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Spatial Analysis of Enrolment of Scheduled Tribe Population in Educational Institutions of Osmanabad District

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Abstract

The present paper deals with the spatial analysis of enrolment of scheduled tribe population in Osmanabad district. Literacy and enrolment of population are closely related to each other. Scheduled tribe population literacy level is very low compared with general literacy. Gender disparity in literacy and enrolment of population in educational institutions are closely associated with each other. The present study is based on 2005, 2010 and 2018 population data.

Introduction

Education plays very vital role in socio economic development of any society. Scheduled tribe populations are away from the main stream of society. Constitution of India gives some of the rights to bring scheduled tribe population in main stream. Education history of scheduled tribe population was not much satisfactory. Still most of the scheduled tribes are not part of main society. Government, NGOs and many social workers were tried to bring them into main stream of Indian society. Literacy and enrolment of population in educational institutions were closely related to each other.

Osmanabad districts population share Scheduled caste and scheduled tribe, other backward category. Out of scheduled tribe population was very low compare to other type of population.

Objective: -

The present study is based on certain specific objectives. 1. To study enrolment of scheduled tribe population in educational institutions of Osmanabad district. 2. To study spatio temporal changes in enrolment of Scheduled tribes population in educational institutions of study area. 3. Spatial analysis of causes and consequences of enrolment of scheduled tribe population in respect of gender disparity.

Study Area: -

Osmanabad district is located in Maharashtra state. It is located on east side of Marathwada region. The latitudinal extent of study area is 17° 35' to 18° 40' north and longitudinal extend between 75° 16' to 76° 40' east. . It is situated about 600 m above mean sea level. Manjra and Terna are major are seasonal river mainly flow in rainy season. Temple of goddess Tuljabhavani at Tuljapur is famous in India. There are eight Tahsil in the district. The Osmanabad district comes under drought prone area. Average annual rainfall in within the district is 730mm.

Methodology and Data Collection: -

The present study is a micro level study covering an entire district as the study area. Therefore, the analysis is purely based on different secondary sources like the census of India, socio economic abstracts. The data is divided in various categories. The comparative approach is adopted for present study.

**Table No 1 Enrolment of Scheduled Tribes population in educational
Institution in Osmanabad district (Population in thousands)**

Tahsil	Category	2005	2010	2018
Paranda	Male	277	177	145
	Female	172	169	165
	Total	449	346	310
Bhoom	Male	505	227	278
	Female	189	204	232
	Total	694	431	510
Washi	Male	649	359	405
	Female	319	333	411
	Total	968	692	816

Kalamb	Male	848	759	881
	Female	441	570	664
	Total	1289	1329	1545
Osmanabad	Male	3087	1570	1738
	Female	1289	1283	1532
	Total	4376	2853	3270
Tuljapur	Male	1126	534	645
	Female	367	350	403
	Total	1493	884	1048
Lohara	Male	354	278	196
	Female	145	178	163
	Total	449	456	359
Omerga	Male	1327	898	951
	Female	523	680	715
	Total	1850	1578	1666
Total	Male	8173	4802	5239
	Female	3445	3767	4285
	Total	11618	8569	9524

Source: Socio economic abstract Osmanabad district 2005,2010,2018

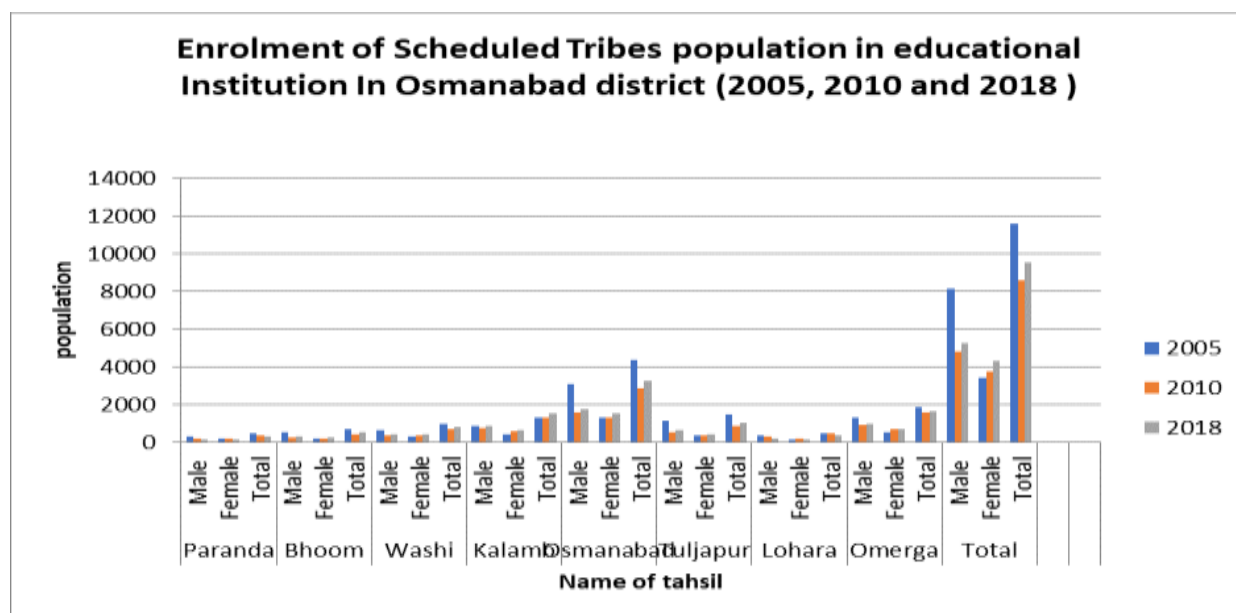
Enrolment of Scheduled tribe population in educational institution In Osmanabad district

Schedule tribe population was very less compared to schedule caste population in the district state and nation. Most of the schedule tribe population were lived in forest. They are away from the main society. After independence government policy and constitutional rights promotes them to come into the main stream of society.

In Maharashtra, especially in Marathwada region schedule tribe populations were very backward compared to other parts of the state. Osmanabad district is one of the district in Marathwada region where scheduled tribe population socially and economically backward.

As a result literacy rate and enrolment of scheduler tribe population in educational institution was very low compared to schedule caste and other category.

As compared to total population in the district population was very low. In the district in 2005, there was 11618 population enrolled in education institution. Out of them 8173 were male and 3445 were female. These show the wide gender gap in enrolment of scheduled tribe population in the study area. if compared with 2010 and 2018 this was highest schedule tribe population were enrolled. The tahsil wise pattern also shows diverse in nature in terms of enrolment of scheduled tribe population. The highest enrolment of scheduled Tribes population was recorded in Osmanabad tahsil with 4376 and lowest in Paranda and Lohara with 449 in both tahsils. In all tahsils there was wide gender gap in enrolment of scheduled tribe in the district. Osmanabad tahsil shows highest male female scheduled tribe population in educational institution in the year 2005. In the year 2010 there was total 8569 schedule tribe population were enrolled in educational institutions in the study area. It is less compared to 2005, out of 8569 schedule tribe population, 4802 were male and 3767 were female scheduled Tribes population enrolled in 2010. As compared to 2005 male female population and development there are also decreases. The highest schedule tribe student enrolment recorded in Osmanabad tahsil with 2853 and lowest in Paranda tahsil with 346. As compared with 2005 to 2010 still there was a gender disparity in enrolment of population in all the tahsils in the study area. But, compared to 2005 Washi, Kalamb, Lohara and Omerga were increase in female enrolment in 2010.



Graph No 1 In the year 2018 there was slightly increased the enrolment of population in the district with 9524. Out of 5239 were male and 4285 female. This shows there was wide gender gap in enrolment in 2018. In the last two years there was increased in 1045 population in Osmanabad district. As compared to 2005 the total enrolment of schedule tribe population was less but high compared to 2010.

The highest enrolment of scheduled Tribes population were recorded in again in Osmanabad tahsil with 3270 and lowest in again in Paranda tahsil with 310. Osmanabad tahsil shows highest enrolment of population in 2005 2010 and 2018, it is because Osmanabad tahsil had a district headquarter with having high population and more educational facilities. Paranda and Washi tahsils recorded higher female scheduled tribe population enrolments compare to male in the district.

Causes and consequences of enrolment of Scheduled tribe population in respect to gender disparity in literacy

Low level of literacy status of parents results low level of enrolment of scheduled tribe population in educational institutions. Child marriage, unemployment, poverty, illiteracy are the main reasons of low level of enrolment of scheduled tribe population in educational institutions. Its affect on the gender disparity in literacy.

Conclusion

1. The enrolment of scheduled tribe population decreased continuously from 2005 to 2018.
2. The enrolments of scheduled tribe population of female were increased continuously from 2005 to 2018 with 3445 to 4285.
3. The enrolments of scheduled tribe population of male were decreases in 2010 but again increases in 2018.
4. The highest enrolment of male scheduled tribe population were recorded in 2005 with 8173.
5. The highest enrolments of scheduled tribe male and female population were recorded in Osmanabad tahsil in 2005, 2010 and 2018.

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Agricultural Productivity Of Summer Rice In Kolhapur District: Maharashtra

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Introduction:

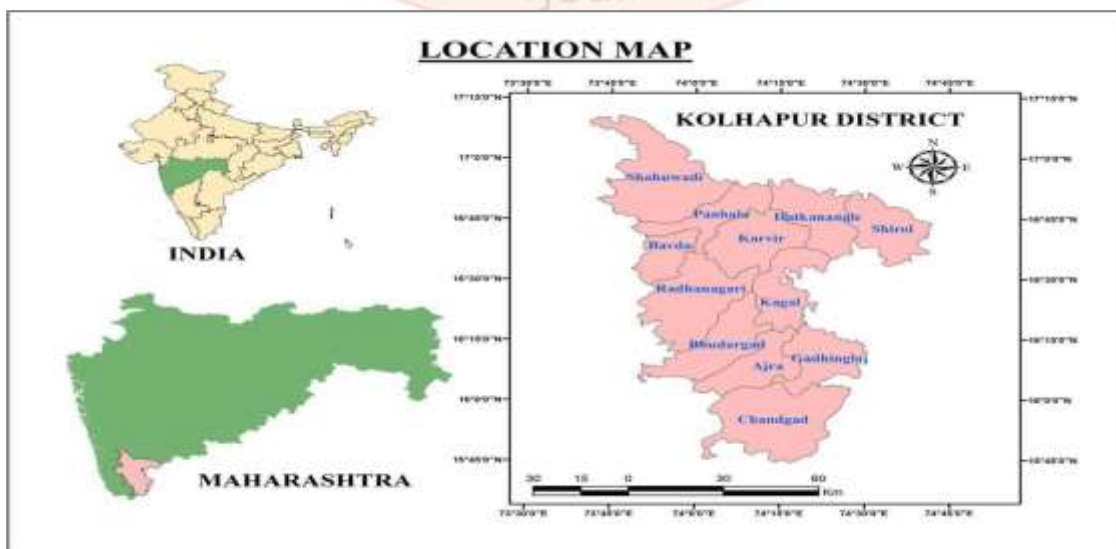
Now a day's explosively increasing population is one of the foremost challenge facing the world in general and underdeveloped and developed countries in particular. This resulted in food shortage worldwide. Inadequate production of food grain is one of the most important reasons behind food scarcity. Thus there is need to increase the agricultural production especially food grains. There are several ways to enhance the production such as advanced technologies, high yielding varieties of crops, multi crop farming etc. But these techniques further have constraint of physical and climatic conditions, socio-economic constraint, traditional methods of farming etc. due to these constraints regional imbalance in food crop production is seen all over the world. Therefore better planning developmental activities in agricultural practices are required which will help to increase crop productivity in real sense.

The agricultural productivity is considered as very complex and multidimensional concept. However, number of scholars has invented several techniques to compute efficiency in the level of agricultural productivity. Kendall (1939) has suggested a method of determining agricultural efficiency which is based on output per unit area and put forth a system of ranking co-efficient. He considered the hectare yield of ten leading crops for 48 administrative countries and energy co-efficient on starch equivalent technique for measuring the productivity. In 1964 Sapre and Deshpande modified the ranking co-efficient approach by giving weightage to area under different crops. They had used weighted average ranks instead of simple average ranks.

Key Words: Agricultural Productivity, Agricultural Efficiency, Food Shortage.

The Study Region:

Kolhapur district is the southernmost district of Maharashtra. The Kolhapur district lies between 15°4'' and 17°1'' North latitudes and 73°4'' and 74°4'' East longitudes. It is located totally on Panchaganga basin. The average height above mean sea level varies from 390 to 600 metres. The East West extent of the district is about 75 kms and North South it is about 102 kms. The Kolhapur district comprises the area of 7685 sq. km. which is 2.47% of state's area. The district is bounded by Sangli district towards North, Ratnagiri and Sindhudurg towards West and on the South and East it has a common boundary with Karnataka state. For administrative purpose it is divided into 12 tahsils namely from North to South as Shahuwadi, Panhala, Hatkanangale, Shirol, Karveer, Bawada, Kagal, Radhanagari, Bhudargad, Ajra, Gadhinglaj and Chandgad.



Methodology:

In present study crop productivity is computed for Kolhapur district. Kolhapur district has diversity in local relief, climate, soil and irrigation facilities. The region exhibits both hill ranges towards west and plateau towards eastern side with local undulating sloping. It has affected the distribution of rainfall and temperature. Among several methods of calculating agricultural productivity Kendal's method with some modifications was chosen to compute crop productivity of Kolhapur district. The most popular indicator of land productivity is crop yield. The spatial distribution of productivity for every crop was measured, mapped and interpreted for Kolhapur district. The modified formula for crop productivity is as below:

$$\text{Productivity Index} = \frac{CR}{N}$$

Where,

CR = sum of rank for a crop. N = number of years.

Summer Rice:

Rice is the staple crop of India. It is grown well in hot and moist climate.

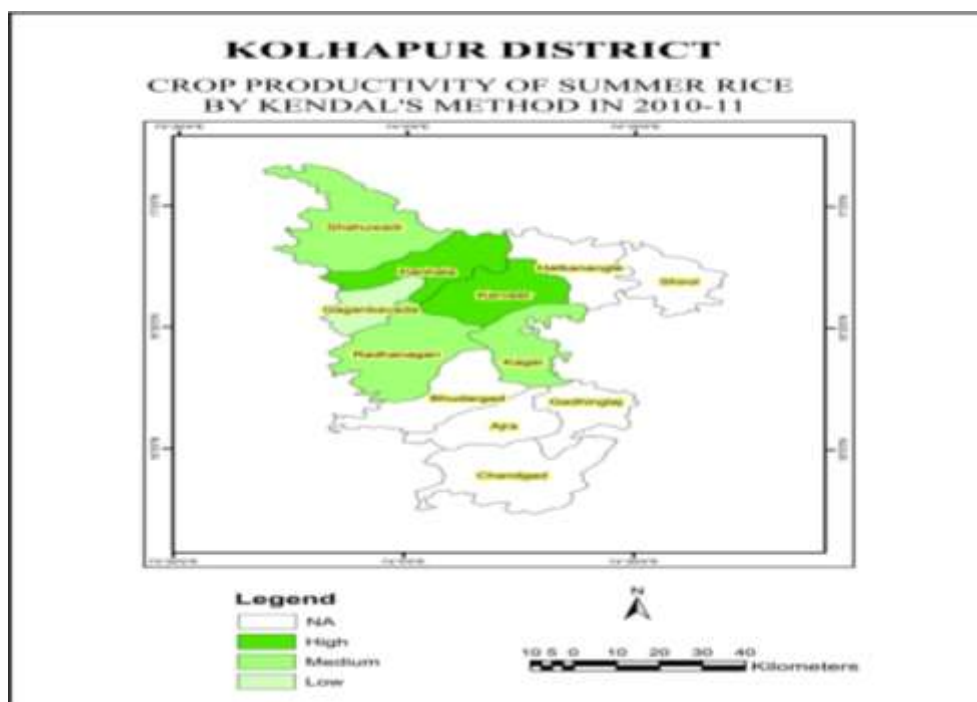
Geographical condition:

Some of the geographical conditions for Rice Cultivation are given here. 16° C – 27° C and rainfall 100 cm to 200 cm is ideal for rice growing. Though rice is cultivated only in heavy rainfall regions, rainfall during harvest times is harmful. Annual average temperature around 24° C is ideal for rice growth. Rice is grown well on the alluvial soil or on the fertile river basins. It is also grown in mixed soil or loamy and clayey soil. Instead of heavy rainfall the soils should also have their own water holding capacity.

Plain lands or gentle slopes are suitable for the production of rice. Because stagnancy of water is must for the cultivation of rice. In hilly regions terraced farming is the common picture in rice cultivation.

Kolhapur District: Productivity of Summer Rice- 1981-2011

Sr.no.	Tahsil	Productivity
1	Hatkangale	0.00
2	Shirol	0.00
3	Panhala	1.82
4	Shauwadi	4.00
5	Radhanagri	3.18
6	Bavada	6.00
7	Karveer	2.64
8	Kagal	3.00
9	Gadhingalaj	0.00
10	Bhudargad	0.00
11	Ajra	0.00
12	Chandgad	0.00



Source: Compiled by Researcher

Conclusion:

The spatial distribution of Summer Rice is depicted in fig. no. 5.6 Summer Rice is taken only in six talhils of Kolhapur district. Among them the highest productivity is observed over Panhala (1.82) and Karveer (2.64) talhils. The lowest productivity of Summer Rice is found in Gaganbavada (6.00) talhil. On the outset Kagal (3.00) and Radhanagari (3.18) showed high productivity where, in Shahuwadi (4.00) the moderate productivity of Summer Rice is recorded. Though the Rice requires heavy rainfall these talhils grow rice in summer season too. All the above talhils has the suitable environmental conditions throughout the region.

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An Overview of Geographical Factors in Aurangabad District (Maharashtra State)

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Abstract

The natural composition of any region speaks of the characteristics of that region. The study of natural elements is of great importance in geography because it cannot be presented in geography without thorough study.

Natural elements include the topography of the region, the temperature, the amount of rainfall, the type of soil, the amount of underground water, the rock pattern and types, the amount of forests and the variety of plants, various organisms, rivers, etc. Understanding the natural structure of a region helps in planning the region as natural factors have to be taken into consideration while developing any region.

Since geographical factors are important in the development of the region, it is important to know these factors. In the research paper presented, an attempt is made to look at the geographical factors of topography, climate, soil, drainage, natural vegetation, river flow etc in Aurangabad district.

Key Word :Geographical factors, physical, relief, climate, soil, drainage, natural vegetation

Introduction

Geographical location influences the location of any element. Factors such as markets, factories, human settlements, railway stations, recreation facilities, etc. are mainly concentrated in favorable geographical regions.

Human colonies are higher and agricultural income is also higher in plain region, whereas in the regions where the mountain is inaccessible, the opposite is the case. In areas where abundant rainfall, fertile soil, perennial flowing river environment, both social and economic factors have been developed.

Present paper reveals an overview of geographical background of the Aurangabad District including relief, climate, soil, drainage and natural vegetations.

Objectives

The main objective of the present research paper is to discuss about the geographical background of the study region i.e. relief, climate, soil, drainage and natural vegetations.

Data Source and Methodology

Present paper is based on the secondary source of data and interpretation of maps. Relief, Soil, drainage and Climate map is digitized from District Planning map of Aurangabad and natural vegetation map is created from National Land Use/Land Cover Mapping using IRS LISS-III Data on 1:50,000 Scale. Geographical factors are shown in map and related data is shown in the table.

Study Area

Aurangabad district located in between 19°23'43" N to 20°39'36" N latitude and 74°36'46" E to 75°57'03" E longitudes. This district is situated in the state of Maharashtra, and the main in the division. There are total 9 thasils are included in the district, total population of the district is 3701282, out of them 1924469 are male and 1776813 are female according to the year 2011 census.

Jalgaon district on north, Jalana district on east, Bid district on southeast, Ahmadnagar district on south and Nashik district towards west of the study region.

Relief

Aurangabad district is located mainly in the Godavari River basin and partly in Tapi River Basin. Geologically the whole area is covered by the Deccan trap lava flows of upper cretaceous to lower Eocene age.

There is disparity found in height of the district. The slope of the district is found towards east and south. Surpalnath (958 meter), Satmala (943 meter), Mhaismal (913 meter), Shirsala (850 meter), Antur (826 meter), Satoda (552 meter), Abbaskad (671 meter) and Ajintha (578 meter) are highest picks in Satmala

mountain range of the district. The height of the southern part is 520 to 575 meter and height of some north part is 600 to 670 meter.

The district is divided into three categories of height, below 450 meter, 450 to 600 meter and above 600 meter. The relief wise area is shown in table no 1.

Table No 1 - Aurangabad District – Relief

Height in Meter	Area (SqKm)
Below 450	867
450 to 600	5670
Above 600	3570
Total	10107

Source – Calculated by Author

The north and northwest boundary also southern part of Godavari river basin region has height below 450 meter. This part covered 867 sqkm area of the district. The height 450 to 600 meter region covered 5670 sqkm area and it is highest in the region. Above 600 meter height region occupies 3570 sqkm area and the middle part of the district is included in this height.

