर्वात प्रथम कोरोना रुग्ण वुहानमधील हुबेई येथे 17 नोव्हेंबर 2020 ला सापडला. त्यानंतर या रोगाचा फैलाव खूप मोठ्या प्रमाणावर झाला. संपूर्ण जगभरात या विषाणूने थैमान घातले. भारतातही याचा प्रादुर्भाव खूप मोठ्या प्रमाणावर दिसू लागला आणि हाच कोरोनाचा प्रादुर्भाव रोखण्यासाठी 22 मार्च 2020 पासून काही कालावधीसाठी संपूर्ण देशभरात लॉक डाऊन जाहीर करण्यात आला. शाळा, महाविद्यालयांना सुट्टी देण्यात आली. या दरम्यानच्या काळात कोरोनामुळे विद्यार्थ्यांच्या शिक्षणात अडचणी येऊ लागल्या आणि ह्या अडचणी दूर करण्यासाठी विद्यार्थी शिक्षणाच्या मूलभूत हक्कांपासून वंचित राहू नये म्हणून ऑनलाइन शिक्षणाचा मार्ग निवडण्यात आला. ऑनलाईन शिक्षणासाठी लागणारी सर्व साधने शहरातील सर्व श्रीमंत शिक्षित पालकांच्या मुलांकडे होती किंवा आहेत. परंतु ग्रामीण भागातील गरीब, कष्टकरी, अशिक्षित पालकांच्या मुलांकडे या सुविधा उपलब्ध नव्हत्या.

ग्रामीण भागात अजूनही थोड्याफार प्रमाणात विद्यार्थ्यांकडे ऑनलाइन शिक्षणासाठी लागणाऱ्या सुविधा उपलब्ध नाहीत. आणि यामुळेच मधल्या काळात शिक्षण क्षेत्रात मोठी अस्वस्थता निर्माण झाली. कोरोनापूर्वी काळातील शैक्षणिक वर्ष आणि आत्ताचे ऑनलाइन शिक्षण या दोन्हीमध्ये खूप मोठा फरक आहे. तो कोरोना पूर्व काळात प्रत्यक्ष शिक्षणातून विद्यार्थ्यांचा व्यक्तिमत्त्वाचा विकास होत होता. विविध परीक्षांमुळे विद्यार्थ्यांची बौद्धिक क्षमता समजून येत होती. महाविद्यालयांमध्ये घेण्यात येणाऱ्या क्रीडा स्पर्धांमुळे विद्यार्थ्यांचा शारीरिक व मानसिक विकास होत होता. त्यांच्यातील सुप्त कलागुणांना वाव मिळत होता. त्यांचा आत्मविश्वास वाढत होता. शिक्षणाची व वाचनाची ओढ निर्माण होत होती. शाळेत, महाविद्यालयांमध्ये मुले प्रॅक्टिकल साठी एकत्र यायची यामुळे विद्यार्थी व शिक्षकांमध्ये मैत्रीपूर्ण संबंध निर्माण व्हायचे.

"युनेस्को" च्या अहवालानुसार एप्रिल 2020 मध्ये 188 देशात 154 कोटी विद्यार्थी घरी बसले होते. भारतात 15 लाख शाळा बंद होत्या. त्यामुळे 26 कोटी विद्यार्थी आणि 89 लाख शिक्षक घरी बसले होते. तर उच्च शिक्षणात 50 हजार शिक्षण संस्था बंद होत्या. व 3.5 कोटी विद्यार्थी आणि पंधरा लाख महाविद्यालयीन शिक्षक घरी बसले होते. आणि या सगळ्याचा विचार करून संपूर्ण जगभरात ऑनलाइन पद्धतीचा वापर मोठ्या प्रमाणावर चालू झाला.

ऑनलाईन शिक्षणाचा प्रसार होत असताना ग्रामीण भागातील विद्यार्थ्यांना खूप अडचणींना सामोरे जावे लागले. ग्रामीण भागात वीज ब्रॉडबँड नेटवर्क कनेक्टिविटी सुविधा या सर्व गोष्टी एकमेकांशी संबंधित आहेत. आकडेवारीनुसार असे दिसून येते की, भारतातील सुमारे 22 % ग्रामीण कुटुंबांमध्ये अद्यापही वीज नाही. उत्तर प्रदेश आणि बिहार या दोन मोठ्या राज्यात जवळपास निम्मी ग्रामीण जनता विविध सुविधांपासून वंचित आहे. विजेशिवाय ब्रॉडबँड नेटवर्क सुविधानाही अर्थ नाही. या संस्थेने केलेल्या सर्वेक्षणात दिसून आले आहे. ग्रामीण भागात संगणकाची

उपलब्धता कमी प्रमाणात असल्याने इंटरनेट वापरणाऱ्या मोबाईल फोन वापरण्याचे प्रमाण ग्रामीण भागात अधिक असल्याचेही या सर्वेक्षणातून दिसून आले आहे.

इंटरनेट कनेक्शन व्यवस्थित नसेल तर पूर्ण सुरळीतपणे करता येत नाही. इंटरनेट परत परत जोडावे लागते. त्यातही आपला आवाज पोहोचतो का नाही? आपण त्यांना दिसत आहोत का? आपण पुरवत असलेले साधन त्यांना उपलब्ध होते का? त्यांच्या काही समस्या आहेत का? त्या समस्यांचे समाधान कारक उत्तर आपण योग्य वेळत देऊ शकतो का? विद्यार्थी पूर्णवेळ लक्ष देऊन अध्ययन करतो का? महत्त्वाचे मुद्दे समजावत असताना तो समोर आहे का? यांसारख्या तांत्रिक गोष्टींमुळे प्रत्यक्ष अध्यापनातील निघून जाते आणि अध्यापन कंटाळवाणे होते.

आज-काल स्मार्टफोन ऑनलाईन शिक्षणाचे प्रमुख माध्यम म्हणून उदयास आले आहेत. पण हे खरे आहे की भारतातील एकूण मोबाईल फोन वापरणाऱ्यांपैकी फक्त 33% स्मार्टफोन वापरतात. त्यापैकी ग्रामीण भागात स्मार्टफोनची संख्या खूप कमी आहे. आणि यामुळे सर्वात मोठे आव्हान म्हणजे ग्रामीण भागात ऑनलाईन शिक्षणासाठी पायाभूत सुविधांचा अभाव आहे.

ग्रामीण भागात ऑनलाईन शिक्षणासाठी आणखी एक मोठे आव्हान म्हणजे डिजिटल संस्कृतीचा अभाव. स्थानिक भाषा ही ग्रामीण भागातील शिक्षणाचे औपचारिक माध्यम आहे. या पोटभाषा आणि भाषा शिक्षणातील संप्रेषण आणि अध्यापन पद्धतीचा एक महत्त्वाचा भाग आहे. परंतु मोबाईल फोन आणि इंटरनेटचे अन्य माध्यम हे बहुतेक इंग्रजी भाषेसाठी अनुकूल आहेत जे खेड्यांमधील डिजिटल वर्तनाला प्रेरणा देत नाही. जर खेड्यांमध्ये ऑनलाईन शिक्षण यशस्वी करायचे असेल तर स्थानिक भाषांमध्ये डिजिटल माध्यमांच्या वापराने प्रोत्साहन द्यावे लागेल. अशा प्रकारे ग्रामीण भागातील डिजिटल माध्यमांकडे जाणारा संकोचही मोडला जाईल. भारताची ग्रामीण लोकसंख्या अशिक्षित आहे. डिजिटल प्रॅक्टिस मध्ये वापरल्या जाणाऱ्या भाषेचे वाचन, लेखन, समजणे आणि संप्रेषणाचे दुर्लक्ष आणि नवीन तंत्रज्ञानाचे अज्ञान हे ऑनलाईनच्या मार्गात अडथळा आहे.

खेड्यांमधील ऑनलाईन शिक्षणाच्या प्रवेशास बळकट करण्यासाठी ठोस प्रयत्न केले पाहिजेत. प्रथम ग्रामीण भागातील शिक्षणापर्यंत पोहोचण्यासाठी आणि नंतर ऑनलाईन संपर्क ऑनलाईन व्हिडिओद्वारे शिक्षकांशी परस्पर संवाद साधून अभ्यास सामग्री विद्यार्थ्यांपर्यंत पोहोचवली जाऊ शकते. ऑनलाईन शिक्षणाच्या चर्चा, व्हर्च्युअल क्लासरूम आणि संभाषणासाठी विस्तारित क्लासरूम समुदाय तयार केला जाऊ शकतो. दुसरा पर्याय असा आहे ज्यामध्ये वर्ग अभ्यासक्रम वास्तविक वेळेत रेकॉर्ड केला जाऊ शकतो आणि जे या वर्गात येत नाहीत अशा विद्यार्थ्यांना शिकवायचे यामुळे शिक्षणापर्यंत विस्तारित प्रवेश निर्माण होतो.

ऑडिओ कॉन्फरन्सिंग आणि व्हिडिओ कॉन्फरन्सिंग ग्रामीण भागातील शिक्षण प्रणालीचा एक मुख्य भाग असावा. शाळांचे शिक्षक सुसज्ज नाहीत. शिक्षकांना विद्यार्थ्यांना नोट्स देण्यासाठी लॅपटॉप व प्रिंटर देण्यात यावेत. खरं तर ग्रामीण भागातील शिक्षक प्रशिक्षण कार्यक्रम आयोजित करणे, सुनिश्चित करणे आणि ही सरकारची जबाबदारी आहे आणि अशा कामांमध्ये स्वयंसेवी संस्थांची मदत घ्यावी. ग्रामीण भारताचे डिजिटायझेशन सुनिश्चित करण्यासाठी चा प्रवास खूप लांब आहे. कारण त्यासाठी व्यापक काम महत्त्वाचे आहे. एकंदरीत ग्रामीण भारतासाठी ऑनलाईन शिक्षणाची आव्हाने या मायक्रो पार्श्वभूमीवर समजू शकतात हे सहजपणे समजून घेतले जाऊ शकते. की सध्याची संकटे ही आव्हाने सोडविण्यासाठी तयार करण्याची सुवर्णसंधी आहे.

ऑनलाईन शिक्षणाद्वारे वरील सर्वच बाबतीत बंधने येतात. सर्वच शिक्षकांना आधुनिक तंत्रज्ञान वापरता येते असे नाही. ज्यांना तंत्रज्ञानाची आवड आहे अशांच्या बाबतीत ऑनलाईन शिक्षण ही न पेलणारे आव्हान आहे. यामुळे शिक्षकाला चांगले आणि त्यावर प्रभुत्व मिळवता येणे गरजेचे ठरत आहे. दुसरीकडे विद्यार्थ्यांचे वय, त्यांची आवड, त्यांचे पूर्वज्ञान, त्यांची अध्ययन करण्याची तयारी, त्यांच्या क्षमता, त्यांचा बौद्धिक विकास या गोष्टी अतिशय महत्त्वाच्या ठरतात. ऑनलाईन अध्ययनात या सर्व बाबींकडे लक्ष पुरवून त्याला अनुसरून अध्ययन अनुभूती देणे हे खरोखर आव्हान आहे.

भारताचा ऑनलाईन शिक्षण हे आज जरी प्राथमिक अवस्थेत असले तरी त्या मानाने परदेशात ऑनलाईन शिक्षण घेण्याकडे जास्त कल आहे. ऑनलाईन शिक्षणाचे प्रमाण भारतात जरी कमी असले तरी अधिकाधिक शैक्षणिक संस्थांनी प्रवेश प्रक्रिया आणि निकाल जाहीर करण्याची प्रक्रिया ऑनलाईन करण्याची पद्धत आत्मसात केली असली तरी ऑनलाईन शिकवण्याची पद्धत खूप कमी आहे.

निष्कर्ष :-

1. ग्रामीण भागातील लोकांच्या जीवनावर ऑनलाईन शिक्षण पद्धतीचा थोड्या प्रमाणात सकारात्मक प्रभाव पडला, कारण लोकांना तंत्रज्ञानाची माहिती, ज्ञान मिळाले.
2. ऑनलाईन शिक्षण पद्धतीमुळे विद्यार्थ्यांच्या शैक्षणिक जीवनात झालेला बदल दिसून येतो.
3. कोरोना काळात लॉकडाऊनमुळे सर्वत्र ऑनलाईन कोर्सेसची निर्मिती झाली. त्यामुळे विद्यार्थ्यांना भरपूर माहितीचे ज्ञान झाले.
4. ऑनलाईन शिक्षण पद्धतीमुळे शासनाचे धोरण होते विद्यार्थ्यांचे दफ्तराचे ओझे कमी करायचे ते साकार होण्याच्या मार्गावर होते.
5. ऑनलाईन शिक्षण पद्धतीमुळे विद्यार्थ्यांना घरबसल्या 24 तास शिक्षण मिळू लागले.
6. नकारात्मक गोष्ट म्हणजे किंवा परिणाम असा झाला की, ग्रामीण भागातील लोकांच्या आर्थिकतेवर भार पडला कारण नसताना त्यांना काही गोष्टी विकत घ्याव्या लागल्या.
7. ग्रामीण भागातील मुले जी कायम खेळात गुंतलेली असायची ती मोबाईल मध्ये गुरफटलेली दिसू लागली.
8. ऑनलाईन शिक्षण पद्धतीमुळे आधुनिकीकरण झालेले दिसून येते.

संदर्भसूची :-

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कला,वाणिज्य व विज्ञान महाविद्यालय आसुर्ले पोर्ले

प्रस्तावना:

विसाव्या शतकातील अर्थिक महामंदी आणि दुस-या महायुद्धानंतर प्रथमच आज जगातील मानवाला एक मोठ्या संकटांचा सामना करावा लागत आहे. गेल्या दिड-वर्षांपासून संपूर्ण जगभरातील लोकांच्या मनात घर करून राहिलेला आणि पुन्हा डोकवणारा प्रश्न म्हणजे श्कोरोना कधी जाईल? कोरोना महामारीमुळे ज्यांना गंभीर आरोग्य आणि अर्थिक व्यवस्थेवर मोठा परिणाम झाला, कोविड १९ या विषाणूमुळे जागतिक स्वरूपात संकटमय ठरले आहे. जगातील प्रत्येक देशाला या विषाणूचा मोठा फटका बसलेला आहे. कोविड १९ मुळे या विषाणूचा पहिला रून चीनमधील वुहान प्रांतात सापडल्याचे चीनकडून जागतिक आरोग्य संघटनेला डिसेंबर २०१९मध्ये कळविण्यात आले होते. या विषाणूचा तीव्र प्रसार लक्षात घेता जागतिक आरोग्य संघटनेने जानेवारी २०२० मध्ये आंतरराष्ट्रीय स्तरावर आरोग्य विषय आणीबाणी जाहीर केली. या विषाणूचा प्रादुभाव रोखण्यासाठी अनेक देशांनी अशांत: व अत्यावश्यक सेवा वगळता संपूर्ण टोळबंदीस लावण्यात आली. व जमावबंदी करण्यात आली.

कोरोना नक्की काय? त्याचे शरीरावर होणारे परिणाम, व्हायरसचा नेमका धोका कसा होतो, हे संगळ कळेपर्यंत तो चीनमधून युरोप , अमेरीका इथे पसरला सुद्धा आणि सर्वांच्याच तोंडाला त्याने फेस आणला. जागतिक संकटात राष्ट्रीय आणि आंतरराष्ट्रीय पातळीवर योजदान फार महत्वाचं असतं. ज्या देशाच्या नेतृत्वाचा आवाका लक्षात घेऊन पटापट उपयोजना केल्या त्यामुळे त्याची परिस्थिती चिघळली नाही. व ज्या देशांनी पटापट उपयोजना केल्या नाही त्या या महामारीचा मोठा फटका बसला व मनुष्य हानी मोठ्या प्रमाणात झाली. व अर्थिक सामाजिक परिस्थिती हालाकीची झाली.

कोणत्याही संघर्षाच्या काळात सामाजिक स्त्री व पुरूष यांच्यावर परिणाम होतो. आरोग्यासंदर्भात बोलायचे तर जागतिक महामारी व रोगाच्या साथीच्या वेळी ही स्त्री-पुरूषावर बेगवेगळा परिणाम झालेला दिसून येतो. या महामारीला तोड देण्यास सज्ज होताना त्यामध्ये स्त्रियांचा ज्ञानाचा आणि अभिव्यक्तीचा समावेश केल्यास ही अधिक अधिक सामर्थ्यशाली बनू शकते. कोव्हिड १९च्या प्रसाराला मिळणा-या प्रतिक्रियेमध्ये सुरक्षित नागरीक आणि स्त्रियांच्यावर यांचा परिणाम होणार आहे.

उद्देश :

1. कोरोना काळात स्त्री जीवनाचा आढावा घेणे
2. कोरोना महामारीमुळे स्त्री जीवनावर झालेला परिणाम यांची माहिती घेणे
3. कोरोना महामारीत स्त्रीयांच्या महत्वाच्या भूमिका
4. कोरोना महामारीनंतर स्त्रियांच्या जीवनावर होणारा बदल यांचा आढावा.

अ) कोरोना काळातील स्त्री जीवन:

जगाच्या पातळीवर आजूनही स्त्रीयांचं नेतृत्व मर्यादित आहे. पण ज्या देशांत नेतृत्व आहे तिथे त्यांनी कोरोनाला यशस्वीरीत्या थांबवू शकल्या आहेत. कोरोना काळाच्या अगोदर ची स्त्री व कोरोनानंतर ची स्त्री यामध्ये फार जास्त फरक आहे. परून स्त्री या पुरूषापेक्षा जास्त संकटाना सामोर जाणा-या असतात. तर ते कसे घ सध्या तरी देशाचे एकूणच जीवन ' कोरोना ' ने व्यापून टाकले आहे. तथापि

बारकाईन विचार केला तर या एकुण दुदैवी आणि भयानक परिस्थिती चे विश्लेषण करणारी एकच बाजू समाजापुढे येत आहे असे दिसते.कोरोना काळात सर्वांना आपला स्वभाव राहीणीमान,जीवन बदलाव लागल आणि परिस्थिती नुसार बदल करावा लागला.

कारोना व्हायरस संसर्ग आणि जगात १८५ देशांमध्ये झालेला प्रसार 'हे एक भूतो न भविष्यति' अशा प्रकारच संकट होतं. या पुर्वी प्लेगच्या साथी येऊन गेल्या.त्याचाही प्रसार अनेक देशांमध्ये झाला होता. पण कोरोनाच्या प्रसाराचा वेग हा अनाकलनीय होता. जगात कोरोनाचा जास्त प्रभाव हा स्त्री यांना झाला

कोरोना काळाच्या अगोदर ची स्त्री व कोरोना नंतरची स्त्री यात मोठा बदल झाला. फक्त चुल आणि मुल संभाळ गा—या स्त्री आणि नोकरवर्ग स्त्री यांना या महामारीमुळे अर्थिक,सामाजिक कौटुबिक प्रसंगाना तोंड दयाव लागल.

- 1 नोकरवर्ग असण्या—या स्त्रीया यांना नोकरीपासून वंचित राहव लागल.
- 2 स्त्रीयाना मानसिक ताण सहन करावा लागला.
- 3 स्त्रीयाना कौटुबीक दैनदिन पदधत बदल व त्यांना बाहेर जाता येत नव्हते.
- 4 कोरोना काळात ज्या स्त्री याचा संसार स्वःतावर अवलंबुन राहवं लागत होत त्यांना उपासमारीची वेळ आली.
- 5 कोरोना काळातील स्त्री आपले मन रमविण्यासाठी आवडणा—या गोष्टी करू लागली उदा. चित्रकला काढणे ,संगीत ऐकणे स्वयंपाक करणे कोडी सोडविणे इत्यादी.
- 6 स्त्री या कोव्हिड संबधी असणारी दक्षता व जबाबदारी घेऊ लागली.

कोरोना काळातील स्त्रीयांचे जीवन अतिशय हालाकीचे होते सतत बाहेर कामासाठी जाणा—या स्त्री घरात बसावं लागल. व स्त्री याना मानसिक व जीवनात बदल होत गेले दृ जी स्त्री स्वतंत्र जीवन जगत होती तीला बदीस्त जीवन जगाव लागत होतं स्त्रीयाना घरी राहून आपले जीवन जगाव लागत होतं स्त्री यांना मानसिक ताण वाढत गेल्या व त्यांनी घरात बसुन आनंदी व उत्साही राहण्याचा प्रयत्न करू लागले. स्त्रीया या कोरोना काळात स्त्रीया बाहेर गावी न घरात बसुन त्या स्वःताची व कौटुबाची काळजी घेऊ लागली.

कोरोना काळातील स्त्री या परिस्थितीला न घाबरून आपला दिवस कसा आनंदी जाईल यासाठी प्रयत्न करू लागली. आपल्या आवडत्या गोष्टी करू लागली. त्या करीता पुरेसा वेळ देऊ लागली.व आपल्या घरच्या कामचेही नियोजन करू लागली. व कोरोना काळात स्त्री मेडीअशन व योगा याचा वापर करून मानसिक आरोग्य राखू लागली.व ती आपली चिंता नैराश्या वर मात करू लागली

ब) कोरोना काळातील स्त्रीयाच्यावर झालेला परिणाम:

कोरोना काळात स्त्रीयाना त्रास सहन करावा लागला त्यांना सामाजिक ,अर्थिक,वैयक्तीक समस्याना तोंड दयावे लागले.

१: नोकरवर्ग स्त्रीया : या जागतिक महामारीमुळे नोकवर्ग असणा—या स्त्रीयांना आपली नोकरी गमवावी लागली.व त्यांना अर्थिक समस्येना तोंड दयाव लागले. ज्या स्त्रीयाचं पोट स्वःता काम केल्यावर पोट भरत ल्यांची उपासमारीची वेळ आली व त्यांना अन्य मार्ग अवलंबला जाऊ लागला.घरात काम करणा—या स्त्री या स्वयंरोजगार करतात.म्हणजेच त्यांना इतर कंपन्या जशा आपल्या कर्मचा—यांना महामारीमुळे इतर फायदे देऊ शकतात तसे फायदे घेणे शक्य झाले नाही. उदनिवाहीचा प्रश्न निर्माण होऊ लागला.

२: जीवनशैलीचाही परिणाम: स्त्रिया व पुरुष यांना कोव्हिड —१९ चा धोका कमी—अधिक प्रमाणात असल्यांच एक कारण म्हणजे जीवनशैली असल्याच म्हटल जात दृउदाहणार्थ : महिलांमध्ये पुरुषांपेक्षा धूमपानांच प्रमाण खूप कमी असतं “ त्यामुळे व्यसनाधीनतेमुळे कॅन्सर ,श्वसन संस्थंचे आजार किंवा

हृदयरोग यांचा धोका वाढतो. ती शक्यता महिलांच्या बाबतीत नसते तेच कारण कोरोना व्हायरस लागू पडत. . कोरोना महामारीमुळे स्त्री यानां बदीस्त जीवन जगाव लागत आहे.

३: कोरोना काळात मातृत्वाचे ओझे :

कोरोना काळात आणि लॉकडाऊचा महिलाना मोठा फटका बसला. लॉकडाऊन च्या पहील्या तीन महिन्यात लाखो महिलांचे गर्भपात होऊ न शकल्याने त्यांच्यावर अनैच्छिक मातृत्व लादले गेल्याचेही समोर आले आहे. 'आयपास डेव्हलपमेंट फाऊंडेशन ने केलेल्या सर्वेक्षणात देशात सुमारे १० लाख ८५ हजार महिलांना अनैच्छिक मातृत्व स्वीकाराव लागलं आणि ८० टक्के महिलांना औषध दुकानात गर्भपाताच्या गोळ्या उपलब्ध होऊ शकल्या नाहीत.

कोरोनाची तीव्रता सर्वांनी अनुभवली दृ आताही हा विषाणू आपली रूपे बदलून भींती घालतोच आहे. कोरोना काळात अनेक जणीनी असुरक्षित गर्भपाताचा मार्ग निवडला ते धोक्याचे ठरले या सर्व जणी आजही या चुकीच्या निर्णयाची किंमत मोंजत आहे.डॉक्टरांच्या सल्याशिवाय गर्भपात करणे जीवावर बेतणारे असतेच अशा गर्भपातानंतर या महिलाचे आगामी काळातील शाररीक मानसिक आरोग्य ही धोक्याचे होते.

- गरोदर महिलांच्या आरोग्यावर परिणाम: गर्भवती महिलांनाही कोरोनाची लागण होऊ शकते. गेल्या वर्षी आलेल्या पहील्या लाटेत तसे फारसे दिसून आले नव्हते. पण दुस-या लाटेत अनेक गर्भवती स्त्री याना लागण झालेली पहावयास मिळते. कोरोना मुळे बाहेर जात येत नव्हते लॉकडावून मुळे मानसिक संतुलन बघडत गेले. या महामारीमध्ये गरोदर महिलाना आरोग्याची काळजी घ्यावी लागली कारण वातावरण ही बदलत गेल्या.
- रोजगारावर परिणाम: लॉकडावून झाल्यामुळे सर्व कामे बंद पडली. उदयागंधे बेद पडले दुकांने बंद पडले याचाच परिणाम लोकांच्या रोजगारावर परिणाम झाला. या महामारीमुळे सर्वांना बाहेर पडता येत नव्हते व त्यामूळ अस्थिक कोडीं निर्माण झाली त्या मूळे रोजगार बंद झाले व उपासमारीची वेळ आली. त्यामुळे महिला व पुरूष याचे खच्ची करण झाले या व याचा फटका मोठया प्रमाणात स्त्रीयाच्या माणसिकतेवर होत आहे.देशातील तब्बल वीस कोटी लोकांना आपला रोजगार गमवावा लागला.
- घटस्फोट :जागतिक महामारीमूळे नवरा बायको अर्थिक सामाजिक व वैक्तिक कारणामुळे घटस्फोटाचे प्रमाण मोठया प्रमाणात वाढले आहे. या कोरोनामूळे तटटे ध्मतत भांडणे होत गेलेत व मानसिक संतुलन विघडत चालले आहे दृ त्यामळे सतत भांडामुळे घडस्फोटाचे प्रमाण वाढत गेले अदाजे या कोरोना काळात अंदाजे प्रमाण वाढवली.
- कोरोनाने महिलाची झोप घटली : कोरोना महामारी कधी संपेल हे सध्यस्थिती कोणच सागू शकत नाही दृचितेची बाब म्हणजे सातत्याने कोरोनाचे नवे स्ट्रेन तयार होत आहेत.या भिषण महामारीमुळे महिलांच्या जीवनावर मोठा नकारात्मक प्रभाव टाकला असून प्रीस्कूल मुलांच्या मातांमध्ये तणावाचे प्रमाण वाढु लागलेआहे.बरोबरच त्यांना झोप न येण्याची समस्या सतावत आहे. 'वुमन हेल्थ'नामक पत्रिकेत प्रसिद्ध असून करण्यात आलेल्या एका संशोधनात वरील बाब ही स्पष्ट करण्यात आली आहे. यामध्ये मुलाची देखरेख आणि त्याचे आरोग्य यामध्ये योग्य संतुलन राखण्याचा सल्ला देण्यात आला आहे. पेनिंगटन बायोमेडिकलला रिसर्च सेंटर च्या संशोधन चेलशी कॅश यानी सांगितले की, तसे पाहीले असता लहान मुलाची आई ही कमीच झोप घेत आरोग्य बिधडण्याची शक्यताही असते.यातच कोरोना आणि लॉकडावून यामुळे तणावाचे प्रमाण आणि घरगूती अवस्थेने स्थिती आणखी बिकट बनली आहे.त्यामूळे झोपचे प्रमाण कमी होऊ लागले आहे.
- गव्हरमेत सुविधा : या जागतिक महामारीमुळे सर्वांनाच समारे जावे लागले व या काळात स्त्री याना मिळाणा'—या सुविधा किंवा अनुदान यापासुन या काळात स्त्रीयानां सुदधा वंचित राहवे लागले व त्यांना त्याचा फायदा घेता आला. नाही उदा: विधवा स्त्री,

क) कोरोना महामारीत स्त्री यांच्या महत्वाच्या भूमिका

- स्त्री –परिचारीका : कोरोना सारखे महाकाय संकट संपुर्ण विश्वात घोंघावत असताना आपली जीवाची बाजी लावून रूग्णांवर उपचार करीत आहेत.या सर्व प्रक्रीयेत रूग्णाची संपुर्ण सेवा करण्याचे महत्वाचे काम परिचारीका करत आहेत.रूग्ण हा डॉक्टरापेक्षा जास्त वेळ परिचारीकेच्या देखरेखीखाली असतो. रूग्ण सर्वात प्रथम मायेची फुकर घालून त्याची अहोरात्र सेवा करत आहे. स्वतःच्या आयुष्यातला काळोख विसरून रूग्णाच्या जीवनात आनंदाचा दीप प्रज्वलित करण्यासाठी त्याची धडपड सुरू असते.

संसर्ग जन्य रोगाचा प्रसार रोखण्यासाठी दुर्गम डोंगराळ भागात आरोग्य सुविधा पोहचविण्यास ,नैसर्गिक आपत्तीमध्ये मदतकार्य पुरविण्यास आणि कोरोनासारख्या महाभयंकर संसर्गजन्य विषाणुशी लढण्यासाठी परिचारीका सदैव तत्पर आहे.

- स्त्री कोरोना योद्धे : कोरोना काळात अंगणवाडी सेविका ,डॉक्टर व वाहनचालक यानी कोरोना पेशन्टना नेण्यासाठी व त्यांना सुविधा उपलब्ध करून दिल्या व स्त्री योद्धानी जीवाची परवा न करता त्यांनी पेशन्टना दवाखान्यात देण्यात आले. यांनी महत्वाच्या भूमिका बजावल्या आहेत.
- स्त्री संशोधक : या महामारीमुळे या संसर्गजन्य रोगावर संशोधन करण्यात स्त्री संशोधक यांचा ही मोठा भाग घेतला आहे. यावर उपचार व शोधून काढण्यात त्यांचा ही मोठा सहभाग आहे. व त्यांनी या महामारीत मोठी भूमिका बजावली आहे. व आपल्या जीवाची परवा न करता त्यांनी या रोगावर संशोधन केले.
- न्युज रिपोटर : या जागतिक महामारीमुळे कोव्हीड १९ च्या बातम्या येते होत्या खर तर न्युज रिपोटर यानी त्या स्त्री असो वा पुरुष यानी तर महत्वाच्या भूमिका बजावल्या.त्यानी सामाजीतील अफवा ना वाचू फोडली व त्यांनी सत्य बाहेर काढले व समाजापूढे असणा—या समस्या व माहिती यांना न्याय देण्याचे काम केले या काळात त्यानी समाजाला नवी दिशा देण्याचा प्रयत्न केला व त्यातुन समाज कार्य होत गेले.व कोविड बददल असणारा संभ्रम दुर केला.