Climate

There are three common seasons found in the district, the air is generally warm in the months of June to September, but it is light cold due to the rainy weather.

The air is dry and cool in October to February. Temperature rises from April month. Maximum temperature of the district in summer season is 45°C and minimum temperature is 35°C and in winter season temperature down minimum up to 10°C.

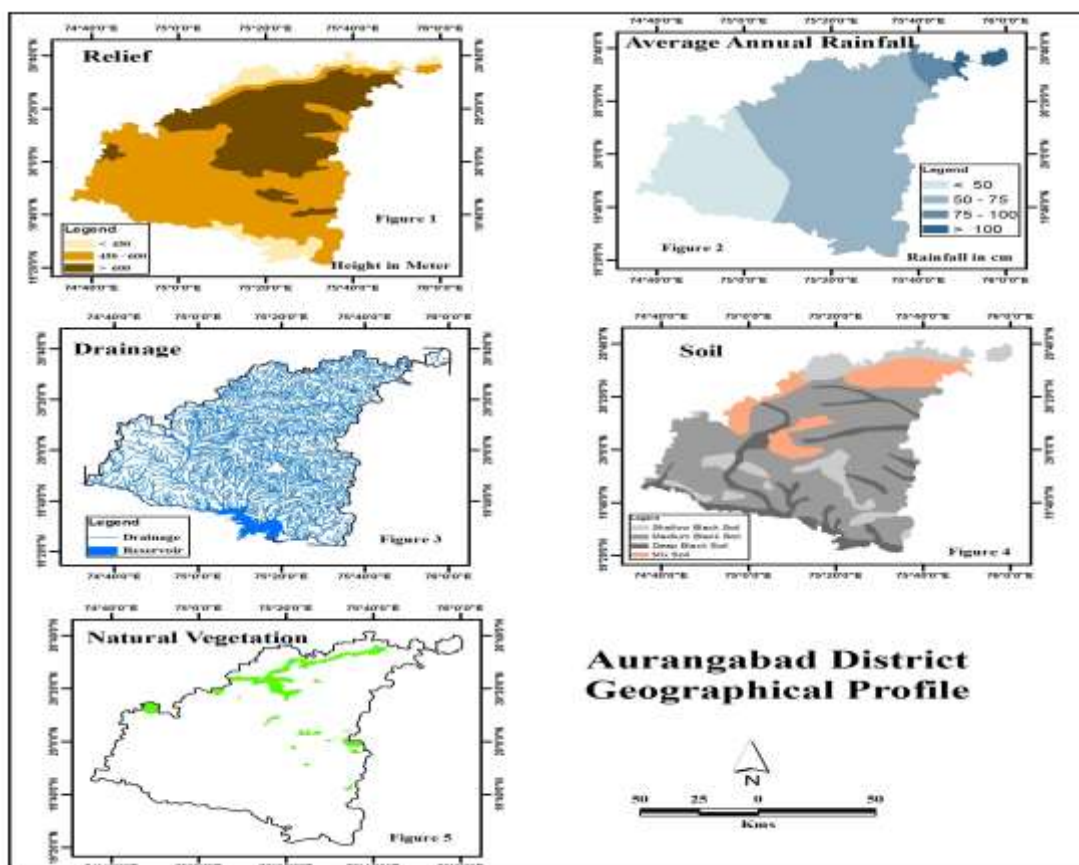
Aurangabad district is the part of rain shadow region and gets rain from monsoon winds. The rainfall in the study area is erratic, thus creating drought conditions. The average annual rainfall in the district is 73.4 cm and it is not uniform in the district. Gangapur and Vaijapur tahsil has receive lowest rainfall in the region. The rainfall decreases from northeast to south west. The rainfall zones and their area are presented in table no 2.

Table No 2 - Aurangabad District – Average Annual Rainfall

Rainfall in cm	Area (SqKm)
Below 50	2747
50 to 75	6911
75 to 100	291
Above 100	158
Total	10107

Source – Calculated by Author

Southwest part of the district receives averagely less than 50cm precipitation and this part covers 2747 sqkm area. Maximum part of the district gets average annual rainfall 50 to 75cm and this part covers 6911 sqkm area. The maximum population in the district is located in this zone. Soygaon tahsil of the district gets maximum rainfall and this region gets 75 to 100 and northeast boundary gets more than 100 cm rainfall respectively. 75 to 100 cm zone covered 291 sqkm area and more than 100 cm zone covers 158 sqkm area of the district. The highest rainfall zone has maximum forest cover in the region and its positive impact is found on the precipitation of the district.



Drainage

Aurangabad district is situated in Godavari river basin. The rivers in the district are dry this summer. Only Godavari River flows all months and this river created southern boundary of the district. Maximum rivers in the district rise from Ajantha mountain range. Godavari River rise from Trambkeshwar near Nashik and meet to Bay of Bengal.

The length of Godavari River in the district is near about 271 km and west also south part is irrigated under this flows. Purna is the second important river in the district and it rise from Ajantha range and meets Godavari. Length of Purna river in the district is near about 40 km. Kannad and Phulambri tahsil gets benefits of irrigation of this river.

Shivna is the third important river in the district and it rise northwest part of Ajantha range. This river created the boundary of Vaijapur, Gangapur and Kannad tahsil. The length of Shivna river is 45 km in the entire district. Yalganga and Karola are the tributaries of Shivna river. The length of all the streams in the district is about 7838 km.

Soil

The soil of the district is made from basalt rock and has good productivity but low depth. The major soil types and its area is shown in table no 3.

Table No 3 - Aurangabad District – Soil Type

Soil Type	Area (SqKm)
Shallow Black Soil	1579
Medium Black Soil	5651
Deep Black Soil	1458
Mix Soil	1419
Total	10107

Source – Calculated by Author

Shallow Black Soil:- This soil mainly occurred in maximum part of Soygaon tahsil and then some part of Aurangabad, Vaijapur, Gangapur and Paithan tahsil. This soil covered 1579 sqkm area with low depth.

Medium Black Soil:- This soil occupied maximum area of the district and spread all over the region. This soil covered 5651 sqkm area also this soil has good capacity of water absorption.

Deep Black Soil:- This soil has mainly observed in the coastal part of Purna, Shivna, Girja and Godavari rivers. It covers 1458 sqkm area and it is very good productive with water absorption.

Mix Soil:- Mix soil found towards north of Sillod tahsil and then western boundary part of Kanad, Khultabad and Phulambri tahsil. This soil is the mix combination of red, black and yellow soil. This soil occupied 1419 sqkm area and an average capacity of soil absorption.

Natural Vegetation

Natural vegetations play an important role to the balanced environment. The percentage of natural vegetation is very low in the district. Only 485 sqkm area under found natural vegetation cover and it is 4.80% to total geographical area of the district. Maximum part of natural vegetations found in Soygaon tahsil and Kannad tahsil therefore the rainfall is also higher in this region.

Babhul, teak, dhawada, behda etc are the main vegetations in this region. The type of this vegetation is tropical.

Conclusions and Suggestions

The geographical structure is not uniform in the district. The maximum area of the district is plateau type and warm climate is observed. Natural vegetation is rarely found in the study area and its direct effect on rainfall. In the northeast, natural vegetation is more abundant and rainfall is more abundant.

Due to the low rainfall in the district, it is challenging to increase the amount of natural vegetation in the field. This will maintain the balance of the environment and increase the rainfall.

There is an increase in industrialization in the district but it is important not to let the impact on the environment.

Soil from the river banks can be utilized for crop growth. Although the natural elements in the study area are favorable but drought conditions are observed due to the very small proportion of natural vegetations. Therefore, there is a need of the hour to implement social forestry everywhere in the district.

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Disaster Management and Mitigation

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Introduction:

A disaster is a sudden calamity that occurs all of a sudden and causes immense destruction and misery to humanity. Disasters are often sudden and unexpected and their impact is server. There is heavy loss of life and property. They destroy the ecosystem. In the last decade, more than 200 million people have been affected annually by natural disasters all over the world. We have not been able to overcome natural disasters but with advancement of modern science and technology, we are trying to combat these disasters. Disaster management involves all the different methods that include both pre-disaster risk reduction and post disaster recovery.

Objectives :

- i) To study the types of disaster in my research paper.
- ii) To identify the Causes & Effects of disaster.
- iii) Role of Government in disaster management.

Causes Of The Disaster:

The principal causes of disasters are as follows: Rapid and uncontrolled urbanization. Widespread urban and rural poverty and unawareness. Mismanagement of natural resources. Faculty infrastructure of buildings. Major fires due to human carelessness and negligence at public places like hospitals, malls, cinema halls etc. Terrorism leading to explosions at crowded public places. Inefficient public policies. Nuclear accidents due to human errors.

Type Of Disasters:

- a) Natural disasters
- b) Man-made disasters
- c) Hybrid disasters

a) Natural disasters

Natural disaster occurs naturally and takes place at any time of the year, in any part of the world. Earthquakes, hurricanes, landslides, volcanic eruptions and drought are some of the natural disasters that cause imparable loss of life and property.

The increase in natural disasters in the last few decades is thought to be due to changing climatic patterns.

Earthquakes:

An earthquake is a vibration of the earth's surface that follows a release of energy in the earth's crust. Earthquakes happen along the "fault lines."

- The intensity of an earthquake is measured on a scale called Richter scale named after an American seismologist; *Charles Francis Richter*. it measures the *intensity of the earthquake*.
- Powerful vibration or tremors felt during an earthquake are called *seismic waves*. These waves travel outward in all directions.
- One of the most disastrous effects of earthquake is the tsunami.

Effect of Earthquakes: Tsunami:

Tsunami is a Japanese word meaning "harbour waves." A tsunami is a series of waves with a long wavelength and period. Tsunamis are generated by a large *impulsive displacement of the sea bed*.

- Tsunamis are generated by earthquakes of the seafloor, landslides under water and volcanic activity.
- Tsunamis range from one metre to over 30 metre in height.

- The last Tsunami that occurred in India was that of 26th December 2004 on Boxing Day. Nearly 27000 people died in 12 countries. India was worst hit with about 10,000 people dead.

Tohoku earthquake and Tsunami :

The 2011 earthquake, off the Pacific coast of Tohoku in Japan, is often referred to in Japan as the Great East Japan Earthquake. It occurred on Friday 11 March, 2011. Its magnitude was of 9.0 Richter scale with epicenter nearly 70 km east of Oshawa Peninsula.

- This earthquake triggered a powerful Tsunami waves that reached upto height of 40.5 metres.
- It was the most powerful earthquake ever to have hit Japan.
- Nearly 15883 people died and 2671 people were reported missing.
- The Tsunami caused nuclear accidents. Primarily the level of 7 meltdowns at three reactors in the *Fukushima Daiichi Nuclear Power Plant* Complex and associated evacuation zones, affecting hundreds of thousands of residents.
- Many electrical generators were taken down and the three nuclear reactors suffered explosions due to hydrogen gas that built up within their outer containment building after the cooling system failure.
- Residents within a 20 km radius of the *Fukushima Daiichi Nuclear Power Plant* were evacuated.

Preventive measures for Safety from Tsunamis:

1. Construction of cyclone shelters.
2. Plantation of mangroves and coastal forests along the coast line.
3. Establishing cyclone warning systems through satellites and abiding by it.
4. Regular training of fishermen coastal guards, officials from fisheries departments to help in evacuation during a Tsunami or storm.
5. Development of *tsunami detection and forecasting* and warning of dissemination areas.
6. Planning for reconstruction and rehabilitation programmes.

Tsunami Warning System:

Tsunamis are more frequent in the Pacific Ocean. The Pacific Tsunami Warning Centre (PTWC) in Hawaii is the regional operational centre for tsunami information in the Pacific Ocean, but there is no such warning system in the Indian Ocean. Sensors on the ocean floor and the buoys on the ocean surface detect an earthquake and a resulting tsunami and transmitters on the buoys and warning signals to satellites orbiting overhead.

The satellites relay the warning to ground stations, where scientists can quickly calculate the height and intensity of the tsunami and the warning is sent to evacuate the coastal areas.

ii) Flash Floods in Uttarakhand –North India: A National Calamity:

In June 2013, the North Indian states of Uttarakhand and Himachal Pradesh, some regions of Western Nepal and their adjoining areas experienced heavy rainfall, that triggered cloudburst causing *devastating flash floods and landslides*.

- According to the figures provided by the Uttarakhand Government 5748 are missing and about 100 people are reported dead.
- Damage to bridges and roads left over 70,000 pilgrims to Kedarnath, trapped in various places. Many of them were rescued by army, *Indian airforce* and the *paramilitary troops*.
- These floods were caused due to heavy rainfall in the state of Uttarakhand and adjoining areas, which was about 375% more than the benchmark rainfall during a normal rainfall. The caused the melting of *Chorabari glacier* at the height of 3800 metres and erupting of *Mandakini river*, which led to heavy floods, near *Gobind Ghat, Kedar Dham, Rudraprayag and Uttarakhand*.
- The upper Himalayan territories of Himachal Pradesh and Uttarakhand are full of forests and snow covered mountains and thus are inaccessible.

- They are home to several major and historic Hindu pilgrimage like Kedarnath. Nearly a Lakh pilgrims were visiting these places when the disaster struck with heavy rains for four consecutive days. The melting snow aggravated the flood, resulting in heavy loss of life and property.

Preventive measures to be taken during flash floods:

Following measures must be taken during floods:

1. Area must be evacuated at the first sign of warning.
2. Important and essential items like drinking water, food and flash light must be taken while going to a shelter.
3. Electrical appliances must be disconnected to avoid short circuit resulting in fire.
4. Flooded areas and creeks must be avoided by individuals.
5. Monitoring of radios and televisions is essential to keep a track of weather forecasts and warning, in case it is possible.

Following measures must be taken by the state government/government for the safety measures safeguarding public during floods-

- (i) Forecast and warning must be given through media, radio, TV or other public system so that people are well informed.
- (ii) Wetlands must be retained. They absorb the flood water.
- (iii) Deforestation must be prohibited and close watch must be observed.
- (iv) A through research is required before planning any construction of a dam or any such project to foresee its effect on the surrounding area and people inhabiting it.

b) Man-Made Disasters:

These type of disasters include rail-road and plane accidents, bomb blasts, leakage of chemicals, fires, communal riots and terrorist attacks and nuclear accidents which originate from human planning, errors or negligence. They are caused due to faulty human activities.

Some of the worst manmade disasters in India are as follows:

Mumbai terrorist attack on 26th November 2008, Train accident in 2012 (9 accidents in five months) and Bhopal gas tragedy. The world's worst nuclear disasters were as follows-

- i. **The Chernobyl Disaster:** On the 29th April 1986, a major nuclear accident took place in the nuclear power station located in Chernobyl in Soviet Union, now in Ukraine. It happened because of a meltdown in a reactor. A meltdown takes place when the cooling system of the reactor fails and the radioactive core unit heats up to their melting point. As a result massive amounts of radioactivity was released into the atmosphere. Dozens of deaths occurred in the first few days. Months and years later, cancers, and other disease were reported.
Radiation effects can only be known after sometime. It is believed that the impact of the radiation in all affected areas will remain for another 70 years through the food chain. For now, Chernobyl, once a fertile area, bears a deserted look, with little chance of any growth of vegetation.
- ii. **The Bhopal Gas Tragedy:** The Bhopal disaster, also referred to as the Bhopal Gas Tragedy, was a poisonous gas leak incident in India. It is considered the worst industrial chemical disaster.
 - It occurred on the night of 2nd and 3rd December 1984 at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh.
 - Over 50,000 people were exposed to Methyl/isocyanate gas and other chemicals.
 - The government of Madhya Pradesh confirmed a total of 3787 deaths related to gas leak.
 - Over 8000 died within two weeks and another 8000 died from gas related diseases.

Criminal cases were filed by the victims against Warren Anderson, CEO of Union Carbide Corporation (UCC). The cases are still pending.

Long Term Effects on the People :

The initial effects of exposure were coughing, vomiting, severe eye irritation and feeling of suffocation.

- Thousands of people had succumbed by the morning hours after the leak in the night.
- There were mass funerals and mass cremation. Bodies were dumped in Narmada river and more than 170,000 people were treated at hospitals.
- The causes of deaths were choking, reflex organic circulatory collapses and pulmonary edema.
- Findings during autopsies revealed changes not only in lungs but also cerebral oedema and tubular necrosis of the kidneys.
- The still birth rate increased upto 300% and neonatal mortality rate by 200%
- UCCS laboratory tests in 1989 revealed that the soil and water samples collected near the factory were toxic to fish. Hence the fish was not considered edible.
- The hazardous health concern still continues.

c) Hybrid Disasters:

These are disasters that are linked with both natural and manmade disasters.

Human beings have interfered with the natural environment to such an extent that their activities have had disastrous consequences for human beings themselves, e.g., indiscriminate cutting down of the forest, rapid industrialization and indiscriminate exploitation of natural resources.

These actions have caused greenhouse effect that has brought about intense floods due to global warming specially in North India.

Human activities are generally responsible for causing many hybrid disasters as seen below.

- i) **Drought** : Due to over consumption, wastage and pollution of water
- ii) **Landslides**: Due to extensive deforestation
- iii) **Hurricane, floods and cyclone**: Due to rapid deforestation and greenhouse effect.
- iv) **Famine and crop failure** : Due to faulty government policies, faulty methods of agriculture, overuse of pesticides and insecticides, the soil is getting exhausted and losing its fertility.
- v) **Chemical poisoning** : Due to rapid industrialization and release of hazardous chemicals in rivers and water bodies.
- vi) **Earthquakes**: Due to construction of dams, mining and creation of large water bodies.

Disaster Management:

Natural and man-made disasters kill millions of people around the world and cause tremendous loss to ecosystem and earth.

So far countries have been focusing on emergency response, i.e. dealing with the disaster, when it happens. But the need today is *prevention*, and *mitigation* of natural disasters. Therefore, in order to reduce the risk impact and toll of disasters, a more comprehensive approach is required, which will form the basis of disaster management.

Disaster management has to be teamwork and co-operation from all sections of society is require, i.e. from common man to the government.

Common objectives during any disaster:

In any disaster, be it an earthquake, a flood, a landslide, or a cyclone, the consequences are the same. People die, get injured or lose their home.

In case of a sudden disaster there are some immediate actions to be taken.

- i. Moving the injured and affected people to safe shelters.
- ii. Providing immediate first-aid to the victims.
- iii. Providing food and safe drinking water to the people in the shelter.
- iv. Searching for and rescuing the injured, buried people, especially during earthquakes and landslides.
- v. Providing financial help, transport help and support for rehabilitation and recovery to people affected by the disasters.

Role of the Government:

Environmental degradation and disasters are closely linked and it is always the poor or lower middle class people especially in developing countries who are most affected.

- Thus for the success of disaster management plans we have to reach to the root of the problem and get rid of the cause itself.
- The government of India along with the United Nations Development Programme (UNDP) has formulated a Disaster Risk Management Programme (2002-2007) in which special emphasis has been laid on preparing the communities to face various hazards by generating awareness.
- Preparing them to counter the adverse effects of disasters through integration of disaster mitigation into development planning.
- Special training is imparted to disaster management personnel who create public awareness as given in the National Disaster Management Framework (NDMF) by the Ministry of Home Affairs (MHA).
- The NDM (National Disaster Management) framework guides the initiatives of the Ministry. Training of engineers, architects, and masons in safe construction practices have been initiated and in addition Disaster Management has been included as a core subject in the school curriculum of all educational boards.

Summary :

1. A disaster is a sudden calamity that may cause displacement of a great number of people and loss of life and property.
2. Disasters may be of two types –natural disaster and man-made disaster.
3. Natural disasters are caused from natural circumstances which result in large scale destruction of life and property.
4. Man-made disasters occur due to human activities and negligence. They inflict widespread destruction, distress and spread of disease.

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Urbanization and Industrilization

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Abstract:

One of the most important subjects for demographical studies today is urbanization. Several terms and concepts have been prevalent in this connection. The most important of these are urban place locality urban agglomeration urban population urban growth urbanism and urbanization. These will now be more accurately defined in order to understand the phenomena of Urbanization. To day as we hear the words "industry" or "industrial system" or just think of them we automatically recall to our minds a picture of huge mill or factory fitted with giant machines electrically and power operated covering vast tracts of land having wide and huge expanse of buildings and employing hundreds of men. We also associate with it roar and rattling of machines sky high chimneys emitting thick clouds of smoke.

Introduction:

The onset of modern and universal process of urbanization is relatively a recent phenomenon and is closely related with industrial revolution and associated economic development . As industrial revolution started in Western Europe United Kingdom was the initiator of Industrial Revolution. Historical evidence suggests that urbanization process is inevitable and universal. Currently developed countries are characterized by high level of urbanization and some of them are in final stage of urbanization process and experiencing slowing down of urbanization due to host of factors a majority of the developing countries on thse other hand started experiencing urbanization only since the middle of 20th century. However even prior to the development of modern sophlisticated industry man was industrious. He was engaged in some industry however crude and underdeveloped that mayhave been in comparison to modern industry. We define man as a rational animal but we may equally define him with full justification as an industrious animal. Thus we find that the history of industry is as long as the history of man they are coeval. With the advancement of civilization man has advanced industrially. For the sake of convenience we can divide the history of industrial development into three periods. Ancient Industry Medieval Industry and Modern Industry. This division is done with a view to chronology and development.