ड: कोरोना महामारीनंतर स्त्री यांच्या जीवनावर होणारा बदल :

या जागतिक महामारीमुळे स्त्री जीवन विस्कळीत झाले होते व त्यामुळे स्त्रीयाना कोरोना काळात जो त्रास सहन करावा लागला तो कोरोना महामारीनंतर सहन करावा लागणार नाही. व त्यामुळे स्त्री यांच्या बदल घडत जातील व त्यामुळे स्त्री या कोरोना काळात आरोग्याचा प्रश्न व अस्थिक प्रश्न याना सामोर जाऊन परिस्थिती बदलावी लागले व या कोरोनाच्या काळात स्त्रीया नी महत्वाची भूमिका बजावली व मात्र या महामारीनंतर या स्त्री ला पुन्हा नव्याने सुरुवात करावी लागेल. थोडा वेळ लागेल पण पूर्व परिस्थिती घडुन येईल

१ नोकरी करणा—या स्त्रीया —

नोकरी करणा—या स्त्रीयाना कामापासून आलिप्त राहावे लागत होते वृपरतु या माहामारीमुळे नोकरी करणा—या स्त्री या याना पगार हा पुर्ण मिळू लागेल व त्या स्वताचा खर्च भागवू शकतील.

सरकारी कर्मचारी स्त्रीया याना निम्मा पगार मिळत होता तो आता त्याना कोरोना माहामारीनंतर त्याना पुर्ण पगार मिळेल.

या जागतिक महामारीमुळे गेली दोन वर्षे जी स्त्री घरात बसुन होती ती घराबाहेर पडेल व स्वतंत्र असे जीवन जगण्यास सुरू करेल

या महामारीनंतर कसे काळजी घ्यावी व जबाबदा—या कोणत्या यांचे भान ठेवे.

जीवन पुर्वीसारखे कधी होईल

कोव्हिडची साथ सुरू झालल्यापासुन प्रत्येकांच्या मनात हा प्रश्न साचुन राहिला आहे.गेल्या दोन वर्षे झाले याचे उत्तर सापडले नाही वृपण आपल्याला आठवत असेल ,तर कोव्हिडच्या साथीची सुरुवात

झाल्यापासून अनेक देशातील शास्त्रज्ञ सांगत होते की, आपले आयुष्य आणि हे जग संपुर्ण जग दोनच भागात विभागले जाईल एक म्हणजे कोव्हिडपुर्वीचे आणि कोव्हिडनंतरचे जग. आपण आपल्या कोव्हिडपुर्वीच्या जगात आहे तसे जाऊच शकत नाही. गेल्या दोन वर्षात आपल्या आयुष्यात आणि संपुर्ण जगाच्या दैनंदिन व्यवहारात अनेक बदल झाले आहेत.यातील अनेक बदल कोव्हिड निघून गेला तरी आहे तसेच पुढे राहतील आणि आपणही त्या बदलांना जुळवून घेतलेले असेल. पण सध्या भारतामधील तिसरी लाट ची तीव्रता आणि होणारे मुत्यू यांचा विचार केला ,तर माचे महिन्याच्या सुरुवातीपासून आपण नॉर्मल दैनंदिन व्यवहाराकडे वळू शकू. साधारणपणे जिथे जिथे ओमायक्रॉनची मोठी लाट आली त्याच वेगाने ओसरली आहे. भारतामध्येसुद्धा अशाच प्रकारची परिस्थिती राहिल. आपली लोकसंख्या जरी मोठी असली तरी दुस-या लाटेच्या दुष्पट ते तिप्पट रूग्ण संख्या दिसून येईल मात्र फारच कमी राहतील ही परिस्थिती आपल्यासाठी आपले जीवन पूर्वपदावर येण्यासाठी आशादायी असेल. जीवन पूर्वसारखे होणार नसले तरी झालेले काही बदल भविष्यासाठी गेजेच असतील.उदा: पूर्वी लोक आपल्या वैयक्तिक आरोग्याकडे लक्ष देत नव्हते .घरातील किंवा सार्वजनिक ठिकाणच्या स्वच्छतेकडे दुर्लक्ष करत होते. कोव्हिडनंतरच्या जगात आपल्याला बदलेले दिसून येईल किंवा हा बदल दिसून येत आहे. लोक मास्कचा वापर स्वतःहून करतील ज्यामुळे प्रदुषण धुळ आणि वातावरणीय बदलामुळे होणारे विषाणूजन्य आजार यांच्यापासून आपले संरक्षण होईल.

निष्कर्ष:

कोव्हिड १९ चा परिणाम जगातील सर्वच देशाने भोगला आहे. याचा प्रत्येक अर्थव्यवस्थेवर वाईट परिणाम झालेला आहे. कोव्हिड १९ मुळे भारतामध्ये अनेक सामाजिक ,अर्थिक प्रश्न निर्माण झालेला आहे. कोरोना या विषाणुमुळे जागतिक युद्धापेक्षाही गंभारी परिस्थिती निर्माण झाली आहे. या महामारीमुळे संपुर्ण जग भयभीत झाले आहे. सर्व शक्तीमान व विकसीत समजल्या जाणा-या अमेरिका आणि युरोपियन देशांनी या महामारीपुढे जेवढे नुकसान झाले नाही त्यापेक्षाही अधिक नुकसान या महामारीमुळे झाले . यातुन जागतिक महामारीचे संकट येऊ शकते. जर जागतिक मंदी आली तर तिची सर्वाधिक झळ भारतासारख्या विकसनशील देशाला बसू शकते.

कोरोना चे समाजीवनावर अनेक अनूकूल असे परिणाम झाले दृस्त्रीयांच्या जीवनात अनेक बदल होत गेले. व समाजिक अर्थिक परिस्थिती बदल झाले. स्त्रीयांना वैयक्तिक घटकांना तोड दयावे लागले. या महामारीमुळे स्त्री जीवन कसे बदलेले गेले? स्त्रीयांना कौटुबिक व सामाजिक विविध भूमिकेतून वावरावे लागले. मुलगी,पत्नी आई अशा विविध भूमिका तिला पार पाडाव्या लागतात. भारतीय समाजात कुंटूब व समाजीवन या दोन्ही क्षेत्रात स्त्रीला अनन्यसाधारण महत्व आहेत. आदर्श कुटुबांत स्त्रिची महत्वपूर्ण भुमिका आहे.

संदर्भ:

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कोरोना सामाजिक आरोग्य आणि शिक्षण

दिग्विजय नामदेव उदाळे.

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज

माळवाडी-कोतोली, ता. पन्हाळा

इतिहास विभाग

प्रस्तावना :

कोरोनाच्या सध्याच्या अवताराने जगात धुमाकूळ घातलाय त्याच्या वर्तमान व भविष्याविषयी अनेक तर्कवितर्क सुरु आहेत. या विषाणूने मानवी जीवनावर, जागतिक घडामोडींवर, एवढेच नव्हे; तर प्राणी, वनस्पती, नद्या, आकाश या सर्वांवर आपला प्रभाव पडला आहे. यामुळे सामाजिक आरोग्य क्षेत्रात काय बदल होतील याविषयी विचार करणे फार महत्वाचे आहे. जागतिक आणि राष्ट्रीय आव्हान 'कोरोनामुळे' जगातील सर्वच क्षेत्रात अल्प व दीर्घकालीन असे बदल घडणार आहेत. संसर्ग झालेल्या सर्वच लोकांना काही कोरोना होत नाही. यातले काहीच लोक अतिगंभीर होतात आणि त्यांना आय.सी.यू ची गरज लागते. आय.सी.यू करूनही लोकांचे मोठ्या संख्येने मृत्यू होतात. त्यामुळे अनेक रुग्णालयांमध्ये नवनवीन योजना राबवल्या जात आहेत. भारतामध्ये मृत्यूच्या कारणांची नोंद ठेवण्याचे काम खूप प्रभावीपणे चालू आहे. कोरोना संसर्गामध्ये उपचार करणारे आरोग्य कर्मचारी हे सगळेच मोठ्या मानसिक तणावातून जात आहेत हे सर्व जगामध्ये सगळीकडेच घडत आहे. कोणाच्या आरोग्याला या कोरोना संसर्गाचा जास्त फटका बसला याची नोंद आपण घेतली पाहिजे. हा संसर्ग प्रत्येक व्यक्तीला झाला मग ती व्यक्ती किती पण मोठी असेना कोरोनामुळे अनेक मोठ-मोठे लोक मरण पावले. त्यांचे आरोग्य धोक्यात आले.

कोरोनामुळे शिक्षण क्षेत्रात अभूतपूर्व आणि असामान्य अशी परिस्थिती निर्माण झाली आहे. कोरोना महामारीने शैक्षणिक प्रक्रियेवरही अभूतपूर्व परीणाम केला आपण पाहू शकतो. विषाणूच्या भितीने शाळा-कॉलेज बंद करण्यात आले. त्यामुळे विद्यार्थ्यांना घरीच बसून ऑनलाइन शिक्षण घेणे अनिवार्य झाले आहे. ऑनलाइन शिक्षण विद्यार्थ्यांना कितपत पचनी पडतंय हा वेगळा प्रश्न, पण अशा प्रकारची शिक्षणाशी जुळवून घेण्याचे प्रयत्न विद्यार्थी आणि शिक्षक करत असल्याच दिसून येत आहे. कोरोना महामारीने शिक्षण प्रक्रियेला वेगळे वळण मिळाले अस आपण म्हणू शकतो. शैक्षणिक संस्थांना आपल्या रचनेमध्ये अनेक बदल करावे लागणार आहेत शाळा-कॉलेजमध्ये प्रत्यक्ष विद्यार्थ्यांसमोर शिकवणे आणि ऑनलाइन शिकवणे यामध्ये खूप फरक जाणवून येत आहे.

संशोधनाची उद्दिष्ट्ये :

1. आरोग्य आणि शिक्षण ही संकल्पना अभ्यासणे.
2. कोरोना आधीचे सामाजिक आरोग्य
3. कोरोना नंतरचे सामाजिक आरोग्य
4. कोरोनामुळे बदललेली शिक्षणपद्धती
5. कोरोनाचा शिक्षणावर परिणाम

संशोधनाची गृहीतके :

1. कोरोना संसर्गामुळे वर्तमानातील आरोग्य आणि भुतकाळातील आरोग्य यामध्ये बरासाच फरक आढळून येत आहे.
2. कोरोनामध्ये वृद्ध, तरुण लोकांच्या आरोग्याला धोका निर्माण झाल्याचे आढळते.
3. शिक्षणपद्धतीमध्ये खूप सारे बदल आढळून येत आहे.
4. विद्यार्थी जीवनावर, मनावर परिणाम झाल्याचे दिसते.

संशोधन पद्धती :

प्रस्तुत शोधनिबंधासाठी द्वितीय साधन सामग्रीचा वापर करण्यात आला आहे. त्यामध्ये संदर्भग्रंथ, कोश, शोधप्रबंध, मासिके, साप्ताहिके, दैनिक वेबसाईट्स इ. चा वापर करण्यात आला आहे.

शिक्षण:

शिक्षण ही अध्ययन सुकर करणे, किंवा जान, कौशल्य, मुल्ये विश्वास व सवयीच्या प्राप्तीची प्रक्रिया आहे. अध्यापन, कथा सांगणे व संचलीत यांचा शैक्षणिक पद्धतीत समोवश होतो. शिक्षण हे वारंवार शिक्षकांच्या मार्गदर्शनाखाली होत असते, तथापि विद्यार्थी स्वतःला सुद्धा शिकवू शकतात. शिक्षण हे औपचारिक किंवा अनौपचारिक वातावरणात होऊ शकते व प्रत्येक अनुभव ज्याच्या व्यक्तीच्या विचार करणे, अनुभवणे किंवा कृतींवर प्रगत परिणाम असतो त्यास शैक्षणिक गृहीत धरता येते. अध्यापनाच्या पद्धतीला अध्यापनशास्त्र म्हणतात. औपचारिक शिक्षण हे औपचारिकपणे पूर्व प्राथमिक विद्यालय किंवा बालवाडी, प्राथमिक विद्यालय किंवा प्रशिक्षण या टप्प्यांमध्ये विभागले आहे. काही शासन व संयुक्त राष्ट्राद्वारे शिक्षणाचा अधिकार मान्य केला आहे. बहुतांश भागात विशिष्ट वयापर्यंत शिक्षण अनिवार्य आहे. शैक्षणिक सुधारणेसाठी व विशेषतः प्रमाण अधारीत शिक्षणासाठी एक चळवळ आहे. शिक्षणामध्ये परिक्षा घेणे विद्यार्थ्यांना त्यांच्या कौशल्याचे पत्र प्रदान करण्याची व्यवस्था असते.

आरोग्य :

आरोग्य म्हणजे निरोगी शरीर आणि मन यांचा संगम. यासाठी आवश्यक आहे ते शुद्ध हवा, निर्मळ पाणी आणि मुबलक, कसदार अन्न. आपल्या सभोवताली सळसळणारी पाने, खळाळत वाहणारे पाणी, किलबिलणारे पक्षी आणि फुलांवर बागडणारी फुलपाखरे असली की मन अधिक प्रसन्न राहते. याआधी लोकांचे आरोग्य सद्दह होते. आरोग्य किंवा तब्येत हा शब्द असा आहे की त्याचा अर्थ काय हे आपल्याला सगळ्यांनाच माहित असते पण ते नक्की शब्दात सांगता येत नाही. आरोग्य म्हणजे जेव्हा शरीर आणि मन व्यवस्थीत असते. म्हणजेच कोणताही रोग, आजार किंवा वेदना नसतात. असेही म्हणता येईल की जेव्हा शरीर आणि मन हे दोन्ही व्यवस्थीत असताना आणि आपण आपली नेहमीची कामे नीट, व्यवस्थितपणे करू शकतो. आरोग्यासाठी आपले शरीरही निरोगी असले पाहिजे. चांगली तब्येत किंवा आरोग्य म्हणजे नुसता औषधोपचार नाही तर आनंदी आणि सुखी जीवन शक्य व्हावं अशी शरीराची आणि मनाची अवस्था. भक्कम, धडधाकट शरीर म्हणजे ज्यावेळी शरीर संपूर्णपणे काम करण्यास योग्य असते. उदाहरणच द्यायचे झाले तर, घरातील कंदील, कंदिलाची कडी किंवा वात जास्त करण्याचा स्कू खराब असला तरीही तो कंदील आपण वापरू शकतो पण त्यातला एखादा भाग बिघडलेला असेल तर तो कंदील संपूर्णपणे कार्यक्षम आहे असे म्हणता येईल का? अगदी असेच आपल्या शरीराचे पण असते एखादा अवयव नीट काम करत नसेल तर म्हणजेच डोळ्यांना नीट दिसत नसेल, कमी ऐकू येत असेल, सांधे दुखत असतील तरीही आपण काम करतच राहतो, पण ज्याला हा कोणताच त्रास नसतो तो जास्त आणि चांगले काम करू शकणार नाही का ? आरोग्य ही संकल्पना अत्यंत व्यापक अर्थाने उपयोगात आणली जाते. आरोग्य म्हणजे स्थूल मनाने शारीरिक, मानसिक, सामाजिक संतुलनाची स्थिती होय. आरोग्यास असंतुलन निर्माण झाल्यास रोग जडतात. जी व्यक्ती आपली सामाजिक भूमिका सुव्यवस्थितपणे पार पाडण्यासाठी शारीरिक, मानसिक दृष्ट्या सक्षम असते. ती आरोग्यसंपन्न मानली जाते म्हणून कार्यात्मक योग्यता हा स्वास्थाच्या मुख्य निकष आहे.

कोरोना आधीचे सामाजिक आरोग्य:-

कोरोना संसर्गाने संपूर्ण जगाला संकटात टाकले आहे. वर्तमान काळातील लोकांचे आरोग्य आणि भविष्यकाळातील लोकांचे आरोग्य यामध्ये बरासाच बदल झालेला आहे. त्यामध्ये विद्यार्थी, तरुण, वृद्ध यांच्या आरोग्याचा समावेश होतो. विद्यार्थ्यांचे कोरोना आधीचे आरोग्य बघता त्यांचे आरोग्य निरोगी होते असे म्हणता येणार नाही कारण विद्यार्थी आधीच्या काळात फक्त शिक्षण, खेळ, प्रवास यामध्ये गुंतलेली असायची त्यामुळे त्यांनी आणि त्यांच्या पालकांनी कधी त्यांच्या आरोग्याकडे लक्षच नाही दिले. विद्यार्थी कधी स्वतःच्या स्वच्छतेकडे लक्ष देत नव्हते.

आणि शहरातील मुले तर नेहमी बीझी असत सुट्टीचा दिवस असेल तर फिरायला जाणे आणि शाळेच्या दिवशी शाळेत वेळ घालवणे याकडेच विद्यार्थ्यांचा वेळ निघून जात होता. आणि वृद्धांचे कोरोना आधिचे आरोग्य बघितल तर त्यांना सद्द आणि निरोगी आरोग्य म्हणजे काय हेच माहित न्हवते. वृद्ध लोकांची आरोग्याची अवस्था खुप खालच्या पातळीची होती. त्यांना कुटुंबातील व्यक्ती राहण्यासाठी आश्रय देत नसत. आणि जर ती व्यक्ती एखाद्या रोगाने पिडीत असेल तर त्या व्यक्तीला वाळीत टाकले जायचे. ती व्यक्ती कोणत्या आजाराने आजारी आहे किंवा त्याच्या आजारामागील कारण कोणते आहे याचा आढावा कोण घेत नसत. तरुण लोक सुद्धा आरोग्याकडे टाळाटाळ करत असत. कामाच्या व्यापामध्ये ते कधी आपल्या आरोग्याकडे लक्ष देत नसत. शेतकरी राजा तर फक्त शेतीची कामे आणि जनावरे यांच्यासाठीच वेळ देत होता. तो आपल्या आरोग्याकडे कधीच लक्ष देत नसत.

कोरोना नंतरचे सामाजिक आरोग्य :

कोरोनाचा उपचार करणारे आपली सरकारी रुग्णालये अत्यंत गंभीर समस्येला सामोरे जातांना दिसताहेत. कोरोनाबाधित रुग्ण, त्यांचे नातेवाईक आणि त्यांच्यावर उपचार करणारे आरोग्य कर्मचारी हे सगळेच मोठ्या मानसिक तणावातून जात आहेत हे जगात सगळीकडेच घडत आहे. हा मानसिक तणाव कोरोनासोबत संपणार नाहीये. याचे दूरगामी परिणाम रुग्ण व उपचार करणारे यावर होणार आहेत. गैर कोरोना आरोग्यसेवा संपूर्ण जगभर अक्षरशः ठप्प झाली आहे. याचे दुष्परिणाम दिसू लागले आहेत. कोरोना नसलेल्या लोकांमध्ये मृत्यूचा दर यावर्षी वाढल्याचे अहवाल समोर येत आहेत. याचा सरळ अर्थ हा की कोरोनामुळे या रुग्णांकडे अक्षम्य दुर्लक्ष केले जात आहे, कॅन्सर, न्युरोलाँजी, हृदयरोग, डायबेटीज, यासंबंधी रुग्णांना जगभर योग्य रीतीने उपचार करण्यास यंत्रणांना अपयश आले आहे. ब्रिटनमध्ये मृत्युदर गतवर्षाच्या तुलनेत दीडशे टक्के अधिक दिसून येतोय. मुख्यत्वे कोरोना बळी असले तरी गैर कोरोना रुग्णेदेखिल आहेत. भारतासारखे देश मृत्यूच्या कारणांची नोंद ठेवण्याचे काम खूप प्रभावीपणे राबवत नसले, तरी आपल्याकडेही मृत्यूचे प्रमाण बरेच वाढलेले आहे. गैर कोरोना आरोग्य यंत्रणा पुन्हा वेगाने कार्यरत करण्यावर सरकारला भर द्यावा लागेल. यासगी तज्ञांना आवश्यक त्या सुविधा पुरवून त्यांचे काम पूर्ववत करणे जनतेच्या फायद्याचे ठरेल. सरकारी रुग्णालयदेखील व्हिडिओ आणि दूरध्वनीद्वारे रुग्णांना सेवा देऊ शकतात. आरोग्य विषमता वाढेल जगावर जे आर्थिक संकट येऊन ठेपलय त्याने बहुतांश लोकांच्या कमाईवर परिणाम झाला आहे. आजच अनेकांचे उत्पन्न असलेल्या असंख्य लोकांना आरोग्य सुविधांचा वापर करणेही अवघड होणार आहे. कोरोनाचा परिणाम म्हणून आरोग्यसेवा महागण्याची शक्यता आहे. आपल्या देशात गरीब- मध्यमवर्गीय, भटके, अस्थायी लोक, मजूर, आदिवासी, महीला, बालक व अल्पसंख्यांक यांवर विशेष लक्ष केंद्रित करून योजना आखणे गरजेचे आहे.

मुलांचे शोषण होण्याचा धोका शाळा-महाविद्यालये बंद असल्याने समाजातला हा एक कमजोर घटक अनेक ठिकाणी शोषण करणाऱ्या संकटांच्या तावडीत सापडलेला आहे, लॉकडाउन व मदत मिळान्याची शक्यता नसल्याने त्यांचे शोषण होण्याची शक्यता अजूनच जास्त आहे. बालकांच्या मानसिक, शारिरिक व लौगिक शोषणाचे भरून न निघणारे दुरगामी दुष्परिणाम त्यांच्या जीवनावर आणि पर्यायाने देशावर होणार आहेत. मुलांप्रमाणेच महिला शारिरिक व मानसिक शोषण या काळात प्रचंड होत आहे. लॉकडाउन दरम्यान महिलांचे व बालकांचे जे हाल दिसले ते चित्र अनेक महिने किंवा काही वर्षे दिसणार आहे. भावी पिढीच्या रक्षणासाठी वेळीच उपाययोजना न झाल्यास गंभीर परिणामांना सामोरे जावे लागेल. लॉकडाउन चा दुष्परिणाम नैसर्गिकरीत्या उपलब्ध असलेली सहाय्यतेची यंत्रणा लॉकडाउनमुळे पूर्णपणे कोलमडून पडली आहे. यामुळे अनेकांचे आजार वाढले आणि मृत्यूही वाढले. एरवी लोक एकमेकांना मदत करून संकटात असलेल्यांना मदत करतात. मदत करणे कोरोना काळात खुप कमी झाले आहे. त्यातल्या त्यात डॉक्टर मंडळीच कोरोनाने धास्तावलेली असल्याने आणि त्यांनीही अंशतः लॉकडाउन व फिजिकल डिस्टन्सिंग पाळल्याने गरजू रुग्णांचे अधिकच हाल होत आहेत. कोरोना नंतर लोक आपापल्या आरोग्याकडे लक्ष देऊ लागली आहेत. कुटुंबाची काळजी घेऊ लागली आहेत. कारण त्यांना माहित आहे की, कोरोना हा संसर्गजन्य रोग आहे. जर एका व्यक्तीला कोरोना झाला तर त्याची लागण घरातील इतर व्यक्तींना पण होऊ शकते. म्हणून

आरोग्याची काळजी घेण्याकडे कल वाढला आहे. कोरोनाच्या उगमापासून ते त्याला नष्ट करण्याच्या तंत्रापर्यंत सर्वच बाबींवर अनेक तर्कवितर्क, अफवा पसरविण्यात शोषल मिडिया व्यस्त आहे. याबाबतीत वैधिक्य क्षेत्रातील लोकांनी पुढे येऊन लोकांमधील गैरसमज दूर करणे गरजेचे आहे. ज्योतिष व धर्माचे तथाकथित रक्षक सुरवातीला अनेक मनोरंजक कल्पना घेऊन समोर आले खरे पण सुदैवाचे मनोरंजक कल्पना घेवून समोर येऊन सुदैवाने त्यांचे ग्रह सध्या अंधारात लपलेले दिसताहेत.

कोरोनामुळे बदललेली शिक्षण पद्धती :

कोरोना आरोग्य संकटात समाजव्यवस्थेत मोठे बदल पहायला मिळत आहेत. खरतर संपूर्ण जगातच जगण्याच्या पद्धतीत मोठे बदल झाले. दैनंदिन गोष्टीतही मोठे बदल पहायला मिळत आहेत. डिजिटल म्हणजेच ऑनलाइन शाळा हा त्यापैकीच एक. शाळा म्हटलं की, युनिफॉर्म घालून बसची वाट पाहत, किंचीत कंटाळलेल्या चेहऱ्यांनी जाणारी लहान मुले दिसतात. तीच मुलं आता लॅपटॉप, आयपॅड किंवा स्मार्टफोन समोर बसलेली दिसतात. त्याचे फोटो सोशल मिडीयावर गेल्या अनेक दिवसांपासून फिरत आहेत. विद्यार्थ्यांबरोबर पालकांनाही ही व्यवस्था नवीन आहे पण याची खरंच गरज आहे का? किती दिवस हे चालणार ? त्यामुळे शिक्षणाचं डिजिटायजेशन व्हायला मदत होईल का ? अशा अनेक प्रश्नांची उत्तर शोधण्याचा मी प्रयत्न केला आहे. डिजिटल शाळेचे अनेक प्रकार आहेत. मुख्यतः शाळेच काम हे झूम या ॲपवरून चालते. त्याच्या 'सोबतीला व्हाटसप, इमेल विविध ॲप या सोयी आहेतच. केशव शिंदे सोलापूरमध्ये सुयश गुरुकुल नावाची संस्था चालवतात. पहिली ते बारावी असलेली हि शाळा सध्या डिजिटल स्वरूपात गेली आहे. सध्या या शाळेतनववी आणि दहावीचे वर्ग झूमवर सुरू असतात. डीजीटल शाळांची ही परिस्थिती किती काळ सुरू राहिल याची कल्पना नाही. त्यामुळे आम्ही आमच्या शिक्षकांना उत्तम ऑनलाइन शिक्षक होण्याच अव्हान केलं. असे विद्यार्थी बोलत आहेत. त्यावर शिक्षक म्हणतात की मुले बोलत नाहीत, व्हीडीओ ऑफ करतात. बोला म्हटल तरी बोलत नाहीत. अशी बदलेली शिक्षणपद्धती विद्यार्थ्यांना महागात पडत आहे. आज जेव्हा आपण कोरोना व्हायरसने गृहीत धरलेले जग हादरवून टाकले आहे आणि व्यापक प्रमाणावर मानसिक चिंता आणि अस्तित्वाची अनिश्चितता निर्माण केली आहे, अशा महत्वपूर्ण टप्प्यावर शिक्षक व शिक्षणतज्ञ म्हणून अत्यंत वार्ड पदधतीने अयशस्वी ठरले. याविषयी खूप खेद वाटतो. या गोंधळलेल्या क्षणी शिक्षणाचा अर्थ आणि उद्देश याविषयी "पुनर्विचार" करण्याऐवजी आपण केवळ ऑनलाइन अध्यापनाची योग्य वापर करून घेतला पाहिजे. ऑनलाइन शिक्षण पद्धतीचा जास्तीत जास्त वापर कसा केला जाईल याकडे आपण जास्त लक्ष दिल पाहिजे.

कोरोनाचा शिक्षणावर परिणाम :--

कारोना विषाणूची साथ हे दुसऱ्या महायुद्धानंतरचे जगासमोरचे मोठे संकट आहे. मानवी जीवनाच्या सर्वच बाजूंवर या संकटाने प्रभाव टाकला आहे. या रोगाला अजून प्रतिजैविके न सापडल्यामुळे रोग होऊ नये, म्हणून प्रतिबंधक उपाय योजने एवढाच आता सर्वासमोर पर्याय आहे म्हणून लॉकडाउनचे धोरण अवलंबून हा रोग आटोक्यात आणण्याचा सर्व देशांत प्रयत्न चालू आहे. या परिस्थितीतून निर्माण झालेल्या अनिश्चिततेमुळे जगभर भीतीचे वातावरण पसरले आहे जागतिक व देशाच्या अर्थव्यवस्था लॉकडाउनमुळे मंदी, बेरोजगाराच्या चक्रात अडकल्यामुळे डळमळीत होत आहेत. ठप्प झालेल्या अर्थव्यवस्थेमुळे हातावर पोट असणाऱ्या कष्टकऱ्यांचे तांडे, शहराकडून गावाकडे निघाले आहेत व उपासमारीचे मरायचे की, कोरोनामुळे, या पेचात हा कष्टकर्ता वर्ग अडकला आहे. चीन- अमेरिका यांच्या आर्थिक सत्तासंघर्षाला जैविक युद्धाचे स्वरूप येत आहे का, या भीतीने जग ग्रासले आहे. जागतिक सत्ता केंद्र व एकटेपणामुळे कौटुंबिक-सामाजिक-मानसिक आरोग्याच्या समस्या निर्माण होऊ लागल्या आहेत. कोरोनाला रोखण्यासाठी अनेक देशांनी शिक्षणसंस्थासुद्धा बंद केल्या आहेत. ३० कोटी विद्यार्थ्यांनी रिकामपणे घरी बसणे हा एक टाइमबॉम्ब आहे. सध्या कोरोनाची समस्या ही केवळ आरोग्याची समस्या आहे असे मानले जात आहे. पण या संकटाला शैक्षणिक समस्यांची बाजू आहे हे सुद्धा लक्षात घेणे आवश्यक आहे. एकटेपणा घालवण्यासाठी रामायण महाभारतासारख्या मालिका, दूरदर्शनवर दाखवून भूत - काळातल्या अभासी जगात जनतेला रमवून दूरदर्शनने मानवांचे मनोरंजन केले आहे. शिक्षणात आलेल्या या व्यत्ययाने मुलांना शिक्षण हक्कापासून वंचित

रहावे लागत आहे, असे मत 'युनेस्को' ने नोंदवले आहे. दूरशिक्षण, माहिती, तंत्रज्ञानाचा वापर यु-ट्यूब, हॅग आउट, मल्टीमीडिया, मोबाइल फोन, ई-लायब्ररी, दूरदर्शन इ. माध्यमांतून अनेक देशांनी तातडीने मुलांचे शिक्षण खंडीत होऊ नये म्हणून वरील प्रकारचे उपक्रम सुरु केले आहेत. भारतात मात्र परीक्षा रद्द करणे, परीक्षा पुढे ढकलणे, परीक्षा न होता मुलांना पुढच्या वर्गात प्रवेश देणे एवढ्यापुरतेच निर्णय घेतले जात आहेत. परिस्थितीची अनिश्चितता लक्षात घेतली तर भारतानेसुद्धा दीर्घ काळासाठी शैक्षणिक धोरण ठरविणे आवश्यक आहे. भारतात उच्च शिक्षणात व इंजीनियरिंग कॉमर्स व मॅनेजमेंट यासारख्या व्यावसायिक अभ्यासक्रमात माहिती तंत्रज्ञानाचा वापर मोठ्या प्रमाणावर केला जातो. विद्यार्थी आर्थिकदृष्ट्या वरच्या पातळीवरील असल्याने त्यांना इंटरनेट व लॉपटॉप यांचा खर्च परवडतो. कोरोनामुळे शिक्षण क्षेत्रात शिक्षण घेणाऱ्या गरीब कष्टकरी वर्गातील मुलांची खुप हालाखीची परिस्थिती झाली आहे. पैसा कमी असल्यामुळे ती ऑनलाइन शिक्षणाचा लाभ घेऊ शकत नाहीत.

निष्कर्ष :

कोरोना, सामाजिक आरोग्य आणि शिक्षण यावर खालील निष्कर्ष काढता येतील.