Keywords: Modern Industry, complexes, Industrial Revolution, monumental problems.

Study Objectives:

The present study has the following objectives, to study the Discussion Industrialization and impact of Urbanization.

Data Base & Methodology:

The data has been furnished from the related articles, research papers. Some data has furnished the websites & as well as time magazine. For the present research paper the primary and secondary sources have been used. Materials from various libraries have been collected. The articles regarding to it have been read thoroughly. The descriptive and analytical research methods has been used for this research paper.

Discussion Industrialization and impact of Urbanization :

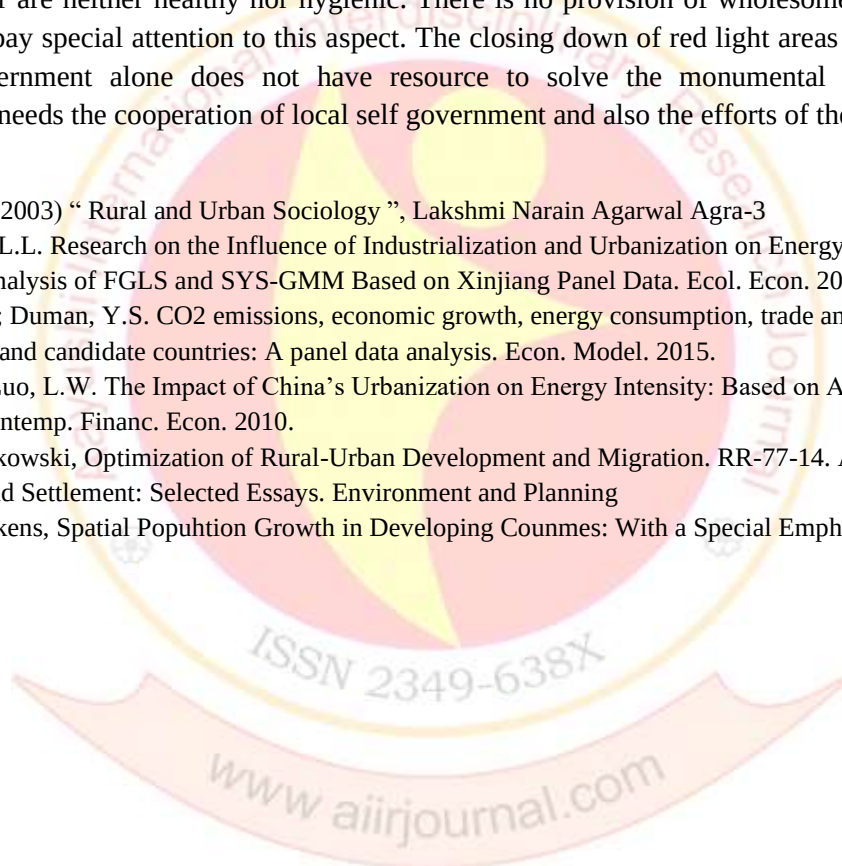
Urbanisation has been often used to denote the process of population concentration in an urban area. Hope Tisdale Eldridge treats urbanization as a process of population concentration and identifies two elements in the process the multiplication of point of concentration and the increase in the size of individual concentration Urbanisation can occur only when the rate of growth of the urban population is greater than the rate of growth of the non urban population in a country.

Though industrialization in India is making rapid strides it is still far behind the industrial growth in western countries. After india became independent in 1947 the government of India paid particular attention to

industrial growth. It helped the local industry to grow rapidly. In order to put India on industrial map fast the government decided to enter the field of heavy industry which demanded huge investments. The government set up many heavy industrial complexes all over India in order to promote a balanced growth and also to help the ancillary industry to expand fast. As a result of fast industrialization the process of urbanization too is growing fast and this is having deep impact upon society. The industrialization is not only pushing up the urban population but is also affecting the social conditions in nearby villages. All the above mentioned suggestions for the improvement of urban areas and for counteracting the ills of industrialization have been in one form or the other accepted at least in principle by Governments of India fortunately industrialization in India is still not so intense and concentrated as to produce alarming problems. If some advance steps can be taken at this stage it is possible to mitigate the more severe types of ills consequent upon industrialization. The acute problems of industrialization are in India confined to few metropolies like Calcutta, Bombay Kanpur etc. of course the efforts being made at these centres to mitigate the evil effects of industrialization leave much to be desired. The existence of slums is a glaring fact of all industrial centres. It is an indelible blot on our society. The working conditions of labour are neither healthy nor hygienic. There is no provision of wholesome entertainment. The government needs pay special attention to this aspect. The closing down of red light areas is no solution of the problem. The government alone does not have resource to solve the monumental problems posed by industrialization. It needs the cooperation of local self government and also the efforts of the industrialists.

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Dr. Babasaheb Ambedkar's views on Democracy

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Summary:

It is safe to say that Babasaheb Ambedkar was one of the great thinkers of the century. By imposing the Chaturvarnya system, the Brahmins had deprived the Shudras of all rights along with education. Babasaheb taught Shudras to live with dignity by getting all their rights. He wrote extensively. It is through this writing that his social, economic, political, religious and democratic views become clear. His devotion to democracy is evident from the extensive and scholarly writings he has written on democracy. In the presented research paper, Dr. Ambedkar's views on political, socio-economic and democratic issues have been highlighted.

Aims of paper

- 1) To study Ambedkar's political, social and economic views.
- 2) To study social, economic and political democracy under Ambedkar's idea of democracy.

Keywords: Chaturvarnya, Constitution, Fundamental Rights, Dalits, Parliamentary system of government

Introduction

Dr. Babasaheb Ambedkar has a respected place in the world as a jurist, a constitution maker, a Dalit savior, a social reformer and a just man. Despite being born into such an ordinary family, the fame he gained as a Vishwaratna in the world due to his talent is truly a source of inspiration to many. He is also known as the 'Lincoln' of India as well as 'Martin Luther' for his work for the Dalits and backward classes in India. The vast body of literature created by Ambedkar shows the direction of his holistic thinking. The influence of Jyotiba Phule's thoughts on Ambedkar can be seen. That is why he considers Jyotiba Phule as his political and social thinker. Ambedkar has come up with a radical idea that is as radical as Jyotiba Phule's ideas on caste system.

Caste can only come to an end if a society based on the values and ideals of freedom, equality and brotherhood is formed. That was his clear opinion. As long as casteism exists, a nation cannot exist. Because castes are anti-national and anti-national unity. That was his opinion. Ambedkar expressed the need for change in the social structure. The upliftment and salvation of Dalits is the essence of our life. That is why the basis of humanitarian philosophy is evident in his political thinking. Ambedkar's ideas reached out to those sections of the society which did not reach the winds of reform. He expressed his views on many concepts such as nation and nationalism, democracy, social democracy, state socialism, individualism. His writings reveal his thoughts on all of the above concepts.

Ambedkar considered the state as a necessary political organization. But he did not believe that the state was all-powerful and all-powerful. He was of the view that the state should be a tool or medium for social welfare. He said that the state should give every person the right to life, freedom and expression. He was of the view that social, political and economic inequality should be eradicated from the state and the state should pay attention to how to improve the living standards of the deprived, dalit and backward classes.

Dr. Ambedkar's social thought was more intense and revolutionary. Because for thousands of years the Brahmins raised their voices against the social injustice done to the Shudras. The society was divided into four castes and the Dalits and the deprived were deprived of many rights. This annoyance was in them. If rights are not obtained through begging, then one has to fight for it. That was his clear opinion. Dalits were denied education and other rights in the Chaturvarna system. That is why he understood his ultimate duty to serve the Shudras. He was of the opinion that political reform was useless without social reform. That is why he tried to ensure that Dalits, like other sections of the society, should have the right to education. The insult to Dalits in every village. He also fought for his rightful representation in government jobs and elsewhere.

He spoke out against untouchability in Indian society. Untouchability is exploiting human beings. Dalits are also being deprived of many rights. He was of the view that untouchability was undermining India's cultural role at the international level. So he worked tirelessly to erase this stigma from Indian society. That is

why he inserted the principle of eliminating social inequality in Articles 15 and 16 of the Constitution, and made untouchability a legal offense under Article 17. Ambedkar has also articulated important economic ideas. He was of the view that the practice of zamindari should be stopped and the landless should get their rightful land. The ownership of land should be close to the state. He said that people should be encouraged to cultivate on a collective basis. He was of the view that agriculture should be given the same status as industry and that industries should be developed under the control of the state.

Dr. Ambedkar was a democrat. They did not accept dictatorship, fascism or communist rule. His views on democracy were practical. His political goal was not limited to building Indian democracy, but he wanted India to protect the values of democracy by cooperating with all the nations wherever there is democracy in the world. He wanted democracy in all the world. He had great faith in democracy. According to him, democracy is the only way in which a revolution can take place without bloodshed. He was of the view that only in a democracy can individual rights be protected. There is only one system of government that frees us from injustice, oppression and slavery, and that is, according to the democratic Ambedkar, the common man can gain power in this way. He was also referring to democracy as the only form of government that maintained the prestige of the common man. He was of the opinion that democracy is coexistence. He was of the view that poverty, illiteracy and casteism were the major obstacles to Indian democracy. He said that democracy could not exist without eradication of all these. Ambedkar thought not only of political democracy but also of social and economic democracy. He said that in order to bring power to the common man, democracy needs to be further propagated and spread. For this, he was of the opinion that the power concentrated in the hands of the elite should be decentralized. He said that gaining power for the Dalits and the underprivileged in the society is also true democracy. If social democracy does not exist, then the formal skeleton of democracy has no value at all, says Ambedkar. He said that votes need to be converted into values. People should know their true value when voting. Because once a vote is cast, it has no value for five years, so it is necessary to give such a vote to the right person. There are more illiterate, ignorant people in the society. Such people do not understand the importance of their opinion. But he felt that those who were elected on the basis of their votes should work for such people. He said that eliminating social inequality and giving equal opportunity to all for personality development is also social democracy.

Ambedkar was opposed to the dictatorial system. Because a person does not have any kind of independent dictatorship in the system. He was of the view that equal opportunity and prestige for all citizens could be achieved only in a democracy. Democracy is also the rule of the majority. He expressed the view that these majorities should safeguard the interests of the minorities. He said that everyone should have equal opportunity for personality development without any discrimination between individuals. Dr. Ambedkar was a supporter of parliamentary democracy. Parliamentary system can create self-reliance, entrepreneurship and sense of responsibility in an individual. That was his opinion. He said that the task of bringing about the National Four was in the parliamentary system. Only parliamentary democracy has the potential to bring about radical change in the social and economic spheres without bloodshed, he said. According to him, newspapers, opposition parties and free elections are important issues in the parliamentary system. He said that there should be a strong opposition party in the parliament just like the strong ruling party. If there is a strong opposition, it can curb the arbitrariness of the ruling party. He was also of the view that the Opposition could become the ruling party in the future. At the same time, they consider newspapers important. He said that newspapers should act honestly, expose injustice and atrocities in the society and focus the attention of the ruling party and the opposition on social issues. In a democracy, free and fair elections are held. In a way, elections are the essence of parliamentary democracy. That was his opinion. Through elections, the people can bring about independence through peaceful means. But Ambedkar was also worried about the elections in India. Because the elections here are fought on the strength of this caste, he was of the clear opinion. Ambedkar knew that candidates of the same caste were elected wherever there was a majority caste, so the people of the minority caste had to stay away from power.

Conclusion:

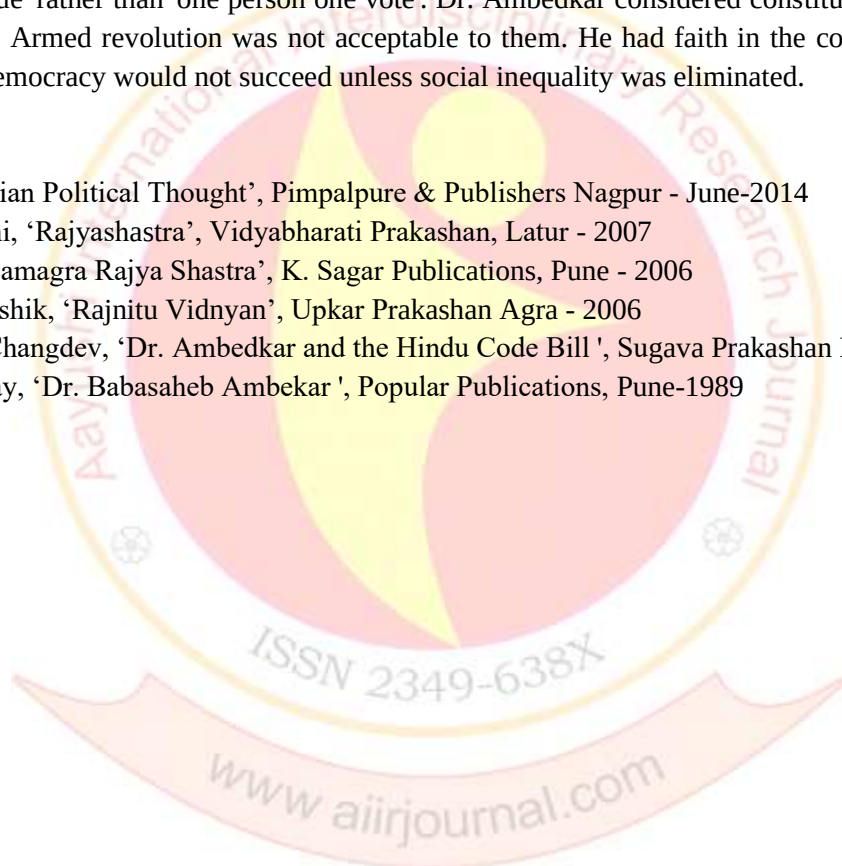
Man is the focal point of Babasaheb Ambedkar's thought and thought. From the thoughts that Ambedkar gave, the people who lived a dark life for thousands of years saw a ray of light. He had in mind the

potential to have a far-reaching impact on Indian society. The revolution between Dalits and the underprivileged was due to Ambedkar's work, his humanitarian cause. The social, economic and political ideas presented by Ambedkar gave a new direction to the society. Ambedkar is the source of inspiration for many thinkers. If anyone has done the work of giving rights and social prestige to the Dalits by disregarding the Chaturvarnya system, by burning Manusmriti, then it has been done by Ambedkar. His pragmatism and foresight can be seen in his democratic ideas. He was fully aware of the obstacles that stand in the way of democracy. He has given objective guidance to the general public and the rulers that democracy can be achieved by avoiding these obstacles. Ambedkar wanted to carry out social revolution through ideological means, he did not need a revolutionary revolution.

Dr. Babasaheb Ambedkar gave the Shudras a reputation as ordinary human beings, and also gave the country a different identity by giving it a constitution. Due to his all-round thinking, he came to be known as 'Yugpurush'. From the views presented by Babasaheb Ambedkar on democracy, it is clear that he had a great devotion to democracy. He believed that only democracy could restructure social relations in India. They meant 'one person one value' rather than 'one person one vote'. Dr. Ambedkar considered constitutional morality more important than law. Armed revolution was not acceptable to them. He had faith in the constitutional way. He was adamant that democracy would not succeed unless social inequality was eliminated.

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Milk Production In Satara District: Ageographical Review

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Abstract

This research paper based on the secondary data obtained from the socio economic abstract of the Satara District for calculation the production of milk in Satara District and impact of milk production on the socio economic development of the farmer as well as the society. The production of milk is increases during the study period during 1991 to 2011 but mode of change is more during 2001 to 2011, 94.33 (thousand liters) per 100 milking animals than in 1991 to 2001. The highest production of milk is observed in Phaltantahsil. The development of milk processing industries and availability of market of Pune and Mumbai, boost up milk production in this tahsil. Tahsils located in drought prone and western hilly area having low production of milk. This is happened due to unfavorable climatic and physiographic condition such drought prone climate in Man and Khatav tahsil and high rain fall and hilly track of Sahyadry in Mahabaleshwar, Jaoli and Patan tahsils. Low production of milk of milk is also observed in Karad tahsil due to the commercial farming of sugar cane. It is also observed that production of milk is also contributed in the economic development and to enhance the living standard of the farmer.

Key Words : Milking Animals, Organic Fertilizers

Introduction

Animal herding is major ancillary activity supporting to the agriculture for the purpose of provision of organic fertilizers such as feces and urine of cattle and buffalos and milk production. In these animals Ox and male buffalo are used for the cultivation by the farmers and crossbreed, local cows and buffalos are reared for the milk production. This is another source of economy of the farmers. Production of milk can help to enhance the economic status of the farmer. He can be able to provide the domestic needs from the earning by the milk. With the help of economic benefit of milk and organic fertilizers, farmers can be develop their farm and enhance the crop production. So production of milk in thousand liters per 100 milking animals is also one important indicator is selected for the calculation of levels of agricultural development. Present research paper focuses on tahsilwise production of milk in Satara District in 20 years, from 1991 to 2011 and also studied the roll of milk production in the socio-economic developmentof the farmer, agricultural development and rural economy also.

Study Area

Satara district is historically and economically most important district in Maharashtra situated in the western part of the state. It is extended during 17°5' to 18°11' north latitudes and 73°33' to 74°53' east longitudes. The district consists of 1739 villages, 22 towns and 11 tahsils according to 2011 census and it is bounded by Pune in North, Solapur in East, Sangali in South and Ratnagiri and Raigad in West. District has variation in climatic situation having high (more than 6000 cm) rainfall in western hilly region and very low (less than 50 cm) in eastern region during the year. The central part of the district is occupied by river Krishna, which is mostly irrigated and having black loamy soil and it is capable to yielding good crops. The northern part also have river Nirabasin and canal irrigation facility, so it is also have the capability of high yielding of crops. The district recorded 30,03,741 population including 5,70,228 (18.99%) urban and 24,33,363 (81.01%) rural population respectively in 2011 having rank 122nd out of 640 districts in the country.

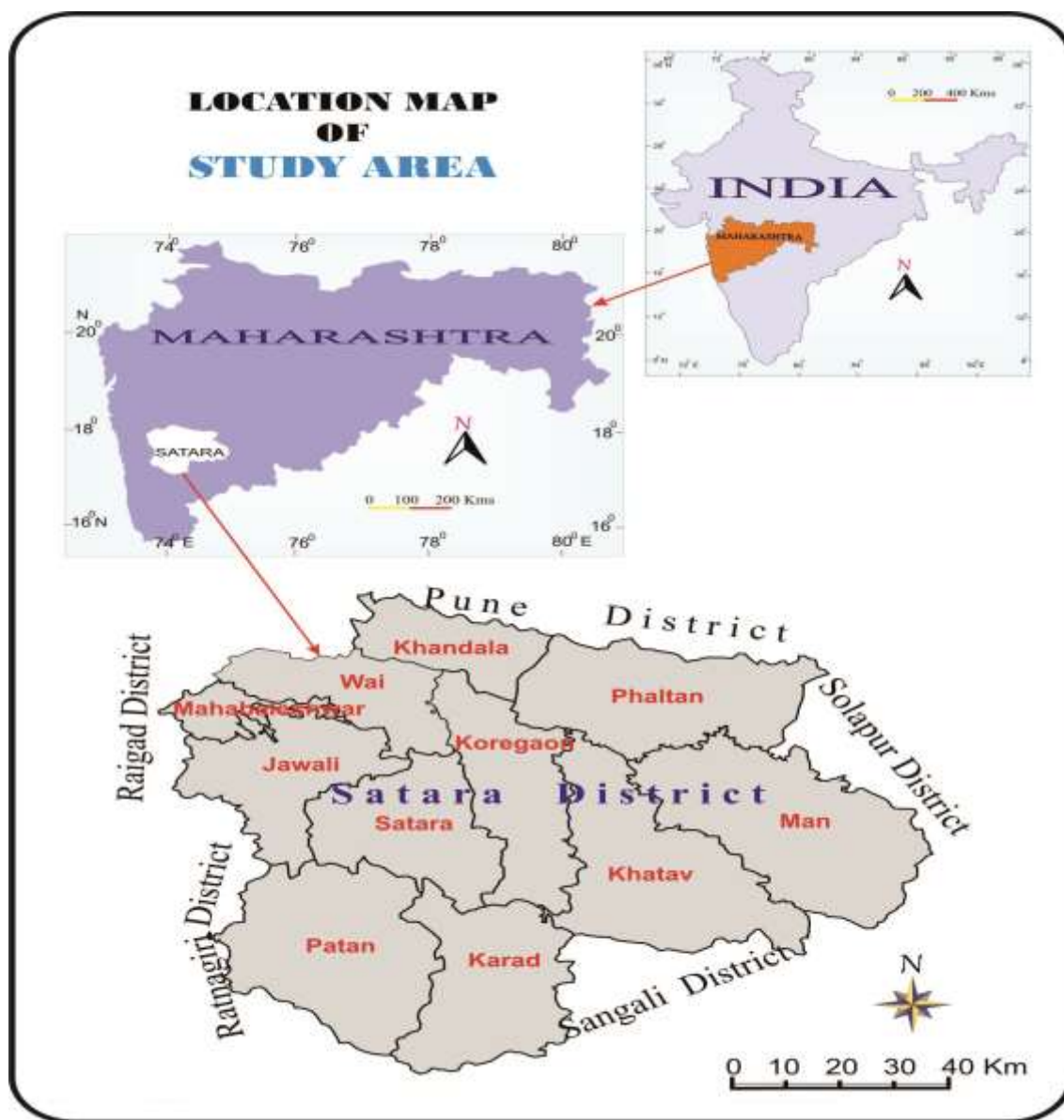


Fig. 1

Objectives

1. To study the tahsil-wise milk production in Satara District during the study period of time.
2. To study the role of milk production in the socio-economic status of the farmers in Satara District.