1. कोरोनाच्या वाढत्या संसर्गामुळे लोक आरोग्याकडे लक्ष देताना दिसत आहेत.
2. वर्तमानातील आरोग्य आणि भुतकाळातील आरोग्य यामध्ये बरासाच बदल झाल्याचे दिसून येत आहे.
3. विद्यार्थ्यांच्या शिक्षणामध्ये डिजीटल शिक्षण पद्धतीमुळे खुप बदल झाल्याचे दिसून येत आहे.
4. कोरोनानंतर शिक्षणाचा पाया बदलेला आढळत आहे.

उपाययोजना :-

1. लोकांनी स्वतःच्या आरोग्याकडे जास्तीत जास्त लक्ष केंद्रीत केले पाहिजे.
2. कोरोनाचा संसर्ग होऊ नये म्हणून जास्त लोकांच्या संपर्कात आपण जाणार नाही याची काळजी घेतली पाहिजे.
3. विद्यार्थ्यांनी मोबाईलचा गैरवापर न करता डिजीटल शिक्षणातून आपण चांगल्या गोष्टी कशा शिकत आहोत याचा विचार केला पाहिजे.
4. पालकांनी विद्यार्थ्यांच्या शिक्षणाकडे दुर्लक्ष न करता त्यांच्या शिक्षणाकडे लक्ष दिले पाहिजे.

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लॉकडाउनचा कौटुंबिक जीवनावर परिणाम

प्रा. एस. एस. कांबळे

श्रीपतराव चौगुले आर्ट्स अँड सायन्स,
कॉलेज, माळवाडी - कोतोली ता. पन्हाळा

• प्रस्तावना :-

कोरोना महामारीमुळे साऱ्या जगाची घडी बिघडली होती तसेच सर्वांनाच घरी बसावे लागले होते लॉक डाऊन म्हणजे घरी राहणे फिजिकल डिस्टन्स ठेवणे दुसऱ्याच्या संपर्कात न येणे लॉकडाऊन काळामध्ये कुटुंबातील सर्व सदस्य घरामध्ये आपला वेळ घालवीत होते तर काही सदस्य वर्क फ्रॉम होम करीत होते.

स्वतःची प्रकृती उत्तम राखली तरच स्वतःबरोबरच समाजाचा फायदा होतो याबाबत मराठी विश्वकोशात चांगल्या आरोग्यास 'हितकार आयुष्य' असे म्हटले जाते. शारीरिक-मानसिक रोगापासून मुक्त, तसेच सदैव तरुण असणे, यश अविरत व पराक्रम यांनी युक्त असणे म्हणजे ज्या व्यक्तीचे आरोग्य चांगले असते त्याला समाजामध्ये श्रेष्ठ दर्जा प्राप्त झालेला असतो. व्यक्तीच्या आरोग्याचे महत्त्व हे नैतिक, कलात्मक, आर्थिक आणि अध्यात्मिक या चार गोष्टी साध्य करण्याकरता असते त्यामुळे लॉकडाऊनमुळे कुटुंबाचे आरोग्य धोक्यात आले होते याचा विचार या ठिकाणी केला पाहिजे.

• उद्दिष्ट्ये :-

1. लॉकडाऊन म्हणजे काय हे समजावून घेणे.
2. कौटुंबिक समस्याची माहिती घेणे.
3. महामारी विषयी माहिती घेणे.
4. कौटुंबिक जीवनावर महामारीचा परिणाम काय झाला आहे ते पाहणे.
5. कौटुंबिक जीवन सुधारण्यासाठी उपाय योजनांची माहिती घेणे.

• कारणे

1. कौटुंबिक जवळीकता :-

काही कुटुंबांमध्ये एरवी कुठे जायचे झाले तर वेळ नाही नातेवाईकांची चौकशी करायची तर आत्ताच तर दमून घरी आलोय नंतर बघू अशी भाषा घरच्या कुटुंब प्रमुखाकडून यायची पण लॉकडाऊनच्या काळात कुटुंबातील सर्वांना वेळ दिला गेला तसेच घरामध्ये एकमेकांच्या मध्ये गप्पागोष्टी रंगल्या आणि त्यातून कौटुंबिक नाती घट्ट झाल्याचे काही ठिकाणी स्पष्ट दिसून आले वेगाने चाललेल्या मोटारीला अर्जेंट ब्रेक लागल्यानंतर ती थांबते तसे सगळे व्यवहार चक्रे एकाकी पूर्णपणे थांबले आणि कामाच्या गराड्यातून कधी न मिळणारी सक्तीची विश्रांती मिळाली त्यामुळे कौटुंबिक जवळीकता वाढलेली दिसून येते.

2. कौटुंबिक एक्य :-

लॉकडाऊनमुळे घरात बसा आणि सुरक्षित रहा या परिस्थितीने आपल्याला आपल्या कुटुंबाशी जवळीक साधण्याची एक सूसंधी उपलब्ध करून दिली एरवी ऑफिस कामाच्या निमित्ताने छोट्या मुलांना त्यांचा हरवलेला बाबा आणि आई त्यांचे प्रेम, सहवास, साथ व सोबत सध्या मिळत आहे मध्यंतरीच्या काळातला एक दुरावलेला व तुटू पाहणारा कौटुंबिक सुसंवादाचा धागा पुन्हा एकदा प्रेमाच्या विणीने घट्ट होऊ पाहत आहे ही गोष्ट कौटुंबिक आणि सामाजिक ऐक्याच्या दृष्टीने फार महत्त्वाची आहे.

3. कौटुंबिक दुरावा :-

लॉकडाऊनच्या काळात काही कुटुंबातील लोक वेगवेगळ्या प्रांतात गावात व शहरात अडकून पडलेले होते त्यांना त्या काळात मिळालेली एक भावनिक शिक्षा होती कारण आपल्या कुटुंबाचे पालन पोषण करण्यासाठी आपण नोकरी-व्यवसाय करतो त्यांना या गोष्टी करत असताना आपल्या कुटुंबापासून गावापासून दूर जावे लागले आपल्या कुटुंबाच्या भल्यासाठी त्यांच्या सुखासाठी हे सारं तो कुटुंब प्रमुख करीत असतो भावनेपेक्षा कर्तव्य श्रेष्ठ असते पण कर्तव्य आणि भावना अशा कुटुंबांची फार भावनिक घुसमट होते मनाचा कोंडमारा होतो माणसाच्या मनातील कुटुंब प्रेमाची ओढच आपल्याला एकत्र येण्याची वीण ओवत असते परंतु लॉकडाऊनमुळे अशा कुटुंबातील प्रमुखामध्ये दुरावा निर्माण झालेला दिसून येतो.

4. स्त्रियांची जबाबदारी वाढली :-

महामारी मुळे करण्यात आलेल्या लॉकडाऊनमुळे स्त्रियांची फार मोठी जबाबदारी वाढलेली दिसून येते. कारण शहरांमध्ये पुरुष मंडळी घरातच होती त्यांनी घरातील कामांमध्ये मदत करावी ही घरच्या मंडळींची इच्छा किंवा अपेक्षा होती मात्र ही पुरुष मंडळी घरामध्ये टीव्ही वरील बातम्या व मोबाईल यामध्ये गुंतलेली दिसून येतात तर काही मंडळी वर्क फ्रॉम होम करणारे खायच्या ऑर्डरी सोडत तसेच खाणं, पिणं, गाणं, खेळणं, लोळण, उशिरा जागणं व उशिरा उठणे यातच दंग झालेली होती त्यामुळे सर्व जबाबदारी स्त्रियांच्या वर कुटुंबाची पडलेली दिसून येते.

5. महामारीची वाटणारी भीती :-

कोरोना संसर्ग आपल्याला होऊ नये म्हणून जरी लॉकडाऊन सारखा पर्याय केला असला तरी या काळामध्ये काही कुटुंबातील लोकांना कोणाच्यातरी संपर्कात आल्यामुळे कोरोनाची लागण झाली आणि त्यामुळे कुटुंबातील इतर व्यक्तींना कोरोना संसर्ग होऊ नये म्हणून काळजी घेतली जात असली तरी मनामध्ये एक भीती निर्माण झाली होती आणि त्या भीतीने अनेकांनी नातेवाईकांना सुद्धा घरातून दूर केले हा एक कौटुंबिक परिणाम झालेला दिसून येतो.

6. कौटुंबिक हिंसाचार :-

कोरोनामुळे वाटणारी जीवाची भीती, आरोग्याची काळजी, अर्थव्यवस्थेत व उद्योगांमध्ये आलेली अस्थिरता, नोकऱ्या जाणे सतत घरी बसावे लागणे, भविष्याची काळजी व्यसनाधिनता व्यभिचार यामुळे पुरुषांच्या मनात नकारात्मक भावना तयार होऊन त्याचा परिणाम स्त्रियांच्यावर घरगुती हिंसाचाराच्या घटनांमध्ये वाढ झाल्याचे दिसून येते जोडीदाराबरोबर न पटणे सतत तडजोड करत जगणे अशा काही बाबी मुळे कुटुंबात असलेले ताण-तणाव अशा परिस्थितीत अधिकच वाढलेला दिसून येतो.

• उपाय योजना**1. संयुक्त कुटुंब पद्धतीची आवश्यकता :-**

महामारी मुळे साऱ्या जगाला कळून चुकले की आज समाजातील कुटुंब पद्धतीमध्ये विभक्तीकरणामध्ये झपाट्याने वाढ होत चालली आहे त्यामुळे अशा कुटुंबांमध्ये अनेक प्रकारच्या समस्या निर्माण झाल्या त्यामुळे संयुक्त कुटुंब पद्धतीची गरज भासू लागली कारण या परिस्थितीमुळे व्यक्ती कुटुंब समाज राज्य आणि राष्ट्र हे बल शाली व्हायचे असले तर यासाठी प्रत्येकाने कुटुंबांमधील सुसंवाद वाढविला पाहिजे सर्वांनी एकत्र कुटुंबासाठी कष्ट केले पाहिजे तरच आपल्याला भविष्यात अशा महामारीला सामोरे जाता येईल.

2. रोजगार निर्मितीची गरज :-

लॉकडाऊन मुळे बाहेरून आलेले कामगार आपल्या गावी निघून गेले कारखाने बंद पडले आर्थिक नुकसान फार मोठ्या प्रमाणात झाले त्यामुळे ही सर्व घडी सुधारणेसाठी शासनाने फार मोठ्या प्रमाणात नव्याने रोजगार निर्मिती केली पाहिजे नवीन कारखाने उभे केले पाहिजेत तरच या महामारी मध्ये ज्यांचे कुटुंब आर्थिक अडचणी मध्ये आहे ते काम मिळाल्यामुळे सुधारू शकेल यासाठी रोजगार निर्मितीची ध्येयपूर्ती शासनाने केली पाहिजे

3. आर्थिक मदतीची गरज :-

लॉकडाऊन नंतर कौटुंबिक परिस्थिती सुधारण्यासाठी शासनाने आर्थिक मदतीचे पॅकेज जाहीर करणे गरजेचे आहे कारण एखाद्या कुटुंबातील कर्ता पुरुष जर कोरोना महामारी मुळे मृत्युमुखी पडलेला असेल तर त्या कुटुंबाची जबाबदारी शासनाने घेतली पाहिजे त्यांना आर्थिक मदत करून त्यांना मूलभूत गरजा भागविता यावेत यासाठी प्रयत्न करणे गरजेचे आहे.

4. आरोग्य सुविधा पुरविणे :-

शासनाने कुटुंबातील प्रत्येक व्यक्तीचा आरोग्य विमा उतरविला पाहिजे तसेच प्रत्येक गावामध्ये आरोग्याच्या सुविधा निर्माण केल्या पाहिजेत कारण आरोग्य ही सर्वात महत्वाची मानवाची संपत्ती आहे त्यामुळे आरोग्याच्या सुविधेकडे दुर्लक्ष करून चालणार नाही तसेच महामारी आल्यानंतर आरोग्याच्या सुविधा उपलब्ध करून देण्या ऐवजी अगोदर त्यांनी निर्माण केल्या तर आज जी महामारी झाली ती होऊ शकली नसती त्यामुळे भविष्यात अशा महामारीला सामोरे जाण्यासाठी शासनाने सर्वतोपरी उपाययोजना आगोदरच तयार केल्या पाहिजेत.

• निष्कर्ष

1. लॉकडाऊन म्हणजे काय हे समजावून घेण्यात आले.
2. कौटुंबिक समस्याची माहिती मिळाली.
3. महामारी विषयी माहिती मिळाली.
4. कौटुंबिक जीवनावरील महामारीचा परिणाम याविषयी माहिती घेण्यात आली.
5. कौटुंबिक जीवन सुधारण्यासाठी उपाययोजना सुचविण्यात आल्या.

• संदर्भ

1. कोरोना : भयप्रद भयकंपित इतिहास प्रा. विजयकुमार वि भवारी.
2. कोरोना अनलॉक गुरुबाल माळी
3. लॉकडाऊन ज्ञानेश्वर प्रकाश जाधव
4. नोवेल कोरोना डॉक्टर संदीप पाटील / भारत भूषण केशव गिरी
5. दैनिक पुढारी दिनांक 18 मे 2020
6. दैनिक पुढारी दिनांक 28 मे 2020

कोरोना टाळेबंदी : बदलते भौगोलिक पर्यावरण

डॉ. भारती संतोष शिंदे

सहा.प्राध्यापक (फोन नंबर-9960198006)

गोषवारा :-

सन २०२० मध्ये कोरोनाच्या प्रादुर्भावामुळे सर्व जग बंद झाले,जगभर टाळेबंदी झाली व सर्व काही ठप्प झाले.या टाळेबंदीमुळे भौगोलिक पर्यावरणात बरेच बदल झाले. अगदी प्राकृतिक घटकाबरोबर पर्यावरणीय घटकांमध्ये सुद्धाबदल झालेला आपणास दिसून आला.म्हणजे तापमानातील घट, ध्वनीची तीव्रता, हवेतील विषारी वायूचे प्रमाण, पाण्याची शुद्धता, जंगलातील प्राणी पक्ष्यांचा वावर अगदी शहरी वस्तीमध्ये देखील स्वच्छंदपणे वावरू लागले. असे एक ना अनेक भौगोलिक पर्यावरणीय बदल आपणास दिसले. यावरून असे दिसते की, मानवाने आपल्या स्वच्छेने देखील दर महिन्यात किंवा वर्षातून काही दिवस स्वतःहून टाळेबंदी केली पाहिजे असे केले तरच आपण शाश्वत विकासही करू व मानवी जीवनही सुखकर होईल. भौगोलिक वातावरण आहे तसेच चांगले राहिल.कोरोनाच्या काळामध्ये झालेल्या टाळेबंदीमुळे सर्वत्र भौगोलिक पर्यावरणामध्ये बरेच सकारात्मक बदल झाले आहेत.म्हणूनच आता तरी मानवाने उपलब्ध साधनसंपत्तीचा वापर अगदी काळजीपूर्वक व सावधानतेने करून भौगोलिक पर्यावरणाची हानी न करता भविष्याची तरतूद करून व पर्यावरणाचा समतोल साधणे गरजेचे आहे.

प्रस्तावना :-

पृथ्वी हा एकमेव सजीवसृष्टी असणारा ग्रह आहे. पृथ्वीवर निसर्गाने सर्व प्राकृतिक घटकांची भरभरून उधळण केली आहे आणि याच पृथ्वीवर मानवाच्या बेजबाबदारपणे वागण्यामुळे विविध घटकांचा त्रास होत आहे. सन२०२० मध्ये कोरोनाच्या प्रादुर्भावामुळे सर्व जग बंद झाले,जगभर टाळेबंदी झाली व सर्व काही ठप्प झाले. अगदी उद्योगधंदे, कंपन्या, शाळा, कारखाने, विमानउड्डाणे, दळणवळणवाहतूक देखील सन २०२० मधील जगातील सर्वात मोठी आपत्ती व या आपत्तीमुळे लाखो लोकांना संसर्ग झाला तर आतापर्यंत लाखो लोक मृत्युमुखी देखील पडले. या टाळेबंदीमुळे भौगोलिक पर्यावरणात बरेच बदल झाले. अगदी प्राकृतिक घटकाबरोबर मानवी घटकांमध्ये सुद्धाबदल झालेला आपणास दिसून आला व त्यानंतर काही महिन्यातच पर्यावरणातील हे बदल अगदी जगातील मोठ्या-मोठ्या शहरापासून छोट्या-छोट्या खेड्यात देखील जाणवू लागले ते म्हणजे तापमानातील घट, ध्वनीची तीव्रता, हवेतील विषारी वायूचे प्रमाण, पाण्याची शुद्धता, जंगलातील प्राणी पक्ष्यांचा वावर अगदी शहरी वस्तीमध्ये देखील स्वच्छंदपणे वावरू लागले. असे एक ना अनेक भौगोलिक पर्यावरणीय बदल आपणास दिसले. यावरून असे दिसते की, मानवाने आपल्या स्वच्छेने दर महिन्यात किंवा वर्षातून काही दिवस स्वतःहून टाळेबंदी केली पाहिजे असे केले तरच आपण विकासही करू व मानवी जीवनही सुखकर होईल. भौगोलिक वातावरण आहे तसेच चांगले राहिल.कोरोनाच्या काळामध्ये झालेल्या टाळेबंदीमुळे सर्वत्र भौगोलिक पर्यावरणामध्ये बरेच बदल झाले आहेत. या कालावधीमध्ये लहान-मोठ्या कारखान्यापासून उद्योगधंदे, दळणवळण, वाहतूक, शाळा सर्व बंद झाल्याने त्यातून उत्सर्जित होणारे विविध वायू तसेच ध्वनी, पाणी तसेच विविध माध्यमातून तयार होणारा कचरा देखील कमी झाला व पर्यावरणात सकारात्मक परिणाम दिसू लागले.

उद्देश:-

कोरोना टाळेबंदीच्या कालावधीमधील भौगोलिकपर्यावरणीय बदलाचा सविस्तर अभ्यास करणे व त्यावर उपाय सुचविणे

गृहीतक :- कोरोना टाळेबंदीच्या कालावधीमधील सकारात्मक भौगोलिक पर्यावरणीय बदल झाला.

अभ्यास पद्धती :- प्रस्तुत शोध निबंधासाठी तुलनात्मक व विश्लेषणात्मक संशोधन पद्धतीचा वापर केला आहे, माहिती संकलन करताना मासिके, वर्तमान पत्रातील लेख, दैनिक, न्यूज, साप्ताहिक व विविध वेबसाइट वरून दुय्यम स्तोतातून माहिती घेतली आहे.

१. हवेमधील बदल

कोरोना टाळेबंदीच्या कालावधीमध्ये उत्तर भारतातील एकूण हवेचे प्रदूषण गेल्या २० वर्षांच्या तुलनेत सर्वात खालच्या स्तरावर आले आहे. हवा प्रदूषणात दिल्ली शहराचे नाव प्रथम घेतले जाते. परंतु दिल्लीची प्रदूषणाची पातळी ३० % तर पुणे-अहमदाबादमध्ये १५% ने ती कमी झाली आहे. प्रामुख्याने हवा प्रदूषण वातावरणातील नायट्रोजन (NO₂), कार्बनडाय ऑक्साईड (CO₂), क्लोरो फ्लोरो कार्बन (CFC) ग्रीन हाऊसचे प्रमाण अतिरिक्त वाढले होते. टाळेबंदीच्या काळात सर्व वाहतूक व उद्योगधंदे बंद असल्यामुळे त्याचे प्रमाण ७१ % पेक्षा जास्त घटले. दिल्लीमध्ये एअर क्वलिटी इंडेक्स (AQI) 400 पेक्षा जास्त होता. तो या काळामध्ये ७०% पर्यंत कमी झाला. हवा शुद्ध व चांगली झाली. हवेचा सूचकांक २००-३०० वरून १० ते ५० इतका कमी झाला. त्यामुळे हवेचे प्रदूषण कमी होऊन रात्री शहरात आकाशातील चमचमणारे तारे स्पष्टपणे दिसू लागले व दिवसाची दृश्यमानता ही वाढली. आपण हा परिणाम पंजाबमधील लुधियानातून कधीही न दिसणाऱ्या हिमालयाच्या पर्वत रांगा अवघ्या १०० ते १५० कि.मी वरून स्पष्टपणे दिसल्या. दरवर्षी ७७,००० पेक्षा जास्त लोक हवा प्रदूषणाने मरतात. त्यांचे प्राण या वेळी नक्कीच वाचले. हवा प्रदूषणाची पातळी P.M.२.५ ही एक धोका पातळी आहे. ती या काळात ७१ % पेक्षा जास्त कमी झाली. भारतातील दिल्लीबरोबर मुंबई, हैदराबाद, कोलकोता, चेन्नई ही शहरे देखील शुद्ध झाली व आकाशही प्रथमच निळे दिसू लागले. भारतातील मेट्रोलाॅजिकल विभागाचा अहवालानुसार अस्थमा सारख्या रोगाचे प्रमाण यामुळेच वाढत आहे. महाराष्ट्रातदेखील हवा प्रदूषणाचे प्रमाण ६०%नी कमी झाले.

२. तापमानात झालेली घट

आजकाल तापमान वाढ हा गंभीर विषय बनत चालला आहे. विविध वायूंच्या उत्सर्जनामुळे तापमानात वाढ झाली. पूर्वीची तापमानवाढ ही पूर्णतः नैसर्गिक होती परंतु टाळेबंदीच्या काळात झालेली तापमानातील वाढ व झालेली घटने असे दाखवून दिले आहे की, तापमान वाढ ही पूर्णतः नैसर्गिक नसून मानव निर्मित देखील आहे. वातावरणातील कार्बनडाय ऑक्साईड (CO₂), नायट्रोजन (NO₂), मिथेन, क्लोरो फ्लोरो कार्बन (CFC), ग्रीन हाऊस, नायट्रस ऑक्साईडमुळे तापमान वाढते. इ.स. १७५० पासून झालेल्या औद्योगिक क्रांतीपासून कार्बनडाय ऑक्साईड (CO₂) चे प्रमाण ३०%नी वाढले तर मिथेनचे प्रमाण १४०% ने वाढले. मागील हजारो वर्षांचा आढावा घेतला असता सध्याची तापमान वाढ सर्वात जास्त घातक आहे असे आपणास दिसून येते. मागील १०० वर्षांच्या सरासरीत पृथ्वीचे तापमान ०.८ वाढले. सन १८५० च्या तुलनेत २१ व्या शतकाच्या अखेरीस जागतिक तापमानात १.५ डिग्रीने वाढ होईल असा अंदाज वर्तविला होता. परंतु या टाळेबंदीच्या काळात वाहतूक, दळणवळण, कारखाने, उद्योगधंदे अगदी वैयक्तिक वाहने देखील बाहेर पडले नाहीत व त्यातून बाहेर पडणारा CO₂, CFC, मिथेन वायू बाहेर पडणे थांबले आणि त्याच्या प्रभावामुळे तापमानातील NO₂चे प्रमाण ७० %नी कमी झाले. CO₂ चे प्रमाण १५ %नी कमी झाले. या टाळेबंदीच्या काळात भारत, युरोप, चीन या अनेक देशात तापमान वाढ २ अंश सेल्सिअसने कमी झाली. चीनमध्ये सर्वात जास्त इंडस्ट्रीज आहेत. त्यातून जवळ-जवळ १०० करोडपेक्षा जास्त गॅस बाहेर पडतो. वरील देशाबरोबर अगदी महाराष्ट्रातील काही जिल्ह्यात देखील अगदी तापमानात ३ अंश सेल्सिअसने घट झाली.

३. कोरोना टाळेबंदीकाळातील पाण्यातील बदल

जलप्रदूषण ही एक जागतिक समस्या आहे. मानवाद्वारे केलेल्या अनेक कृतीमुळे पाणी प्रदूषित होत आहे. उदा. रासायनिक खाते, प्लास्टिक, खनिजे, घरगुती वापर, इंधनाचे ज्वलन, कोळसा, डिझेल, कारखान्यातून निघणारे दुषित पाणी, आम्ल, क्षार, फिनोल, पारा, कॉस्टिक सोडा इ. कारणामुळे पाणी प्रदूषित होते. शेतीसाठी १७ % पाणी, उद्योगधंद्यासाठी १९ व मानवाच्या वापरासाठी ११ % पाणी वापरतो. हे तीन घटक सर्वात जास्त पाण्याच्या प्रदूषणास

कारणीभूत आहेत. अनेक प्रकारच्या रोगामुळे दररोज १४,००० लोक मृत्युमुखी पडतात. त्यात भारतातील ५८० लोक आहेत.

कोरोना काळातील टाळेबंदीमुळे मात्र पाणी प्रदूषणाचे प्रमाण फार कमी झाले. अगदी १५ ते ३० दिवसांच्या कालावधीमध्ये भारतातील अनेक नद्यापैकी गंगा, यमुना नद्यांचे पाणी पुन्हा स्वच्छ दिसू लागले. या नद्या स्वच्छ करण्यासाठी शासनाने लाखो रुपये खर्च केले परंतु या कोरोनाच्या काळात ३० दिवसात सर्वात मोठा बदल झाला. नर्मदा नदीचा पाण्याचा TDS पूर्वी १२४ होता. तो आता १०० पेक्षा कमी आला आहे. मिनरल वॉटरचा TDS ५० ते ६० असतो. नर्मदा व गंगा नदीचे पाणी याप्रमाणे २५ वर्षांपूर्वीसारखे स्वच्छ बनले. कोल्हापूरची पंचगंगा ही अशीच स्वच्छ झाली तर दररोज ५०० दशलक्ष लिटर पाण्याची बचतही यादरम्यान होत होती. पंचगंगेचे पाणी पूर्वी जलपर्णीमुळे व प्रदूषणामुळे हिरवे दिसत होते ते पूर्णतः निळसर व नदीचा तळही दिसू लागला. ज्याप्रमाणे कोरोनाच्या काळामध्ये नद्या स्वच्छ झाल्या त्याचप्रमाणे समुद्रातील पाण्यामध्ये देखील स्वच्छता झालेली दिसते. पृथ्वीवरील १००% प्लास्टिक पैकी २०% प्लास्टिक समुद्राच्या तळाशी दिसून आले. २१ व्या शतकात झालेल्या पर्यटन व्यवसायाचा हा प्रचंड मोठा परिणाम आपणास दिसून येतो. पर्यटकाचे बेशिस्त वर्तन प्लास्टिक कचरा यामुळे प्रदूषणामध्ये अधिक भर पडताना दिसते. विविध माध्यमातील सर्व पाणी नद्याद्वारे समुद्रात मिसळते. त्यामुळे देखील समुद्र प्रदूषित झाला तसेच जलवाहतुकीमुळे जहाजातील तेलगळतीहोणारे अपघात यामुळे देखील समुद्रातील प्रदूषणावर भर होत गेली. मुंबई पासून ३० ते ४० कि.मी. दूर समुद्रात प्राणवायुच्या नसल्यामुळे तेथे मासेही आढळत नाही. तेथील जीवसृष्टी नष्ट झाली आहे असे एका निरीक्षणात लक्षात आले. त्याचबरोबर महाराष्ट्रातील काही सण-उत्सवही या प्रदूषणास कारणीभूत आहेत. उदा. गणेशोत्सव, नवरात्र. दरवर्षी सुमारे ३०० दशलक्ष गॅलन तेल समुद्रात गळते. ८० % कचरा थेट नदीतून, १० % ड्रेजिंग, ९ % औद्योगिक कचरा आणि सांडपाणी. तर नदीच्या व समुद्राच्या पाण्यावर Toxic Form तयार झालेला होता. जो रासायनिक कचऱ्यामुळे तयार होतो. परंतु कोरोना काळातील टाळेबंदीमुळे भारतातच नव्हे तर जगभरातील समुद्रकिनारे स्वच्छ व नितळ झाले. त्यामुळे तेथील जीवसृष्टी पुन्हा पुनर्जीवित झाली. लहान-मोठे मासेच नाहीतर डॉल्फिन, शेल, शार्क सारखे मासे देखिल समुद्रकिनाऱ्यावर संचार करू लागले. कासवाचे तर एक अखंड गावाचं जणू किनाऱ्यावर वसले होते, लाखोच्या पटीत फ्लेमिंगो पक्षी प्रथमच मुंबईच्या किनाऱ्यावर दिसले.

४. कोरोना टाळेबंदी व ध्वनी बदल

ध्वनी म्हणजे आवाज. जो विविध माध्यामातून होतो आवाजाची तीव्रता एका विशिष्ट मर्यादेनंतर वाढली की त्याचा त्रास सजीव सृष्टीतील सर्व सजीवांना होतो. उदा. प्राणी, पक्षी, मनुष्य. जगभरात बहुतेक ध्वनी हा वाहतूक, बांधकाम, उद्योगधंदे, कारखाने, मोटारी, रेल्वे, विमानउड्डाण यातून होतो. मनुष्याला ५० ते ६० डेसिबल आवाज सहन करणे योग्य असतो. तोच आवाज जर १२० ते १३० डेसिबल असेल तो अतिशय त्रासदायक असतो. १३० डेसिबल आवाज मनुष्य सहन करू शकत नाही. परंतु या कोरोना टाळेबंदीपूर्वी प्राणी-पक्षी जीवनावर ध्वनी प्रदूषणाचे गंभीर परिणाम झालेले होते. त्यातून त्यांनी आपला बऱ्याच ठिकाणचा आधिवासही सोडला होता. मनुष्यामध्ये तर विविध आजारांची भर पडलेली आपणास माहित आहे. चिडचिडेपणा, बहिरेपणा, हृदयविकार इत्यादी. पक्ष्यांचे तर आवाजावरच जीवन चालू असते. संवादातूनच ते आपले जीवन जगत असतात. मात्र कोरोना टाळेबंदीच्या ध्वनीची तीव्रता अगदी ७४ % ने कमी झाली. म्हणजेच आवाज ७० डेसिबल पर्यंत आला. त्यामुळे मनुष्याला कारखान्याचे भुंगे, रेल्वे, विमान उड्डाणाच्या आवाजाएवजी पहिल्यांदाच पक्षांचा चिचिवाट ऐकू आला. मुंबईमध्ये तर किनाऱ्यावर लाखो किलोमीटर अंतर पार करून येणारे लाखो फ्लेमिंगो पक्षी बऱ्याच वर्षांनी दिसले. माणसाने या दरम्यान पक्ष्यांच्या आवाजाचा व शांततेचा अनुभव प्रत्यक्ष घेतला. केंद्रीय प्रदूषण नियंत्रण मंडळाच्या आकडेवारीनुसार देशातील ९० पेक्षा जास्त शहरांमध्ये कोरोना काळात ध्वनिप्रदूषण नोंदवले गेले नाही. याचाच अर्थ कोरोनाच्या टाळेबंदीमुळे ध्वनिप्रदूषण कमी झालेले आपणास पहावयास मिळाले.

५ कोरोना टाळेबंदीव परिसंस्था

पृथ्वीवर असलेली सजीवांची विविधता, त्यालाच आपण जैवविविधता म्हणतो. जी पृथ्वीवर समप्रमाणात पसरलेली नाही. प्रत्येक ठिकाणी असणाऱ्या प्राकृतिक भौगोलिक घटकानुसार तेथील पक्षी, प्राणी, वनस्पती इतर सर्व सजीव घटक वेगवेगळे दिसून येतात. पृथ्वीचे ५० दशलक्ष वर्षांचे आयुष्य व उत्क्रांती प्रक्रियेतून आजचे जीवन निर्माण झाले आहे. आजही जैवविविधता पृथ्वीच्या जीवनानंतर प्रथम एवढी धोक्यात आली आहे. त्यामुळे अनेक आजारही फैलावत असलेले दिसतात. आज जगाच्या पाठीवर वाढती लोकसंख्या आणि प्रत्येक देशाचा आर्थिक महासत्ता बनण्याचा लागलेला हव्यासहेच जैवविविधता नष्ट होण्याचे कारण आहे. आंतरराष्ट्रीय स्तरावर झालेल्या सर्वेक्षणामध्ये असे आढळून आले की, दर २० मिनिटाला एक प्रजाती नाहीशी होत आहे. परिसंस्थेच्या बाबतीत बोलायचे झाले तर कोरोनाच्या टाळेबंदीकाळात मनुष्याचा बाहेरील वावर कमी झाल्यामुळे वन्यप्राणी पक्षी मुक्तपणे बाहेर संचार करू लागले आणि प्रदूषण कमी झाल्यामुळे विविध प्राण्यांचे पक्ष्यांचे आवाज शहराच्याकिनारी भागावर लाखो प्लेमिंगो पक्षी प्रथमच आपणास आलेले दिसले तर डॉल्फिन सारखे मासे मुक्तपणेसंचार करताना दिसले. त्याचप्रमाणे जगातील अनेक देशात मनुष्यप्राणी सिमेंटच्या घरात बंद होते पण विविध पक्षी-प्राणी अगदी मुक्तपणे शहरातील रस्त्यावर संचार करताना दिसून आले. काही प्राणी-पक्षी तर प्रथमच लोकांना दिसले असा सकारात्मक बदल आपणासकोरोना टाळेबंदी काळात प्रथमच पृथ्वीवर झालेला दिसला.

निष्कर्ष

माणसाने विकास व औद्योगीकरणाच्या नावाखाली केलेला निसर्गाचा अविवेकी नाश थांबविणे आवश्यक आहे. विकास करताना पर्यावरणाचा न्हास कमीतकमी व्हावा याची काळजी घ्यावी. यावेळी कोरोनामुळे झालेले टाळेबंदी व त्यातून झालेला पर्यावरणातील सकारात्मक बदल लक्षात घेता आपण वर्षातून काही दिवस स्वतःहून टाळेबंदी करून घ्यावी व मनुष्याने आपल्या भविष्यासाठी पर्यावरण संरक्षण करून शाश्वत विकासाकडे वाटचाल करावी. तरच पृथ्वीवर पर्यावरणशिल्लक राहिल व मनुष्य देखील आपले जीवन चांगलेहोऊन भविष्य सुरक्षित होईल. निसर्गाची मानवाने काळजी घेतली तर तो कमी काळात जास्त कसा पुनर्जीवित होऊ शकतो याचे हे उत्तम उदाहरण आहे. म्हणूनच आता तरी मानवाने उपलब्ध साधनसंपत्तीचा वापर अगदी काळजीपूर्वक व सावधानतेने करून भौगोलिक पर्यावरणाची हानी न करता भविष्याची तरतूद करून व पर्यावरणाचा समतोल साधणे यासाठी आपण सर्वानी कटिबद्ध रहाणेआवश्यक आहे.

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सहा. प्रा. प्रकाश धोंडीराम माने

इतिहास विभाग

श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज

माळवाडी-कोतोली

घोषवारा

भारतातील समाजिक सुधारणांचे प्रणेते छत्रपती राजर्षी शाहू महाराजांचा जन्म २६ जून १८७४ रोजी लक्ष्मी विलास पॅलेस, बावडा येथे झाला. १७ मार्च १८८४ रोजी त्यांचं दत्तक विधान आणि राज्यारोहण होऊन करवीरांच्या जनतेकडून त्यांना मानपत्र मिळाले. २ एप्रिल १८९४ रोजी वयाच्या विसाव्या वर्षी शाहू महाराजांनी कोल्हापूर संस्थानच्या राज्य कारभाराची सूत्रे आपल्या हाती घेतली. शाहूंनी पहिल्यापासूनच सर्वसामान्य माणसाचे कल्याण करणे हे आपले कर्तव्य मानले. शाहूंच्या जीवनाचे अवलोकन केले तर त्यांनी घेतलेले क्रांतीकारी निर्णय, राबविलेले सामाजिक धोरण, शैक्षणिक धोरण, आर्थिक धोरण, प्रशासकीय उपक्रम आपल्याला नतमस्तक करतात. अवघ्या २६ वर्षांच्या राजकीय कारकिर्दीमध्ये सर्व मानवजातीला थक्क करणारे कार्य शाहू महाराजांनी करून दाखविले. या त्यांच्या असामान्य कार्यामुळेच एक आदर्श राजा, बहुजन समाजाचा लोकनेता म्हणून असलेली त्यांची लोकप्रियता शेवटपर्यंत कायम टिकली आहे.

चीनमधून सुरु झालेला कोरोना व्हायरस बघता बघताबघी संपूर्ण जगभर पसरला. भारतामध्येही या रोगाने प्रवेश केल्याने आपल्या देशाचे पंतप्रधान नरेंद्र मोदी यांनी २२ मार्च २०२० रोजी संपूर्ण देशभर लॉकडाऊन घोषित केला. बहुसंख्य लोकांना पहिल्यांदाच लॉकडाऊन म्हणजे काय यांची कल्पना आली परंतु या लॉकडाऊनमुळे संपूर्ण देशाची अर्थव्यवस्था कोलमडली, सर्वसामान्य माणसांची फार दयनीय अवस्था झाली. अशा परिस्थितीमध्ये शाहूंची आठवण झाली कारण १०० वर्षांपूर्वी शाहूंनी आपल्या राज्यामध्ये प्लेगच्या रोगामुळे लॉकडाऊनची प्रक्रिया राबविली होती. अशा परिस्थितीतही शाहूंनी वेगवेगळ्या प्रकारच्या उपाययोजना करून सर्वसामान्य लोकांना प्लेगसारख्या रोगापासून वाचविण्यासाठी व त्यांना जगण्याची नवि उमेद करून देण्याचा प्रयत्न केला होता. म्हणून आजच्या काळातही शाहू महाराजांच्या विचारांची च कार्याची गरज आपल्याला जाणवते हे विशेष होय. आज संपूर्ण जगाला कोरोनाचे अक्षरशः हैराण करून सोडलेले आहे.

प्रस्तावना :-

भारतातील समाजिक सुधारणांचे प्रणेते छत्रपती राजर्षी शाहू महाराज यांचा जन्म २६ जून १८७४ रोजी लक्ष्मी विलास पॅलेस, बावडा येथे झाला. १७ मार्च १८८४ रोजी त्यांचं दत्तक विधान आणि राज्यारोहण होऊन करवीरांच्या जनतेकडून त्यांना मानपत्र मिळाले. २ एप्रिल १८९४ रोजी वयाच्या विसाव्या वर्षी शाहू महाराजांनी कोल्हापूर संस्थानच्या राज्य कारभाराची सूत्रे आपल्या हाती घेतली. शाहूंनी पहिल्यापासूनच सर्वसामान्य माणसाचे कल्याण करणे हे आपले कर्तव्य मानले. शाहूंच्या जीवनाचे अवलोकन केले तर त्यांनी घेतलेले क्रांतीकारी निर्णय, राबविलेले सामाजिक धोरण, शैक्षणिक धोरण, आर्थिक धोरण, प्रशासकीय उपक्रम आपल्याला नतमस्तक करतात. अवघ्या २६ वर्षांच्या राजकीय कारकिर्दीमध्ये सर्व मानवजातीला थक्क करणारे कार्य शाहू महाराजांनी करून दाखविले. या त्यांच्या असामान्य कार्यामुळेच एक आदर्श राजा, बहुजन समाजाचा लोकनेता म्हणून असलेली त्यांची लोकप्रियता शेवटपर्यंत कायम टिकून आहे.

शाहू हे कोल्हापूर संस्थानचे राजे होते. राजे म्हणजे राजेशाही होय. अशा राजेशाहीच्या काळातही शाहू महाराजांनी जे कार्य केले आहे. ते आजच्या लोकशाही शासन व्यवस्थेलाही मार्गदर्शक व दिशादर्शक ठरताना दिसत आहे.

चीनमधून सुरु झालेला कोरोना व्हायरस बघता बघता संपूर्ण जगभर पसरला. भारतामध्येही या रोगाने प्रवेश केल्याने आपल्या देशाचे पंतप्रधान नरेंद्र मोदी यांनी २२ मार्च २०२० रोजी संपूर्ण देशभर लॉकडाऊन घोषित केला. बहुसंख्य लोकांना पहिल्यांदाच लॉकडाऊन म्हणजे काय यांची कल्पना आली, या लॉकडाऊनमुळे संपूर्ण देशाची अर्थव्यवस्था कोलमडली, सर्वसामान्य माणसांची फार दैननिय अवस्था झाली. अशा परिस्थितीमध्ये शाहूंची आठवण झाली कारण १०० वर्षापूर्वी शाहूंनी आपल्या राज्यामध्ये प्लेगच्या रोगामुळे लॉकडाऊनची प्रक्रिया राबविली होती. अशा परिस्थितीतही शाहूंनी वेगवेगळ्या प्रकारच्या उपाययोजना करून सर्वसामान्य लोकांना प्लेगसारख्या रोगपासून वाचविण्यासाठी व त्यांना जगण्याची नवि उमेद करून देण्याचा प्रयत्न शाहू महाराजांनी केला होता. म्हणून आजच्या काळातही शाहू महाराजांच्या विचारांची च कार्याची गरज आपल्याला जाणवते हे विशेष होय. आज संपूर्ण जगाला कोरोनाचे अक्षरशः हैराण करून सोडलेले आहे.

कोरोना हा रोग संसर्गजन्य असल्याने त्याचा सामूहिक प्रसार मोठ्या प्रमाणात होताना दिसून येत आहे. या रोगाचा प्रारंभ बाहू नये म्हणून प्रत्येक देशाने आपआपल्या देशात लॉकडाऊनला सुरुवात केली. काही ठिकाणी आज लॉकडाऊन ऐवजी अनलॉक हि प्रक्रिया सुरु झाली आहे. या लॉकडाऊन मुळेच देशातील सर्व क्षेत्रांवर त्यांचा विपरीत परिणाम झाल्याचे दिसून येते. त्यामुळे देशाला व सर्वसामान्य लोकांना अनेक अडचणींना व समस्यांना तोंड द्यावे लागत आहे. पण अशा कठीण परिस्थितीमध्ये देखिल शाहू महाराजांची आठवण येते. कारण शाहू महाराजांच्या कालखंडामध्येही लॉकडाऊनची अंमलबजावणी झाली होती. त्यामुळे आजच्या समाजाला देशाला शाहूंचे लॉकडाऊन काळातील कार्य उल्लेखनीय व मार्गदर्शक ठरताना दिसून येते. कोरोना व्हायरसच्या काळात शाहू महाराजांकडून काय शिकण्यासारख आहे. इ.स. १८९६ पासून मुंबई-पुण्यामध्ये प्लेगने अक्षरशः थैमान घातले होते. हजारो लोकांचा मृत्यु होत होता. त्यानंतर या रोगाने खेड्यामध्ये शिरकाव केला. कोल्हापूर संस्थानामध्येही या रोगाचा प्रसार झाला. अशा काळात शाहू महाराजांनी काही महत्त्वाचे निर्णय घेऊन या रोगावर नियंत्रण प्रस्थापित करण्याचा प्रयत्न केला. आपल्या संस्थानातील जनतेला या रोगापासून वाचविण्यासाठी संस्थानामार्फत जेवढी मदत करता येईल तेवढी मदत शाहू महाराजांनी केली. शाहू महाराजांनी कोल्हापूर संस्थानाच्या राज्य कारभाराची सूत्रे हाती घेऊन अवघी तीन वर्षे झाली होती. त्यामुळे त्यांचे वय केवळ २२ ते २३ वर्षे होते. त्यावेळी प्लेगच्या रोगाबरोबरच राज्यावर दुष्काळी संकटही कोसळलेले होते. अशा कठीण परिस्थितीमध्ये शाहू महाराजांनी पहिल्यांदा काय केले असेल तर दुष्काळी दौरे सुरु केले. त्यातून सर्व सामान्य जनतेशी संवाद साधून खरी परिस्थिती जाणून घेवून जनतेला धीर देण्याचे काम केले. भीती आणि अनिश्चिततेचे सावट घेऊन आलेल्या प्लेगच्या साथीत शाहूंनी जनतेला दिलासा दिला. इतकेच नव्हे तर त्यांनी केलेल्या उपाययोजनामुळेच कोल्हापूर संस्थानातील मृत्यू कमी करण्यात यशस्वी ठरल्या होत्या. शाहू महाराजांनी दुष्काळ निवारणासाठी वेगवेगळ्या योजना अंमलात आणल्या. त्यामध्ये स्वतंत्र दुष्काळ निवारण खाते, तालुक्याच्या ठिकाणी उभारलेली मदतकेंद्रे, धान्यवाटप योजना, व्यापाऱ्यांसाठी सहाय्य, विहीर, बंधारे, तलाव, आणि धरणाचे बांधकाम, दुष्काळी भत्ता असे अनेक लोककल्याणकारी निर्णय घेतले होते. हीच सहवेदना असलेला दृष्टी शाहूंच्या प्लेग प्रतिबंधक कामात दिसून येते.

सन १८९६ साली पहिल्यांदा मुंबईसारख्या ठिकाणी प्लेगच्या साथीने थैमान घातले होते. त्यानंतर पुण्यातही प्लेगचा हाहाकार माजला होता. यावेळी भारतामध्ये ब्रिटिशांची सत्ता होती म्हणून ब्रिटिशांच्या राजवटीखालील प्रशासनाने प्लेग रोगाला रोखण्यासाठी दोन वर्षे मुंबई व पुण्यामध्ये कठोर प्रयत्न सुरु केले होते. त्यामुळेच प्रशासनाने फेब्रुवारी १९९७ मध्ये संसर्गजन्य रोग प्रतिबंधक कायदा अस्तित्वात आला. त्यावेळच्या मुंबई परिसरात या साथीमुळे हजारो लोक मरण पावली होती. तर पुण्यात दिवसाला पाचशेहून अधिक लोक मृत्युमुखी पडत होते. अशा नोंदी आहेत. प्लेगने सातारा आणि बेळगावच्या खेड्यापाड्यातूनही कहर उडवून दिला होता. म्हणजे या रोगाने गावागावात

शिरकाव केला होता. या रोगावरती कोणतीही लस उपलब्ध नसल्याने मृत्यूदरामध्ये मोठ्या प्रमाणात वाढ होत होती. त्यामुळे लोकांच्या मनामध्ये भितीचे वातावरण निर्माण झाले. अशा परिस्थितीमध्ये शाहू महाराजांनी महत्वपूर्ण निर्णय घेऊन त्या निर्णयांची काटेकोरपणे अंमलबजावणी करून कोल्हापूर संस्थानातील परिस्थितीतील जनतेला या रोगापासून वाचविण्याचा प्रयत्न केला.

प्रजेसाठी प्लेगविषयी शास्त्रशुद्ध माहिती:

अचानक उद्भवलेल्या व कल्पनाही करू न शकणाऱ्या प्लेगसारख्या आजाराने लोकांमध्ये भीतीचे वातावरण निर्माण झाले होते. अशा भितीच्या वातावरणात त्या काळातील समाजावर फार मोठ्या प्रमाणात अंधश्रद्धांचा पगडा होता. त्यामुळेच हा आजार म्हणजे देवीचा प्रकोप आहे असा लोकांचा गैरसमज झाला होता. प्लेगचा संसर्ग रोखण्यासाठी हा समज जनतेच्या मनातून पहिल्यांदा काढून टाकणे गरजेचे होते आणि म्हणूनच शाहूंनी या आजाराविषयी माहिती देणारी पत्रके काढली आणि हजारो पत्रके गावोगावी वाटली. त्याकाळी निरक्षरतेचे प्रमाण जास्त होते. निरक्षर लोकांची संख्या अधिक असल्याने गावागावांमध्ये सभा भरवून त्यांचे वाचन करून रितसर लोकांना माहिती समजावून सांगितली. त्यामध्ये प्लेग रोग म्हणजे काय ? या रोगाची लक्षणे कोणती? या रोगाची लागण कशी होते. या रोगावर कोणती उपाययोजना केली पाहिजे. याविषयी माहिती दिली. सरकारी उपाययोजनांची माहिती पोहचवण्यासोबतच लोकांनी काय खबरदारी घेतली पाहिजे. कोणती काळजी घेतली पाहिजे याविषयीही जाहिरनामे काढून वेळोवेळी प्रसिध्द केले. प्लेगचा उद्रेक पाहता कोल्हापूर संस्थानचे दिवाण रघुनाथराव व्यंकोजी सबनीस यांची प्लेग कमिशन म्हणून नेमणूक करण्यात आली होती व दोन वर्षांनंतर भास्करराव जाधव यांनी प्लेग कमिशनपदाची सूत्रे सांभाळली.

प्लेगचा ॲक्शन प्लॅन :

कोणतेही संकट आले तर गोंधळून न जाता त्यातून व्यवस्थित मार्ग काढणे गरजेचे असते यासाठीच शाहू महाराजांनी या रोगाची लागण होताच या रोगातून सुटका होण्यासाठी पूर्ण नियोजन केले. आणि प्लेगचा ॲक्शन प्लॅन तयार केला. तसेच व्यवस्थित त्याची अंमलबजावणीही केली. कोल्हापूर शहरात प्लेगने शिरकाव केल्यानंतर लोकांनी नेमक काय करायला हवं याविषयीचा जाहिरनामा (८ फेब्रुवारी १८९९) सरकारचा आणि लोकांचा ॲक्शन प्लॅन सांगतो. कोल्हापूरच्या सीमेवर तपासणी सुरु करण्यात आली होती. आणि प्लेगच्या रुग्णाची माहिती सांगणाऱ्या व्यक्तिला बक्षिसही जाहीर करण्यात आला होता.

दिनांक ८ फेब्रुवारी १८९९ रोजी प्रसिध्द झालेल्या जाहिरनाम्यानुसार तमाम लोकांना कळवणेकरिता प्रसिध्द करण्यात येते की, " करवीरच्या इलाख्यात प्लेगचा आजाराचा हळुहळु बराच शिरकाव होत चालला आहे. त्यामुळे करवीर शहरात एखादे वेळी कोणी तरी इसम चोरून येवून एखादी प्लेग केस होऊन आजार सुरु होण्याची बरीच भिती आहे. सदर आजार सांसर्गिक असल्याने आजार झालेले ठिकाण ताबडतोब लोकांनी सोडल्यास त्या लोकांत पुढे त्याचा जास्त फैलाव बरेच अशी होत नसल्याने अनुभवास आले आहे. जी घरे मोकळी करण्याबद्दल इकडून हुकूम होईल, ती ती ताबडतोब २४ तासाचे आत मोकळी करून गावाबाहेर राहण्यास निघाले पाहिजे. त्याबद्दल कोणाचीही तक्रार ऐकली जाणार नाही. असे करण्यास लोकांस आपली इस्टेट जिनगी वगैरेबद्दलची ताबडतोब व्यवस्था लावण्यास अडचण पडली तरी ज्याची इच्छा आपली इस्टेट जिनगी सरकारच्या ताब्यात देण्याची असेल त्यांनी आपली चीज, वस्तू इस्टेट जिनगी एका मोहरबंद पेटीत घालून त्यावर आपली मोहर ठोकून बाहेर निघल्याबद्दल हुकूम होताच पेटी कोल्हापूर येथील खजिन्यात ठेवण्यासाठी रावसाहेब हुजुर खजानीस यांचे स्वाधीन करून त्यांचे सहीची पावती घ्यावी."

सक्तीचा स्थानत्याग केला :

स्थानत्याग म्हणजे आपली राहती घरं सोडून लोकांनी तात्पुरत्या "क्वॉरंटाईन" छावण्यांमध्ये आपला मुक्काम हलवावा असा होय. त्यावेळच्या शहरात म्हणजे तटबंदीच्या आतील वस्तीतल्या लोकांना सप्टेंबर १८९९ मध्ये

स्थानत्याग करावयास लावला. असे साडेतीन महिन्यांनंतर म्हणजे २ जानेवारी १९०० चा जाहिरनामा सांगतो. प्लेग प्रतिबंध व शमनाचा सुलभ व खावीचा उपाय जो स्थान त्याग त्याचा अवलंब आमच्या बहुतेक करवीरवासी लोकांनी वेळीच केला. असा पध्दतीचा जाहिरनामा प्रसिध्द करून या रोगावर नियंत्रण प्रस्तापित करण्यासाठी व लोकांचा जीव वाचविण्यासाठी सक्त ताकिद देण्यात आली.

शाहू महाराजांची फक्त आदेश काढला आणि झाले असे कधीच झाले नाही तर त्यांची अमंलबजावणी करण्याकडे लक्ष दिले त्यानुसार दरबाराचे आदेश न मानणाऱ्यांवर दंड तसेच जप्तीचा कायदेशीर बडगा उगारला जाईल असे सांगण्यात आले लोकांना जबाबदारीची जाणीव करून देण्यासोबतच त्यांना साथीच्या आजारात सक्षम करण्यासाठी प्रशिक्षणाची जोड दिली. त्याकाळी शाळा, महाविद्यालय किंवा इतर संस्था फारश्या नव्हत्या त्यामुळे या रोगाची लागण झालेल्या लोकांची स्वतंत्र व्यवस्था करणे गरजेचे होते. लागण झालेल्यासाठी गावाबाहेर झोपड्या बांधण बंधनकारक होते. अशा परिस्थितीत दुष्काळाचा फटकाही जनतेला सहन करावा लागत होता. त्यामुळे दुष्काळाचा फटका बसलेल्या गरजूंना दरबारामार्फत झोपडी बांधण्यासाठी साहित्य पुरविले जात होते. त्याचप्रमाणे प्लेग सारख्या रोगाचा प्रादुर्भाव सुरु झाल्यानंतरही हा रोग संसर्गजन्य असल्यामुळे लागण झालेल्यासाठी गावाबाहेर झोपड्या बांधण्यास संस्थानाच्या स्वखर्चातून सुरुवात केली.

प्लेगवरील उपचारांसाठी होमिओपॅथी दवाखाना :-

मुंबई किंवा पुण्यासारख्या मोठ्या शहरांमध्ये प्लेग, पटकी सारख्या रोगांनी अक्षरशः थैमान घातले होते. हजारो लोकांचा दररोज मृत्यू होत होता. अशा वेळी रोगाचा ग्रामीण भागामध्ये ही फैलाव वाढत चालला होता. प्लेग रोगावरती कोणतेही अद्याप औषध उपलब्ध झालेले नव्हते, आणि त्याच्यावर प्रतिबंधात्मक लशीचाही शोध लागलेला नव्हता. त्याची जाणिव शाहू महाराजांना होती. त्याकाळी शाहू महाराज होमिओपॅथीचे महत्व जाणत होते. म्हणून स्वतः शाहू महाराज होमिओपॅथीचे औषधोपचार घेत होते. होमिओपॅथीमध्ये प्लेगवर उपचार असल्याची माहिती कळताच शाहूंनी होमिओपॅथीचा पहिला सार्वजनिक दवाखाना काढला. प्लेगची लागण झालेल्या रुग्णांवर उपचार करण्यासाठी कोल्हापूरच्या कोटीतीर्थ या भागात हॉस्पिटल सुरु केले. हा दवाखाना सार्वजनिक होता. तो देशातला पहिला सार्वजनिक होमिओपॅथी दवाखाना ठरला.

लॉकडाउन उठवण्यापूर्वी उपाय योजना

फेब्रुवारी 1900 ला लॉकडाउन उठवण्यापूर्वी डिसइन्फेक्शन कोणत्या पद्धतीने आणि टप्प्याटप्प्याने कसे करावे याविषयी करवीर शहरातल्या लोकांना सूचना केल्या होत्या. त्याच्या तयारीसाठी पंधरा दिवसांचा अवधी दिला होता. सर्व लोकांनी गाव सोडल्याने डिसइन्फेक्शनचे काम हाती घेण्यात येईल. डिसइन्फेक्शन हा इंग्रजी शब्द जाहीरनाम्यात तसाच वापरण्यात आला. डिसइन्फेक्शन बदल माहिती हवी असल्यास ती देखील सेंटर ऑफिसमध्ये उपलब्ध करण्यात आली होती.

शहरात दुकान उघडली तर संसर्ग होण्याची भीती आहे. त्यामुळे पंचगंगा नदी जवळची जागा निश्चित केली होती. तिथेच लोकांना किराणा मिळण्याची सोय शाहूंच्या प्रशासनाने म्हणजेच दरबाराने केली होती. लॉकडाऊनच्या या दिवसांमध्ये हातावर पोट असणाऱ्यांचा रोजगार बुडतो याची जाणीव शाहू महाराजांना होती. अशा मजुरांसाठी कळंबा तलावावर सरकारने झोपड्या बांधल्या. आणि त्या तलावाच्या कामावर मजुरी मिळेल अशी व्यवस्था केली. यावरून रोजगार हमी योजनेचे उद्दिष्ट शाहूंनी सव्वाशे वर्षांपूर्वीच गाठल्याचे दिसते.

दरबाराचे सर्जन मेजर जॉर्ज यांनी लिहिलेल्या 'प्लेगच्या आजाराविषयी संक्षिप्त टिपणे' या पुस्तकातून घरात कपडे, भांडी, वस्तू, धान्य यांचं निर्जंतुकीकरण कसं करावं याची तपशीलवार माहिती दिली. अति गरीबीमुळे ज्यांना 'रसकापुर' नावाचं निर्जंतुकीकरणाचे द्रव्य परवडू शकत नाही अशासाठी मोफत ही उपलब्ध करून दिले आणि सगळ्यात महत्त्वाचं म्हणजे पुन्हा आपल्या घरात राहण्यासाठी तसेच व्यापार धंदा सुरु करण्यासाठी कमिशनकडून पास घेणे बंधनकारक केले.

कोल्हापूर प्रतिबंधात्मक उपाययोजनामुळे इतर शहरांच्या मानाने कमी हानी झाली. शाहू महाराजांचे शिक्षक सर स्टुअर्ट मिटफोर्ड फेजर यांना याविषयीच्या बातम्या समजल्यानंतर त्यांनी शाहूंना कौतुकाचे पत्र देखील लिहिले होते. रयतेचा राजा म्हणून ओळख मिळवलेल्या राजर्षी शाहू महाराजांनी प्लेगची साथ रोखण्यासाठी प्रशासन राबवले. तो दृष्टिकोन आजच्या काळालाही लागू होतो. त्याचे विचार व कार्य आजच्या समाजाला दिशादर्शक व मार्गदर्शक ठरतात. अशा या महान राजास विनम्र अभिवादन!

निष्कर्ष :-

1. आज समाजाला व शासनाला शाहूंचे लॉकडाऊन काळातील कार्य दिशादर्शक व मार्गदर्शक ठरते.
2. शाहूंनी कोल्हापूर मध्ये देशातील पहिल्या सार्वजनिक होमिओपॅथीक दवाखान्याची स्थापना केली.
3. एकसारख्या रोगाच्या काळात शाहूंच्या उपाययोजनामुळे कोल्हापुरातील मृत्यूदर कमी होता हे विशेष आहे.
4. शाहूंनी जशी प्लेगच्या काळात विविध उपाययोजना आणून त्याचे काटेकोर अंमलबजावणी केली तशी कोरोना काळात करणे गरजेचे आहे.
5. जनतेचे कल्याण करणे हा दृष्टिकोन ठेवूनच शाहूंनी प्लेग साथीच्या काळात जनतेच्या हिताचे निर्णय घेवून त्यांचे संरक्षण केले.

समारोप —

इ.स.1896 मध्ये मुंबई व पुण्यासारख्या शहरांमध्ये मोठ्या प्रमाणात प्लेग रोगाची लागण सुरू झाली होती. या रोगाचा प्रादुर्भाव जवळ जवळ दोन ते अडीच वर्षे कोल्हापूर शहरापर्यंत झाला नाही याचे सर्वात महत्त्वाचे कारण म्हणजे त्या काळात शाहू महाराजांनी केलेल्या उपाययोजना होय. कोल्हापूर आणि परिसरामध्ये प्रत्यक्ष प्लेगचा शिरकाव झाल्यानंतर शाहूंनी शहराबाहेर छावण्या निर्माण केला ज्या गरीब जनतेला छावण्या निर्माण करणे अशक्य होते. अशा लोकांसाठी शाहूंनी सरकारी खर्चांनी छावण्या निर्माण करून दिल्या. त्यानंतर त्यांच्या औषध-पाण्याची सोय केली.

मोफत अन्नधान्य, मोफत दवाखान्याची सोय केली तसेच रोजगार हमी योजना सुरू केली शाहू स्वतः घोड्यावर बसून आपण ज्या उपाययोजना राबवल्या आहेत त्यांची काटेकोरपणे अंमलबजावणी होते की नाही याची प्रत्यक्ष पाहणी करत असत. शाहू कालखंडामध्ये समाजात अंधश्रद्धा मोठ्या प्रमाणात होती औषधे, दवाखानेही फारसे नव्हते, प्रभावी दळणवळणाची सोय नव्हती तरीही शाहूंनी त्याकाळी राबविलेल्या धोरणामुळे कोल्हापूर मध्ये मृत्यूदर कमी हे विशेष आहे.

पण आजच्या आधुनिक काळामध्ये समाज प्रगत व विकसित झालेला आहे आज अनेक औषधे व दवाखान्यांची निर्मिती झाली आहे प्रभावी साधने उपलब्ध झाली आहेत. संदेश वाहनांमध्ये तर क्रांती घडून आली आहे असे सर्व काही सोयी सुविधा असतानाही आपणास अनेक समस्यांना अडचणींना सामोरे जावे लागले. या काळात सामाजिक, आर्थिक, शैक्षणिक, संस्कृती जीवनावर फार मोठ्या प्रमाणात विपरीत परिणाम झालेला दिसून येतो आज जवळजवळ 3 वर्षे पूर्ण होत असताना देखील संपूर्ण आर्थिक जनजीवन विस्कळीत झालेले पहावयास मिळते त्यामुळे शाहूंनी अतिशय प्रतिकूल परिस्थितीमध्ये ही आपल्या राज्याची आर्थिक परिस्थिती सुधारली आणि संपूर्ण जनजीवन सुरळीत केले त्यामुळे त्यांच्या नियोजनाची आवश्यकता आज देखील आपणाला वाटते.