Methodology

The present research article is based on the secondary data obtained from socio-economic review of Satara District, Gazetteer of Satara. The ratio of production of milk is measured and analyzed by simple statistical methods. Production of milk is computed by the simple ratio to per 100 milking animals in liters. For the calculation of decadal variation or change in milk production during the study period following formula is used:

$$X = \frac{P1 - P2}{P2} \times 100$$

Where,

X= Decadal Change in Milk Production

P1 = Production of Milk in Current Year

P2 = Production of Milk in Previous Year

Analysis of Milk Production in Satara District:

1. Area of Low Milk Production

This group is concerned to the production of milk is 30 thousand liters per 100 milking animals. As per 1991, five tahsils namely Khatav, Karad, Patan, Jaoli and Mahabaleshwar are included in this group. In 2001, these tahsils are still remain but Mahabaleshwar is left due to increase in milk production but in 2011, no any tehsil is observed in this category due to increasing milk production.

Table 1
Tahsil-wise Production of Milk (000 Liters) in Satara District
(Per 100 Milking Animals)

Sr. No.	Tahsil	1991	2001	1991-2001	2011	2001-2011
		Production	Production	Change in %	Production	Change in %
1	Jaoli	9.32	16.97	82.06	63.47	274.10
2	Karad	22.21	27.63	24.39	57.75	109.05
3	Khandala	53.81	68.14	26.62	214.89	215.39
4	Khatav	28.80	27.79	-3.49	68.15	145.20
5	Koregaon	38.04	75.97	99.72	129.57	70.57
6	Mahabaleshwar	19.12	36.63	91.56	33.28	-9.15
7	Man	39.60	41.88	5.75	50.18	19.81
8	Patan	29.43	10.40	-64.65	47.85	359.87
9	Phaltan	85.76	73.44	-14.37	406.55	453.58
10	Satara	49.83	68.59	37.64	101.54	48.05
11	Wai	52.87	46.24	-12.54	95.00	105.44
	Satara District	37.11	38.21	2.95	94.33	146.87

Source : Socio economic Abstract of Satara District 1991,2001 and 2011.

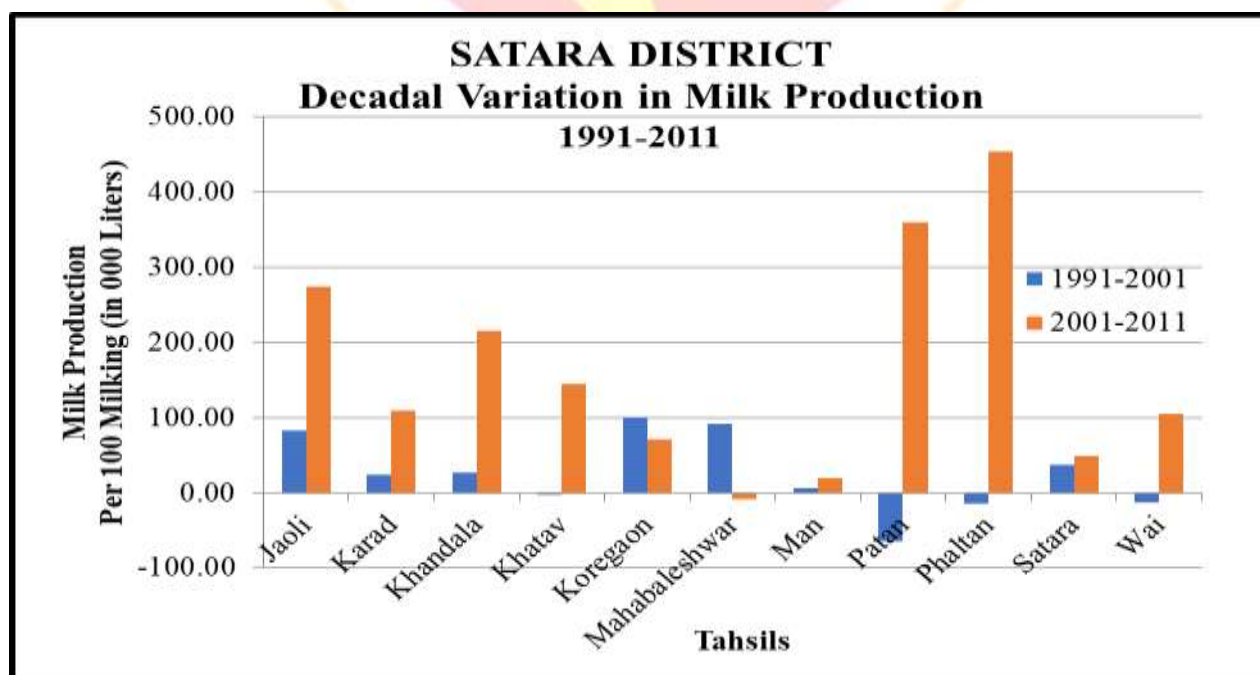


Fig. 2

2. Area of Moderate Milk Production

This group is represents the production of milk is 30 to 60 thousand liters per 100 milking animals. In 1991, Man, Koregaon, Satars, Wai and Khandala tahsils are observed in this group. In 2001, Man and Wai

tahsils are still remain but Mahabaleshwartahsil is being newly added and Khandala, Koregaon and Satara tahsils are left from this group due to increase in milk production. In 2011, Man and Mahabalwshwar are still remaining but Patan and Karad are newly added in this group and Wai is left due to increasing milk production. Man tahsil is permanently observed in this group for all three time study period. The production of milk in Man tahsil is shows increasing trend but it have slight change is observed between 39.60 to 50.18 thousand liters per 100 milking animals during 1991 to 2011.

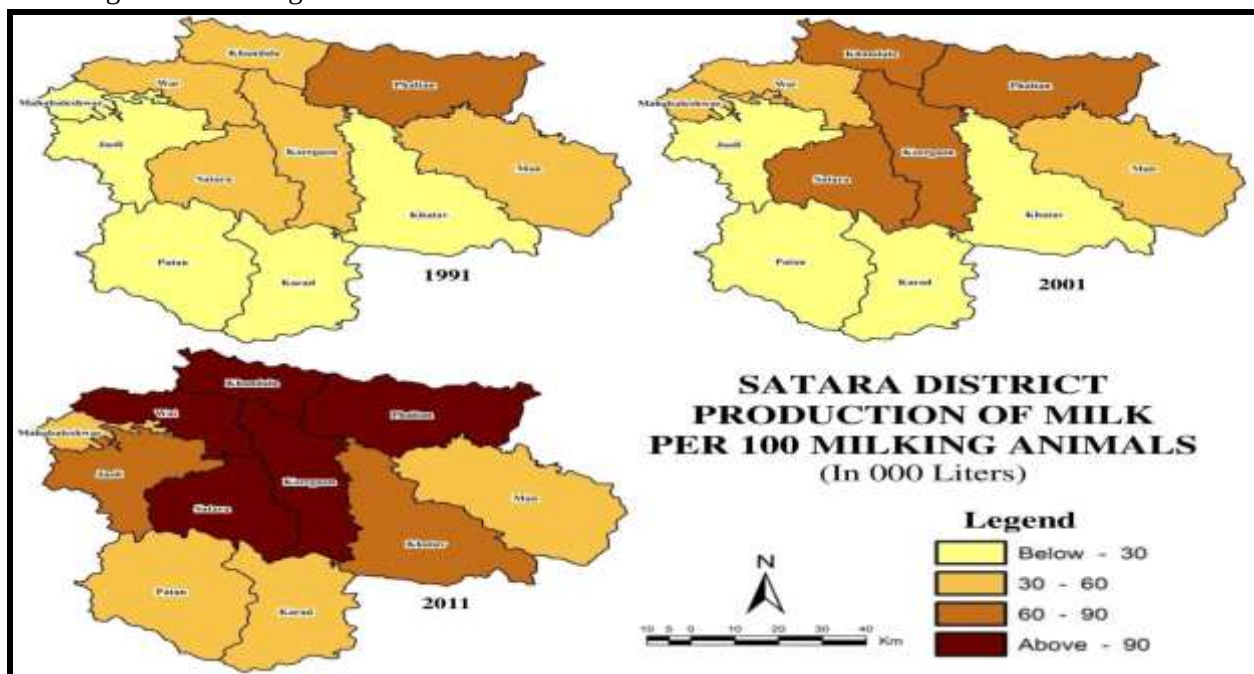


Fig. 3

3. Area of High Milk Production

This group represents the production of milk is 60 to 90 thousand liters per 100 milking animals. In 1991, only Phaltan tehsil is observed in this group but in 2001 number of tahsils in this group is increased on four, includes Khandala, Koregaon and Satara other than Phaltan tehsil. These tahsils are newly added in this group due to increase in their milk production. In 2011, these all tahsils are left and Khatav and Jaoli tahsils are being newly added in this group due to increasing its milk production.

4. Area of Very High Milk Production

In this group tahsils which have above 90 thousand liters production per 100 milking animals are observed. In 1991 and 2001 no any tehsil is recorded in this group but in 2011, total five tahsils namely Wai, Khandala, Phaltan, Koregaon and Satara tahsils are observed in this group. Phaltantahsil have highest positive change (406.55 per cent) during 2001-2011, because of availability of market of Pune city and development of milk industries in this tahsil, farmers are attracted to the milk production.

Decadal Change In Milk Production

In the first decade of study period decadal change of milk production in overall district is low (2.95 per cent). It has been also observed that, in Khatav, Patan, Phaltan and Wai tahsils have negative growth of milk production in 1991-2001 and Man tahsil have positive growth but the ratio is very low (5.75 per cent) in relation to other tahsils because of the scarcity of fodder due to low rainfall and drought in Khatav, Man and Phaltantahsil. Patan and Wai tahsils have good rainfall but due to hilly area, undulation topographic features and unawareness about commercial milk production in the farmers production of milk shows negative change. This situation is also found in other tahsils have positive change in the district.

In 2001-2011, all tahsils have drastic change in milk production and shows positive change except Mahabaleshwartahsil (-9.15 per cent). Because of hilly topographic features, high rainfall, high forest area and low availability of cultivation land and also fodder. This critical geographical condition is not suitable for cross breed cattle. One more thing is, tourism industry is developed in this decade and most of the population is

engaged in this industry being main economic activity. In this decade over all district have positive (146.87 per cent) change in milk production.

Conclusion

From the above said description it has been concluded that, the production of milk is continuously increases in all tahsils during the study period but the amount is observed more or less in proportion. Tahsils situated in the western part of the district mainly Mahabaleshwar, Jaoli and Patan have relatively low to moderate production. Because, these tahsils have undulation geomorphic topography, high rainfall, forest area and low production of fodder, this critical condition is not suitable for crossbreed cattle which are purposefully ranching for milk production. In this area proportion of local milking animals like local cattle and buffalo are available. In Man and Khatav tehsil, production is relatively slow due to the drought prone climatic condition and scarcity of water. In these tahsil, due to low rainfall, production of fodder is low and to purchase the fodder from other area is not affordability thing to all farmers, even so the relatively plain topographic surface and medium deep black fertile soil, due to the above unfavorable condition farmers could not provide sufficient fodder to their animals, that's why production of milk in these tahsil is also relatively low. In Karad tehsil all conditions are suitable for animal herding but the ratio of fodder production is low, because farmers prefer to sugarcane production as a cash crop. They can be able to purchase organic fertilizer from the other areas which is essential to maintain the fertility of their farm. So milk production in this tahsil is low.

Phaltantahsil also have climatic condition as like Man and Khatav, but due to availability of canal irrigation in this tahsil production of fodder is good in proportion. In Phaltan tehsil Milk processing industries are developed in 2001-2011, so farmers have good opportunity to enhance to increase their economic condition from this occupation. So this tahsil is permanently observed in high to very high milk production area. Wai, Koregaon and Khandala tahsils have urban market center of Satara for their milk and also they are beneficiary of milk industries in Phaltantahsi. So production in these tahsil is observed relatively more than low milk producing tahsils. Farmers in Satara tehsil have a good urban market for their milk so farmers give preference to milk production of specially buffalos.

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Growth of Ancillary Industries in India

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Introduction

Ancillary industries have been given an important place in the economy of both developing and developed countries. The economic development accomplished by most of developed countries can be linked directly to the growth of this sector. In India the small-scale industrial sector has registered speedy growth. In view of the importance of small-scale industrial sector, the growth and development has fascinated a good deal of academic attention. In this paper I have covered growth of Ancillary industries and importance and employment generation towards the economy.

Ancillaries industries are who manufacture standard components and parts for many large industries. They Also supply components or parts to specific large-scale industries such as automobiles, machine tools etc.

Objectives

1. To know the Nature of ancillary industries.
2. To know the Ancillary important place in the economy.
3. To know the growth of Ancillary industries.
4. To know the employment generation towards the economy.

Review Of Literature

In the early literature related to economic contribution of ancillary industries to the industrial sector has been recognized by various economists. Here I would like to highlight the review of works by various authors as well as unlike committee reports related to the ancillary, small scale and cottage industries at international, national and local levels.

1. West Bengal Study

Sarojkumar Basu, Alak Ghosh and Subrata Ray's study is based on the survey of Ancillary units in West Bengal, viz., "Problems and Possibilities of Ancillary Industries in a Developing Economy". The period of the survey was 1961 to 1963. The survey covered 15 groups of industries in West Bengal. The report attempted to study the theory and concepts in ancillaries. They tried to make a comparative study of ancillary developments in West Bengal with those in Maharashtra, Bihar and Madras. It probed deeper into the problems and possibilities of ancillary units in small industries sector of the economy of West Bengal. The study found exit three types of ancillaries, viz., (i) Units depending entirely on the demand of some specific parent establishments. They are called as 'Wholly Ancillary Units'. A special sub-group under this category is those units, which operate as subcontractors to other units. This sub-group may be called as sub-contracting type of ancillaries. (ii) There are ancillary units supplying their entire output to the replacement

Market. They are called as 'Open Market Sellers', (iii) there are some having a share of both open market and subcontracting. They are called as 'Mixed Type' of ancillaries. It was found that nearly 60 per cent of the subcontracting units do not get any assistance worth its name. The study pointed out that the system of subcontracting offers very little towards the development of parent: ancillary relationship.

2. S.K. Goyal, K.S. Chalapati Rao, Nagesh Kumar, in their study on "Small Scale Sector and Big Business" which is the outcome of a study in the series of the corporate studies group of Indian Institute of Public Administration, have tried to point out the loopholes in the definition of small-scale industries which nullify the very objectives behind the encouragements given to small-scale sector. Their contention is that, the definitions

have been related to size and not to ownership and control over small-scale units. Hence innumerable examples of how large units in small-scale sector have grabbed all the advantages that are to be given to small-scale sector are available. They say, the qualifying criteria for eligibility to state support as a small scale unit have been revised repeatedly.

3. John Macdougall's Study of Ancillary Industries in Asansol-Durgapur: The study which intends to point out the scope for and problems of ancillary feeder industries in Asansol-Durgapur was carried out between 1962-1963. The aims of the study were to eliminate the demand, existing and potential, for the products of local ancillary industries in the Asansol-Durgapur area, to estimate the average current costs of production of existing ancillary industries in the area both in general and as regards particular items, and to compare these costs with those of similar industries in the Calcutta Metropolitan District, and to suggest kinds of ancillary industries that might be encouraged to develop in the Asansol Durgapur area. This study points out one of the methods of reducing congested living conditions and urban problems of Calcutta Metropolitan District through development of new major industrial areas within its economic limits to serve as counter magnets of industrial urban growth. The study will be useful for regional planning in India.

4. Ancillary Industries In Maharashtra: Development Prospects And Problems - Conference (1971) The conference was organized by Maharashtra Economic Development Council. The conference papers were contributed by a number of persons. They highlighted various aspects of ancillary industries, development prospects, problems, role of government etc.. These papers themselves constitute an important reference material since they have been contributed by men of experience who were either associated with policy-making or executors of these policies. It has been pointed out by B.R. Sule that in respect of automobile production, the only ancillary industries in existence were the Battery, Tires and Paint manufacturers. Some automobile manufacturers set up their own plants for producing some of the important components which are today being made by the ancillary manufacturers. From such modest roots, the automobile ancillary industry has today grown into broad-based country-wide network of small and large units, manufacturing a large variety of finished and semi-finished automobile components such as fuel injection equipments, taper roller bearings and other components which were imported earlier. Now there is not a single car or truck produced in our country which has a local content of less than 99 per cent. Ancillaries account for 45 per cent to 50 per cent of value of the vehicles.

1. **W.A. Lewis (1991)** has sturdily encouraged the application of labour intensive practises of production to have a steady and smooth economic evolution. He opined that many imperative works can be done by human labour with very little principal. Competent labour could be used to make even capital goods lack using any scarce factors. In this sense, small scale and cottage industry should be developed and encouraged expressly in an economy where capital is infrequent. He recommends the use of capital exhaustive techniques only when they are required in Ancillary Industries.

Limitation of the study

The main limitation of the study is this paper is based on secondary data only. Some areas of ancillary industries only considered for the study purpose. Time limit also one of the constraint for the study.

With the following factors we can understand the growth of ancillary industries.

Growth of Employment in Ancillary Sector in India

Years	No. of employees (in lacks)
1980-81	71.00
1990-91	158.3
1999-2000	229.1
2000-01	240.9
2006-07	312.5

Employment of manpower in ancillary sector has increased from a sheer 71.00 lakhs in 1980-81 to 1 high level of 312.5 lakhs in 2006-07. Employment gone up from 71 lakhs in 1989-90 during the 80s – which is higher than 50per-centcompared 1980-81 figure. The annual development rate deteriorated between a low of 5.6per-cent in 1980-81 to 5.8 per-cent in 1988-89, but an unexpected increase to a maximum of 32.4 per-cent in 1989-90 was an extraordinary accomplishment during the decade. The employment in the ancillary sector increased from 158.3 lakhs in 1990-91 to 229.1 lakhs in 1999-2000 – a growth of less than 50 per-cent over 1990-91 figure. Though the annual growth of employment in the ancillaries has oscillated from year to year during the decade of 90s amongst 4.9per-cent in 1990-91 and 5.2 per-cents in 1999-2000. A continuous mounting trend of employment in the ancillary sector is seen between 2000-01 and 2006-07 from 240.9 lakhs to 312.5 lakhs during the period. The yearly growth rate has been principally stable with a piercing increase in the year 2006-07.

Progress Pattern of Production in Ancillary Sector in India

Years	Progress Pattern of Production (crores)
1980-81	72,200 (at 1993-94 prices)
1989-90	1,89,900
2006-07	4,73,339

The production value of the ancillaries has gone up precipitously during the decade of 80s. The total value of production rose from Rs. 72,200 crores (at 1993-94 prices) in 1980-81 to Rs. 1,89,900 crores in 1989-90. Growth rate of production value grew from 8.7 per-cent in 1980-81 to 11.8 per-cent in 1989-90. There is unexpected slowdown in the value of production throughout the first half of 90s. A good gush in production cost is detected in the second half of the 90s. The yearly growth rate has oscillated during the same period with a deteriorating trend. Production value of ancillary sector reached high level during the current decade of the new millennium stirring an all-time high of Rs. 4, 73,339 crores in 2006-07 with an annual growth rate of 13.0 per-cents over the last year.

Years	Growth of exports (Rs. In Crores)
1980-81	1600
1990-91	9664
1999-2000	54,200
2000-01	69,797
2005-06.	1,50,242

There has been a six times increase in the growth of exports from the ancillary sector from Rs. 1600 crores in 1980-81 to Rs. 9664 crores in 1990-91. The annual growth rate altered from year to year during the 80s. The extreme annual growth rate of exports of the ancillary sector was 38.2 per-cents in 1989-90 and the lowest growth rate was -4.87 per-cents in 1982-83. The decade of 90s indicates high growth of exports from the ancillary sector. Exports rose from 13,883 crores in 1991-92 to Rs. 54,200 crores in 1999-2000 an almost four times surge during the period. Uppermost annual growth rate of exports of 43.7 per-cents of ancillaries was achieved in 1991-92 and the lowest annual growth rate of exports of 7.6 per-cents was observed in 1996-97 during the decade. The exports earnings from ancillaries during the current decade rose from Rs. 69,797 crores in 2000-01 to Rs. 1, 50,242 crores in 2005-06. The annual growth rate of exports throughout the decade was highest at 28.8 per-cents in 2000-01 and the lowest annual growth rate of exports was 2.1 per-cents in 2001-02.

Growth Dimensions of Small Scale Industries in Karnataka

Karnataka is one of the top five technologically advanced states in India. In the last 100 years the state has had the dissimilarity of building a thread and vivacious industrial base, which consists of the fundamental strengths of large industrial under proceeds in the public sector, large and medium clandestinely owned industries and widely spread small scale sector. In recent years Karnataka has developed as the information and technology capital of the country creating rapid strides in the new economy as well. Information Technology and related industries, biotechnology and strong research and development institutions have given Karnataka a pride of place in the global market.

Investment in Small Scale Industry units in Karnataka

The venture in small scale industry units in Karnataka has gone up by more than one hundred per-cent during the five years from Rs. 3,042 lakhs in 1980-81 to Rs. 6324 lakhs in 1984-85. An increase of about 75 per-cent in investment in the small scale industry units has taken place when the total investment rose to Rs. 11,843 lakhs in 1990-91. Investment uplifted further to Rs. 33160 lakhs in 1995-96 after a break of 5 years. The total investment in small scale industry units at the commencement of the new decade i.e. 2000-01 uplifted to Rs. 65158 lakhs. A decrease in investment in small scale industry units to Rs. 46542 lakhs has been experiential in 2006-07.

Employment in small scale industry units in Karnataka

Small scale industries are labour concentrated and labour capital ratio is high. Hence small scale industry sector plays a critical role in providing employment occasions in a labour populated country like India. Total employment in small scale industry units has increased by almost 150 per-cents during the 5 years from 21,357 in 1980-81 to 55849 in 1984-85. By the end of the period of 80s employment in small scale industry units got down to 51521 in 1989-90. A precipitous increase in employment in the small scale industry units 73,999 in 1994-95 and added to 85,792 in 2000-01 has taken place. The total employment in small scale industry units in 2006-07 had got down to 57517.

Areas of Apprehension of Small Scale Industries

The small scale sector is getting much less policy interest and industry associations have become much less coherent. There is a thoughtful stoppage in the practical promotion activities of the government and of the development finance organizations. Small scale industry is a state issue; apparently initiatives suggested by the State government mean a lot in industrial development in a regional setting given the underprivileged financial position of most State government the distribution available for small scale industry development are far from satisfactory.

Factors Making Ancillary Industries Susceptible

Ancillary Industries in India are susceptible due to a host of factors. They are not developed up to the mark because of: Lower capital, technology, Limitations of quality of human resources etc.

The above mentioned factors have made the small scale industry sector susceptible in its presentation and it calls for proper reorientation of policy procedures towards this vital sector in the industrial economy of the country. In addition to these there are few exogenous influences which have an impact on the presentation of the Small Scale Industries. With the following table we can understand the small scale industries growth in different fields.

Year	Number of small scale units	Production	Employment	Export
	(million)	(million)	(million)	(million)
1990-91	6.787	635,180	15.834	96,640
1991-92	7.063	730,720	16.599	138,830
1992-93	7.351	855,810	17.484	177,840
1993-94	7.649	988,040	18.264	253,070
1994-95	7.96	1,222,100	19.14	290,680

1995-96	8.284	1,482,900	19.793	364,700
1996-97	8.621	1,684,130	20.586	392,480
1997-98	8.971	1,891,780	21.316	444,420
1998-99	9.336	2,129,010	22.055	489,790
1999-00	9.715	2,342,550	22.91	542,000
2000-01	10.11	2,612,890	23.909	697,970
2001-02	10.521	2,822,700	24.909	712,440
2002-03	11.01	3,119,930	26.138	860,130
2003-04	11.395	3,645,470	27.142	976,440
2004-05	11.859	4,297,960	28.235	1,244,170
2005-06	12.342	4,978,820	29.491	1,502,420
2006-07	26.112	7,093,980	59.566	1,776,000
2007-08	27.279	7,907,590	62.637	1,825,380
2008-09	28.516	8,808,050	65.935	2,020,170
2009-10	29.808	9,829,190	69.538	2,235,720
2010-11	31.152	10,957,580	73.217	2,451,270
2011-12	32.56	12,214,420	77.127	2,691,250

(Sources RBI Annual publications)

1990-91 small industries number was 6.787 million and it grown to 32.56 million in year 2011-12. we can see the same growth in production, employment and export also. Small-scale industries have appeared as a vivacious and self-motivated sector that underwrites around 40 per cent of the total industrial manufacture and over 34 per cent of the national exports to the Indian economy. At present, the small-scale industries sector is on condition that employment to over 40 million people.

Conclusion

Ancillary industries playing vital role in the development of the country in the various fields' production, export, employment. After all these growth Ancillary in India not developed up to the mark. There are many direct and indirect

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Implication of Goods and Service Tax in Indian agricultural Sector: A Comprehensive Study

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Abstract:

In the segment of indirect taxation, GST is a single tax on the supply of goods and services, right from the manufacturer to the ultimate consumer. Credit of input tax which is paid at each stage, is to be available in the subsequent stage of value addition. That is why GST is considered as a tax only on value addition at each stage. After Demonetization now government move forward to implement Goods and Service Tax on 1st July 2017. As per Article 366 of 122nd Constitutional Amendment Bill 2014 "Goods and service tax means any tax on supply of goods or services or both except taxes on supply of liquor for Human Consumption". The price of agricultural commodities will go down as previously the agricultural commodities are charged. In current Tax regime agricultural industry has enjoyed various exemptions from GST. This tax affect manufacturing cost of agri-inputs, retails price on agri-inputs as well as the income of farmers as well. This study shows the positive and negative impact of GST on the agricultural sector on Indian economy. Secondary data are used to find out the impact of GST in agricultural sector. Implementation of GST is going to benefit a lot; the farmers as well as distributors in the long run as there will a single unified national agriculture market and it is expected NAM on account of subsuming all kinds of taxes and cess on marketing of agricultural production as well as it would ease interstate movement of agricultural commodities which would improve efficiency of market, facilitate development of markets through Warehouses and reduce overhead marketing cost.

Keywords: GST, Indirect Taxation, National Agricultural Market, products.

Introduction:

The Current Ruling Union Government of India under the Leadership of Our Honourable Prime Minister Mr Narendra Modi has taken several measures to improve economic growth. After Demonetization now government move forward to implement Goods and Service Tax on 1st July 2017. As per Article 366 of 122nd Constitutional Amendment Bill 2014 "Goods and service tax means any tax on supply of goods or services or both except taxes on supply of liquor for Human Consumption". France in 1954 adopted GST as its Indirect Taxation structure and became the first country to adopt GST. In India GST is Intended to be the game changer of the economy. The GST implementation is dual in nature one is by Central (CGST) and other is by state (SGST). GST will both have Negative and Positive impact on Agriculture. The price of agricultural commodities will go down as previously the agricultural commodities are charged. In current Tax regime agricultural industry has enjoyed various exemptions from GST. GST may provide India with its first National Agricultural Market for agricultural goods. Agriculture is a Principle Source of Livelihood and 20% contributor of total GDP with Flagging of 10% on account of total exports. To govern and Administer the GST new council has been formed which is headed by Honourable chairman Mr Arun Jaitley who was the Union Finance Minister Of India at that time now which is presently headed by Mrs Nirmala Sitaraman.

Literature Review:

Garg (2014) Studied and found that GST is the most important steps towards the comprehensive indirect tax reform in India.

Thowseaf, Millath (2016) studied that GST , in India, will make sure uniformity of taxes in different states. GST environment lead to an improved disclosure of tax system which have a positive impact on Indian tax regime.

Vasanthagopal, (2011) Studied found the different conflicting interests of various stakeholders with the implication of the constitutional amendment.

Kanwal, Pandey, Rai and Lal (2017) showed in their study both positive and negative impact of GST in Agricultural sector in India.

Biag (2018) analysed that the implementation of GST is going to benefit a lot to the farmers and distributors in the long run as there will a single unified national agriculture market.

Objectives Of The Study:

- (1) To know about GST
- (2) To analysis the present condition of GST in India..
- (3) To show impact of GST on agricultural sector

Research Methodology:

The research paper is based on explanatory research based on different journals, annual reports, newspapers and magazines covering wide collection of academic literature on Goods and Service Tax. Available secondary data are extensively used for the study. The research design was adopted for the details analysis and greater analysis for the purpose of study.

Features Of GST:

- GST would be applicable on supply of goods or services against the present concept of tax.
- GST would be based on the Principle of Destination based consumption taxation as against the present principle of origin based taxation.
- An Integrated GST would be levied on interstate supply of goods or services. This would be collected by centre.
- Import of Services would be treated as Inter State supplies and would be subject to IGST.
- GST would apply to all goods and services except Alcohol for Human consumption.
- GST on five specified Petroleum products (crude, petrol, diesel, oil and natural gas) would be applicable from a date to be recommended by the GSTC..
- Electronic filling of returns by different class of persons at different cut of dates.
- Refund of tax to be sought by taxpayer or by any other person who has borne the incidence of tax within two years from the relevant date.
- An Anti profiteering clause has been inserted in the GST law.
- Elaborate transitional provisions have been provided for smooth transition of existing taxpayers to GST regime.

The Journey To GST:

- In 2006 announcement of GST for the first time was made by UNION FINANCE MINISTER during Budget of 2006-07.
- In 2009 first discussion paper was released by the Empowered Committee.
- In 2011 Constitution bill introduced and subsequently lapsed.
- In 2014 the 122nd Constitution bill was introduced in the lok sabha.
- In 2016 constitution act was enacted.
- In September 2016 there was a 1st GST Council meeting.
- In march 2017 GST Council recommends the CGST, SGST, IGST , UTGST AND Compensation cess act.
- In April 2017 CGST, IGST and UTGST and Compensation cess act passed.
- In May 2017 GST Council recommends all the rules.
- In June 2017 all states except J & K Passed their SGST act.
- In July 2017 GST launched.
- In 8th July 2017 SGST act passed by J&K , CGST and IGST ordinances promulgated to extend GST to J&K.
- In august 2018 Amendments to CGST, IGST, UTGST and Compensation to state acts enacted.

Subsumed Version of Various Indirect Taxes

GST coin subsumes various indirect taxes included including central excise duty, Service Tax, additional custom duty, surcharge, state level VAT, and octroi. Other Levies which are currently applicable on interstate transportation of goods are also likely to be in GST regime:

(A) State Taxes will be subsumed in SGST

- VAT
- Entertainment Tax
- Luxury Tax
- Entry Tax
- Surcharge

(B) Central Taxes will be subsumed in CGST

- Central Excise Duty
- Additional Excise Duty
- Service Tax
- Education Cess.

(C) The Taxes that may or may not be subsumed due to consensus between central & state Govt.

- Stamp Duty
- Vehicles Tax
- Electricity Duty
- Entertainment Taxes

Worldwide GST

India has been taking small steps to meet its target of rolling out GST on July 1 2017 the biggest reform in centuries. Most of the countries have a unified GST system. GST rates of some countries are given below:

France	19.6%	Malayasia	6%
Canada	5%	Singapore	7%
Australia	10%	Japan	5%
UK	Standard – 20% Reduced – 5%	Germany	19%
New Zealand	15%		

Source: Internet

Why GST – Perceived Benefits

Viewpoint of Trade	Viewpoint of Consumer
• Reduction in Multiplicity of taxes • Mitigation of cascading double taxation • Simple Tax regime • Development of Common national Market	• Simple tax system • Reduction in Prices of goods and services • Uniform prices throughout the Nation • Transparent Taxation system • Increase in Employment

GST Council:

It is setup by president under article 279A. It is chaired by union Finance minister. It constitutes Union Minister of State in charge of Revenue and Minister in charge of Finance on Taxation. The 2/3rd representative in council are from states and 1/3rd from Union. The decision of council is made by 3/4th majority of votes cast and quorum of council is 50%. It makes recommendation on: -

- a) Taxes, Surcharge, are integrated in GST
- b) Interstate commerce – IGST- proportion of distribution between state and centre.
- c) Registration threshold limit for GST.
- d) GST floor rates
- e) Special rate during calamities.

Pre GST Scenario

Suppose that a company producing CAPS buys fabric from a farmer worth Rs. 100. Imagine that the indirect tax co. produces a Cap worth Rs. 130. It would have to pay a tax of Rs. 13 on it. This means that the retailer who buys it will have to pay Rs. 130+13 = Rs. 143.

Now if the retailer's margin is Rs. 10 the price of Cap becomes Rs. 143+10= 153. Adding the amount the retailer has to pay as tax Rs. 15.30, the selling cost of the cap becomes Rs. 153+15.30= Rs. 168.30.

GST Era scenario

Now, imagine if the situation occurs under GST regime.

This time when the company produces cap worth Rs. 130, it still has to pay a tax a tax of Rs. 13. but this will not be added to the price when the retailer buys it. The retailer now adding his value of Rs. 10 brings the total added value to Rs. 130+10 = Rs. 140.

The tax on the price of cap would be Rs. 14 (10% of 140). But under GST regime, the retailer will only pay the amount from the tax not paid by company. This will be Rs. 14 – Rs. 13 + Rs. 1. This brings the final price of cap to Rs. 140+14=154

Compare the prices under two situation Rs. 168.3 and 154. Also compare the tax revenue generated in both situations Rs 28.3 compared to Rs. 14 in GST era.

GST Rates On Different Products And Services:

Agricultural products	5%	Milk Beverages	12%
Fertilizers	12%	Frozen vegetables	5%
Tractors	12%	hand pump and its parts	12%
Preserved vegetables	18%	harvester earth grader parts	18%
Refined Sugar	18%	pesticides	18%

Source: Internet

National Agricultural Market(Nam):

National Agricultural Market (e NAM) is a Pan India electronic trading portal which networks the existing APMC mandates to create a unified national market for agricultural commodities. A scheme has been announced by the Union Government for the promotion of agricultural produce is National Agricultural Market (NAM). The scheme is to involve all farmers and traders in the regulated markets with a common e-commerce arena for a transparent trade of agricultural commodities can be termed as National Agricultural Market. Due to different state VAT and APMC (agricultural produce market committee) implementation of NAM would be challenging. GST is a very vital for creating a path for successful implementation of NAM. GST would provide each trader, the input credit for the tax paid on every added value. Most of the agricultural commodities are perishable in nature. An improved supply chain mechanism due to GST would reduce the time taken for Inter State transportation. Some of the states in India like Maharashtra, Punjab, Gujarat, Haryana earn more than Rs 1000 crore from charging CST/OCTROI/purchase tax, but GST would subsume all the above taxes.

Effect Of Gst On Manufacturing Cost Of Agri Inputs:

The main component of any industry is manufacturing cost, if it raises the price of end product rises. This is because manufacturers pass on the additional cost to the consumers. However with the implication of GST agricultural sector is expected to benefit.

Effect Of Gst On Retail Price Of Agri Inputs:

The retail price of the agri inputs are directly affected by the manufacturing cost of the products. Thus if manufacturing cost increases the retail price of product also increases and vice versa. According to experts opinion retail price will increase for states where the products were already exempted.

Effect Of Gst Implementation On Farmers Profitability:

Farmer's profitability largely depends upon tax structure for the inputs utilized by them. This is because it determines the cost of production for the farmers. If the cost of production is low chances of earning profits are higher.

Positive Impact Of GST On Agricultural Sector:

- As per the Union Govt. an agriculturist will not be liable to registration formalities as to the extent of supply of product out of cultivation of land.
- The Indirect tax is vital to enhance the performance of supply chain mechanism.
- It helped in reduction of waste and cost of agricultural produce.
- GST would make the agro machineries affordable to small and marginal farmers in India.
- The implementation of GST IS expected to facilitate the implementation of National Agricultural Market on account of subsuming all kind of taxes.
- After GST implementation and th opening of foreign direct investment(FDI) has enabled the growth industry and raised market potential to grow over 12-13% in upcoming years.
- With the exemption on GST on storage and warehousing of agricultural produce the new tax regime has reduced the tax burden on the farming sector.

Negative Impact Of GST On Agricultural Sector:

- Previously fertilizer was taxed at 6%, in the tax regime the tax on fertilizers has increased to 12%.It would create burden on small and marginal farmers.
- As GST being one tax across nations will not allow farmers to take advantage of Inter State variations.
- The constructions of warehouses as well as cold storages for agricultural produce are now liable to 18% GST.
- In previous VAT system 2% VAT is charged on milk but in GST 18% is charged on condensed milk. So there will be a hike in price of milk and will cause a burden as because milk falls under the purview of commodity.
- The grassroots players such as farming business persons are still adversely impacted..
- According to many economists the implementation of GST will affect real estate market which will result in indirect impact on agricultural sector.

Conclusion:

Goods and service tax does not signify VAT and service tax only but also a modern development in the previous system of tax. GST improved collection of tax. It will also help to increase international trade and its revenue recognition which increase the GDP of the country. Implementation of GST helps a lot in agricultural sector. Even it indirectly changes the income pattern of farmer as well. Agricultural products were put in a single rate of goods and service tax would help the farmers and also to traders because they can sell their produce in any part of the country. GST plays a dynamic role in the growth and development of our country many of the as Indirect Taxes will be ended because there will be one tax system i.e. GST, which will reduce present burden. In India, implementation of GST would help to solve the present complicated tax structure and will help in development of a common national agricultural market (NAM). Though there are different challenges between State and Central Government, but directly or indirectly it would help the agricultural sector in Indian economy which is the main backbone of the country.

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The Impact of COVID-19 on Education System and Socio-Economic Condition: A Case Study of Sitalkuchi Block in Coochbehar District, West Bengal.

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Abstract:

In this paper, an attempt has been made to find out "The Impact of COVID-19 on Education System: A Case Study of Sitalkuchi Block in Coochbehar District, West Bengal". The present day one of the crucial problem in our society as well as all over world is Novel Coronavirus Disease (Covid-19). It is quickly spread out all over the world. The world maximum peoples are infected in this virus. This Problem increase day by day urban and rural area in our society. There are different common symptoms found like that fever, dry cough, headache, sore throat, tiredness etc. The children and senior population those underlying medical problem like cardiovascular illness, chronic respiratory trouble, and cancer are many likely to develop essential serious disease or illness. The actually better path to prevent and slow under transmission is being well informed about the coronavirus disease (COVID-19). Self-protection, Society protection and others to infection through washing your hands or using an alcohol based rub frequently and not touching your face and maintain social distancing. The on-going health emergency almost COVID-19 was affected all activities of daily life. Sitalkuchi is totally rural dominant area, where 90 per cent peoples are engaged in agricultural activities. Education system is not well in the block, where literacy rate is very low. Over all literacy rate is so less compared to national level. The COVID-19 deeply impact on overall education system & Socio-economic condition in the study area.

Key Word: Coronavirus Disease, sickness, treatment, Education System, Daily Life

I. Introduction

Observing life of people suffering from the COVID-19 disease has been priority of Country. Governments have vibrated in operation since the Corona virus invasion created a wonderful situation. India declared a three-week nation-wide lockdown till mid-April in the initial phase and day by day lockdown situation which is subsequently expanded for earning appeasement containment of the virus spread. In this causes day by day lockdown, as a result bad impact fall on the agricultural activities, farmer faced the different problems like that financial crises, marketing problems, transportation problems, high essential price of agricultural equipment, daily labour crises, high price of chemical fertilizer and low Price of production agricultural crops etc. Due to Coronavirus Disease and lockdown, overall Primary school, Private school, high school, college and university are totally closed after long time period (March 2019 to on-going december2020). The long day closed education system; it is highly impact on lower and higher education system in the study area. All the Students are home quarantine. They are not touching a long day with school and their teachers. As results their daily study routine are breakdown and breakdown their daily chapter exercise practice. The Mainly rural area students are normally day by day forgetting their study, because their school and college are closed. According to the Census report 2011, the female literacy rate is 63.41 per cent and male literacy rate are 77.03 per cent in this block. The Sitalkuchi block total literates 112572, total male literates population 62693 and total female literate's population are 49,879. The blocks total illiterates populations are 72781 (District Statistical Hand Book 2013).

II. The Study Area

The study area has been selected for the Community Development (CD) block Sitalkuchi block in Koch Bihar district, West Bengal.