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प्रा. दत्तात्रय हरी नाईक

सहा. प्राध्यापक समाजशास्त्र विभाग
श्रीपतराव चौगुले आर्ट्स अँड सायन्स कॉलेज
माळवाडी - कोतोली

सारांश :

मानवी समाज व्यवस्था ही क्रमबद्ध पद्धतीने व सुव्यवस्थित चालावी म्हणून मानवाने सामाजिक संस्थांची निर्मिती केली सामाजिक संस्था या लोकरीती लोकनिती आणि कायदे या स्वरूपाच्या माध्यमातून समाजाच्या महत्त्वपूर्ण गरजांची पूर्तता करण्याचे कार्य करतात त्यामध्ये धर्म संस्था, अर्थ संस्था राज्यसंस्था कुटुंब संस्था व विवाह संस्था या महत्त्वपूर्ण संस्थांचा या ठिकाणी मला उल्लेख करावासा वाटतो यातील समाजातील प्राथमिक समूह व महत्त्वपूर्ण संस्था म्हणून कुटुंब संस्थेकडे पाहिले जाते माणसाची माणूस म्हणून जडणघडण होण्यात कुटुंबाचाच सर्वात जास्त वाटा असतो जन्मापासून व्यक्तीचा कुटुंबाशी जिव्हाळ्याचा संबंध येतो व्यक्तीचे संगोपन संरक्षण व समाजीकरण करण्यात कुटुंबाचा मोलाचा वाटा असतो इतकेच काय कुटुंबातील सदस्यांच्या भावनिक मानसिक व शारीरिक आधाराचे मुख्य स्थान म्हणजेच कुटुंब

कुटुंब संस्थेवर इतर सामाजिक संस्थांप्रमाणे दूरगामी परिणाम झाला लॉकडाऊन या संकल्पनेचा जेव्हा समाजव्यवस्थेत शिरकाव झाला तेव्हा त्याचा समाजातील घटकांना चांगल्या-वाईट परिणामांना सामोरे जावे लागले अर्थात या संकल्पनेचा कुटुंब संस्थेवर मोठा प्रभाव पडला घरी राहा सुरक्षित रहा या शासनाच्या धोरणांच्या अंमलबजावणीसाठी पोलीस यंत्रणा यांनी कायद्याचा वापर केला काही सुज्ञ कुटुंबीयांनी परिस्थितीचे गांभीर्य लक्षात घेऊन स्वतः हा नियम आपल्या कुटुंबाला लागू केला पण याचा व्यक्तीच्या नियमित दिनचर्या यावर जणू आघात झाला पुरुषांना घरीच बसून रहावे लागले एवढेच काय स्त्रियांनासुद्धा घरची फक्त घरचे काम करून त्याच-त्या कामाचा कंटाळा येऊ लागला. यामुळे कुटुंबामध्ये ताण तणावाचे वातावरण निर्माण झाले पुरुष वर्ग चिडचिड करू लागला आणि लहान मुलांचे तर मनोरंजनाचे साधन म्हणून टीव्ही व मोबाईल बनले याच साधनांचे कळत नकळत मुलांना लॉकडाऊन काळात व्यसनच लागले या सर्व गोष्टींचा मनस्ताप कुटुंब प्रमुखांना होऊ लागला. घरात वाद विवाद वाढून त्याचे रूपांतर कौटुंबिक हिंसाचारात झाले संयुक्त कुटुंबात तर भावा-भावात व जावा-जावात आणि दोन पिढीतील अंतर आतील लोकांमध्ये वैचारिक व शारीरिक भांडणे होऊ लागली कुटुंबप्रमुखांचेच उत्पन्नाचे साधन बंद झाल्याने कुटुंबाच्या उदरनिर्वाहाचा प्रश्न निर्माण झाला शहरातून गावी आलेल्या बेरोजगार लोकांमुळे कुटुंबावर भार पडू लागला काही कुटुंबात तर मोबाईल वापरामुळे पती-पत्नीमध्ये संशयाचे वातावरण निर्माण होऊन कुटुंब कलह घटस्फोटापर्यंत पोहोचला. काहीनी तर नोकरी नाही किंवा विवाह होत नाही म्हणून आत्महत्या देखील केल्याचे वर्तमान पत्रात वाचले व आकाशवाणीला ऐकले व दूरदर्शनला बघितले सुद्धा एकंदरीत कुटुंब संस्थेवर विपरीत परिणाम करणारी ही महामारी ठरली असे असले तरी काही कुटुंबात सुसंवाद झाला शेती करण्यास उपलब्ध मनुष्यबळ मिळाले कुटुंब प्रमुखांना आपल्या पत्नीला व मुलांना वेळ देता आला अशा अनेक सकारात्मक गोष्टी सुद्धा लॉकडाऊन काळात घडल्या. याही गोष्टीचा येथे आवर्जून उल्लेख करणे गरजेचे आहे. कुटुंब संस्थेवर झालेल्या परिणामांना समाजातील प्रत्येक व्यक्ती प्रत्यक्ष-अप्रत्यक्ष या परिस्थितीला सामोरी गेलेली दिसते- त्यामुळे प्रत्येक व्यक्तीला कळून चुकले की कौटुंबिक संबंध किती महत्त्वाचे आहेत-

प्रस्तुत शोधनिबंधाच्या माध्यमातून कुटुंब संस्थेवर विशेषतः ग्रामीण कुटुंब संस्थेवर कोणता परिणाम झाला व त्याच्यावर कोणत्या उपाययोजना करता येतील. याचा विस्तृतपणे अभ्यास पहायचा आहे-

प्रस्तावना :

ज्या वेळी या जगताची निर्मिती झाली त्यावेळी पृथ्वीतलावर अनेक जीवजंतूंची निर्मिती झाली अनेक प्राणी पशु-पक्षी जन्माला आले या अनेक जीवांमध्ये मानव प्राणी हा बुद्धीशील संस्कृती संपन्न व सभ्यता पूर्ण सामाजिक प्राणी समजला जातो पूर्वीचा मानव हा अगदी साधे व सरळ जीवन जगायचा गुहेत राहायचा फळे -कंदमुळे खायचा कालांतराने मानवाच्या बुद्धीचा जस-जसा विकास झाला तस-तसे त्याने आपल्या भौतिक सुखासाठी नवनवीन गोष्टींचा शोध लावला या शोधाचा मानव कल्याणासाठी वापर करण्यात यावा हा व्यापक उद्देश शास्त्रज्ञांसमोर ठेवण्यात आला पण हळूहळू मानव महत्त्वकांशी बनत चालला आपले व आपल्या देशाचे सामर्थ्य संपूर्ण जगाला दाखवू लागला लावलेल्या नवीन शोधांचा तो गैरवापर करू लागला यातूनच मानवनिर्मित अनेक समस्या निर्माण झाल्या त्यातीलच एक समस्या म्हणजेच कोरोना महामारी या महामारीचा समाजातील अनेक घटकांवर प्रभाव पडला समाजातील परस्पर संबंधित अनेक सामाजिक संस्थांवर देखील दूरगामी परिणाम झाला त्यातीलच एक महत्त्वपूर्ण व समाजाचा प्राथमिक समूह मानली गेलेली संस्था म्हणजेच कुटुंब संस्था या संस्थेवर कोणत्या कारणाने आघात झाला व त्यामुळे कोणत्या परिणामांना कुटुंब प्रमुख व सदस्य यांना सामोरे जावे लागले विस्कळीत झालेली कुटुंब संस्था पुन्हा सुव्यवस्थित स्थितीत आणण्यासाठी नेमक्या कोणत्या उपाय योजना करणे गरजेचे आहे. परिस्थिती सुधारण्यासाठी शासनाने नेमक्या कोणत्या योजना आखल्या आहेत याची माहिती प्रस्तुत शोध निबंधात सविस्तरपणे मांडण्यात येणार आहे विशेषता भारतीय ग्रामीण कुटुंब संस्थेचा अभ्यास आपणास पहावयाचा आहे

उद्दिष्टे :

- १ covid-19 काळात निर्माण झालेल्या सामाजिक संबंधांच्या दुराव्याचा अभ्यास करणे
- २ कोरोना महामारी काळात व त्यानंतर कौटुंबिक अर्थव्यवस्थेवर झालेल्या परिणामांचा अभ्यास करणे
- ३ कोरोना महामारी काळात व त्यानंतर निर्माण झालेल्या कौटुंबिक ताणतणावाचा अभ्यास करणे
- ४ कोरोना महामारी काळात व त्यानंतर कुटुंबात निर्माण झालेल्या शारीरिक, मानसिक व शैक्षणिक समस्यांचा अभ्यास करणे

गृहितके :

- १ भारतीय ग्रामीण मानवी समूहात संबंधांमध्ये जवळीकता व आत्मीयता आहे
- २ ग्रामीण कौटुंबिक अर्थव्यवस्थेचा कणा शेती आहे
- ३ ग्रामीण कुटुंबसंस्था कुटुंबातील सदस्यांच्या मानसिक, भावनिक व शारीरिक संतुलन राखणे; यामध्ये महत्त्वाची भूमिका बजावत असते
- ४ ग्रामीण कुटुंब संस्था कुटुंब सदस्यांच्या मनोरंजनाचे प्रभावी साधन आहे

संशोधन पद्धती :

प्रस्तुत अभ्यास विषय जागतिक असल्याने शोध निबंधासाठी दुय्यम तथ्य सामग्रीचा आधार घेण्यात आला आहे. त्यामध्ये संदर्भ ग्रंथ क्रमिक पुस्तके मासिक वर्तमान पत्रे व इंटरनेटचा समावेश आहे

व्याख्या :**जागतिक महामारी :**

विकिपीडिया- इंटरनेट जागतिक महामारी ही अनेक खंडांवर, विस्तृत भूभागावर पसरून मोठ्या संख्येने लोकांना होणाऱ्या रोगाची लागण होय.

कोविड -19 :

कोरोनाव्हायरस हा अनेक प्रकारच्या विषाणूंचा समूह आहे ज्यामुळे सस्तन प्राणी आणि पक्ष्यांमध्ये रोग होतो. हे आरएनए व्हायरस आहेत. यामुळे मानवांमध्ये "श्वसनमार्गाचा संसर्ग" होऊ शकतो ज्याची तीव्रता सौम्य (उदा.थंड) ते अतिशय गंभीर (उदा.मृत्यू) पर्यंत असू शकते.

ग्रामीण समाज :

प्रा चंद्रकांत खंडागळे - ग्रामीण समुदाय म्हणजे सापेक्षतः लघु आकाराच्या भूप्रदेशातील अशी मानवी वसाहत की, जिच्यामध्ये घनता

कमी असून प्राथमिक संबंधाचे प्राबल्य असते; आणि मुख्यता कृषिप्रधान असे आर्थिक सामाजिक व सांस्कृतिक जीवन आढळते सामाजिक संस्था किंगजले डेव्हिस- एका किंवा अनेक कार्यांच्या भोवती रचल्या गेलेल्या आणि परस्परात गोल्या गेलेल्या लोकरिती लोकनिती आणि कायदे यांचा संच म्हणजेच सामाजिक संस्था होय-

कुटुंब संस्था :

नियमाने आणि मुल्ये यांचा समावेश असणारी, काही मूलभूत सामाजिक गरजा भागवणारी परस्पर संबंधाची एक व्यवस्था म्हणजे कुटुंब होय-

विषय विश्लेषण-

कोरोना महामारी रोग ग्रामीण कुटुंब संस्थेमध्ये शिरकाव करण्याची कारणे

- १ कोरोना ही अशी मानवनिर्मित समस्या आहे की, जी मनुष्याच्या महत्त्वाकांक्षा व श्रेष्ठत्व सिद्धतेच्या भावनेतून निर्माण झालेली आहे
- २ मानवी नैतिक मूल्यांच्या झालेल्या अधःपतनामुळे ही जागतिक समस्या निर्माण झाली आहे
- ३ समाजातील लोकांच्या हलगर्जीपणामुळे व या रोगाचे गांभीर्य लक्षात न घेतल्यामुळे प्रसारात वाढ झाली आहे
- ४ कोरोना महामारीला दुर्लक्षित केल्यामुळे व लोकांच्या अज्ञानते मुळे या विषाणूची समाजव्यवस्थेतील महत्त्वपूर्ण सामाजिक संस्थांना याची झळ मोठ्या प्रमाणात बसली आहे
- ५ ग्रामीण कुटुंब सदस्यांनी सामाजिक अंतर व स्वच्छता या नियमांची व्यवस्थित अंमलबजावणी न केल्यामुळे कोरोना रोगाचा प्रादुर्भाव मोठ्या प्रमाणात जाणवला
- ६ ग्रामीण कुटुंब संस्थेच्या समोरासमोरच्या प्रत्यक्ष दैनंदिन संपर्कामुळे

समाजव्यवस्थेवर झालेल्या परिणामांचा अभ्यास :**सामाजिक संबंधांमध्ये दुरावा:**

कोरोना महामारी बद्दल लोकांमध्ये जी काही अज्ञानता होती. त्यामुळे त्यांच्यामध्ये निर्माण झालेले गैरसमज यामुळे सामाजिक संबंधांमध्ये दुरावा निर्माण झाला. ग्रामीण समाजामध्ये आपुलकीचे, प्रेमाचे, जवळचे व जिव्हाळ्याचे संबंध असतात पण ग्रामीण समाजामध्ये सुद्धा एखाद्या कोरोना बाधित कुटुंबाला समाज प्रवाहापासून गृहविलगीकरण या संकल्पनेच्या माध्यमातून दूर लोटले त्याच्याशी संवाद साधने जवळीकता साधने बंद केले सामाजिक दुरावा यामुळे कुटुंबाच्या मानसिकतेवर दूरगामी परिणाम झाला

ग्रामीण अर्थव्यवस्था विस्कळीत :

ग्रामीण अर्थव्यवस्थेचा कणा म्हणून शेतीकडे पाहिले जाते पण शेती उत्पादनात उपलब्ध मनुष्यबळामुळे जरी वाढ झाली असली. तरी, बाजारपेठ बंद असल्याने शेतकऱ्यांच्या मालाला पुरेशी मागणी आली नाही. तसेच, शेतीमालाला योग्य भाव मिळाला नाही. त्यामुळे पिकवलेल्या पिकाची, धान्याची, मोठ्या प्रमाणात न भरून येणारी हानी झाली. याचा विपरीत परिणाम ग्रामीण अर्थव्यवस्थेवर पडलेला दिसून येतो तसेच, ग्रामीण लघुउद्योग व कुटीर उद्योग यांचा होणारा दैनंदिन व्यवसाय मंद होऊ लागला. ग्रामीण लोक बेरोजगार झाल्याने तसेच शेतीमालाला

बाजारपेठ न मिळाल्याने ग्रामीण अर्थव्यवस्था डळमळीत झाली. त्यामुळे ग्रामीण भागातील इतर लघु व्यवसायिकांना याचा मोठ्या प्रमाणात फटका बसला. उदाहरणार्थ नाभिक समाज, चर्मकार समाज आणि राशन दुकान इत्यादी. तसेच शेतमजुरांना सुद्धा रोजगार मिळेनासा झाला.

कुटुंबसंस्थेवर झालेला परिणाम :

1. कौटुंबिक संबंध:

कौटुंबिक संबंधांमध्ये संवाद हा महत्त्वाचा दुवा असतो काही कुटुंबात सुसंवाद झाला तर काही कुटुंबामध्ये वैचारिक मतभेद निर्माण झाले. पतीला पत्नीला व मुलांना जास्त वेळ कोरोना कालावधीत जास्त वेळ देता आला. पण घरीच बसून राहून चिडचिड करण्याचे प्रमाण सुद्धा वाढू लागले. मोबाईलचा अतिवापर होऊ लागला. मुलांना मोबाईलचे व्यसन लागलेच. पण पती-पत्नीमध्ये मोबाईल मुळे गैरसमजाचे वातावरण निर्माण झाले. त्यामुळे भांडण टोकाला जाऊन घटस्फोट घेण्याचे प्रमाण सुद्धा वाढू लागले. एकंदरीत कौटुंबिक ताण -तणाव निर्माण झाला असला. तरी, सुसंवाद होऊन कुटुंबातील सदस्यांना एकमेकांना जास्त वेळ देता आला. हे विसरून चालणार नाही असे असले तरी, महामारीचा कालावधी जास्त असल्याने आर्थिक व भावनिक गोष्टीवरून कौटुंबिक कलहात वाढ होऊ लागली

2 कौटुंबिक अर्थव्यवस्थेवर झालेला परिणाम

ग्रामीण कुटुंब संस्थेचा अर्थव्यवस्थेचा मुख्य आधार म्हणजेच शेती. शेतकऱ्याला शेतीमालाला योग्य भाव न मिळाल्याने मोठी बाजारपेठ बंद असल्याने शेतकऱ्याची आर्थिक हानी झाली. त्यामुळे कुटुंबाला आवश्यक इतर गरजा उदाहरणार्थ वस्त्र, निवारा, शिक्षण व आरोग्य या गरजा पूर्ण करणे इतपत अर्थार्जन होत नसल्याने कौटुंबिक अर्थव्यवस्था डळमळीत झाली तसेच, कुटुंब प्रमुख ज्या ठिकाणी नोकरी करत होता ती बंद झाल्याने, तो गावाकडे येऊन राहिला त्याचा मिळणारा उत्पन्नाचा भाग सुद्धा बंद झाला याचाही परिणाम कौटुंबिक अर्थव्यवस्थेवर झाला

3 मुलांच्या शैक्षणिक गोष्टींवर झालेला परिणाम

कोरोना कालावधीमध्ये मुलांच्या शिक्षणाचा प्रश्न निर्माण झाल्याने शासनाने ऑनलाईन शिक्षण पद्धतीचा पर्याय निवडला ऑनलाईन शिक्षण प्रणाली आली पण सर्वसामान्य बहुजन लोकांना याचा खर्च परवडेनासा झाला मुलांकडून मोबाईलची मागणी होऊ लागली त्यामुळे ज्यांना मोबाईल मिळाले त्यांनी शिक्षण घेतले पण परिस्थितीमुळे त्यांना घेता आलं नाही त्यांना शिक्षणापासून वंचित रहावे लागले

4 कुटुंब सदस्यांच्या आरोग्यावर झालेला परिणाम

कोरोना कालावधीमध्ये कुटुंबातील सदस्यांवर विशेषत ज्यांना कोरोनाचा प्रादुर्भाव होऊन त्रास होऊ लागला त्यामुळे कुटुंबातील अनेक सदस्यांना सुद्धा आरोग्याच्या समस्या जाणवल्या त्यामुळे आरोग्य समस्या सोडवण्यासाठी तसेच या महामारी पासून दूर ठेवण्यासाठी करण्यात येणाऱ्या औषध उपचारामुळे देखील काही इतर शारीरिक समस्या जाणवल्या. मधुमेह व दम्याची समस्या असणाऱ्या लोकांना त्याचा जास्त धोका होऊ लागला. तसेच, मधुमेह असणाऱ्या लोकांना कोरोना होऊ शकतो व तो रोग लवकर बरा होत नाही अशा गैरसमजुतीमुळे काही लोक निव्वळ भीतीपोटी आपल्या जीवाला मुकली. कोरोना महामारीनंतर सुद्धा लोकांना आरोग्यविषयक समस्यांना तोंड द्यावे लागले. असे असले तरी मास्कचा सातत्याने वापर केल्याने प्रदूषित हवा व धूळ नाकातोंडातून न गेल्याने मानवाच्या आरोग्याच्या समस्या निर्माण झाल्या नाही. लॉकडाऊनमुळे निसर्गातील हवा स्वच्छ व सुंदर मिळाल्यामुळे मानवी मन प्रसन्न झाले व शरीर निरोगी बनण्यास मदत झाली

5 मानसिकतेवर झालेला परिणाम

बरेचदा आपण ऐकले किंवा वाचले असेल की,ग्रंथामध्ये असे लिहिले आहे की, निरोगी शरीरात निरोगी मन वास करत असते. पण या महामारी मध्ये सापडलेल्या कुटुंब सदस्यांमध्ये मनोरुग्णांचे प्रमाण वाढले. कारण, बाधित व्यक्तीला केलेले उपचार त्यानंतर जरी रुग्ण बरा झाला असला तरी, त्याच्या मानसिकतेवर मोठा आघात झाला होता. या गोष्टीकडे आपण दुर्लक्ष करून चालणार नाही. तसेच आपल्यामुळे आपले कुटुंब अडचणीत आले त्यांना आर्थिक समस्येला सामोरे जावे लागले माझी नोकरी गेली व्यवसाय बंद पडला पत्नी सोडून गेली व लग्न होत

नाही या अनेक कारणांनी कुटुंबातील व्यक्तीचे मानसिक संतुलन बिघडले काही मनोरुग्णाने तर आत्महत्येचा मार्ग स्वीकारला

समारोप :

सदरील प्रबंध यामध्ये कुटुंब संस्थेवर झालेल्या कोरोना महामारीच्या आघाताची कारणे व झालेले परिणाम यांचा अभ्यास करण्यात आला यातून शहरी भागाप्रमाणेच ग्रामीण कुटुंब संस्थेवर देखील महामारीचा मोठ्या प्रमाणात आघात झाला हे दिसून येते ग्रामीण कुटुंब संस्थेचा मुख्य आधार शेती असल्याने शेती उत्पन्नाला मोठी बाजारपेठ न मिळाल्याने निर्माण झालेली आर्थिक टंचाई शेत मजूर बेरोजगार बनले, तसेच, लघु उद्योग ,कुटीर उद्योग बंद पडले. यामुळे कुटुंब अर्थव्यवस्था पूर्णपणे विस्कळीत झाली. याचा परिणाम कुटुंबाच्या सामाजिक आर्थिक शारीरिक व मानसिक बाबींवर झालेला दिसून येतो

निष्कर्ष :

- 1 कोरोना महामारीचा सामाजिक संबंधावर इष्ट व अनिष्ट परिणाम झालेला दिसून आला
- 2 कोरोना महामारीचा कौटुंबिक अर्थव्यवस्थेवर दूरगामी परिणाम झालेला दिसून आला
- 3 कोरोना महामारीचा कुटुंब सदस्यांच्या मानसिक भावनिक व शारीरिक दूरगामी परिणाम झाला हे दिसून आले

उपाय योजना :

- 1 सामाजिक संबंध सट्ट बनवण्यासाठी लोकांमध्ये प्रेम, आपुलकी जिद्दाळा व सहकार्य अभिवृत्ती निर्माण होणे गरजेचे आहे यासाठी वर्तमानपत्रे, मासिके व प्रसार माध्यमांद्वारे समाज प्रबोधन होणे काळाची गरज आहे. तरच मानवी अस्तित्व टिकू शकेल याची जाणीव जागृती लोकांमध्ये निर्माण करणे
- २ . शासनाने आरोग्य जनजागृती मोहीम आखणे गरजेचे आहे आहे. उदाहरणार्थ, माझे कुटुंब, माझी जबाबदारी ही मोहीम आखून त्याची प्रत्यक्ष अंमलबजावणी करणे.
- 3 . माझे कुटुंब माझी जबाबदारी यामध्ये जनतेचा प्रत्येक सहभाग असणे गरजेचे आहे.
- ४ . शेतीमालाला योग्य भाव देणारी परिसरात बाजारपेठ निर्माण करणे. या बाजारपेठेत त्यांनी प्रत्यक्ष विक्री करण्याची व्यवस्था करणे.
- ५ . कौटुंबिक संवाद ही काळाची गरज आहे. या विषयावर आधारित कार्यशाळा घेणे.
- ६ . कुटुंब सदस्यांना आरोग्याचे महत्त्व पटवून देण्यासाठी व्यायाम व योगा याची माहिती देणे.
- ७ . गृह उद्योगाला चालना देऊन पर्यायी अर्थव्यवस्थेला प्राधान्य देणे. उदाहरणार्थ, ब्युटी पार्लर
- ८ . १५ मे जागतिक कुटुंब दिनाच्या निमित्ताने विविध प्रबोधनपर उपक्रम घेणे.

संदर्भ:

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- ४ इंटरनेट

कोरोना संकट आणि ऑनलाईन शिक्षण सकारात्मकता व नकारात्मकता

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कळे, ता.पन्हाळा, जि.कोल्हापूर.

प्रस्तावना -

‘ शिक्षण हे एकमेव उन्नतीचे साधन आहे. ’ असे महामानव डॉ. बाबासाहेब आंबेडकर म्हणतात. पण कोरोना ह्या जागतिक संकटामुळे शिक्षण क्षेत्रात मोठी अस्वस्थता निर्माण झाली आहे. विद्यार्थ्यांना अनेक अडचणींना सामोरे जावे लागत आहे. आज आपला देश प्रगतीच्या उच्च शिखराकडे वाटचाल करत असताना कोरोना विषाणू म्हणजे लॉकडाऊन १९ सारखे संकट महा थैमान घालत आहे. या विषाणूने सर्वच क्षेत्रात मोठ्या अडचणी निर्माण केल्या आहेत. कोरोनाच्या संकटासमोर जागतिक बलशाली महासत्ता असलेली राष्ट्रे देखील हतबल झालेली आपल्याला दिसत आहेत. यात कोरोनाचा प्रादुर्भाव रोखण्यासाठी २२ मार्च २०२० पासून काही कालावधीसाठी संपूर्ण देशात लॉकडाऊन करण्यात आला. शाळा, महाविद्यालये यांना सुट्टी देण्यात आली. दरम्यानच्या काळात कोरोना मुळे विद्यार्थ्यांच्या शिक्षणात व्यत्यय किंवा अडथळा येऊ नये म्हणून अनेक उपाययोजना राबविल्या जात आहेत. कोरोना पूर्व काळातील शैक्षणिक वर्ष आणि आताचे ऑनलाईन शिक्षण यात खूप फरक आहे. कोरोना पूर्व काळातील प्रत्यक्ष शिक्षणातून विद्यार्थ्यांच्या व्यक्तीमत्वाचा विकास होत होता. विविध परीक्षांमुळे विद्यार्थ्यांची बौद्धिक क्षमता समजून येत होती. महाविद्यालयात घेतल्या जाणाऱ्या क्रीडा स्पर्धांमध्ये विद्यार्थ्यांच्या शारीरिक व मानसिक विकास होतो. त्यांचा आत्मविश्वास वाढीस लागतो. मात्र कोविड १९ या विषाणूच्या प्रादुर्भावातून बाहेर पडताना ‘ शिक्षण ’ या भविष्यकालीन गुंतवणुकीबाबत विशेषतः प्राथमिक शिक्षणात ‘ऑनलाईन शिक्षण’ या विचाराने खूप वेगाने आणि घाईने मुलांच्या मेंदूच्या आणि पालकांच्या मोबाईलचा ठाव घेतला असल्याचे लक्षात आले असेल. मात्र शालेय शिक्षणासंदर्भात काही मुलभूत गरजा लक्षात घेऊन आवश्यक त्या बदलांकडे दुर्लक्ष केल्याचे आपल्या लक्षात येते. आज ही आपण साचेबद्ध पध्दतीत अडकलो आहोत. शालेय शिक्षण क्षेत्राने कोरोनासारख्या संकटाला अधिक सक्षमपणे सामोरे जाण्यासाठी काही बाबींकडे लक्ष देणे आवश्यक आहे.

कि - वर्ड्स : ई - लर्निंग, ‘ट्राय’, युनेस्को, हॅगआऊट

ई - शिक्षण म्हणजे काय ? Electronic Educational learning.

ई - लर्निंग म्हणजे वर्गाअध्यापनात माहिती तंत्रज्ञानाचा वापर करून वापरण्यात येणारी आधुनिक शिक्षणपध्दती होय.

शिक्षणाच्या दर्जात सुधारणा घडवणारी व विद्यार्थ्यांना पुस्तकी ज्ञानाच्या पलीकडे नवीन माहिती देणारी ही आनंददायी शिक्षण पध्दती आहे.

ऑनलाईन शिक्षणाची सकारात्मक दृष्टीकोन पाहतांना खालील मुद्दे विचारत घेणे आवश्यक आहे.

ऑनलाईन शिक्षणाच्या प्रणालीची अत्यंत प्रभावीपणे अंमलबजावणी झाली तर त्याचा अनेक स्तरावर फायदा होऊ शकतो.

ज्ञानदानासाठी किंवा क्षमता विकासासाठी , एका शारिरीक वयाच्या ५०- १०० मुलांना एका छताखाली रोज जमवून त्यांना एकाच पध्दतीने शिक्षण देणे ही औदयोगिक काळाची गरज होती. पण अगदी कोरोना येण्यापूर्वी पर्यंत या परिस्थितीत काहीसा फरक पडला नव्हता. कोरोनाच्या या झटक्याने आपण अचानक नव्या ऑनलाईन शिक्षण पध्दतीत प्रत्येकासाठी व्यक्तिगत शिक्षणाचे नियोजन (लर्निंग प्लॅन) , शिक्षणाचा मार्ग असू शकतात. वयानुसार आणि व्यक्तिगत क्षमतेनुसार या नियोजनामध्ये लवचिकता येऊ शकते. म्हणजे दहा वर्षांचे मुल त्याच्या नैसर्गिक क्षमतेनुसार , चौथीचे मुल त्याच्या क्षमतेनुसार , सातवी - आठवीचे गणित शिकू शकते. हे आज घडत नाही पण उदया कदाचित असे घडू शकेल. प्रत्येकजण आपापल्या क्षमतेनुसार आणि आवडीनिवडीनुसार आपल्या शिक्षणाचा मार्ग निवडू शकेल.

ऑनलाईन शिक्षणाची नकारात्मकता बघतांना खालील मुद्द्याचा विचार करावा लागतो.

सध्या कोरोनाच्या जागतिक संकटामुळे शाळा बंद आहेत. शाळा सुरु करण्याजोगी परिस्थिती कधी निर्माण होईल हे आज सांगता येत नाही. शाळा सुरु झाल्याच तरी सामाजिक अंतराचे नियम काय असतील आणि ते पाळून शाळा पुर्ववत चालवता येतील का हे ही सांगता येणे कठिण आहे. सरकारने शाळा ' ऑनलाईन ' सुरु करायला परवानगी दिली आहे. अनेक शाळांनी कोणत्या ना कोणत्या पध्दतीचे ऑनलाईन उपक्रम सुरु केले आहेत. पण या साऱ्याची पुढील दिशा काय असेल? याचा विचार गांभीर्याने करायला हवा.

आपल्याकडे मोबाईल, लॅपटॉप अशी उपकरणे वापरून आपण अनेक गोष्टी करतो. पण या माध्यमांचा वापर करून शाळा किंवा कोणत्याही प्रकारचे शैक्षणिक उपक्रम चालविणे हे आपल्यासाठी पुर्णपणे नवीन आहे. कोरोनामुळे लादल्या गेलेल्या सक्तीच्या सुटीमुळे हे ऑनलाईन माध्यम एकाएकी गळयात पडले .पण या ऑनलाईन शिक्षणाची आजची परिस्थिती काय आहे? त्यासाठी काणते पर्याय उपलब्ध आहेत? हे आज कोणत्या प्रकारे वापरले जात आहेत? या सगळ्याचे भविष्य काय असेल ? या प्रश्नांचा ऊहापोह करताना सर्वात महत्वाचे म्हणजे या साऱ्यांतून आपल्याला नक्की काय साध्य करायचे आहे? ते समजून घ्यायला हवे.