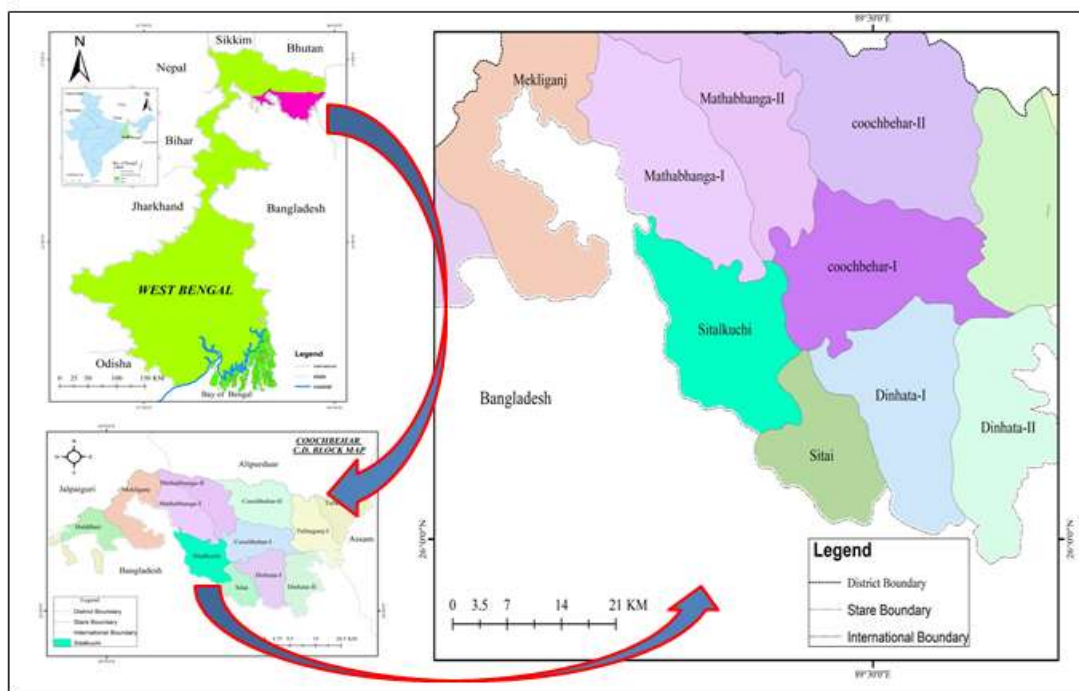


Figure: 1. Location Map of the Study Area

Geographically location of Sitalkuchi block is $26^{\circ}10'N$ - $26^{\circ}16'N$ and $89^{\circ}11'E$ - $89^{\circ}19'E$. Total area of the block is 101.53sq.km. The south and south-western part of the block is bounded by the Indo-Bangladesh border (Figure-1). According to census 2011 reports there are total 42,587 residential households in Sitalkuchi blocks with total population of 185,353, where total male are 94,277 persons and their total number of female populations are 91,076. Total average sex ratio in the block is 966 (females/1000 males). The population density in blocks is 707 /sqkm. Literacy rate in the block is 70.34 per cent.

III. Objectives Of The Study

The Major objectives of the Study area to explore and assess, the Impact of COVID 19 on Education System and Socio-Economic Condition of peoples-A case Study of Sitalkuchi Block. The major objectives are:

- I. To Find out Impact of Covid-19 on Education System in the Study Area.
- II. To Find out Impact of Covid-19 on Socio-Economic Status in the Study Area.
- III. To give appropriate suggestion or a few strategies for their Learning development.

IV. Data Source And Methodology

This research work depends on field survey and secondary data. The primary data are collected from households to maintain the social distancing. The current study is depending on different primary, secondary sources and different authentic websites. The secondary data are collected from various types of national and international level journals and research paper on COVID-19 pandemic. The Sitalkuchi blocks, there are total 63 villages, selected 15 villages were randomly. From each village, 5 farmers were randomly selected. Hence samples of total 75 respondents household were selected.

V. Impact Of Covid-19 On Socio-Economic Condition

The block total coronavirus active case patients are 170, where total 129 peoples are negative case for proper treatment. The negative case peoples are discharged from block hospital, now they are fully rest in their home. Two active case patients is also death. Now, total 39 active coronavirus attached patients are his home isolation. There proper treatment on going in home (Source-Report from Sitalkuchi Block Primary Health Canter, 4th October 2020). The Socio-economic Status (SES), it is prescribe as the location and personal or household occupies with mention to the predominant average value of material and cultural domination, income and participation in community activity of the groups (Dr.M. Nayak). The any place socio-economic improvement, cultural progression, national and impulsive unity of a nation and education is a phenomenon of

great meaningful. Socio-economic condition of the people are housing condition, level of income, sanitation , gender of people, health and others background. But the suddenly occur pandemic Covid-19 impact on different sector of the study area, mainly negative factor are found in the study area.

a) Impact on Level of Income

Sitalkuchi block is economically backward area. The peoples of study area monthly family per capita income are so low. The maximum peoples are fall under below poverty line (BPL) category. But due to pandemic covid-19 rural area maximum peoples are jobless. Their income way are totally closed, the peoples locked in home. Their economic background is day by day breakdown. The rural area financial condition is so pathetic. In the study area peoples are hopeless due to day by day lockdown. The field's survey report, there are 45.34 per cent peoples falls under the income group of less than 5000 Rs. Per month. There 28.00 per cent and 17.33 per cent peoples respectively are fall under the income groups of 5000-10000 and 10000-15000 Rs.per month. Only 9.34 per cent peoples are fall under the income group of more than 15000 Rs.per months in study area (Figure V.I).

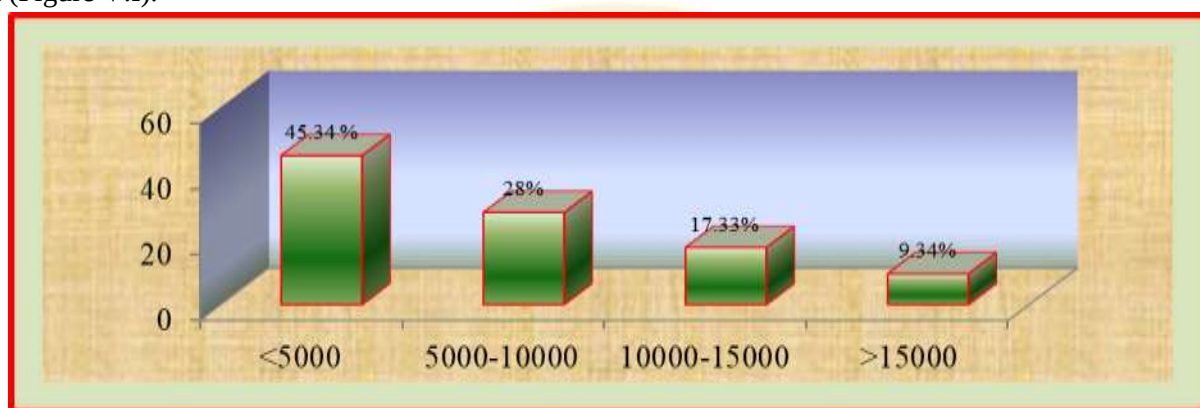


Figure V.I Showing the Different Types of Income Level in Study Area

b) Impact on Increased the Backward Economic Category

The Sitalkuchi block is normally rural area. There are various people or more than peoples engaged in agricultural activities. The economic condition in study area is not well. Based on economical category there is mainly two type of economic category like that A.P.L & B.P.L. Due to long day pandemic Covid-19 impact and locked down as a result in the study area all agricultural activities and economic activities are normally closed. The people's daily income is postponed, day by day their economic crises increased as a results increased the backward economic category peoples (B.P.L). Normally 51 per cent people under BPL (Below poverty Line) category and 49 per cent are APL (Above poverty Line). Due to covid-19 and long day locked down this economic position is changed. Now, at present situation 62 per cent peoples are fall under BPL category and 38 per cent peoples (Figure V.II) are fall under APL category in the study area (Field survey report, 2020).

Before Lockdown

After Lockdown



Figure V.II Showing the Economic Category Peoples in the Study Area

C) Impact on Debt Position

One of the crucial problems in study area is Debt position. Due to lockdown the peoples are jobless and still works. Their economic situation day by day falls under, so the peoples forced to receive loan from merchant or private agencies or bank. In the study area at lockdown time present pilot surveyed results showing that 70 per cent of respondent's people bear the burden of debt. There 30 per cent respondents peoples have not bear the debt. At lockdown time it is found that the average debts of debtor family member are farmer's family.

There are 30.66 per cent of peoples bear the debt Rs.5000-10000 at lockdown time. There are 21.33 per cent and 34.67 per cent peoples bear the burden of debt respectively Rs.10000-20000 and less than Rs. 5000 at lockdown time. At least 13.33 per cent peoples there are bear burden of debt Rs. more than 20000 at time of lockdown in study area (Figure V.III).

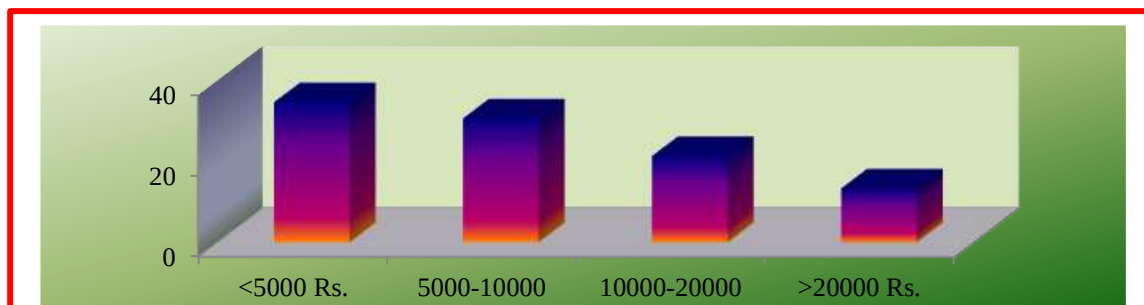


Figure V.III Showing the Present Debt Position in Study Area

d) Impact on Health Condition

Pandemic covid-19 highly impact on health condition, due to lockdown long day peoples are jobless and no any works. The peoples long time locked in their home as a result mentally and physically weakness occur. There are different types of health problems occur in the study area peoples. During the field survey 80 per cent peoples have response health problems. During the lockdown time respondents peoples are suffer different health problems like that 29 per cent people suffer fever, 9 percent diarrhoea, 09 percent skin diseases, 5 per cent blood pressure, 12 per cent Headache, 8 per cent Muscle pain, 7 per cent Eye problem, 9 per cent Weakness, 5 per cent Heart problem, 2 per cent Asthma and 5 per cent other problems in the study area. The study area people's health condition is not well. Primary Health Care is essential health care; based on practical, scientifically sound and socially acceptable method and technology; universally accessible to all the community through their fully participation; at an affordable cost; and geared towards self-reliance and self-determination (WHO & UNICEF, 1978). Health is considered to be one of the key ingredients of Human Development for an economy as it helps in enhancing the quality of human capital and thereby improves the state of human development (H. K. Kumar & M. Rajarshi-2011). Health is one of the most essential elements of human key in improvement plans. It is also a peoples or group has straight connection with the financial situation.

e) Impact on Agricultural production

The Novel Coronavirus Disease (Covid-19), bad impact on agricultural production of crops. The national or state level lockdown occur at an unfortunate time for cultivators, as it is the harvest time for the *Rabi* (winter season) crops. The lockdown made both a scarcity of labour and lack of equipment's migrant workers in India normally move to rural area during harvest time, and small owner cultivator mostly lease harvesting materials as this is lower than buying it. As a result, cultivators have not been possible to product their bumper crops of cereal and others oilseed crop this time season. In many of places crop have been disowned, while in others cereal crop is coming over a month late, in hand with limited and over charge labour. The Covid-19 time crops production is lower than others time or month.

f) Impact on Market

The Novel Coronavirus Disease (Covid-19) is mostly impact on rural area market system. The COVID-19 Situation rural area different market like that weekly market, day market, periodic market etc market backbone or spine are broken. The farmers are facing different marketing problems. It is also effect on our Paddy Cultivation system of the rural and urban agricultural area. It is also preventing the crops production, because farmer does not sell their production crops and buyer no purchases the others essential agricultural materials. In first days of lockdown, people adopt to fear purchase and keeping essentials elements such as flour, rice, salt, sugar and oil. Prices of sugar rose in cities where stocks were very low and fell down in different place due to maximum-supply. Normally, with restrictions, markets fell short of stocks and the values of these materials increased. But the farmhouse values of fruit, milk, vegetables, meat and poultry in India have crashed due to of lower demand.

g) Impact on Transportation system

The present day transportation system is one of crucial way for development any place. By the communication agricultural crops or others material are moving one place to another place for essential need. Transportation system by road, rail and others way, different items are moving one place to others place for delivery purpose. Processing the food grains, fruits and vegetables and other daily essential element items obtainable to buyer, both in rural and municipality areas is the mass critical objection for Governance machinery during the lockdown time. Distribution of the essential materials to vulnerable people, while observing formal guidelines and protocol, especially of social distancing, off cause be effectively monitored. The dairy essential sell products; fish; poultry, milk etc. has also been blow during the lockdown time as the boost by the constructed industry performer has been affected due to lack of workforce and problems of transport issues.

h) Impact on the farm economy

The newly starting of the coronavirus (COVID-19) pandemic is meeting with the main peak cropping period. As this time markets are lockdown, the people are greatly negative impact by it, because that time farmers are not able to buying and selling own production agricultural crops, as a result their economic condition totally broken and farmers are faced very crises economy. This bad economic condition is increasing day by day our agricultural society. One of most vital factor that cultivators have to overtop is the problem of rectifying or purifying their harvest loans, gold debt and other necessary informal loans. The negative implication of pandemic COVID19 is impact on the farmhouse agricultural economy.

VI. Impact Of Covid-19 On Education System Of The Study Area

a) Lack of Proper Guidance for Education in Study Area

Pandemic Covid-19 deeply impact on present education system. In this situation all the students are locked in their home. All educational institution is totally closed, so they are not connected each other's students for learning study. The students not physically touch with teacher, because all the school and college and all public institution are totally closed. The students are deeply feeling the lack of proper guidance for their proper learning study. This problems increase day by day, due to lockdown increase day by day. In these problems the students forget their learning study, increase difficulty, anxiety mind for their well study.

b) Postponed all educational Activities for Students

Pandemic Covid-19 is quickly spreads, in this causes lockdown in every department & educational sectors. All the educational related activities and performance are closed. In the different school, college activities like that admission test, summative and Formative tests, different job examination, competitive examinations etc are totally postponed. The study area under all primary school, private school, college and others all educational institution are closed. Much of higher educational examination is stop. The students suffer different study based learning problems, in this problems students are hopeless day by day.

c) Increased the Drop-out Students of the Study Area

One of crucial problems in study area is increased the drop-out students of school level education. Mainly it is highly occur in the primary level of education. Now day it is a serious problems of the study area, this problems are mainly occur in lower and middle class or labour class family. Due to pandemic Covid-19, increased the number of drop-out students of the study area. The number of drop-out student higher occur in the primary level education but it is less than number compared to higher school level education. Due to lack of economy and lockdown, the number of drop-out students increased day by day in the study area. Because the area is totally rural, job opportunities are less than.

d) Increased the Unemployment Opportunities

Due to long time lockdown, all the peoples are locked in their home. In this cause entire educational sector are closed. The different competitive examination is closed. The also postponed all government and public job recruitment examination. The many students lose his works opportunities. Every years pass out lots of students not get their job opportunities, inside of in India and out site in India. As results day by day reduced the employment opportunities and opposite direction increased the unemployment opportunities. So, pandemic Covid-19 is mostly impact on employment Opportunities of the study area.

VII. Recommendation

1. In study area different financial bearing scheme of the Government may be implementation for financial developing of the peoples, especially for workers, female workers and weaker section workers.
2. Government should be take different initiative for students like that to provide free digital learning system, free Wi-Fi, internet etc. All the students should be trained to use online teaching and encourage online learning class.
3. In study area education system is not developed. Education is so advanced necessary for development of the community or society. The Government and NGOs may take initiative for development of the education systems.
4. Government should be take different learning development initiative Programme for Students. There are much online stages offer many project on the equivalent subjects by various levels of certification, imposition parameters and methodology.
5. In study area different employment creation program and Vocational program of the Government may be implementing for financial development of the peoples.
6. Working participation rate very low so, The Government may be taken initiative steps increase the working participation rate of peoples in the study area.

VIII. Conclusion

The above Field observation and different national and international journals study, it can be conclude that there are many educational factors which most important problem in the Sitalkuchi block. The block is all most backward educated area, because there are many education related problems like that lack of proper educational institution, lack of finance, lack of educational infrastructure, lack of education of guardian, lack of government facilities for development of education system etc. Suddenly occur pandemic covid-19 hazard, spreads quickly government declare lockdown all public sector, department also government all educational department are postponed. The all educational activities like that daily class study, admission, and test, pre-test, daily school physical work etc are closed. All the students are home quarantine in own home; day by day forget their study. The students are not physically touch with his teacher; as a result their learning study and school study are normally broken. Finally it is said that pandemic Covid-19 is deeply impact on education system, others department in the Sitalkuchi Blocks.

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Relationship between Rainfall Distribution and Agricultural Population in Beed District

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Abstract

India is an agricultural country and most of the agriculture in India is directly dependent on rain water. In a region where rain water is moderate to abundant, agriculture is more prevalent and the population in agribusiness is more concentrated.

Beed district is included in Marathwad region and it is the part of rain shadow region. Rainfall is impact on the distribution of agricultural population in this region. Present paper reveals the distribution of agricultural population according to the distribution of rainfall in the study region i.e. Beed district.

Introduction

Rainwater is impact directly or indirectly on the development of agriculture. In areas where rainfall is high, agricultural income is higher and the population engaged in agribusiness is higher. As Marathwada region is a rain shadow region, rainfall is very important in this region.

Even in the study area, it is found that the population in agriculture is concentrated according to the distribution of rainfall. Present paper is based on the relationship between distribution of rainfall and agricultural population in Beed district.

Key Words : Rainfall, agricultural population, agribusiness, distribution

Study Area

The geographical expansion of Beed district is in between 18° 23' N to 19° 21' N latitude and 74° 48' E to 74° 44' E longitude. Beed district is located in the state of Maharashtra at middle south part. District occupied total 10679 sqkm area and it is 3.47% to the total geographical of Maharashtra state.

There are total 11 tahsils are located in Beed district tahsils Ashti, patoda, Shirur, Georai, Manjlegaon, Wadwani, Bid, Kaij, Dharur, Parli and Ambejogair respectively.

According to the census 2011 total population of the district is 2585049 and out of them 2070751 is rural and 514298 is urban population.

Objectives of Study

The specific objectives of the present research work as follows,

- 1) To study the distribution of rainfall in the study region
- 2) To calculate the distribution of agricultural population according to the rainfall zone in the study region.
- 3) To calculate correlation between rainfall distribution and distribution of agricultural population for study the impact of rainfall on agricultural population.

Methodology & Data Source

The present investigation is based on the data obtain from graphical analysis. The base map of rainfall is created from National Atlas Thematic Mapping Organization and Indian Metrological Department. Agricultural population data is compiled from District Census Handbook of Beed 2011.

The distribution map of agricultural population is overlap on the map of rainfall distribution. Area of zone wise rainfall distribution and agricultural population on particular zone is calculated in GIS software. The table is generated of distribution of agricultural population and their density according to rainfall zone.

The results are shown in the table and map also. Relation between these two variables is shown in regression line.

Rainfall Distribution in Beed District

The average annual rainfall in Beed district is occurred 692.80 mm and it is not sufficient for the both agriculture and needs of population in the district. Shirur (kasar) tahsil has recorded lowest distribution of rainfall in the region (558mm) and Ambejogai tahsil found the maximum (786.50 mm) distribution of rainfall in the district

The percentage of rainfall in the region is also uneven and uncertain therefore the agricultural development of the study region is also uneven.

Agricultural Population in Beed District (2011)

According to the census year 2011 total 979846 populations is engaged in agriculture. The both main and marginal workers in agriculture are included in this population. Total 78.04 working population is engaged in agriculture and related work.

Georai tahsil (154320) has recorded highest distribution of agricultural population in the region. Beed, Ashti, Kaij, Manjelgaon tahsil found the more than 1 lakh workers in agribusiness. Wadwani tahsil has lowest workers in agribusiness in the district. While remaining tahsil are found 50 thousand to 82 thousand workers engaged in agriculture.

Distribution of Agricultural Population according to the Rainfall Zone

Zone wise area of rainfall and located agricultural population, their percentage and density is shown in the table no 1.

Table No 1
Beed District – Rainfall Distribution and Agricultural Population

Rainfall in mm	Area (Sqkm)	Agricultural Population	Percentage	Density
Below 600	3728	297810	30.39	80
600-700	4923	449212	45.85	91
Above 700	2028	232824	23.76	115
Total	10679	979846	100%	92

Source - Author

Below 600 mm Rainfall Zone and Agricultural Population

The south to west part of the district is included in this rainfall zone. Ashti, Patoda, middle to south part of Beed tahsil, middle to west part of Kaij tahsil, and southwest boundary part of Dharur tahsil is included in this zone.

This low rainfall region in the district occupied 3728 sqkm area and it is 34.91% to the total geographical area of the district. In this region total 297810 working population in agriculture sector is located and it is 30.39% to the total population in agribusiness in the entire district. The density of agricultural population in per sqkm in zone is found 80

600 to 700 mm Rainfall Zone and Agricultural Population

This is the moderate rainfall zone in the district and mostly covered middle part of the district. Georai tahsil, middle to north part of Shirur (Kasar) and Beed tahsil also maximum part of Ambejogai and Dharur tahsil is included in this zone.

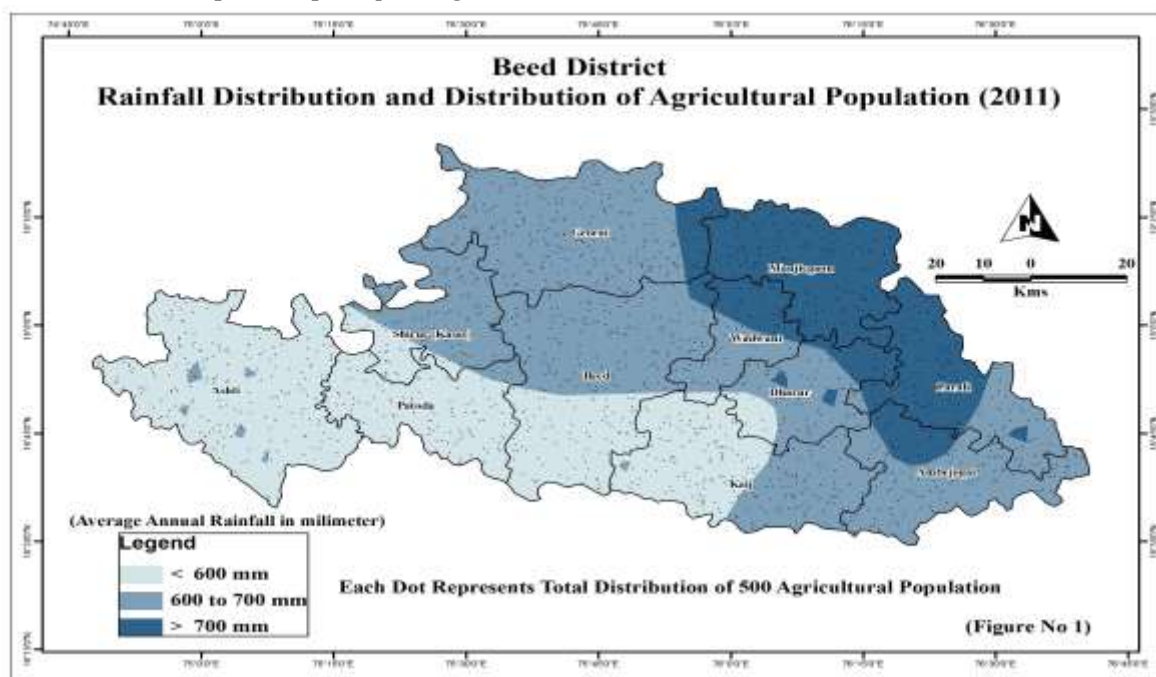
This rainfall zone covered maximum part of the district i.e. 4923 sqkm area which is 46.10 % to the total geographical area of Beed tahsil. In this zone total 449212 agricultural populations is situated and it is 45.85 % to the total agricultural population in the District. The density of agribusiness population in this zone found 91 persons in per sqkm region. This density is also moderate in the district.

Above 700 mm Rainfall Zone and Agricultural Population

This is the maximum rainfall distribution zone in the district and covered only 2028 sqkm area which is 18.99 % to the total area of Beed district. The complete area of Manjelgaon tahsil, eastern boundary of Georai

tahsil, Northern part of Wadwani and Dharur tahsil Middle to west part of Parali tahsil and north part of Ambejogai tahsil is included in this rainfall zone (Figure No 1).

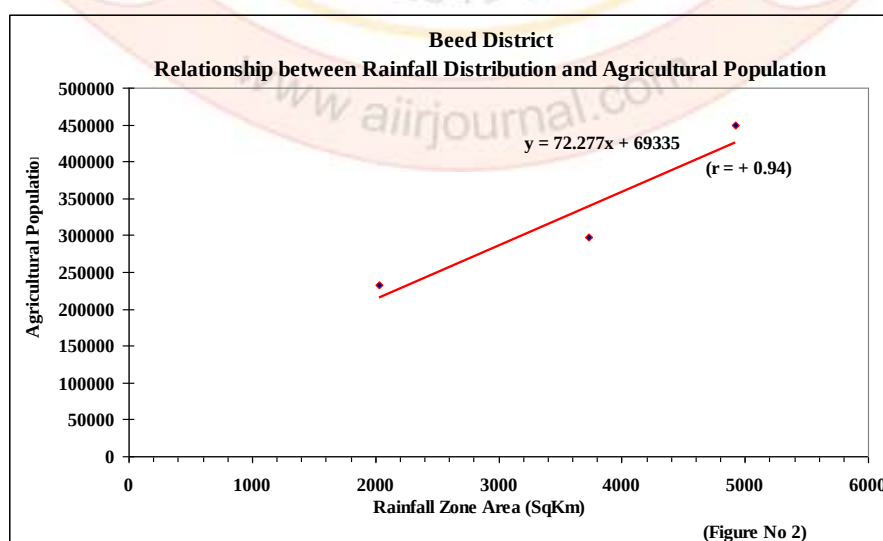
Total 232824 workers in agribusiness is located in this zone and it is 23.76 % to the total workers in agribusiness. The density of agricultural population is higher in the district. Total density of agribusiness population is found 115 persons per sqkm region.



Relationship between Rainfall Distribution and Agricultural Population

The relationship between these two variables is calculated positive and it is high degree ($r = + 0.94$). It is indicated that the rainfall distribution is highly impact on the distribution of agricultural population in the district. The high rainfall zone area occupied very low area of the region and agribusiness population distribution is also less than other zone of the region but the density of agricultural population is higher in this zone (Figure No 2).

The high degree positive correlation value shows the agricultural population in the district is distributed according to the rainfall distribution of the district



Conclusion & Suggestion

Although the rainfall in the study area is not abundant, its effect is found on the population distribution in the agribusiness. The population density of agribusiness is highest in the region where rainfall is higher than other regions. This density is also found in moderate in moderate rainfall region.

The agri-business population in the study area needs to be given modern training in the field of agriculture as well as to stop unnecessary deforestation and increase the amount of natural vegetation to increase rainfall. For that, every citizen must act responsibly.

Rain water harvesting, construction of farms, removal of silt from the pond from time to time and widening of its container will help in increasing the amount of rain water. It is essential for agricultural development to increase the amount of rainfall through various measures and to divert the rain water into the soil.

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Renewable Energy Resources: A Future Option

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Abstract:-

Energy is the capacity to do work and is required for life process. Energy resources produce heat, move objects and produce electricity. Nowadays, energy consumption by human has grown steadily. Energy is one of the most crucial components for the economic growth and welfare of nations. Most of energy we use today comes from fossil fuels. But fossil fuels have a disadvantages and it is non-renewable. It causes harmful effect on the environment and also causes global climate change. But the renewable energy resources are helpful to drastically reducing carbon emission and helping to mitigate climate change. Today, renewable energy resources account for about 35% of India's primary energy consumptions. The renewable energy sources like wind energy, solar energy, ocean energy, geothermal energy, biomass energy and fuel cell technology can be used to overcome energy shortage in India. In this present research paper, efforts have been made to analyse the availability, benefits and future potential of renewable energy options in India.

Keywords: - Renewable, Energy, Resources, Consumption, Environment, Climate change, Sustainable, Potential etc

Introduction:-

For most of history human have been minor consumers of the earth stores of energy. But nowadays renewable energy sources and technologies have potential to provide solutions to the long-standing energy problems being faced by the developing countries. India is one of the countries with the largest production of energy from renewable sources. As of 2019, 35% of India's installed electricity generation capacity is from renewable sources. India is increasingly adopting responsible renewable energy techniques and taking positive steps towards carbon emissions, cleaning the air and ensuring a more sustainable future. In India, from the last two and half decades there has been a energetic search of activities relating to research, development, production, demonstration and application of a variety of renewable energy technologies for use in different sectors. The main benefit of renewable energy resources is it minimizes carbon pollution and has a much lower impact on our environment.

Objectives:-

The main objectives of present research paper are as follows:

1. To study the concept of renewable energy resources
2. To analyze various sources and availability of renewable energy resources
3. To understand advantages of renewable energy resources for future development
4. To analyze future potential of renewable energy resources in India

Database And Methodology:-

This is an empirical study based on secondary data. The data is collected from the different government reports and news collected from the various newspapers and magazines published in India. Certain references are also taken from the different scholarly research articles and various websites etc

Concept Of Renewable Energy Resources:-

Renewable energy is energy that has been derived from earth's natural resources that are not finite or exhaustible, such as wind and sunlight, geothermal, biogas etc. Renewable energy is an alternative to the traditional energy that relies on fossil fuels, and it tends to be much less harmful to the environment.

Availability Of Energy From Many Sources In World

Sr.No	Name of energy Sources	Percentage (%)
1	Natural oil	35
2	Coal	27
3	Natural Gas	20
4	Hydroelectricity	6
5	Biomass	6
6	Nuclear	5
7	Geothermal , Wind, Solar, thermal etc	<1
	Total	100

Source:-Scientist institute for Public Information, 2018.

The above table no.1 shows that, highest availability of energy is from Natural gas (35%) and the lowest availability of energy is from Geothermal, Wind, Solar, thermal etc is only 1% in world.

Renewable Energy Capacity In India:-

Sr.No	Name of energy Sources	Total Installed Capacity (MV)
1	Wind Energy	36,368
2	Solar Energy	29,549
3	Biomass Energy	9806
4	Waste- to- Power	138
5	Small Hydropower	4,604
	Total	80,467

Source:-Ministry of New and Renewable Energy (MNRE), 2019.

The above table no.2 shows that, highest renewable energy capacity is recorded in wind energy (36,368MV) and lowest renewable energy capacity is recorded waste- to-power energy (138 MV) in world.

Various Sources Of Renewable Energy Resources:-

1. Solar energy:-

It is derived by capturing radiant energy from sunlight and converting it into heat, electricity, or hot water. Photovoltaic (PV) systems can convert direct sunlight into electricity through the use of solar cells.

Advantages:-

- i) The benefit of this energy is that sunlight is functionally endless.
- ii) This energy is harvest. There is a limitless supply of solar energy, meaning it could render fossil fuels obsolete.
- iii) This energy helps us to improve public health and environmental conditions.
- iv) Solar energy could also abolish energy costs, and in the short term, reduce your energy bills.

2. Wind energy:-

Wind farms capture the energy of wind flow by using turbines and converting it into electricity. There are many forms of systems used to convert wind energy and each vary. Commercial grade wind-powered generating systems can power many different organizations, while single-wind turbines are used to help supplement pre-existing energy organizations.

Advantages:-

- i) Wind energy is a clean energy source, which means that it doesn't pollute the air.
- ii) Investment in wind energy technology can also open up new avenues for jobs and job training.
- iii) Wind energy doesn't produce carbon dioxide, or release any harmful products that can cause environmental degradation or negatively affect human health like smog, acid rain, or other heat-trapping gases etc

3) Hydroelectric:-

Dams are main source of hydroelectric power. Water flows through the dam's turbines to produce electricity, known as pumped-storage hydropower. Run-of-river hydropower uses a channel to funnel water through rather than powering it through a dam.

Advantages:-

- i) Hydroelectric power does not generate pollution, and therefore is a much more environmentally-friendly energy option for our environment.
- ii) Hydroelectric power is very adaptable and can be generated using both large scale projects, like the Dam, and small scale projects like underwater turbines and lower dams on small rivers and streams etc

4) Geothermal Energy:-

Geothermal heat is trapped beneath the earth's crust from the formation of the Earth 4.5 billion years ago and from radioactive decay. This heat can be captured and used to produce geothermal energy by using steam that comes from the heated water pumping below the surface, which then rises to the top and can be used to operate a turbine.

Advantages:-

- i) Geothermal energy is not as common as other types of renewable energy sources, but it has a significant potential for energy supply.
- ii) Geothermal energy is naturally replenished and therefore does not run a risk of depleting (on a human timescale).

5) Ocean

The ocean can produce two types of energy i) thermal ii) mechanical. Ocean thermal energy relies on warm water surface temperatures to generate energy through a variety of different systems. Ocean mechanical energy uses the ebbs and flows of the tides to generate energy, which is created by the earth's rotation and gravity from the moon.

Advantages:-

- i) Wave energy is predictable and it's easy to estimate the amount of energy that will be produced.
- ii) As a replacement for of relying on varying factors, such as sun and wind, wave energy is much more consistent.
- iii) This type of renewable energy is also abundant; the most populated cities tend to be near oceans and harbors, making it easier to harness this energy for the local population.

6) Hydrogen

Hydrogen needs to be combined with other elements, such as oxygen to make water as it does not occur naturally as a gas on its own. When hydrogen is separated from another element it can be used for both fuel and electricity.

Advantages:-

- i) Hydrogen can be used as a clean burning fuel, which leads to less pollution and a cleaner environment.
- ii) It can also be used for fuel cells which are similar to batteries and can be used for powering an electric motor.

7) Biomass

Bio energy is a renewable energy derived from biomass. Biomass is organic matter that comes from recently living plants and organisms. Using wood in your fireplace is an example of biomass that most people are familiar with it. There is various methods used to generate energy through the use of biomass. This can be done by burning biomass, or harnessing methane gas which is produced by the natural decomposition of organic materials in ponds or even landfills.

Advantages:-

- i) The use of biomass in energy production creates carbon dioxide that is put into the air, but the regeneration of plants consumes the same amount of carbon dioxide, which is said to create a balanced atmosphere.
- ii) Biomass can be used in a number of different ways in our daily lives, not only for personal use, but businesses as well.

Potential Of Renewable Energy Resources In India:-

India has an estimated renewable energy potential of about 916 GW from sources like Wind – 104 GW, Small Hydro – 24 GW, Bio-energy – 28 GW and Solar power – 760 GW. Renewable energy enjoys 15.90% shares in total installed capacity in India. As of March 2018, renewable energy installed capacity total to 57,282 MW. From the total renewable power installed capacity of 14,400 MW at the beginning of 2009, it has increased to the capacity of 38,822 MW at the end of December, 2015 to 57,270 MW by March, 2017. Wind energy continues to dominate India's renewable energy industry accounting for 29157.29 MW by March, 2017 from 25,090 MW by December, 2016. Wind Power and Solar power dominates the total renewable energy

potential in India taking the states altogether. Estimates of wind energy potential indicate that its potential is much higher across Gujarat and Tamil Nadu. Whereas, the solar energy potential indicate that it's potential is much higher across Jammu and Kashmir and Andhra Pradesh.

Conclusion:

Renewable energy sector in India has emerged as a significant player in the power generation capacity. The existence and the development of adequate power sector are essential for sustainable growth of the Indian economy. India's is a leading country in power sector in the world. Sources of power generation range from conventional sources such as coal, lignite, natural gas, and oil to viable non- conventional sources such as wind, solar, hydro and nuclear. The demand for the electricity in the country has increased quickly and is expected to grow further in the coming years. In order to fulfill this increasing demand for electricity in the country, massive addition to the installed generating capacity is required. There has been a visible impact of renewable energy in the Indian economy during the last five years. Renewable energy sector in India has experienced tremendous changes in the policy framework during the last few years. The main advantages of renewable energy resources are Community empowerment, Overall well-being, Sustainable livelihoods, Access to public services Local job creation, Environmentally-sustainable, Reduced pollution etc Mainly, the Solar energy and Wind energy sectors are experiencing accelerated and striving plans to increase the contribution of these sectors out of the total energy contribution in India. India ranks third among 40 countries in Renewable Energy Country Attractiveness Index 2018, with strong focus by the government on promoting renewable energy in India.

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A Study Of Educational Transformation In Jalna District (MS)

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Abstract:

Education is the most important thing for any region. Education plays very important role in the social, economic and cultural development of the region, it is the most significant aspect for the overall development of human being and nation. So, education is the important tool for socio-economic transformation.

As per academic year 2015-16, there were total 431580 students studied in 2397 schools (Primary to HSC) in the Jalna district, of which 54% were boys and 46% were girls. In the district now 96 primary, 17 secondary and 9 higher secondary schools are per lakh population. The proportion of students per teacher in primary school is 41; in secondary school 25 while in higher secondary school is 19. According to 2015-16 the ratio of schools per 100 sq.km in the district is 31.18. This paper explains the educational changes in Jalna district during the period of 1981-82 and 2015-16.

Keywords: Education, Transformation.

Introduction:

According to the right to education act (RTE), education is the fundamental right of every child. Primary and secondary schools provide education to all. Education for all (Sarva Shiksha Abhiyan) is the basic part of education. Jalna district was formed in 1981, at that time the district was educationally backward, because there were no any Engineering, Medical, Polytechnic and Law college. There were only 2 degree colleges (Arts, commerce & science) and 765 students' enrolment in this college. As per the academic year 2015-16, there was 1 Engineering and 1 Medical college as well as 63 senior colleges and 65959 students enrolled in senior college. The backward class (SC & ST) students' enrolment in school level (Primary to HSC) in Jalna district was 19261 in 1981-82 and it is increased to 81808 in 2015-16.

Literacy rate is a main factor to measurement of educational development. According to the census 1981, the literacy rate of Jalna district was only 30.49 percent while as per census 2011, district literacy rate was 71.52 percent. In 1981, female literacy rate was 15 percent which was very low while in 2011, it was 61 percent. The total literacy rate has more than double while female literacy rate has fourfold in these three decades. It is the indication of educational development in the district.

Study Area:

Jalna district is a part of Aurangabad division. It was formed on 1st May 1981. Jalna District lies between 19° 1' to 20° 3' North latitudes and 75° 4' to 76° 4' East longitudes. The Northern part of the district is occupied by the Ajanta hill ranges and the southern boundary is the bed of the Godavari. The District is bounded by Jalgaon district in the north, Beed in the south, Parbhani and Buldhana district in the east, and Aurangabad district in the west. Jalna district consists of eight tahsils. The District has an area of 7687 sq.kms, and population 1959046 persons as per Census 2011.

Objective:

- To find out changes in educational sector in the Jalna district is the main objective of this study.

Database and Methodology:

The present paper is based on secondary data. The data is obtained from socio-economic review and district statistical abstract of Jalna district, district census handbook, education department of Zilhaparishad, web site etc. Collected data are classified, tabulated and analyzed by using various method and techniques.

Primary, Secondary and HSC Education:

1st to 7th standard (classes) includes in primary education. Primary education is the base of higher education and its now fundamental rights of every eligible child. Standard 8th to 10th includes in secondary

education while 11th and 12th classes includes in higher secondary education. As well as, higher secondary school is known as junior college. Secondary and higher secondary education provide a certificate for entry of employment. In the Jalna district the large numbers of educational institutes are run by the private bodies.

Table No. 1: Jalna district Educational Institutions (1981-82 & 2015-16)

Particulars	Primary		Secondary		Higher secondary	
	1981-82	2015-16	1981-82	2015-16	1981-82	2015-16
Institutions	1020	1888	73	336	01	173
Enrollment	105664	320583	12095	64640	220	46357
Teachers	2806	7864	1056	2594	13	2432
No. of students per school	103	170	165.68	192.38	220	268
Teacher-pupil ratio	1:37	1:41	1:11	1:25	1:17	1:19

Source: Socio-economic Abstract of Jalna District (1981-82, 2016).

Result and Analysis:

Jalna district has made remarkable progress in education. Above table indicate that the number of educational institutions in the district has increased during the period 1981-82 to 2015-16. There were 1020 primary and 73 secondary schools in 1981-82 which was increased to 1888 and 336 respectively in 2015-16. As well as there was only one higher secondary school and 220 enrollment in Jalna district in 1981-82 while there was 173 higher secondary schools and 46357 enrollment in 2015-16. The number of students per school was 103 in primary, 165 in secondary and 220 in higher secondary school in 1981-82 which was increased to 170, 192 and 268 respectively in 2015-16. The teacher pupil ratio was 1:37 for primary, 1:11 for secondary and 1:17 for higher secondary school in 1981-82 which was increased to 1:41, 1:25 and 1:19 respectively in 2015-16. Overall above table reveals that, to the development of education and educational structure in the district, most important role is of private institutions and state government.

Conclusion:

The study of educational sector in Jalna district observed that the,

- Jalna district was formed on 1st May 1981, at that time there were no any professional college. But there was 1 engineering, one medical and polytechnic college in 2015-16.
- The study found that, there was 1094 institutions and 117979 student's enrollment in 1981-82 in which was increased to 2397 and 431580 respectively in 2015-16 in Jalna district.
- The study shows that the number of institutions (Primary to HSC) per lakh population was 106 in 1981-82 which has increased to 122 in 2015-16 in the district.
- The percentage of girls to total students has increased from 31 in 1981-82 to 46 in 2015-16.
- The proportion of backward class students (SC & ST) to total students has also increased from 16 percent in 1981-82 to 19 percent in 2015-16 in the Jalna district.
- Education is the basic social infrastructure service and its main effect on the literacy rate of Jalna district. As per census 1981, male literacy rate was 45.54 percent while female literacy rate was only 15 percent which was very low. It means that 85 percent female were illiterate in Jalna district. According to 2011 census, male literacy rate was 81.53 percent and female literacy rate was 61 percent. It means that, during this period, due to the growth of educational institutions in the district, the female literacy rate has increase.