ऑनलाईन शिक्षण सर्वांना कसे झेपणार ?

प्रत्यक्ष वर्गात बसून घेतले जाणारे शिक्षण ते ऑनलाईन शिक्षण हा एवढा मोठा बदल स्विकारण्याची मानसिकता आणि क्षमता आपल्याकडच्या पालकांकडे आहे का? कोरोना आणि त्यामुळे आलेल्या टाळेबंदीमुळे अनेक प्रश्न निर्माण झाले आहेत. कोरोना नंतरच्या काळात शाळा कशा असतील याची चर्चा आता विविध व्यासपीठावरून घडत आहे. त्यात प्रामुख्याने ऑनलाईन शिक्षण या मुद्यावर भर आहे पण त्या पाठोपाठ असे ही प्रश्न उपस्थित होत आहेत की, या चर्चेची एवढी घाई कशाला? अशा ऑनलाईन मंचाची खरोखर गरज आहे का? लहान मुलांना मोकळे का सोडले जात नाही. अशा प्रकारचे अनेक प्रश्न सध्या भेडसावत आहेत.

ऑनलाईन शिक्षण प्रणाली : साधारणतः शिक्षणाचे तीन प्रमुख घटक असतात.

- अध्यापन (Teaching), अध्ययन (Learning), आणि मूल्यमापन (Evaluation), या तीन घटकांसाठी शिक्षण प्रक्रिया राबविली जाते. आता हे तीन ही घटक या नव्या ऑनलाईन पध्दतीत कसे आकार घेतील हे पाहणे महत्वाचे आहे.
- अध्यापन (Teaching) – शिक्षक वर्गामध्ये ते शिकवतो ते अध्यापन यामध्ये शिक्षकाचे व्यक्तीमत्व , कौशल्य, वक्तृत्व विषय मांडण्याची आणि समजावून सांगण्याची कला अंतर्भूत असते .
- अध्ययन (Learning) – विद्यार्थी स्वतःचा प्रयत्न आणि आकलनाने जे शिकतात ते अध्ययन यामध्ये शिक्षकांनी सांगितलेली आभ्यास सामग्री (Study Material) वाचणे , अध्ययन साधने (Learning Resources) बघणे , अनुभवणे, दिलेला गृहपाठ (Assignments) करणे याचा समावेश होतो.
- मूल्यमापन (Evaluation) – अध्यापन आणि अध्ययनातून विद्यार्थी किती शिकला आहे याची पडताळणी करणे म्हणजे मूल्यमापन. यामध्ये गृहपाठ तपासणे, घटक चाचण्या व परीक्षा घेणे इत्यादीचा समावेश होतो.
- ऑनलाईन शिक्षणाचा विचार करताना हे तीनही घटक ऑनलाईन माध्यमातून पूर्ण करता येईल अशी व्यवस्था किंवा प्रणाली वापरायला हवी.

सध्याची परिस्थिती

सध्याची परिस्थिती बघता बहुसंख्य अथवा प्रशिक्षक फक्त 'अध्यापन' ऑनलाईन करण्यावर भर देत आहेत.असे दिसत आहे. झूम किंवा गुगल मीट सारखे तंत्रज्ञान वापरून शिक्षक किंवा विद्यार्थ्यांचा व्हिडीओ कॉल सेटअप करणे आणि त्यात शिक्षकांनी वर्गात बोलतात त्याप्रमाणे बोलून शिकवणे अशी सध्याची ऑनलाईन वर्गाची परिस्थिती दिसत आहे. काही कल्पक शिक्षक आपल्या लेक्चरचे पॉवर पॉइंट प्रेझेंटेशन करतात व ते व्हिडीओ कॉलवर दाखविले जाते व विषय समजावून सांगतात. शिक्षकांचे सर्व प्रशिक्षण हे वर्गात शिकवण्याच्या दृष्टीने झालेले असते. व वर्गात शिकवण्याचाच अनुभव त्यांच्यापाशी असताना अचानक ऑनलाईन अध्यापन करावे लागणे हा त्यांच्यासाठी प्रचंड मोठा बदल आहे. अध्ययनाचा विचार केला तर त्यासाठी आज प्रामुख्याने पारंपारिक साधने आणि त्याच पध्दती वापरल्या जात आहेत. अध्ययनाचे पारंपारिक साधन म्हणजे पाठ्यपुस्तक आणि पध्दत म्हणजे पुस्तकातील धडे वाचून त्या खालची प्रश्नोत्तरे सोडवणे. खरे तर कोणताही विषय शिकवण्यासाठी आजच्या ऑनलाईन जगात प्रचंड मोठ्या प्रमाणावर रिसोर्सेस उपलब्ध आहेत. युट्युब वरचे व्हिडीओज , विकीपीडीया सारखे माहितीचे संग्रह इथ पासून हे अनंत ब्लॉग आणि वेबसाईट्स उपलब्ध आहेत असे असताना अध्यापनासाठी फक्त पाठ्य पुस्तकावर अवलंबून राहणे हे शिक्षण मर्यादित चाकोरी मध्ये अडकवून ठेवण्यासारखे आहे. काही शाळातील शिक्षक विद्यार्थ्यांना अशी साधने वापरायला प्रोत्साहन देत आहेत.

मूल्यमापनाची पारंपरिक पध्दत म्हणजे वेळोवेळी घेतल्या गेलेल्या चाचण्या आणि परीक्षा छोट्या चाचण्यासाठी ऑनलाईन माध्यमामध्ये स्पर्धा (Quiz) सर्वेक्षण(Survey)आणि मतचाचणी (Polls)सारखी तंत्रे वापरता येतात . किंवा गुगल फॉर्मस् वापरून मुलाकडून प्रश्नोत्तरे मागविता येऊ शकतात.

एकूण तर अध्यापन , अध्ययन आणि मूल्यमापन या शिक्षणाच्या तीन अंगांपैकी प्रामुख्याने अध्यापन ऑनलाईन होत आहे परंतु तिथे ही ऑनलाईन माध्यमाची पूर्ण क्षमता वापरली जात आहे असे दिसत नाही.

डिजिटल भारत आणि ई – शिक्षण प्रणाली

कोरोनाला रोखण्यासाठी अनेक देशांनी शिक्षण संस्थासुध्दा बंद केल्या आहेत. 'युनेस्को' च्या अहवाला नुसार एप्रिल २०२० मध्ये १८८ देशांत १५४ कोटी विद्यार्थी घरी बसले आहेत. भारतात १५ लाख शाळा बंद होत्या . त्यामुळे २६ कोटी विद्यार्थी व ८९ लाख शिक्षक घरी बसले आहेत. तर उच्च शिक्षणात ५० हजार शिक्षण संस्था बंद आहेत . व ३.७० कोटी विद्यार्थी व १५ लाख महाविद्यालयीन शिक्षक सुध्दा घरीच होते. ३० कोटी विद्यार्थ्यांनी घरी बसणे हा एक टाईम बॉम्ब आहे . सध्या कोरोनाची समस्या ही केवळ आरोग्याची समस्या आहे असे मानले जात आहे. पण या संकटाला शैक्षणिक समस्याची बाजू आहे हे सुध्दा लक्षात घेतले पाहिजे.

'युनेस्को' ने शाळा बाह्य झालेल्या विद्यार्थ्यांच्या समस्येवर तातडीने मार्ग काढण्याच्या सुचना आपापल्या सभासद देशांना दिल्या आहेत. शिक्षण आलेल्या त्या व्यत्ययाने मुलांना शिक्षण हक्कापासून वंचित राहावे लागत आहे असे मत ' युनेस्को'ने नोंदविले आहे . दुर शिक्षण , माहिती तंत्रज्ञानाचा वापर , यु –ट्युब आणि मल्टिमिडीया , मोबाईल, ई – लायब्ररी , दुरदर्शन इत्यादी माध्यमातून अनेक देशांनी तातडीने मुलांचे शिक्षण खंडित होऊ नये म्हणून विविध उपक्रम सुरु केले आहेत.

माहिती तंत्रज्ञानामुळे शिक्षणाचा प्रसार, शिक्षणाचा विस्तार, शिक्षणाचा दर्जा, शिक्षणांची संधी वाढविण्यास भरपूर वाव आहे. 'ट्राय' च्या अहवालानुसार भारतात २०२० मध्ये इंटरनेट वापरणाऱ्यांची संख्या ६८.४५ कोटी आहे. मोबाईल फोन वापरणाऱ्यांची संख्या ४८.८२ कोटी आहे. हा माहिती तंत्रज्ञानाचा विस्तार झालेला दिसत आहे. भारतात ५२% जनता इंटरनेटचा वापर करते. माहिती तंत्रज्ञान हे शहरी सधन वर्ग व पुरुष यांचीच सध्या तरी मक्तेदारी होत आहे. त्यामुळे नॅशनल डिजिटल लायब्ररी , स्वयंम, शोध गंगा इ. सरकारी प्रकल्पांचा फायदा मर्यादित होत आहे.

५ एप्रिल रोजी मानव संसाधनमंत्री पोखरियाल यांनी असे आश्वासन दिले आहे की , विद्यार्थ्यांचे शैक्षणिक नुकसान या लॉकडाऊन काळात होणार नाही. पण शैक्षणिक नुकसान म्हणजे परीक्षा पुढे ढकलणे नव्हे तर विद्यार्थ्यांच्या अभ्यासात खंड पडणार नाही याची काळजी घेणे हे होय. या दृष्टीने शासनाने 'शाळा बंद पण शिक्षण आहे' या मालिकेच्या लिंक , दिक्षा ऑप, दुरदर्शन वरच्या टिली –मिली , गली गली सिम सिम ही मालिका अशा अनेक उपक्रम शासन स्तरावरून प्रयत्न केले जात आहेत.

सरकारची भूमिका, उपक्रम आणि धोरणे –

केंद्र सरकारने ई लर्निंगच्या प्रचार प्रसारा साठी काही लक्षणीय उपक्रम गेल्या काही वर्षांमध्ये सुरु केले आहेत. 'स्वयंम' नावाचे ऑप आणि त्यामागे असलेली शैक्षणिक साहित्य निर्माण करणारी मोठी परिसंस्था सरकारने उभी केली आहे. अखउठए, छउएठढ, गत्रछ सारख्या राष्ट्रीय पातळीवरच्या संस्था मध्ये समन्वय साधून त्यांच्याकडील शैक्षणिक साहित्य 'स्वयंम' या एका व्यासपिठावर उपलब्ध करून दिले आहे. शिवाय कोणत्याही शिक्षकाला कोणत्याही विषयावरचा अभ्यासक्रम आणि शैक्षणिक साहित्य तयार करून त्यावर टाकण्याची सुविधा दिली आहे. 'स्वयंम' मधील सर्व अभ्यासक्रम आणि शैक्षणिक साहित्य हे देशातील कोणत्याही विद्यार्थ्यांला पूर्णपणे मोफत उपलब्ध आहेत. केंद्र सरकारने स्थापन केलेल्या राष्ट्रीय मुक्त विद्यालय शिक्षा संस्था (छरींळेपरश्र खपींळींशीं ष जशिप डलहेश्रळपस)द्वारे अनेक पारंपारिक आणि व्यवसायिक शिक्षणांचे अभ्यासक्रम ऑनलाईन चालविले जात आहेत.

निष्कर्ष -

संमिश्र शिक्षण हीच भविष्याच्या दिशा -

प्रत्येक आव्हान ही एक संधी आहे . कोरोनाचा काळ हा शिक्षण व्यवस्थेतील बदलाचा टप्पा आहे. ऑनलाईन शिक्षणाच्या पध्दतीचा विस्तार होत असतानाच नव्या पिढीला डिजिटल स्क्रीनच आता जगाशी जोडत आहेत.

ऑनलाईन शिक्षण व्यवस्था ही काळाची गरज आहे . अत्यंत कमी खर्चात प्रत्येक विद्यार्थ्यापर्यंत पोहचू शकेल आणि प्रत्येकाला आपापल्या आवड आणि क्षमतेनुसार घेता येईल असे शिक्षण खरोखर महत्त्वाचे आहे. मात्र ऑनलाईन शिक्षणाच्या काही महत्त्वाच्या मर्यादांमुळे पारंपारिक शालेय शिक्षण आणि शाळांना तो संपूर्ण पर्याय ठरेलच असे नाही. संमिश्र शिक्षण पध्दत (इश्रशपवशव डशरीपळपस) ही भविष्यातली महत्त्वाची शिक्षण पध्दत असेल. जे विषय ऑनलाईन शिकता येणे शक्य आहे त्याचे अध्यापन , अध्ययन ऑनलाईन होणे जे विषय प्रत्यक्ष एकत्र येऊनच शिकावे लागतात त्यासाठी शाळांसारख्या संस्थामध्ये एकत्र येणे अशा दोन्ही पध्दतीचा वापर येणाऱ्या काळात करावा लागेल. त्याच बरोबर मूल्यमापनाच्या पध्दतीमध्ये प्रमाणीकरण करून त्या ऑनलाईन पध्दतीने राबवल्या तर देशातल्या कोणत्याही, कुठूनही हव्या त्या अभ्यासक्रमाची परीक्षा देता येणे शक्य होईल.

या सर्व एखाद दुसऱ्या वर्षात घडणाऱ्या गोष्टी नाहीत. वर्षानुवर्षे सरकारी आणि खाजगी संस्थानी एकमेकांशी समन्वय साधत प्रयत्न केले तर संपूर्ण पणे आधुनिक आणि सर्वाना उपलब्ध अशी नवी शिक्षण व्यवस्था आपण उभी करू शकतो.

संदर्भ ग्रंथ

१. दांडेकर रेणु, कोरोनात्तर शिक्षण प्रयोग
दैनिक लोकसत्ता - ३१/०५/२०२०
२. योजना मासिक
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कोविड - १९ मुळे शिक्षण क्षेत्रात झालेल्या बदलाचा अभ्यास

डॉ. उदयकुमार एन. लाड

सहा. प्राध्यापक श्रीपतराव चौगुले आर्टस् अँड सायन्स कॉलेज
माळवाडी-कोतली

गोषवारा :-

सर्व जग हे आता पर्यंत कोणत्या ना कोणत्या संकटाला सामोरे जात आलेले आपणास अभ्यासातून दिसून आले आहे. परंतु २०१९ मध्ये निर्माण झालेल्या कोविड-१९ या संसर्गजन्य रोगामुळे जगामध्ये महामारीचा प्रसंग निर्माण झालेला आहे अशा परिस्थितीमध्ये जगाला लॉकडाऊनला सामोरे जावे लागले याचा परिणाम सर्व क्षेत्रावर झालेला आहे. त्यामध्ये शिक्षण क्षेत्र सुद्धा प्रभावीत झाले आहे परंतु यावर उपाय म्हणून शिक्षण क्षेत्रात अध्यापनासाठी तंत्रज्ञानाचा आधार घेण्यास सुरुवात केली व आय.सी.टी. च्या माध्यमातून अध्यापन व अध्ययन प्रक्रिया सुलभ झाली शिक्षणामध्ये आय. सी.टी. शिकवणे व शिकणे सुलभ करण्यात महत्वपूर्ण भूमिका बजावत असते. वर्गातील संप्रेशन पद्धती बदलल्या आहेत आय.सी.टी. ने पारंपारिक शिक्षक-बोलणे व विद्यार्थी ऐकण्याच्या दृष्टिकोनाऐवजी शिकवणे आणि शिकणे परस्पर संवादी आणि सहयोगी बनले आहे. आय.सी.टी. चा विकास सध्याच्या पद्धतीच्या तुलनेत विशिष्ट शिक्षण शिकविण्याचा आणि शिकण्याचा एक चांगला मार्ग म्हणून पाहिला जातो.

शिक्षणात नाविन्यपूर्ण शिक्षण शिकणे विशेषतः इंटरनेटचा वापर करून उपकरण आधारीत शिक्षण आयसीटीच्या माध्यमातून शिकवले जाऊ शकते. २१ व्या शतकातील युगात विद्यार्थ्यांना आवश्यक कौशल्य शिकण्याची आणि लागू करण्याची संधी देण्यासाठी वर्गात आय.सी.टी. चा वापर महत्वाचा आहे नवीन तांत्रिक शोधामुळे जगात प्रत्येक गोष्ट इंटरनेटच्या नियंत्रणाखाली आहे. आय.सी.टी. हे अंतर कापण्यासाठी आणि शिक्षण घेण्यासाठी सेतू म्हणून दिसते. शिक्षक व्हिडीओ कॉन्फरन्सद्वारे तंत्रज्ञानाचा वापर करून ऑनलाईन शिकवू शकतात. तसेच विद्यार्थ्यांच्या शिकण्याच्या प्रक्रियेचे निरीक्षण करू शकतात.

कोरोना - १९ :-

कोरोना व्हायरस रोग 2019 (COVID019) हा SARS-COV-2 मुळे होणारा आजार आहे. डिसेंबर 2019 मध्ये चीन या देशातील वुहान या शहरात याची प्रथम सुरुवात झाली व तेथून पुढे तो जगभर पसरत गेला त्याला भारत सुद्धा अपवाद राहिला नाही संपूर्ण जगात या रोगाने हाहाकार माजवला मुळात हा रोग संसर्गजन्य असल्याने तो झपाट्याने पसरला जाऊ लागला त्यामुळे त्याला नियंत्रीत करण्यासाठी जगात अनेक देशानी लॉकडाऊन केला त्यामुळे लोकांच्या दैनंदिन व्यवहारावर त्याचा परिणाम झाला. त्यामुळे अनेक क्षेत्रात त्याचा फटका बसू लागला सर्वच क्षेत्र प्रभावीत झाली त्यापैकी शिक्षण क्षेत्रावर सुद्धा त्याचा परिणाम मोठ्या प्रमाणावर झाला लॉकडाऊन झाल्यामुळे ऑफलाईन अभ्यास पद्धती बंद झाली त्यामुळे शिक्षण पद्धतीमध्ये बदल करणे भाग पडले ऑनलाईन शिक्षण पद्धतीचा जास्त वापर करावा लागला. शिक्षण व विद्यार्थी यांना मदत करण्यासाठी ऑनलाईन तंत्रज्ञान वापरण्यात येऊ लागले व पुन्हा एकदा शिक्षण प्रणालीला चालना मिळाली आजकाल वेगवेगळ्या ॲप्सच्या माध्यमातून शिक्षक आणि विद्यार्थी एकमेकांपर्यंत पोहचून आपल काम पूर्ण करत आहेत. झूम, गुगल, मीट, वेबेकस, मायक्रोसॉफ्ट आणि इतर अनेक वेगवेगळी ॲप्स वापरली जातात. ज्याद्वारे शिक्षक ऑनलाईन अध्यापनाद्वारे त्यांच्या विद्यार्थ्यांपर्यंत पोहचत आहेत व विद्यार्थी त्याद्वारे शिक्षण घेत आहेत.

कोविड-१९ चा शिक्षण व अध्यापन प्रक्रियेवर परिणाम**१. ऑनलाईन शिक्षण :**

कोविड-१९ मुळे ऑनलाईन शिक्षणाशिवाय पर्याय नाही लॉकडाऊनमुळे शाळा महाविद्यालये सुरू होऊ शकली नाहीत त्यामुळे ऑनलाईन शिक्षण हा एकमेव पर्याय पुढे आला व त्यामाध्यमातून शिक्षण सुरू ठेवण्यात आले.

२. ई-सामग्रीचा वापर :

ऑनलाईन शिक्षणामुळे शिकण्यासाठी वेळेचे बंधन तसेच ठिकाणाचे बंधन नाही कोणीही कोणत्याही ठिकाणाहून आणि कधीही शिकू शकतो. व अनेक प्रकारचे शिक्षण घेऊ शकतो. त्यामुळे लॉकडाऊन काळात ई-सामग्रीचा वापर मोठ्या प्रमाणात करावा लागला.

● ऑप्सचा वापर -

ऑनलाईन शिक्षणासाठी वेगवेगळी ऑप्स वापरली जातात. याचा उपयोग शिक्षक व विद्यार्थी यांच्या पर्यंत पोहचण्यासाठी उपयुक्त आहेत. अशा ऑप्सचा वापर मिटींग तसेच ऑनलाईन शिकविणेच्या प्रक्रियेसाठी केला गेला उदा. झूम, गुगल, मिट, बेबेकस इत्यादी.

● ऑनलाईन शिक्षणासाठी प्लॅट फॉर्म :

ऑनलाईन शिक्षणासाठी वेगवेगळे प्लॅटफॉर्म उपलब्ध आहेत. यांच्या माध्यमातून ऑनलाईन वर्ग घेता येतात. रेकॉर्डिंग करून व्हिडीओ अपलोड करून विद्यार्थ्यांना पाठवता येतो. त्यामुळे हे व्यासपीठ शिक्षक व विद्यार्थी यांना उपयुक्त ठरले आहे.

३. आय.सी.टी. व त्याची व्याप्ती :

- १) वर्ल्ड वाईड वेब (WWW) आय.सी.टी. च्या प्रचंड प्रगतीमुळे विद्यार्थी, शिक्षक आणि शास्त्रज्ञ यांच्यासाठी ज्ञानाचे भांडार अद्यावत करत आहे. ग्रामीण भागातील व्यक्ती सुद्धा दररोज नवनवीन माहिती या मुळे घेऊ शकते. दूरशिक्षणाद्वारे आय.सी.टी. च्या माध्यमातून नोकरी इतर कामे करणाऱ्या लोकांसाठी घरच्या घरी अभ्यास करून शिक्षण घेण्याची संधी प्राप्त होते.
- २) नवनवीन अभ्यासक्रमांची माहिती तसेच पुस्तके, संदर्भ पुस्तके इंटरनेटवर उपलब्ध आहेत. इंटरनेटच्या माध्यमातून परदेशी विद्यापीठाचा अभ्यास क्रम पूर्ण करून पदवी घेता येते.
- ३) विद्यार्थी, शेतकरी खेळाडू व इतर वेगवेगळ्या क्षेत्रातील लोकांना व्हिडीओ क्लिपच्या माध्यमातून चांगल्या प्रकारचे शिक्षण घेता येते. त्यासाठी टेलिव्हिजन ब्रॉडकास्ट हे एक उत्तम संवाद माध्यम आहे.
- ४) प्रभावी शिक्षणासाठी ओव्हरहेड प्रोजेक्टर ऐवजी एल.सी.डी. प्रोजेक्टरचा वापर करून विद्यार्थ्यांना योग्य पद्धतीचे शिक्षण देता येते.
- ५) ऑडिओ आणि व्हिडीओ सी.डी. तयार करून के.जी. (बालवाडी) ते पी.जी. (पोस्ट ग्रॅज्युएट) पर्यंतच्या सर्व प्रकारच्या विद्यार्थ्यांसाठी त्याचा वापर करता येतो. तसेच शिक्षक संगणक वापरून सामग्री सी.डी. विकसित करू शकतात.

शिक्षण क्षेत्रात शिक्षकाकडून आय.सी.टी.चा वापर -

- १) शिक्षक आय.सी.टी. च्या मदतीने विविध भाषा, कौशल्य शिकवू शकतात. परदेशी विद्यापीठात वापरल्या जाणाऱ्या पद्धती आपल्या शिकविणेच्या पद्धती वापरू शकतात. त्यामुळे समजण्यायोग्य शिकविणेची त्यांची क्षमता वाढवू शकतात.
- २) आय.सी. टी. शिक्षकांना नवनवीन अध्यापन पद्धती शिकण्यास मदत करते ते विद्यार्थ्यांसोबत विविध प्रकल्प व असाइनमेंटवर काम करू शकतात.

- ३) आय.टी.सी. च्या मदतीने शिक्षक त्यांच्या विकासासाठी आवश्यक असलेल्या सेवांतर्गत विविध प्रशिक्षण कार्यक्रम आणि कार्यशाळामध्ये तो सहभागी होऊ शकतो.
- ४) एक शिक्षक ई-जर्नल, ई नियतकालिके आणि ई लायब्ररीच्या मदतीने त्यांच्या ज्ञानाचे क्षेत्र वाढवू शकतो. ते केवळ आय.टी.सी. च्या वापराद्वारे प्राप्त केले जाऊ शकते तो ऑडिओ आणि व्हिडीओद्वारे त्याचे ज्ञान आणि कौशल्ये सुधारण्यासाठी त्यांच्या विषयाच्या अध्यापनातील तज्ञांशी चर्चा आणि परिषदामध्ये देखील सहभागी होऊ शकतो.
- ५) शिक्षकांना त्यांच्या विषयाचा अभ्यासक्रम तयार करण्यासाठी आय.टी.सी. चा वापर करता येतो.

विद्यार्थ्यांना शिक्षणात आय.टी.सी. चा वापर

- १) विद्यार्थी ऑनलाईन स्रोतांद्वारे अभ्यास करू शकतात विविध संसाधनांचा वापर केल्याने त्यांना विषय समजण्यास मदत होते. विद्यार्थी त्यांच्या ठिकाणाहून कधीही शिकू शकतात.
- २) विद्यार्थी शिक्षकांना ऑनलाईन भेटू शकतात आणि विषया बदल अधिक ज्ञान प्राप्त करू शकतात.
- ३) विद्यार्थ्यांना वेळेची मर्यादा असू शकत नाही ते ऑडिओ व व्हिडीओ डाऊनलोड करून घेऊन त्या माध्यमातून शिक्षण घेतात.

अशा प्रकारे विविध अॅप्स आहेत ज्या द्वारे शिक्षणातील आदान, प्रदान, प्रक्रिया सुलभ होत आहे. हे विविध अॅप्स शिक्षक व विद्यार्थी यांचे एकमेकांशी संवाद साधण्यास व विशिष्ट विषयाचे ज्ञान मिळविण्यास मदत करतात अशा प्रकारे महामारीच्या परिस्थितीत आय.टी.सी. साधने उपयुक्त ठरतात.

निष्कर्ष :-

महामारीच्या काळात संपूर्ण लॉकडाऊन करण्यात येत असल्याने याचा सर्व क्षेत्राबरोबर शिक्षण क्षेत्रावर सुद्धा परिणाम होत असल्याने विद्यार्थी शिक्षणापासून वंचित राहतात व त्याचा त्यांच्या शैक्षणिक प्रगतीवर परिणाम होतो अशा वेळी आय.टी.सी. चा वापर करून ऑनलाईन शिक्षण पद्धत चालू ठेवता येते यामुळे शिक्षक व विद्यार्थी यांचा संवाद साधला जातो व शिक्षण प्रक्रिया सुरू ठेवता येते त्यामुळे आय.टी.सी. हे शिक्षण क्षेत्रात प्रभावी माध्यम ठरले आहे.

संदर्भ :-

- १) संवाद क्रांती - श्रीराम पवार
- २) संगणक जगत - माधव शिरवळकर
- ३) पांडे व्ही.सी. (संपादक) २००४ माहिती आणि संप्रेषण तंत्रज्ञान, दिल्ली, ईशा पुस्तके
- ४) व्हि राजाराम - फंडामेंटल ऑफ कॅम्प्युटर, ५ वी आवृत्ती

कोरोना व अध्यात्म

डॉ. बी.एन. रावण

प्रमुख, इंग्रजी विभाग,
श्रीपतराव चौगुले आर्टस् अँड सायन्स
कॉलेज, माळवाडी, कोतोली, ता.
पन्हाळा, जि. कोल्हापूर

प्रस्तावना -

चीनमध्ये नोव्हेंबर २०१९ ला “कोविड १९” चा पहिला रूग्ण आढळला. भारतात ३० जानेवारी २०२० ला कोविड१९ बाधित रूग्ण आढळला. प्रारंभी या आजारालाची दखल भारत सरकारने गांभीर्याने घेणं गरजेचं होतं परंतू तशी घेतली गेली नाही. बाहेरील राष्ट्रांमध्ये कोरोनाची परिस्थिती गंभीर होती. आपल्या देशात थोडं उशीरा का होईना कडक पावले उचलली. हा रोग कोठून पसरत आहे याची माहिती घेतली असता दळणवळण हा कळीचा मुद्दा ठरला. त्यामुळे देशभरातील वाहतूक बंद करण्यात आली. इतकेच नव्हे तर एका गावातून दुस-या गावात, तसेच शहरातील एका भागातून दुस-या भागातही जाऊ दिले जात नव्हते. राज्यसरकारने राज्यभर संचारबंदी आदेश लागू केले व पोलीस यंत्रणेलाही कडक सूचना देण्यात आल्या. त्याचबरोबर सरकारी, खासगी कार्यालय, उद्योग-व्यवसाय, शाळा, महाविद्यालये, धार्मिक स्थळे, पर्यटन ठिकाणे बंद होती त्यामुळे संपूर्ण देशभर सन्नाटा पसरला होता. कोरोनाची साथ थैमान घालत असताना ती आटोक्यात आणण्यासाठी ठोस पावलं उचलणं गरजेचं होतं संपूर्ण समाज भयग्रस्त झाला होता. साक्षात मृत्यू समोर येवून उभा राहिला होता. सरकारनं निर्णय घेण्यासाठी केलेला उशीर प्रचंड महागात पडला. दूसरे म्हणजे गेली अनेक वर्षे राबवलेल्या खाजगीकरणाच्या चूकीच्या धोरणामुळे आपली अपूरी सार्वजनिक आरोग्य व्यवस्था आणि शासनाचे कोरोना टेस्टिंग बाबतचे आव्हान व अयोग्य मार्गदर्शन यामुळे प्रचंड संभ्रमावस्था समाजात झाली.

रोगराईचं गांभीर्य यापूर्वीही माणसाला होतं परंतू अलीकडच्या कालखंडातील मृत्यूचं प्रमाण पाहता माणूस संपूर्णपणे हादरून गेला आहे, त्याच्यामधील आत्मविश्वास तूटत चालला आहे. वास्तव समजून घेण्याऐवजी तो अनेक खटपटी करत, संघर्ष करत स्वतःचं आरोग्य कसं सुरक्षित राहिल, काही काळ का असेना मृत्यू लांबणीवर पडेल यासाठी प्रयत्न करत आहे. पूर्वीचे लोक सहजपणे मृत्यूला सामोरे जात असत कारण मृत्यूला सामोरे जाणे म्हणजे धाडस असे मानले जायचे. इंग्रजी कवी डिलन थॉमस याने आपल्या कवितेत आपल्या वडिलांना मृत्यूला धाडसाने सामोरे जा, सहजपणे तो स्विकारू नका असा संदेश दिला आहे. परंतू आज मरणा-या रूग्णाशी कसं वागावं हे कोणताही डॉक्टर सांगत नाही, शिकवत नाही.

कोरोना येण्यापूर्वी आपल्या देशात अनेक रोगांनी थैमान घातले होते. अनेक वादळं, भूकंप, महापूर, विविध आपत्तीशी माणूस लढत आला आहे. अनेक जीव या संघर्षात होरपळून मरून गेले परंतू निसर्गाचं वरदान लाभलेला एक जीव म्हणजे माणूस स्वतःच्या बुद्धीमत्तेच्या जोरावर, विज्ञानाने केलेल्या प्रगतीच्या जोरावर तो आजपर्यंत संघर्ष करत, लढत जिवंत आहे.

प्लेग, देवी, कॉलरा पटकी, एशियाटिक, फ्लू, स्पॅनिश फ्लू, एशियन फ्लू, हाँगकाँग फ्लू, तसेच एचआयव्ही, बर्ड फ्लू. सार्स, इबोला यामध्येही अनेक लोकांचा बळी गेलेला पहायला मिळतो. या संपूर्ण महामारीत भारताचं स्थान आपणास पहायला मिळतं. या सर्व साथीमध्ये त्या त्या देशांनी काय उपाययोजना केली होती हे पाहणं गरजेचं आहे. पूर्वीच्या या साथीपासून आपण काय शिकलो का नाही? अन् जर आपण खरोखर शिकलो असतो तर कोरोना या महामारीवेळी आपली दुर्दशा झाली नसती. इतिहासातील या साथी आपले डोळे उघडण्याचा प्रयत्न करतात. परंतू दुर्देवाने आपण नीट डोळे उघडण्यास तयार नाही. मग आपण भविष्यातील महामारीला कसे सामोरे जाणार?

कोरोनामुळे संपूर्ण जगामध्ये लोकांच्यात भय निर्माण झाले आहे. अशाप्रकारचे भय मानवाच्या इतिहासात अनेक वेळेला आले आहे. भय हे जन्मजात माणसामध्ये असते. प्रसंगानुसार त्याची पातळी कमीजास्त प्रमाणात होत असते. ज्यावेळी भय हे गरजेपेक्षा जास्त वाढते त्यावेळी माणूस कोणत्याही जातीतील अगर धर्मातील असो तो एक आधार शोधत असतो अन् तो आधार म्हणजे ईश्वर. तो मनापासून ईश्वराला शरण जातो अन् रक्षणासाठी प्रार्थना करतो. त्याच्या मनामध्ये अनेक स्थित्यंतरे होत असतात अन् जीवनाकडे, ईश्वराकडे पाहण्याचा त्याचा दृष्टीकोन बदलतो. संकटे माणसाला मूळ पदावर आणतात, तो काय आहे त्याची अवस्था काय आहे हे दाखवतात त्यामुळे त्याला भविष्याकडे पाहण्याची योग्य अक्कल येते. माणूस कोणत्याही विवंचनेत नसतो त्यावेळी तो चंगळवादाच्या खाईत जातो. त्यावेळी त्याला इतर सर्व गोष्टींचा विसर पडतो. ज्या ज्या वेळी या देशात आर्थिक परिस्थिती चांगली होती त्या त्या वेळी लोक प्रचंड समाधानी होते. मानसिकदृष्ट्या समतोल होते. परंतू याचवेळी काही लोक चंगळवादामुळे समाजातील नको त्या गोष्टीकडे वळले व अनैतिकतेचे वातावरण निर्माण झाले. काही कुटुंबं यामुळे उध्वस्त झालीत तर काही लोकांनी मृत्यूला आपलसं केलं, काहीजण निराश होवून भ्रमिष्ट झालेत. अशा प्रसंगी जर लोकांना योग्य उचित मार्गदान जर लाभले असते तर अध्यात्माच्या ताकतीवर विविध प्रकारच्या धार्मिक सेवांनी थोडा काळ का असेना त्या परिस्थितीपासून ते वंचीत झाले असते. परंतू अशावेळी लोकांच्या हातात पैसा होता त्यामुळे अध्यात्म हा साधनेचा विषय नसून तो विकत घेता येतो असा गैरसमज समाजात निर्माण झाला होता. हे अज्ञान नाहीसे करण्यासाठी संतानी महान कार्य केले आहे. महाराष्ट्रात महानुभव, वारकरी, नाथसंप्रदाय निर्माण झाले व त्यातून चक्रधर, ज्ञानेश्वर, नामदेवादी संत निर्माण होऊन नवीन अध्यात्म निर्माण केले किंवा या तत्वज्ञानातील काही त्रुटी दूर करून ते तत्वज्ञान नव्या रूपात मांडले.

संपूर्ण जग हे दुःखाने भरले आहे. त्याला सुखी करण्यासाठी मानवाचा जन्म आहे. तुम्ही जगा व इतरांनाही जगू द्या, कोणाचाही व्देष, राग करू नका अशी शिकवण आपल्या संतांनी दिली आहे. भौतिक सुख असावं परंतू त्याचा अतिरेक होता कामा नये. भौतिक सुखासाठी माणसानं अस्वस्थ होता कामा नये. भौतिक सुख म्हणजेच खरे सुख आहे असे समजून माणसांनी गरजेपेक्षा जास्त पैसा, संपत्ती मिळवण्याचं ध्येय ठेवलं व यातूनच भ्रष्टाचार जन्माला आला व कालांतराने भ्रष्टाचार हा शिष्टाचार झाला. भ्रष्टाचारानं खोटी प्रतिष्ठा निर्माण केली तीच माणसाला खरी वाटू लागली. तो इतरांना तुच्छ लेखू लागला. त्यामुळे माणसा-माणसात दरी निर्माण होवू लागली. हातात पैसा असल्यामुळे व डोक्यात चैन करायची हा विषय असल्यामुळे सकस आहारापेक्षा रुचकर, चायनीज, मसालेदार आहाराचे सेवन ही खाद्यसंस्कृती अस्तित्वात आली. आज रस्त्यावर आपणांस विविध प्रकारच्या पदार्थांच्या गाड्या पहायला मिळतात. प्रचंड मोठे धाबे, त्यात विकले जाणारे अनेक मांसाहाराचे पदार्थ माणसं चवीने खात आहेत या सर्व पदार्थांचा आपल्या प्रकृतीवर काय परिणाम होतोय हा विचार करण्यापलीकडे लोक गेलेले आहेत कारण हे करणं म्हणजे सुखी राहणं, ENJOY असा चूकीचा समज झाला आहे. चीनमध्ये सुद्धा अशाच प्रकारचा चंगळवाद आपणांस पहायला मिळतो अन् त्यामधूनच अनेक प्रश्न उभे राहिले. कोरोनाने शहरातील, अन् खेड्यातील लोकांना याची प्रकर्षाने जाणीव करून दिली. आयुर्वेदामध्ये आहार कसा असावा हे अत्यंत चांगल्या प्रकारे सांगितले आहे. आहार सात्विक असावा व शाकाहारी असावा हे आजपर्यंत समाजातील तज्ञ डॉक्टरांनी सांगितले आहे. कोरोना परिस्थितीत माणसाच्या तोंडावर मास्क आला एक प्रकारे जनावराच्या तोंडाला मुस्के घालतात तशी अवस्था झाली. परंतू यावेळी जनावरं फार समाधानी होती कारण त्यांच्या तोंडावरचे मुस्के मालकाच्या तोंडावर आले होते. खरेतर या गोष्टीतून भविष्यात आपण शिकण्यासारखे आहे. परंतू आज तरी हे चित्र बदललंय का? आज परिस्थितीत बदल होत आहे. कोरोना लसीमुळे एक प्रकारचा आत्मविश्वास माणसांच्यामध्ये निर्माण झाला आहे. माणसांनी काळजी घेवून राहण्याऐवजी त्याने आज चायनीज, मांसाहार व मद्य याकडे आपला मोर्चा वळवला आहे. लॉकडाऊनच्या कालखंडात दारूच्या दुकानासमोरील रांगा आपण डोळ्यांनी पाहिलेल्या आहेत म्हणजे प्रचंड तणावात असताना लोक मद्य पिण्याकडे सकारात्मक दृष्टिकोनातून पाहत होते. मद्यप्राशन केल्याने तणाव कमी होतो अशी चुकीची धारणा लोकांची झाली आहे. या मद्याच्या अतिसेवनाने कुटुंबे उध्वस्त झाली आहेत. अशा लोकांना जर अध्यात्माकडे आपण वळविले तर निश्चितचपणे

त्याच्यामध्ये बदल होईल व त्यांच्या कुटुंबाला समाधान मिळेल. समाजामध्ये लोकांच्यात आपणांस काही उपक्रमांच्या व्दारे असे सांगता आले पाहिजे की दुःख, तणाव विसरण्यासाठी तुम्ही मद्य प्राशन न करता, त्याऐवजी अध्यात्मातील काही सेवा केल्यास निश्चितपणे तुमचा तणाव कमी होईल व मनातील नकारात्मक विचार दूर होतील व तूम्हाला समाधान मिळेल.

जगामधील इतर संस्कृतीपेक्षा भारतीय संस्कृती निश्चितपणे वेगळी आहे. भारतीय संस्कृतीचा वेगळेपणा हा विविध उत्सवामधून आपणांस दिसून येतो. सण, उत्सव लग्नसमारंभ, जयंती, वाढदिवस, विशेष सत्कार इ. गोष्टींना समाजात अग्रस्थान दिलेले दिसून येते. आपल्या देशामध्ये जे थोर समाजसुधारक होवून गेलेत त्यांनी जी आपणांस शिकवण दिली, जे तत्वज्ञान सांगितले ते पूर्णपणे आपण आपल्या सवडीने विसरलो आहे. समाजातील खोट्या प्रतिष्ठेपोटी लाखो रुपयांचा चुराडा लग्नसमारंभ, वाढदिवस, सत्कारसमारंभ यावेळी होताना दिसतो. ज्या ज्ञानेश्वरांनी पसायदान लिहून संपूर्ण विश्वाचे सुख चिंतलं, ज्या तुकोबारायांनी चुकीच्या गोष्टीवर प्रकाश टाकला. महात्मा फुल्यांनी, छत्रपती शाहू महाराजांनी सर्वसामान्यांच्यासाठी शिक्षणाचे दरवाजे उघडले, तेथे आज आपण काय करत आहे. कोरोनाने आपणा सर्वांना जाग्यावर आणलं, माणसातील चूकीचा अहंकार, उद्दामपणा याला आळा घातला व विविध कार्यक्रमासाठी शासनाने माणसांच्या संख्येची अट घातली. कोरोनामुळे लाखो रूपये वाचले. श्रीमंतालाही गरीबासारखे कार्यक्रम घ्यावे लागले. जीवन सुखी होण्यासाठी काय लागते हे खरोखर कोरोनाने दाखवून दिले मग मात्र धन, संपत्ती ऐश्वर्य हे जीवनाचे उद्दिष्ट असता कामा नये. विविध कारखाने, अविचारी उद्योग, अलिशान गाड्या यामुळे होणारे प्रचंड प्रदूषण हे सर्व अविचारी मानवाचे काम आहे. म्हणून आपण संत ज्ञानेश्वर, तुकाराम, एकनाथ रामदास, बहिणाबाई, चोखामेळा हे संत साहित्य, थोर विचारवंत वाचले पाहिजेत व त्यांची शिकवण अंगीकारली पाहिजे. आपण कितीही विज्ञानाव्दारे प्रगती जरी केली तरी एका विशिष्ट ठिकाणी शास्त्रही थांबते व तेथून पुढे अध्यात्माचा विचार सुरु होतो. अध्यात्मातील विचार आत्मसात करावे लागतात म्हणूनच संत तुकाराम म्हणतात, “द्रव्य मिळवले कोट्यान् कोटी संगे न ये लंगोटी” या चे आत्मभान लोकांना राहिलेले नाही. म्हणूनच कोरोनाच्या या महामारीत प्रचंड पैसा असूनही कित्येक लोक मृत्यूमुखी पडले व जग सोडून जाताना सर्व काही इथेच ठेवून गेलेत. मृत्यूसमयी कोणीही त्यांच्याबरोबर नव्हते इतकं बेवारस मरण माणसाला आलं. त्याची पैसा, प्रसिध्दी ही त्याला (श्रीमंतांना) वाचवू शकली नाही. जीवनाचा शेवट हा स्मशानभूमीतच होतो व मृत्यूनंतर माणसाच्या देहाची राख होते हे माहित असूनही माणूस, मोहात अडकला व या मोहापायी त्यानं विनाश ओढवून घेतलेला दिसून येतो अशावेळी आपणास अध्यात्मातील विचारच सावरू शकतात. नामदेव महाराज म्हणतात, “माणसे इतरवेळी आपल्या बरोबर येतात पण जळायच्या वेळी मात्र माणसाला एकट्यालाच जळावे लागते.”^(१) पुढे ते म्हणतात, समाजातील असत्य, अहंकार, अड्डाहास यांचा सत्याने, शालीनतेने व उदार मनाने पाडाव केला पाहिजे, ‘ कांचनिक भक्ती सर्वकाल करी ॥ बहुतांचे वैरी हित नेणे ॥ वेद मर्यादा सांडुनी चालती । डुंबते घेती वाण्यासवे’ ॥^(२)

कोरोनाने आज आपणांस दाखवून दिले आहे की, कोणी गरीब, कोणी श्रीमंत हा भेदभाव नाही. कोणाचीही आपण निंदा न करता सर्वांकडे समान बुद्धीने पहावे, म्हणून नामदेव महाराज म्हणतात, ‘माणसाने स्तुतीने हुरळून जावू नये, निंदा करितो तो मानावा आदर । स्तुति ते दुकर नायकाने ॥^(३)

कोरोनाने काहीही न बोलता आपणास जीवनात एक वेगळा धडा शिकविला. जे लोक कोरोनाच्या महामारीतून वाचलेले आहेत त्यांनी आत्मचिंतन करावे व समाजाला, देशाला उपयुक्त कृती करावी. समाजातील एकोपा आपणास बऱ्याच ठिकाणी दिसून येतो. पंढरीची वारी यासाठी तुकोबा रायांनी अखंड विश्वातील लोकांना साद घातली. सर्वांनी या वारीसाठी यावे, सर्व जात, धर्म, पंथ विसरून लाखो लोक यामध्ये न बोलवता सहभागी होतात. त्यांना प्रचंड आत्मिक समाधान लाभते. समाजामध्ये एकोपा निर्माण होतो. परंतू अलीकडे या वारीतही जात-धर्म लोक पाहू लागले आहेत व त्याला राजकीय स्वरूप यायला लागले आहे. शेकडो वर्षांची वारी कोरोनामुळे थांबली. देहाने नाही परंतू मनाने लाखो वारकरी पांडुरंगाला भेटले, तीच त्यांची शक्ती, ऊर्जा संकटकाळी आत्मविश्वास वाढविण्यास कारणीभूत ठरली. अशिक्षित/सुशिक्षित लोकांची प्रतिकारशक्ती वाढविण्याचे काम अध्यात्माने केले आहे.

सर्व मंदिरे, मशीदे, चर्च बंद होतात त्यावेळी सर्व धर्माच्या विचारवंतांनी, लोकांनी घरातूनच आपल्या धार्मिक सेवा कराव्यात असे सांगितले व ते लोकांनी तंतोतंत पाळले. अखिल भारतीय श्री स्वामी समर्थ सेवा केंद्र दिंडोरी यांच्या वतीने आदरणीय गुरुमाऊली आण्णासाहेब मोरे यांच्या मार्गदर्शनाने लाखो लोकांनी ऑनलाईन विविध प्रकारच्या अध्यात्मातील सेवा घरी बसून केल्यात. परमेश्वराने खऱ्या अर्थाने एक संधीच दिली, संपूर्ण कुटुंब एकत्रित येवून विविध सेवा लोकांनी बजावल्या, याचा निश्चितपणे त्यांना फायदा झाला. विविध लोक सेवेच्या माध्यमातून एकमेकांना जोडले गेले, अडीअडचणीवरती ऑनलाईन मार्गदर्शन होवू लागले, त्यामूळे लोकांना या महामारीतही जगण्याची पूनश्च इच्छा निर्माण झाली. अहंकाराचे पंख गळून, आपलेपणाची भावना निर्माण झाली. सर्व जातीच्या, पंथाच्या लोकांनी आप-आपल्या परीने विविध ऑनलाईन कार्यक्रम घेतलेत यामुळे जाती-धर्मांमध्ये राष्ट्रप्रेम वाढले. मनातील कटूता कमी झाली. हे सर्वच धर्माचे तत्वज्ञान आपल्या संतानी, पंडितांनी, पाद्री, गुरुजींनी सांगितले होते. त्याचा पूनश्च विचार समाजाने गांभीर्याने केला. काही विव्दानांनी, तत्ववादी लोकांना हे सर्व भेकड, अंधश्रद्धा असे वाटले. परंतू असंख्य लोकांच्या मनात आत्मविश्वास, ऊर्जा निर्माण झाली हे आपण विसरू शकत नाही. कोणतीही जात, धर्म यांच्या पलीकडे जावून समाजात राष्ट्रभावना जागरूक केली. अशीच राष्ट्रभावना या सर्व गोष्टींचा योग्य वापर करून आपण राष्ट्रभावना वाढविणे गरजेचे आहे. कोरोना नंतरच्या जगात पुनश्च एकदा राष्ट्राचे हित ही संकल्पना प्रकर्षाने येणार, विविध देशांमधील आंतरवाद, युद्धजन्य परिस्थिती शास्त्रानं केलेला प्रचंड विकास / प्रगती व जगावर आमच्याच देशाची सत्ता असावी अशी लालसा असणारे देश. या सर्वपरिस्थितीत अध्यात्माचा धागा समाजातील ब-याच लोकांना एकत्र घट्ट बांधू शकतो. अंधश्रद्धा विरहीत अध्यात्म असेल अन् असंख्य लोकांना कोणताही आर्थिक फटका बसत नसेल व ते हे सर्व करण्यास तयार होत असतील तर तशाप्रकारचे प्रयत्न करायला हवेत.

संताच्या समाजाभिमुखतेच्या आणि लोकोपयोगी वृत्तीचा सुस्पष्ट उच्चार तुकाराम महाराजांनी केला. तुकोबारायांनी सांगितले की संत हे इतरांसाठी झीज सोसतात. अन् समाजाला सुखी करतात, -

‘अर्भकाचे साठी । पंते हाती धरिली पाटी ॥१॥

तैसे संत जर्गी । क्रिया करूनी दाविती अंगी ॥४॥

बालकांचे चाली । माता जाणुनि पाऊल घाली ॥२॥

तुका म्हणे नाव । जनासाठी उदकी ठाव ॥३॥^(४)

तसेच संताना समाजाचे हित जोपासताना समाजाकडून त्रास झाला तोही त्यांनी समाजाच्या उन्नतीसाठी सहन केला. म्हणून तुकाराम महाराज म्हणतात - ‘तुका म्हणे तोचि संत । सोशी जगाचे आघात ॥’

न्या रानडे संत चळवळीबद्दल म्हणातात, विधी व उपचार ज्ञानार्जन व चिंतन, यात्रा व उपोषणे यापेक्षा ईश्वरावर दृढ प्रेम व विश्वास ठेवून त्याचे भजन करण्याचे महत्व जास्त आहे, असे संतांनी सिद्ध केले. या सर्व त-हांनी राष्ट्रास आचारशक्ती व विचारशक्ती यांमध्ये श्रेष्ठत्व आणून देण्यास या चळवळीचाच उपयोग झाला. परधर्मी सत्तेच्या ठिकाणी एकजूटीचा एतदेशीय सत्ता पुनः प्रस्थापित करण्याच्या महत् कृत्यात पुढारीपण घेण्यास महाराष्ट्र देशाची तयारी करून दिली, तशी तयारी हिंदुस्थानातील दुसऱ्या कोणत्याही देशाची झाली नाही.”^(५)

कोरोना परिस्थितीतील दोन वर्षांचा आपण जर आढावा घेतला तर आपल्या लक्षात येईल की चोरी, दरोडे, अपघात, जातीय दंगली, इ.चे प्रमाण प्रचंड कमी झाले आहे. हे सर्व जागतिक टाळेबंदीमुळे आपणांस पहावयास मिळते. या टाळेबंदीमुळे प्रदूषणाचे प्रमाण कमी झाले, नदया, पाणवठे, समुद्र, हवा स्वच्छ रहात असतील, प्राणी-पक्षी, झाडे यांना चांगलं संरक्षण मिळत असेल तर टाळेबंदी ही लाभदायकच ठरली असे म्हणावे लागेल. आपण भविष्यात नियोजनपूर्वक टाळेबंदी जर केली तर पर्यावरणाची होणारी हानी आपणास रोखता येईल. हवा, पाणी काही प्रमाणात का होईना शुध्द लोकांना मिळेल. अध्यात्मिक गुरू जग्गी वासुदेव यांनी एका कार्यक्रमात आपले विचार मांडताना सांगितले की, कोरोना विषाणूमुळे - आत्ताच्या विश्वव्यापी साथीच्या निमित्ताने मानवी समाजास एक प्रकारे सन्मार्गच दाखवला आहे. त्यावरून धडा घेऊन जगभरातील लोकांनी विषाणूच्या भितीने नव्हे तर स्वतःच्या आरोग्यासाठी,

प्रगतीसाठी वर्षातून काही दिवस टाळेबंदीचा अवलंब करावा. टाळेबंदीसाठी पुनश्च एकदा शासनाने, समाजातील सर्व घटकांशी समन्वय साधणे गरजेचे आहे. विविध विचारांना कायद्याच्या चौकटीत एकत्र आणून जर टाळेबंदीचा प्रयोग यशस्वी झाला तर त्याचा फायदा संपूर्ण समाजाला व देशाला झाल्यावाचून राहणार नाही. शाळा, कॉलेजीस, बँका, उद्योगधंदा इ. मधील सर्व घटकांनी आपल्या उज्वल भविष्यासाठी हा विचार सर्वत्र रूजवणं गरजेचे आहे.

माणसाच्या स्वैर वर्तनाला कोरोनाने रोखलं त्याच्यावर ब-याच मर्यादा आल्या. 'हे विश्वची माझे घर' ही ज्ञानदेवांची उक्ती ख-या अर्थाने सर्वांना ज्ञात करून देण्याचे काम कोरोनाने केले. हेच अध्यात्माचे सार आहे. समाजाच्या, राष्ट्राच्या व आपल्या प्रगतीसाठी आपणास ब-याच गोष्टी कराव्या लागतील. त्यासाठी प्रदूषणविरहित शिक्षणाची गरज आहे. त्यालाही संस्काराची जोड द्यावी लागेल. म्हणूनच आदरणीय गुरुमाऊली आण्णासाहेब मोरे म्हणतात, 'संस्कार टिकला तर संस्कृती टिकेल व संस्कृती टिकली तरच देश टिकेल.' इतका मूळचा विचार संपूर्ण विश्वाला आदरणीय गुरुमाऊलींनी दिला आहे.

'सज्जन' या शब्दाला संतांनी प्रचंड महत्त्व दिले आहे. समाजात मानवतावाद निर्माण करावयाचा असेल तर सज्जनांची संख्या वाढायला हवी म्हणून संत नामदेव म्हणतात -

'नामा म्हणे गाय दूध एक सरे। साधु निरंतर वर्षे पैसा ॥

तपे व्रते दाने गोविंद पै भेटे। परिसाधु तव न भेटे ॥

नामा म्हणे संत भाग्य अलौकिक। युध्द निष्कलंक पूर्ण रूप ॥^(६)

ज्ञानदेवांनी सज्जन लोकांना मानाचे स्थान दिलेले आहे. समाज रचनेत सज्जन अत्यंत महत्त्वाचे आहेत. म्हणून ते म्हणतात - 'जो जे वांछिल तो ते लाहो। प्राणिजात'.

आदरणीय गुरुमाऊली आण्णासाहेब मोरे यांनी वागण्याची आचारसंहिताही सांगितली आहे. सद्गुरु वामनराव पै महाराजांनीही आपल्या असंख्य प्रवचनातून समाज जागृतीचे काम केलेले आहे. पै महाराज म्हणतात 'तूच आहेस तुझ्या जिवनाचा शिल्पकार' म्हणजे समाजातील प्रत्येक व्यक्तीने आपण स्वता: काय आहे, कोण आहे हे समजून घेणे गरजेचे आहे.^(७)

सुसंस्कृत, विज्ञानवादी पिढी निर्माण करत असताना पंचमहाभूतांच्या सामर्थ्याची आचरण, विविध गोष्टींची शिकवण देणे गरजेचे आहे. हीच शिकवण यापूर्वी आपल्या संतांनी दिलेली आहे ती पुनश्च एकदा अंगीकारणे गरजेचे आहे. जात, धर्म, पंथ यांच्यापलीकडे जावून समाजाच्या कल्याणासाठी माणसालाच प्रयत्न करावे लागतील.

संतवाङ्मय हे माणुसकीचे वाङ्मय आहे. तेव्हा माणसाला अधःपतनापासून सुरक्षित करण्यासाठी त्यांनी अद्वैतभक्ती हाच एक मार्ग सांगितला म्हणजे संत मानवी आयुष्यात जगण्यासाठी पर्यायही सुचवितात. म्हणूनच ते ढोंगी साधू, अत्याचारी माणूस यासारख्या समाजकटक व समाजविघातक प्रवृत्तींना साहित्यातून नाकारतात. माणसाने व्यवहारात कसे वागावे, कसे वागू नये, त्याचे परिणाम काय व कसे होतील हे संतांनी 'आधी केले मग सांगितले' अशा पद्धतीने लोकांना पटवून दिले.

माणूस जन्मतः सामान्य असतो आणि संस्काराने तो विशेष बनतो. त्याच्यामधील सामान्यत्व नाहीसे व्हायचे असेल तर त्याला प्रशिक्षणाची किंवा संस्काराची आवश्यकता आहे. माणसाचे सामाजिकरण आणि सांस्कृतिकरण हे मनाच्या प्रशिक्षणातून होत असते. हे प्रशिक्षण आजच्या काळात शिक्षणाच्या माध्यमातून दिले जाते. परंतू प्राचीन आणि मध्ययुगीन काळात अशा प्रकारच्या शिक्षणाची व्यवस्था नव्हती त्यावेळी ऋषीमुनींच्याकडून आणि मध्ययुगात संतमंडळींकडून हे मनाचे प्रशिक्षण केले गेले आहे आणि समाजस्वास्थ्य टिकवले गेले आहे.

मन ही संकल्पना मानसशास्त्रीय जरी असली तरी संतांनी फार चांगल्याप्रकारे मनाबाबत सांगितले आहे. मन ताब्यात राहणे गरजेचे आहे. म्हणून संत तुकाराम महाराज म्हणतात - 'मन करा रे प्रसन्न। सर्व सिध्दीचे कारण'. प्रत्येक माणूस निर्भय व्हायला हवा. तो ज्यावेळी निर्भय होईल त्यावेळी निश्चितपणे तो आपला व समाजाचा विकास साधेल.

अज्ञानामुळे आपल्या समाजात एक चूकीचा गैरसमज आहे तो म्हणजे मोक्ष किंवा मुक्ती ही ईश्वर देतो. खरेतर ईश्वर हे तत्व आपल्यातच आहे. तुकोबांनी आपल्या एका अभंगात म्हटले आहे, 'देह ही पंढरी। आत्मा पांडुरंग।'^(८) तसेच ज्ञानेश्वरांनी लिहिलेल्या ज्ञानेश्वरीत एक सुंदर ओवी नवव्या अध्यायात आहे. ती अशी -

'तो मी वैकुंठी नसे। भानुविधी नसे। वेळू ऐकू।

योगियाचे हृद्य उमरडून जाये। तयापाशी पांडवा।

हरपला गिवसावा। जेथ नाम घोषू बरया। असति किरें।'^(९)

ईश्वर कोठे आहे हे छान प्रकारे सांगितले आहे. हा भक्तिसाधन करणा-या साधकाच्या ठिकाणी आहे. आपल्यामध्ये ईश्वर आहे ही जाणीव आज माणसाला पुन्हा करून देणे गरजेचे आहे म्हणजे तो भयमुक्त होईल व त्याच्या हातून वाईट गोष्टी घडणार नाहीत. आज अनेक लोक शंकेमध्ये जगत आहेत. 'टु बी ऑर नॉट टु बी' हा प्रश्न विचारणारा हॅम्लेट प्रत्येकाच्या मनात आहे. शंका ही मनस्वास्थ्य बिघडवून टाकते व अनेक प्रश्न निर्माण करते. गेली दोन वर्षे आपण कोरोनात भय व शंका घेवून जगलो व जगत आहे. ही शंका मनातील घालवायची असेल तर त्यासाठी साधनेची गरज आहे. ही साधना आपल्या देशात अनेक दार्शनिकांनी सांगितली आहे. त्यामध्ये भगवान महावीर, गौतम बुद्ध, ज्ञानेश्वर, नामदेव, संत शिरोमणी, एकनाथ महाराज, तुकाराम महाराज यांना ज्यांनी आत्मसात केले ते चिंतामुक्त, भयमुक्त झालेले दिसून येतात.

संतांच्या शिकवणुकीत एक प्रकारचा भूतदयावाद आहे. हाच मानवतावाद होय. दलित, पतित, पिडित, आर्त व अभंग यांची दुःखे पाहून मन तुटते. जगातील दुःखे कमी व्हावीत हे, 'दुःरितांचे तिमिर जावो' ह्या ज्ञानेशांच्या उक्तीतून व्यक्त होते. कित्येक ठिकाणी संतांच्या सहानुभूतीचा ओघ मानवतेवर प्राण्यांपर्यंत जातो.

कोरोनाने माणसाचे जीवन उध्वस्त केलं. प्रत्येक क्षण मरण समोर आहे असं समजून लोक समाजात वावरू लागले. कोरोनाला बरोबर घेवूनच आपणाला जगावं लागेल. परंतू गरजेपेक्षा जास्त विचार केल्यास मानसिक आजाराला व विविध शारीरिक व्याधींना सामोरे जावे लागेल, या सर्वातून आपली सुटका करून घ्यावयाची असेल तर भारतीय संतांनी, तत्वज्ञानी लोकांनी सांगितलेल्या तत्वज्ञानाचा, अध्यात्माचा अवलंब करून आपणास भविष्यात आपले जीवन सुखी करता येईल.

अध्यात्मात नव-नवीन विचार प्रवाह सतत येत असतात. १९ व्या शतकाच्या उत्तरार्धात विवेकानंद, योगानंद आणि इतर अनेक योगीजनांनी भारतीय अध्यात्म युरोप, अमेरिकेत नेले. त्यानंतर अनेक जिज्ञासू व्यक्तींनी अध्यात्माचे वैज्ञानिक विश्लेषण करून प्राचीन भारतीय अध्यात्म आभ्यासपूर्वक एका नवीन दृष्टीकोनातून मांडले. पश्चिमात्य देशांमध्ये भारतीय अध्यात्माचा अभ्यास करून लोक भयमुक्त, चिंतामुक्त झालेले दिसून येतात. भारतीय योगाचा अभ्यास करून पश्चिमात्य लोकांनी अनेक आरोग्याच्या समस्या दूर केलेल्या आहेत. जे आपलं शास्त्र आहे ते तरी आपल्या लोकांना नीट माहित असणे गरजेचं आहे. रामदेव बाबांनी संपूर्ण देशाला योगाचे महत्त्व पटवून दिले. गरीब, श्रीमंत या सर्वांना योग म्हणजे अमृतसंजीवनी याचे अनमोल ज्ञान रामदेव बाबांनी समाजाला दिले. कोरोना परिस्थितीत रामदेव बाबांनी योग करून आपण आपली प्रतिकारशक्ती कशा प्रकारे वाढवू शकतो याची प्रात्यक्षिके दाखवलीत व संपूर्ण समाजाचं भलं चिंतलं.

डॉ. लीला पाटील म्हणतात, "आपली संस्कृती, उच्च परंपरा संतमहंताची शिकवण आणि नामस्मरण व भक्ती अध्यात्माचे विश्लेषण व आढे लावणारे तत्वज्ञान याचेच स्मरण, अवलंबून हेच मानसिक संतुलन राखण्यासाठी नक्कीच उपयुक्त ठरेल. तोच तर आजच्या जीवघेण्या संकटात आधारवड ठरेल."^(१०)

कोरोनाच्या महामारीतून आपण वाचलो आहोत. आपलं व आपल्या कुटुंबाच्या उज्वल भाविष्याचा विचार करता आपणास विज्ञान, अध्यात्म व योग याचा अत्यंत चांगला उपयोग करावा लागेल तरच भविष्यात एखादी महामारी आली तर आपण मनानं, शरीरानं सट्ट राहू व त्या महामारीला सहजपणे परतवून लावू. संत बहिणाईने नवज्ञानाची दृष्टी देताना म्हटले आहे की 'तुम्ही तरोगी विश्वतारा' ही अध्यात्माची शिकवणच पुढच्या शतकातील जगाला मार्गदर्शक ठरेल.

संदर्भ -

- १) डॉ. लोखंडे शशिकांत, संत नामदेवांची भावकविता एक अभ्यास, प्रज्ञाप्रबोधन प्रकाशन सांगली, पहिली आवृत्ती ३० जुलै २००८, पान नं. १९
- २) डॉ. लोखंडे शशिकांत, संत नामदेवांची भावकविता एक अभ्यास, प्रज्ञाप्रबोधन प्रकाशन सांगली, पहिली आवृत्ती ३० जुलै २००८, पान नं. ५४
- ३) डॉ. लोखंडे शशिकांत, संत नामदेवांची भावकविता एक अभ्यास, प्रज्ञाप्रबोधन प्रकाशन सांगली, पहिली आवृत्ती ३० जुलै २००८, पान नं. ५५
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कोरोना आणि जागतिक संबंध एक अभ्यास

प्रा. विष्णू धोंडीराम चव्हाण

M.A., B.Ed., SET

(MARATHI)

विठ्ठल पाटील माध्यमिक विद्यालय व

ज्युनिअर कॉलेज कळे

प्रस्तावना :-

कोरोना व्हायरसने संपूर्ण जगभर धुमाकूळ घातला आहे. संपूर्ण जग आज कोरोना महामारीने त्रस्त झाले आहे. महामारी? ही खरच महामारी आहे का? या प्रश्नाचे उत्तर शोधताना असे वाटते की संपूर्ण जगावर सत्ता गाजवू पाहणाऱ्या चीनने खेळलेले हे शीतयुद्धच म्हणावे लागेल. हो! खरच हे शीतयुद्ध आहे. हजारो लोक या कोरोनाला बळी पडत आहेत. कोरोनामुळे संपूर्ण जगातील आंतरराष्ट्रीय संबंध बिघडले आहेत. संपूर्ण जगात तणावाची परिस्थिती निर्माण झाली आहे ती कोरोनामुळेच! खऱ्या अर्थाने चीननेच या समस्येला जन्म दिला आहे. ही निर्माण कलेली परिस्थिती महासत्ता होण्यासाठी आहे की लोकसंख्या कमी करण्यासाठी आहे? असे प्रश्न मात्र तयार झाले आहेत.

संपूर्ण जगाला भीतीनं चळावळा कापायला लावणाऱ्या कोरोना व्हायरसच्या हमल्यामुळे अखिल मानवजातीच्या दिनचर्येत जीवन शैलीत काही कायमचे बदल होण्याची शक्यता निर्माण झाली आहे. राष्ट्रवादातून कोरोना या महाभयंकर विषाणुने जन्म घेतला आहे. खऱ्या अर्थाने चीननेच म्हणावे लागेल. या कोरोनाला जन्म दिला असावा. पण कशासाठी? सत्तेसाठी का? महासत्ता होण्यासाठी या शीतयुद्धाची खरच गरज होती का? यामुळे चीनला नेमका कोणता फायदा होणार? की यामुळे महासत्ता असलेल्या अमेरिकेला या परिस्थितीचा फायदा की तोटा झाला? मग परत अजुन एक प्रश्न निर्माण होतो की हे युद्ध चीन आणि अमेरिका यांच्यातला आहे का? पण त्याचे अनेक परिणे जे दुष्परिणाम झालेले आहेत, मानवी हानी झालेली आहे ती संपूर्ण जगाला झालेली आहे. आणि मग यामुळे संपूर्ण जगात राष्ट्रांमध्ये वाद सुरू झालेले आहे. आणि महत्वाच म्हणजे चीन हाच देश या वादाचं कारण बनलेला आहे. कोरोनामुळे की चीनमुळे जागतिक संबंध बिघडलेत हेच कळेनास झालं. पण बहुतांश चीनच या परिस्थितीला जबाबदार आहे.

मुळ शब्द : संसर्ग, चीन, अमेरिका, आंतरराष्ट्रीय

उद्देश :

१. कोरोना संसर्गाच्या पार्श्वभूमीवर जागतिक संबंधाचा अभ्यास करणे.
२. संपूर्ण जगात निर्माण झालेली तणावाची परिस्थिती अभ्यासणे.
३. चीनची भूमिका तपासणे.

गृहितके :-

१. जगामध्ये शीतयुद्धाची परिस्थिती निर्माण झाली आहे.
२. कोरोना संसर्गाच्या पार्श्वभूमीवर राष्ट्रांमध्ये संबंध तणावपूर्वक झाले आहेत.

संशोधनाची पद्धती :-

वर्णनात्मक आणि विश्लेषणात्मक पद्धतीचा वापर करण्यात आला आहे.

जागतिक संबंध – सद्यस्थिती आणि कोरोना –

संयुक्त राष्ट्र संघटनेच्या सुरक्षा परिषद सदस्यांच्या, नुकत्याच झालेल्या बैठकीत चीनने जागतिक आरोग्य संघटनेच्या चीनधार्जिण्या भूमिकेवर शंका उपस्थित केली. संपूर्ण जगात आम्हालाच बळीचा बकरा बनविण्याचा प्रयत्न काही देश करत आहेत. असे चीनने आपले प्रतिपादन केले आहे. मात्र चीनच्या या भूमिकेवर आक्षेप घेत अमेरिकेने कोरोना संसर्गाच्या प्रसाराबाबत चीनने वास्तविक माहिती जगासमोर ठेवण्याची मागणी केली. त्याचप्रमाणे कोरोना विषाणुची उत्तपत्ती कुठून झाली? याची चौकशी करण्याचीही मागणी अमेरिकेने या बैठकीत केली. पण यावर अमेरिकन सैन्यानेच कोरोनाचा प्रसार चीनमधील वुहान शहरामध्ये केल्याचा दावा चीनने केला. या बैठकीत कोरोनाची उत्तपत्ती व प्रसाराबाबत चीनची भूमिका छुपी असुन त्यावर अमेरिकेने शंका उपस्थित केली. अशा प्रकारे जगातील या दोन महासत्तांमध्ये कोरोना महामारी प्रसाराच्या पार्श्वभूमीवर परस्परान्वार आरोप-प्रत्यारोप सुरु झालेत. पण खर तर आरोप प्रत्यारोप करण्याची ही वेळ नाही असे चीन म्हणत असले, तरी जागतिक राजकारणातील चीनची भूमिका पाहता चीनच्या या मतावर अमेरिका व इतर राष्ट्र कितपत विश्वास ठेवतील? हे समजून खुप कठिण आहे. त्यामुळे कोरोना परिणाम हा आंतरराष्ट्रीय संबंधामध्ये शिरकाव करत आहे. त्यातूनच राष्ट्रांमधील जागतिक संबंधात तणाव पुर्ण स्थिती निर्माण होण्याचा धोका वाढलेला आहे.

कोरोनाने संपूर्ण जगात धुमाकुळ घातला आहे. त्यामुळे लाखो लोक मृत्युमुखी पडत आहेत. काही काही देशांची अर्थव्यवस्था खिळखिळी झाली आहे. विकसित देशांची कोसळणारी अर्थव्यवस्था आपल्यासारख्या विकसनशील देशांच्या अर्थव्यवस्थेवर आलेला अतिरिक्त भार आणि योच्या बरोबरीने अविकसित देशामध्ये हळुहळु शिरकाव करणारा कोरोना व्हायरस हीच सध्याची सत्य परिस्थिती आहे. मग परत प्रश्न निर्माण होतो की ही परिस्थिती कशी निर्माण झाली? कोणी निर्माण केली आणि मग संपूर्ण जगातून एकच उत्तर मिळते, ते म्हणजे चीन! कोरोना विषाणुला अमेरिकेचे माजी राष्ट्राध्यक्ष डोनाल्ड ट्रम्प यांनी 'चीनी व्हायरस' असे म्हटले आहे. पण कोरोनासंबंधात कोणीही राजकारण करू नये अशी भूमिका चीनने व्यक्त केली आहे. मात्र अमेरिकेला चीनकडून कोरोना विषयी संपूर्ण सत्य माहिती हवी आहे. चीन कोरोना प्रसाराचा सर्वकष अहवाल सार्वजनिकपणे जगजाहीर का करत नाही? असा प्रश्न अमेरिकन उपस्थित केलेला आहे चीनमधील सी फुड मार्केटमधून कोरोनाची उत्पत्ती झालेली असल्याचा दावा अमेरिकेने केला आहे तसेच सी फुड मार्केटवर बंदी घालण्याची मागणी ही अमेरिकेने केली आहे. चीनने अमेरिकेविरुद्ध जी भूमिका घेतली आहे त्यामुळे अमेरिकेमधील चीनी लोकांच्या नोकऱ्या धोक्यात येऊ लागल्या आहेत.

अशाप्रकारे अमेरिका आणि चीन यांच्या परस्पर विरोधी भूमिकेमुळे त्यांच्या आणि त्याचबरोबर दोघांच्याही मित्रराष्ट्रांमधील परस्पर संबंधात तणाव निर्माण होण्याची शक्यता वाढलेली आहे. कोरोना आजारवर रामबाण औषधांचा वापर करून हा आजार नियंत्रित ठेवण्याचे प्रयत्न जगभर सुरु आहेत. भारत देशात मलेरियाच्या उपचारासाठी वापरले जाणारे हायड्रोक्लोरिन हे औषध कोरोनाच्या उपचारासाठी वापरले जात आहे. तसेच या औषधाचा प्रभाव कोरोना विषाणूच्या विरोधात चांगला दिसून आलेला आहे. आणि म्हणूनच अमेरिकन या औषधाची मागणी भारताकडे केलेली होती. तसेच या औषधाची निर्यात भारताने केली नाही तर त्याचे वाईट परिणाम होतील ही धमकी अमेरिकेने भारताला केलेली सर्व जगाने पाहिले आहे. पण मानवतेसाठी आणि अमेरिकेतील भारतीय लोकांच्या नोकऱ्या टिकाव्यात यासाठी भारताने अमेरिकेला या औषधांची निर्यात केली आहे. अशा घटनांमुळे अमेरिका व भारत यांच्यातील भविष्यकालीन जागतिक संबंधात परिणाम संभवू शकतात.

संपूर्ण जगातील मानवजात नष्ट करण्याची युद्ध सामग्री अमेरिकेकडे आहे. परंतु संपूर्ण अमेरिका जगवण्यासाठी त्यांच्या राष्ट्राध्यक्षांना भारताकडे औषधांची मागणी करावी लागते. यातूनच भारताचे जगातील महत्व स्पष्ट होते.

अशातच एकिकडे संपूर्ण जग या कोरोनाशी संघर्ष करत असताना चीन मात्र युद्धाचा सराव करत असल्याचे चित्र समोर आले आहे. तसेच तैवान व उत्तर कोरिया या मित्रराष्ट्रांनाही युद्धासाठी सज्ज राहण्याचा

सल्ला चिन्ने दिला आहे.उत्तर कोरियाने नुकतीच क्षेपणास्त्रांची चाचणीही केलेली आहे. चीन व मित्र राष्ट्रांची ही तयारी म्हणजे तिसऱ्या महायुद्धाची पहाट तर नव्हे? असा प्रश्न जगातील इतर राष्ट्रांसमोर उभा राहिलेला आहे. त्यामुळे राष्ट्रांमधील परस्पर संबंधात तणावपूर्ण स्थिती निर्माण होण्याचा धोका आहे.

थोडक्यात कोरोनाच्या पार्श्वभूमीवर अमेरिका व चीन या दोन्ही महासत्तांमधील शीतयुद्धाला रंग चडत आहे. यामुळे संयुक्त राष्ट्रसंघ व संयुक्त राष्ट्रसंघाच्या सुरक्षा परिषदेतही तणाव निर्माण होण्याची शक्यता जास्त आहे. यातून राष्ट्रांमधील जागतिक संबंधात तणाव वाढू शकतो. जगाच्या इतिहासावरून हे स्पष्ट होते की जेव्हा – जेव्हा आंतरराष्ट्रीय स्तरावर विविध राष्ट्रांमध्ये तणावाची स्थिती निर्माण झाली. त्यावेळी अनेक युद्ध जगामध्ये झालेली आहेत. अशी वेळ कोरोनामुळे निर्माण झालेल्या आंतरराष्ट्रीय संबंधातील तणावपूर्ण स्थितीमुळे आणि प्रामुख्याने अमेरिका व चीनच्या भूमिकेमुळे येणार नाही याची दक्षता संयुक्त राष्ट्रसंघ व संपूर्ण जागतिक समुदायाने वेळीच घेणे आवश्यक आहे. तेव्हाच संपूर्ण जगातून कोरोनाच नव्हे तर असे अनेक विषाणु नष्ट होणार आहेत.

निष्कर्ष :-

- १) चीनची भूमिका संशयास्पद आहे.
- २) जागतिक महासत्ता होण्यासाठी चीन व अमेरिका यांच्यात स्वर्धा लागलेली आहे.
- ३) जागतिक संबंधात तणावाची स्थिती निर्माण होणे हे जागतिक शांततेसाठी विघातक आहे.
- ४) कोरोना विषाणूच्या प्रसाराला आंतरराष्ट्रीय समुदाय चीनला जबाबदार मानत आहे.

संदर्भग्रंथ :-

- १) दैनिक लोकमत दि. २२ एप्रिल २०२०
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- ४) <https://mu.ac.in>

भारताची विकासनीती आणि लिंगभाव

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गोषवारा —

भारत दारिद्र्याच्या दुष्टचक्रात आडकलेला होता. देशाचे दरडोई उत्पन्न खूपच कमी होते. आर्थिक विकासाकरिता देशात पुरेशी संसाधने नव्हती. भारतीय उद्योगधंद्यात प्रवेश मिळवण्यासाठी गुंतवणूकीवर अनेक निर्बंध लादण्यात आले होते. आर्थिक प्रोत्साहनासाठी तांत्रिक सहाय्याची गरज होती. विकसनशील देशांमध्ये रोजगाराच्या संधी वाढवण्यासाठी, औद्योगिक विकास करण्यासाठी नवीन आर्थिक धोरणाची गरज आहे असा विचार पुढे येऊ लागला. यामधून १९९१ ला जागतिकीकरण, खाजगीकरण आणि उदारीकरण हे धोरण स्वीकारले. प्रस्तुत धोरण हे देशाच्या विकासाला चालना देईल या हेतूने स्वीकारले गेले. नवीन आर्थिक धोरणातून सर्वच घटकांचा विकास होईल, उन्नती होईल असे अपेक्षित होते परंतु लैंगिकतेच्या आधारे अभ्यास केला असता असे लक्षात येते की, या सर्व विकास प्रक्रियेतून स्त्रिया ह्या वंचितच राहिल्या आहेत. स्त्रिया ज्या ज्या क्षेत्रात काम करतात, ज्या उद्योगावर त्यांची उपजीविका चालते त्यावर भारताने स्वीकारलेल्या प्रस्तुत धोरणाचा प्रतिकूल परिणाम झालेला आहे. 'स्त्री' च्या श्रमाचे लैंगिकतेच्या आधारे मूल्यमापन करताना स्त्रियांना दुय्यम लेखले आहे . या पाश्र्वभूमीवर भारताने स्वीकारलेल्या नवीन आर्थिक धोरणाचा परिणाम लैंगिकतेच्या आधारे अभ्यासणे गरजेचे आहे.

प्रस्तावना —

भारतात १९७५ पासून स्त्रीवादी अभ्यासाकरीता वेगवेगळे मुद्दे पुढे आले. अर्थव्यवस्थेतील बदल, भारताची विकासनीती, स्त्रियांच्या श्रमाचे, घरकामाचे मूल्यमापन इत्यादी विषयांच्या आधारे स्त्रीवादाचा अभ्यास केला गेला. यामध्ये आणखी एक मुद्द्याची भर घातली गेली ती म्हणजे नवी विकासनीती म्हणून अंगिकारलेले नवे आर्थिक धोरण. नव्या आर्थिक धोरणाचा भारतीय स्त्रियांच्या परिस्थितीवर काय परिणाम झाला याबाबत विविध मतमतांतरे आहेत. नव्याने स्वीकारलेले खासगीकरण, उदारीकरण आणि जागतिकीकरण याचा लोकांच्या निर्वाह साधनावर मोठ्याप्रमाणात परिणाम झाला. पारंपारिक उद्योग व्यवसाय अडचणीत आले. शेतीआधारीत व्यवसाय धोक्यात आले. स्त्रिया या व्यवसायावर मोठ्याप्रमाणात अवलंबून असतात. कुटुंबाला जगवतात. त्या उपजीविकेच्या व्यवसाय धोक्यात आले. म्हणूनच लिंगभाव परिप्रेक्ष्यातून भारताने आखलेल्या विकासनीतीचा अभ्यास होणे क्रमप्राप्त आहे.

स्वातंत्र्योत्तर काळातील भारतीय अर्थव्यवस्थेतील बदल —

१९४७ नंतर भारताने आर्थिक व सामाजिक परिवर्तनासाठी आर्थिक आणि सामाजिक नव नवीन मार्ग स्वीकारले. सामाजिक न्याय प्रस्थापित करण्यासाठी आणि संधीमधील आसमंत दूर करण्यासाठी समाजवादी आर्थिक विकासाचे उद्दिष्ट ठेवले होते याकरिता भारताने लोकशाही, निधर्मीवाद, कल्याणकारी आणि नियोजनबद्ध विकास या तत्वांचा स्वीकार केला होता. नियोजनाच्या या प्रक्रियेत शासनाची भूमिका महत्त्वाची असल्याने भारताने मिश्र अर्थव्यवस्थेचे प्रारूप स्वीकारले. शासनाने रस्ते, वाहतूक, धरणे, वीज, लोखंड, पोलाद इत्यादी क्षेत्रात गुंतवणूक करून सार्वजनिक क्षेत्राचा पाया घातला. वसाहतवादांमुळे देशात अनेक आवाहने निर्माण झाली होती. दारिद्र्य, बेकारी, अर्धबेकारी, दुष्काळ इत्यादी समस्यांनी जनता त्रस्त होती. आर्थिक विकासासाठी शासनाने औद्योगिकरणाला चालना दिली होती. कल्याणकारी योजनांचा प्रोत्साहन दिले गेले. शिक्षण, आरोग्य यासारख्या सेवा क्षेत्रात गुंतवणूक केली गेली. शेती क्षेत्रामध्ये सहकार तत्वावर मोठे बदल करण्यात आले.

मात्र देशात प्रस्तुत काळात जो विकास झाला तो तळागळात पर्यंत पोहचला नाही. देशातील बहुसंख्य लोक शिक्षण, रोजगार, आरोग्य आणि एकूणच विकासप्रक्रियेच्या मुख्य प्रवाहातून वगळले गेले. स्त्रियांची स्थिती अधिक चिंताजनक होती हे १९७४ मध्ये प्रसिद्ध झालेल्या 'समानतेचा दिशेने' या अहवालातून स्पष्टपणे लक्षात येते १९७५ ते ८५ हे दशक संयुक्त राष्ट्रसंघाने 'महिला दशक' म्हणून जाहीर केले यामधून विकासप्रक्रियेतून स्त्रियांचे परिघाबाहेर फेकले जाणे याविषयावर सखोल चर्चा सुरु झाली आणि यातूनच नव्या स्त्रीवादी जाणिवांचा उदय झाला. 'श्रमशक्ती' या १९८८ मध्ये प्रसिद्ध झालेल्या अहवालाने स्वयंरोजगार करणाऱ्या 'असंघटीत क्षेत्रात राबणाऱ्या स्त्रियांची परिस्थिती नमूद केली या अहवालातून हे सिद्ध झाले कि, अनेक स्त्रिया आजही शेती, मासेमारी, वनजमिनीवरी उत्पादन या प्राथमिक क्षेत्राशी निगडित आहेत. आणि आपल्या कुटुंबाच्या उपजीविकेसाठी त्यांच्यावर अवलंबून आहेत.

अर्थव्यवस्थेत संपूर्ण सहभाग असूनसुद्धा स्त्रियांची आर्थिक व सामाजिक स्थिती दुय्यम का राहते याचा सखोल विचार करणे गरजेचे आहे. स्त्रिया सतत घरात व घराभोवती केल्या जाणाऱ्या असंख्य कामामध्ये गुंतलेल्या असतात. प्रस्तुत कामे त्यांच्या व त्यांच्या कुटुंबाच्या उपजीविकेसाठी अतंत्य महत्वाची असतात. परंतु भारतातच नव्हे तर अनेक देशांच्या जनगणनामध्ये सुद्धा अनेक वर्ष या कामांना काम म्हणून धरलेच गेले नव्हते. याचे कारण आपल्याला पुरुषप्रधान भांडवलशाही चौकटीमध्ये पाहायला मिळते. मोबदल्यासाठी केले जाणारे, ज्यांच्यासाठी दिवसाचे काही तास कामाच्या ठिकाणी म्हणजेच घराबाहेर जावे लागते, ज्याचा प्रत्यक्ष उत्पादनाशी सरळ संबंध असतो तेच फक्त काम, या व्याख्येमुळे स्त्रियांची अनेक कामे 'काम' या संकल्पनेतून वगळली जातात. त्यामुळे उत्पादन प्रक्रीमध्ये त्यांना संपूर्ण विकसित श्रमिक म्हणूनही सामावून घेतले जात नाही. या सर्वांचा परिणाम म्हणून त्यांच्या कामाला योग्य मोबदला दिला जात नाही. यातून समाजामध्ये स्त्रीच्या दुय्यमत्वाला आधार मिळतो. धोरणकर्ते कामाची व्याख्या करताना फक्त नोकरी धंद्यांना डोळ्यासमोर ठेवत असल्यामुळे मोठ्या प्रमाणावर स्त्री कामगार अनेक धोरणापासून आणि योजनापासून वंचित राहतात. या दृष्टिकोनाचा असा परिणाम झाला की, स्वतंत्र भारताच्या आर्थिक विकासाच्या प्रक्रियेत लहान मोठे उद्योगधंदे करणाऱ्या महिला, शेतातून राबणाऱ्या महिला, स्त्रिया दिसल्याच नाहीत. स्वातंत्रोत्तर विकासाच्या प्रक्रियेत बहुसंख्य स्त्रियांच्या परिस्थितीची घसरणच झाली आहे.

भारताची आर्थिक पुनर्रचनेची प्रक्रिया आणि लिंगभाव

भारताने स्वीकारलेली आर्थिक पुनर्रचनेची प्रक्रिया आणि लिंगभाव याचा अभ्यास करताना प्रस्तुत प्रक्रियेचा स्त्रियांच्या उपजीविकेवर कसा परिणाम झाला हे अभ्यासणे गरजेचे आहे.

१९९१ पासून भारताने जागतिक अर्थव्यवस्थेशी जुळवून घेण्यासाठी नव नवीन बदल केले. शिक्षण, आरोग्य, अन्न, निवारा इत्यादी सेवांचे खासगीकरण, वित्तीय व्यवहार, आयात – निर्यात धोरणांमध्ये बदल इत्यादी ठळक बदल भारताने केले. नवीन आर्थिक धोरणाचा स्वीकार केल्यानंतर भारताच्या अंदाजपत्रकामध्ये शिक्षण, पाणी, आरोग्य, घरबांधणी, रोजगार निर्मिती आणि इतर किमान मुलभूत सेवा यावरील खर्च कमी करण्यात आला. आणि खासगीकरणाचा पर्याय स्वीकारला. अधिकाधिक सेवा क्षेत्रांचे खासगीकरण केले जाऊ लागले. याचा प्रभाव स्त्रियांच्या जीवनावर पडत होता. शिक्षण महाग झाले की, प्रथमता मुलींचे शिक्षण बंद केले जाते. आरोग्याच्या बाबतीत स्त्रियांकडे फारसे लक्ष दिले जात नाही. महागाई, आणची टंचाई, विस्थापन, दारिद्र्य, विषमता याचे परिणाम समाजातील आणि कुटुंबातील दुय्यम स्थानामुळे जास्त होतात. खरं तर उदारीकरणाच्या धोरणामुळे स्त्रियांचा समाजातील स्थान हे उंचावण्यासाठी चांगल्या दर्जेदार सार्वजनिक सेवा व्यापक प्रमाणात उपलब्ध करून देण्यासाठी दिल्या पाहिजे होत्या परंतु या धोरणाचा नेमका उलटा परिणाम झाला आहे हेच वरील विश्लेषणावरून सिद्ध होते.

खासगीकरण, उदारीकरण आणि जागतिकीकरणाच्या धोरणाचा शेती क्षेत्रावर देखील मोठा प्रभाव पडला. शेती क्षेत्रात बहुराष्ट्रीय कंपन्यांनी शिरकाव केल्यामुळे मोठे बदल करण्यात आले आहेत. बहुराष्ट्रीय कंपन्यांनी अन्नधान्याचा साठा आणि पुरवठा यावर मक्तेदारी केल्यामुळे शेतकरी अडचणीत आला. शेतीवर लादलेल्या विविध अटींमुळे शेतकरी कुटुंबावर विदारक परिणाम घडून येऊ लागले. यामुळे ग्रामीण विकासाला अधोगती सुरु झाली. शेतकरी मोठ्याप्रमाणात कर्जबाजारी झाले. शेतीवर मिळणारे टप्पाटप्पाने मिळणाऱ्या अनुदानावर कपात केल्यामुळे

लहान शेतकऱ्यांची उपजीविका धोक्यात आली. लहान शेतकऱ्यांमध्ये स्त्रियांची संख्या हि खूप होती. यामधूनच शेतकऱ्यांच्या आत्महत्या वाढल्या त्या आजही अव्याहतपणे चालू आहेत. अनेक शेतकऱ्यांनी जमिनी तुटपुंज्या किंमतीला विकून शहरामध्ये स्थलांतर करून बिगर शेती व्यवसायाकडे वळत आहेत. परंतु आजही ग्रामीण भागामध्ये स्त्रियांचे उपजीविकेचे साधन शेती हेच आहे.

शेतीबरोबर उदारीकरणाच्या धोरणाचा परिणाम लोकांच्या इतर उपजीविकेच्या साधनावर झाला. मत्स्य व्यवसाय, दुग्ध व्यवसाय, हातमाग यासारख्या असंख्य पारंपारिक व्यवसायावर उदारीकरणाचा परिणाम झाला. शेतीला जे पूरक व्यवसाय आहेत त्यामध्ये स्त्रिया मोठ्याप्रमाणात अवलंबून आहेत. नवीन आर्थिक धोरणामध्ये आयातीवरील संख्यात्मक निर्बंध हटवल्यामुळे बाजारपेठा आयातीकरिता खुल्या करण्यात आल्या. यामुळे आयात केलेल्या वस्तूबरोबर 'मुक्त बाजारपेठेत' स्पर्धा करावी लागत आहे. हातमाग सारख्या व्यवसायातून खूप लोकांना रोजगाराच्या संधी उपलब्ध होत असत. परंतु बदललेल्या धोरणामुळे बेकार झालेल्या विणकराना उपासमारीची वेळ आली आहे. भारतात समुद्रकिनार्यावर मच्छीमारी करायला बहुराष्ट्रीय कंपन्यांच्या बोटीना परवानगी दिल्यामुळे भारतीय मच्छीमारासमोर मोठे आव्हान उभे राहिले आहे. मत्स्यव्यवसायामध्ये स्त्रियांचा सहभाग हा खूप मोठा आणि महत्वाचा आहे. ग्रामीण भागामध्ये दुग्ध व्यवसाय हा मोठ्याप्रमाणात सुरु असतो. शेतीला पूरक व्यवसाय म्हणून ग्रामीण भागातील लोक यावर अवलंबून असतात. दुग्ध व्यवसायामध्ये स्त्रियांचा सहभाग अधिक आहे. परंतु यामध्येही आयातीवरील निर्बंध उठवल्यामुळे हा ही व्यवसाय संकटात सापडला आहे.

१९८० नंतरच्या आर्थिक बदलामध्ये स्त्रियांच्या, विशेषतः कष्टकरी स्त्रियांच्या जीवनावर दूरगामी परीणाम झालेले आहेत. शासनाने कल्याणकारी योजनामधील शासकीय खर्चात कपात केली. सार्वजनिक अन्न वितरण व्यवस्था, सार्वजनिक आरोग्य सेवा, शिक्षण यांचे खासगीकरण आणि सेवांना मुक्त बाजारपेठेतील स्पर्धेसाठी खुले केले. बी - बियाणे व खते यांच्यावरील अनुदान कमी केले. शेतीमालाच्या भावावरील नियंत्रण संपुष्टात आणले इत्यादी बदलामुळे स्त्रियांच्या अस्तित्वासाठीचा संघर्ष अधिक वाढला आहे.

समारोप

भारताने स्वीकारलेल्या विकासनीतीचे समाजातील सर्वच घटकावर अनुकूल परिणाम अपेक्षित होते. परंतु लैंगिकतेच्या आधारे वेगळीच गुंतागुंत पाहायला मिळते. स्त्रियांच्या जीवनावर आणि त्यांच्या कामावर विपरीत परिणाम पहावयास मिळतात. एकीकडे राष्ट्रीय आणि आंतरराष्ट्रीय स्तरावर स्त्रियांना रोजगाराच्या संधी उपलब्ध होतील असे चित्र निर्माण केल गेले. परंतु रोजगाराच्या स्वरूपाबद्दल मात्र पुष्कळ प्रश्न निर्माण झाले. किरकोळ, कंत्राटी असुरक्षित स्वरूपाची कामे करणाऱ्यामध्ये स्त्रियांचे प्रमाण वाढले. आतिथ्य क्षेत्र, हॉटेल व्यवसाय, किंवा मोठ्यामोठ्या दुकानामध्ये वस्तू विकण्यासाठी तसेच पर्यटन किंवा मनोरंजन उद्योगामध्ये तात्पुरते कमी वेतन देणारे, तसेच त्यांच्या श्रमाच्या शारीरिक आणि लैंगिक बाजूंवर भर देणारे वस्तुरुपीकरण करणारे रोजगार त्यांच्या वाट्याला आले. आणि स्त्री कामगारांचे मोठ्याप्रमाणात शोषण झाले आहे.

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