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Major Problems of Women in Indian Society

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Abstract :

In India Sati Sabitri, Durga, Lakshmi are worshipped by people treating them as goddesses. Where as there is increasing number of violence against women.

Women in India have to face a lot of issues. They have to go through gender discrimination, harassment, Sexual abuse, lack of education, dowry – related harassment, gender pay gap and much more. India is a country where women are given the status of a goddess. However, the problems they have to face, just show the opposite of this concept. On one hand they worship them as goddesses, and on the other hand they abuse them endlessly and consider them inferior. India women always had some problem or the other to face in society. People evolved and so did the problems, they did not go away but changed from one to another. We need to realize these problems and act on them fast to help our country thrive. Problems faced by women in India: When in the early day's there were severe issues like sati system, no widow remarriage, devadasi system and more. While most of them are not prevalent now, there are new issues that women face. They may be not the same but they are still as severe as the early ones. They hinder the growth of a country and make the women feel inferior.

Firstly, violence against women is a very grave issue faced by women in India. It is happening almost every day in various forms. People turn a blind eye to it instead of doing something. Domestic violence happens more often than you think. Further, there is also dowry related harassment, marital rape, genital mutilation and more.

Next up, we also have the issue of gender discrimination. Women are not considered equal to men. They face discrimination in almost every place, whether at the workplace or at home. Even the little girls become a victim of this discrimination. This patriarchy dictates a women's life unjustly.

Moreover, there is also a lack of female. Education and the gender pay gap. Women in rural areas are still denied education for being a female. Similarly, women do not get equal pay as men for doing the same work. On top of that they also face workplace harassment and exploitation.

Introduction:-

“Yatra naryastu puhyante ramante tatra Devata, Yatra itaastu na Puhyante Saravaastatrafalaah Kriyaah” is a famous sloka taken from Manusmruthi which means where women are honoured, divinity blossoms there, and where women are dishonoured, all action no matter how Nobel remain unfruitful.

She acts as a mother, sister, daughter, wife, sister-in-law & also friend to our family. She plays a key role in the family & she can do anything without men. Because she is strong, smart, crafty & she is passionate courageous, she is an efficient person of action, emotion, devotion, generous, serves for the whole family and guests, has several super powers.

This kind of women faced so many problems in the present society especially in India.

Objectives

- 1) What is the present situation of women in India.
- 2) Is India safe for women.
- 3) Why India is the dangerous Place for women.
 - a) Ayesha Meera, b) Ravuri Sri Lakshmi, c) Nirbhaya (Rape cases in India from 2012-2020), d) Disha, 2019 HYD, e) 2020, Hathras gang rap & murder.

1. What is the present situation of women in India.

According India's constitution women are legal citizens of the country and have equal rights with men. (Indian Parliament). Because of lack of acceptance from the male dominant society. Indian women suffer immensely. Women are responsible for bearing children, Yet they are malnourished and in poor health.

2. Is India safe for women:-

Being a women is not easy and that too when you live in India. Because in India at every 20 minutes a girl is raped. And if we talked about the current scenario. India is not safe for women not even in this 21st century. This country has been ranked as the world most dangerous place for women. (July 04, 2020)

3. Why India is the dangerous place for women:-

In India the dangerous place for women, because of the persistent rise in number of the rape cases and lack of access to justice in it.

India ranked as the world most dangerous place for women?

- ❖ I wish I would never exist in India : Women.
- ❖ Every rape victim asks why me?
- ❖ Am I responsible for the cause that happened to me?
- ❖ Then why nobody comes in front and save me?

As every passage, at every place whether being surrounded by loved ones or stranger, every one humiliates me, misbehaved with me and Raped me.

Above sentences, words are short to say, but the deep pain that I felt and go through with is hard to explain. Rape victim, below some examples.

a) Ayesha Meera rape case in Andhra Pradesh:

A 19 year – old pharmacy student named Ayesha Meera was raped and murdered brutally in a hostel at Vijayawada. She body with stab injuries was found in the bathroom on 27, Dec. 2007.

b) Ravuri Sri Lakshmi:

M.C.A. Student Sri Lakshmi murdered by her Classmate Manohar at Sarada College Vijayawada. Reason, refused his love proposal she was killed in her classroom.

c) Nirbhaya:

Remember that heinous crime that occurs in the national capital of India. Delhi at Munirka on 16 December 2012 (Nirbhaya Case). That leaves everyone in Trauma and left a dark stain on women safety and security. She was a physiotherapy intern who had gone to watch a movie with her male friend and has been assaulted on her way back home. She had been raped in a bus by six people in which she was travelling with her male friend. These monsters had crossed all the limits of brutality. This case got national as well as International coverage, but nothing had made a big change in the speed of justice of Nirbhaya case as this high profile case had taken 7 years to conclude. The Judicial system of India is somewhere responsible for the rising numbers in the rape case in India. Sadly, but on the same day of Nirbhaya, there was one more gang rape happened in Meghalaya where a girl went to the winter festival at William Nagar with her friends and on her way back. She was hit with bricks on her head and raped by 16 people.

Nirbhaya was not the sole rape case in 2012, as per NCRB report it was one of the 2,41,923 recorded cases and even the report stated that in the same year more than 68 girls raped every day. The number of the rape cases are terrible and whole the country was demanding justice for Nirbhaya. But what happens to others cases. Did rape victims get justice? Do rape victims alive? Did the government take any strict actions? So, many questions. But if we Look for Exact Answers, Then There is Nothing.

After every brutal rape case government promised ample of things, they amend laws, all the higher authority does tweets, give empathy, but after awhile when the time passes they may forget. Because if our government think about women safety and security, then surely, the numbers of rape cases will never grow so terribly. After 2012, the number in rape cases has been constantly increasing to 91.38 in 2018.

People protested and demanded strict punishment and strict laws for rapist and women security. But all those protests had not added so much change in Indian law. After Nirbhaya, Criminal against women get amended, but that amendment does not stop the speed of rape in India. This tabular representation of Rape cases after Nirbhaya simply shows the picture of women's safety in India.

Below table we present the highlighted, rape cases after 2012 to till now. In every year a brutal gang rape happened and people come on the road, shows their aggression, outrage and demand capital punishment for rapist but nothing has changed.

1) Rape Cases in India From 2012 To 2020.

- 2012 Delhi
16 Dec, 2012
Nirbhaya Gange Rape by 6 people including a juvenile
- 2013 Mumbai
22, Aug, 2013, Shakti Mills Gang Rape by 5 people including a juvenile
- 2014 Uttar Pradesh
27, May, 2014 Badaun Gang Rape by up to 7 People (Suspects)
- 2015 Tamil Nadu
July 2015, Shivanagai minor girl rape case accused a public officer.
- 2016 Rajasthan 29 March, 2016
Delta Meghwal rape case 17 years old girl accused her hostel teacher.
- 2017 Uttar Pradesh.
04, June, 2017 Unnao rape case A minor girl raped.
- 2018 Jammu Kashmir
Jan, 2018 Kathu Rape case minor girl raped by 7 people.
- 2019 Rajasthan
Dec, 2019, 6 years old girl raped on her way back home from school.
- 2019 Hyderabad
27 Nov, 2019 accused 4, Location Shamshabad, Total 5:1
- 2020 Madhya Pradesh
23 April 2020 6 years old girl raped.
- 14, Sept, 2020
19 years old dalit women was gang raped.

This shows that every year rape happened and nothing has changed. At some point, our judicial system is responsible for this because they do not implement strict laws and punishment for rape cases. After seeing so much brutality and heinous crime with women still, people of higher authority said that Death Penalty is never the solution towards. Ending violence by the executive director of women rights group Amnesty – International India.

According to Executive Director Avinash Kumar “Death penalty adds dark stain in Human rights” (During Nirbhaya Case). Really? Because after Nirbhaya there are number of more brutal rape cases happened and Is this not a dark stain in Human rights? Rape is a black spot in our country and society, Times has come when we need stricter laws and strict punishment otherwise this will become worse.

2) DISHA:

In Nov 2019, the gang rape and murder of a 26 year – old veterinary doctor Disha (changed Name) in Shamshabad, near Hyderabad, sparked outrage across India.

Her body was found in Shadnagar on 28 Nov 2019. The day after she was murdered. Four suspects were arrested and, according to the Cyberabad Metropolitan police, confessed to having raped and killed the doctor. The Telengana Police arrested four men based on the evidence gathered from CCTV cameras and from the victim’s mobile phone. The accused were taken into judicial custody at Charlapally Central Jail for fourteen day’s.

The Telangana Chief Minister Ordered the formation of a fast – track court to tour the accused for their alleged crimes. The rape & murder elicited outrage in several parts of the country. Protests and public demonstration. Against rape were organized nationwide after the incident, with the public demanding stricter laws against rape & rapists. The Minister of Home Affairs criticized the Telangana Police and stated that the government. intended to amend the Indian Penal code and code of criminal Procedure to introduce laws quicker Punishment by fast – track courts.

All four accused were killed in a police encounter on 6 Dec, 2019, under a bridge Bangalore Hyderabad national highway while they were in police custody. According to the police the suspects were taken to the location for a reconstruction of the crime scene, where two of them allegedly snatched guns and attacked the police. In the ensuing shootout all four suspects were shoot dead. Some accused the police of extra judicial execution, while thousands of people celebrated the men's deaths.

➤ **2020 Hathras gang rape and murder**

On 14 Sept, 2020, a 19 year – old Dalit Women was gang raped in Hathras District, Uttar Pradesh, India, allegedly by four upper caste men. After fighting for her life for two weeks, she died in Delhi hospital.

Location : Hathras U.P. India

Date : 14, Sept, 2020 Attack Type : Rape dragged strangulated (with duppatta)

Deaths : 1

No. of participants : 4 (Sandeep, Ramu, Lovkush & Ravi),

Charger : Murder gang rape and violations of the scheduled caste & Tribes Prevention of Atrocities)

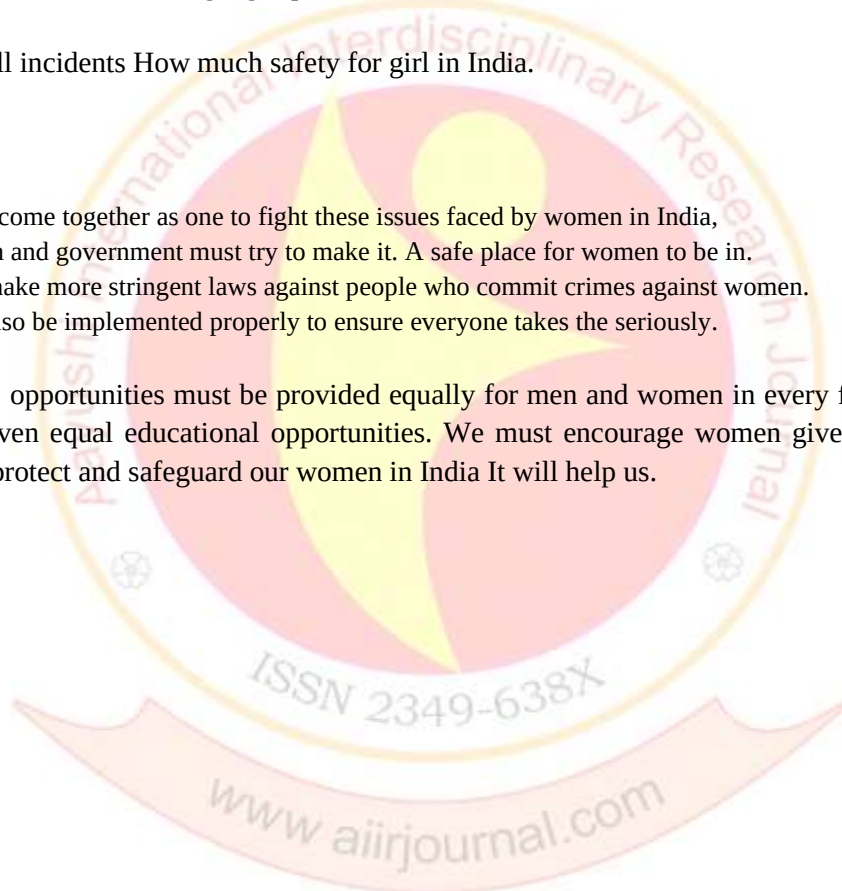
Act 1989.

These are all incidents How much safety for girl in India.

Conclusion:

- We must all come together as one to fight these issues faced by women in India,
- Every citizen and government must try to make it. A safe place for women to be in.
- They must make more stringent laws against people who commit crimes against women.
- They must also be implemented properly to ensure everyone takes the seriously.

Furthermore, opportunities must be provided equally for men and women in every field. Government & citizens must be given equal educational opportunities. We must encourage women give their best lastly we must join hands to protect and safeguard our women in India It will help us.



To Study Changing Pattern of Agriculture Labour in Solapur District

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Abstract:

Agriculture sector is being changing very rapidly due to acceptance of technological changes besides other sectors are attracting the manpower from agriculture sector to various agri and allied sectors. Mechanization of farming has also had a role to play and that has resulted into changing the pattern for the rural labor. The male laborers are shifting from agriculture sector towards agri-allied sectors or other small scale industries to seek employment. Agri-allied sectors are emerging sectors to generate more jobs and revenue in rural areas. The male labourers are moving from agriculture sector to highly wage sectors in urban or semi urban areas for jobs. Farmers also have shifted from traditional crops to cash crops. This change has resulted into changing pattern of labor. The men laborers have been shifting to semi industries whereas the women laborers have been consistently increasing. The cropping pattern has also been changed. It has resulted into changing pattern of agriculture sector with respect to crop and labour.

Key Words: Changing Pattern, Mechanization, Agri and allied sectors, Small Scale Industries, etc.

Introduction:

The agriculture sector occupies pivotal role in Indian economy. It contributes around 19 to 21% to the Gross Domestic Product. The mechanization in agriculture sector has been consistently affecting the agriculture sector. The men laborers have been shifting to semi industries whereas the women laborers have been consistently increasing. The cropping pattern has also been change. It has resulted into changing composition of agriculture sector.

Meaning of Agriculture labor:

A person who tills the soil for a living 39-51-205 Agricultural labor defined. (1) The term "agricultural labor" includes all services performed prior to January 1, 1972, which was agricultural labor as defined in this section prior to such date and remunerated services performed after December 31, 1971:

- (a) on a farm, in the employ of any person in connection with cultivating the soil, or in connection with raising or harvesting any agricultural or horticultural commodity, including the raising, shearing, feeding, caring for, training, and management of livestock, bees, poultry, and fur-bearing animals and wildlife;
- (b) in the employ of the owner or tenant or other operator of a farm in connection with the operation, management, conservation, improvement, or maintenance of such farm and its tools and equipment or in salvaging timber or clearing land of brush and other debris left by a hurricane if the major part of such service is performed on a farm;
- (c) in connection with the production or harvesting of any commodity commonly known as agricultural commodities or in connection with the hatching of poultry or in connection with the operation or maintenance of ditches, canals, reservoirs, or waterways used exclusively for supplying and storing water for farming purposes, except where such ditches, canals, reservoirs, or waterways are owned and operated by government entities;
- (d) in the employ of the operator of a farm or a group of operators of farms or a cooperative organization of which such operators are members in handling, planting, drying, packing, packaging, processing, freezing, grading, storing, or delivering to storage or to market or to a carrier for transportation to market in its unmanufactured state any agricultural or horticultural commodity, but only if such operator or operators produced more than one-half of the commodity with respect to which such service is performed.

Definition of Labor Force:

The current definition of the total labor force is that it refers to all non-institutionalized individuals 16 years of age and over who are at work, seeking work, or unemployed.

Review of Literature:

As per the study made by S Subramanian India's rural economy is experiencing a 'drastic change' due to various forces of change in agriculture sector. This change is the outcome of the interaction between agriculture and other economic, social and cultural factors. It has paved the way for new opportunities and dimensions to the existing agrarian structure. This change in the agrarian workforce indicates that it has wider connotation of change at local national as well as global level.

Data shows that the rise in the marginal phenomenon mainly since 2001 across all the industrial categories and gender in the rural areas of India. In terms of the ranking, the process of marginalization has gone down among agricultural laborers category followed by the cultivators, household workers and other workers. More so, the effect of marginalization has been more prominent among the females across all industrial categories since 2001. In fact, the proportion of females in the marginal category was 40 per cent and above in both the agriculture related workforce.

Therefore, patterns of marginalization in the rural economy especially women are highly being used in agrarian sector. Which is in a way commendable and a matter of concern. Yet the clarity on the marginalization of agricultural workforce can be placed not just from proportions but also needs to be derived from growth over a period of time. This temporary phenomenon may help policymakers to determine the speed and impact of such phenomena on the economy.

The comparative growth rates of both main and marginal workers for two important industrial categories, which are mainly cultivators and agricultural laborers. During the Census decade 1981-1991, the growth of the marginal workforce kept pace with that of the main workforce. During this period marginal male cultivators and agricultural laborers percentage got decreased, but this reduction was covered by female workers, but immediately subsequent decade i.e. 1991 to 2001 registered substantial increments in marginal workers percentage. The male marginal workforce grew more than 25 per cent per annum during 1991-2001 in rural areas. On the other hand, the female workforce also grew rapidly but only one-fourth of the rates of male marginal workforce.

In addition, the (MGNREGA) i.e. Mahatma Gandhi National Rural Employment Guarantee Act has created marginalization of workforce. In this act due to recent amendments i.e. 60% of work should allowed from agriculture and allied sectors. This decision has cause for deep marginalization.

Occupational/ Sectoral Profile of the Workers - Structural Change

The size of workforce and the structure of the workforce are main drivers of economic growth (Census Report, 2001). The relationship between these two is bilateral. Because the workforce contributes to the growth while growth provides a better platform for the workforce to climb the ladder. Therefore, it is essential to understand the dynamics of the sectoral profile of the workforce with respect their gender, age and geographical location.

In research paper titled Structural change out of Agriculture: Labor Push versus Labor Pull by Francisco Alvarez-Cuadrado and Markus Poschke pointed out that a declining employment share of agriculture is a key feature of economic development. Its main drivers are: (i) improvements in agricultural technology combined with Engel's law release resources from agriculture ("labor push"), (ii) improvements in industrial technology attract labor out of agriculture ("labor pull").

Ms. Amita Shah found in the research paper titled changing scenario in agriculture and rural employment: challenges and opportunities that the next round of agricultural growth offers a huge potential for welfare enhancement provided the policies are robust enough to bring in a paradigm shift in increasing the productivity. The conventional source of productivity enhancement, especially since the Green Revolution, had centered round water as well as input intensive practices. The challenge now is to shift towards water efficient and knowledge/employment intensive systems of agricultural production.

The contemporary policy discourse on agriculture focuses mainly on three broad approaches:

- i) Expediting the process of workforce diversification including rural-urban migration;
- ii) Shifting the locus of growth to the high potential regions in central-northern eastern states; and
- iii) Promotion of high valued crops/ allied activities within primary sector. Since these approaches are closely interrelated, they need to be seen in conjunction with each other. The elements of all three approaches are essential for realizing a major shift in the pace as well as composition of agricultural growth in the country.

This, of course, is not to undermine need for shifting a substantially large number of rural workers to non-farm activities.

However, this scenario is not going to change for next 5-10 years. The policy imperatives therefore are: (a) Shift the locus agricultural growth to the lagging regions especially in high potential areas in central-northern eastern states; (b) Increase productivity of labor by moving to high valued products; and (c) Promote more knowledge/labor intensive crops/practices, essential for ensuring sustained growth in the long run. Last feature like shifting workers from farm to non-farm sectors is so dynamic rather than distress-induced situation becoming a reality.

The paper highlighted the fact that the recent crisis in agriculture calls can be overcome through a paradigmatic shift in terms of changing the crop-composition, locus of growth, and resource use efficiency. It is therefore, essential that the emphasis on agricultural growth shifts from finer grains to oilseeds and pulses; from areas with intensive irrigation to rain fed (dry land) regions; from input-capital intensive to labor intensive farming practices; and from crops alone to diversified farming systems. Revival of integrated farming system approach across different agro-ecological regions thus becomes an essential precondition for achieving a paradigm shift in the sector.

Objectives of the Research Paper:

- 1) To Find out the pattern of Agriculture Labor
- 2) To Study migration of Agriculture Labor to other sectors
- 3) To Study changing Cropping Pattern in agriculture Sector

Research Methodology:

This paper is based on the secondary data where the researcher has drawn the material from various sources like magazines, journals, textbooks, reference books, internet etc.

Research review:

As per the research made by Sharon P Smith, He found that the composition of the labor force' has been changed. This change has been mainly with old age people and women and teenagers. Old age men's participation has been decreased whereas female and teenagers have been increased.

The overall labor force participation rate for all demographic groups, 16 years of age and older, remained fairly stable from the late 1940's through the early 1960's, fluctuating between 57.0 percent and 58.3 percent. Since 1964, however, there has been a persistent rise in the participation rate. In 1969 it reached a record 58.6 percent, and by 1975 it had moved up further to 60.4 percent.

Three groups exhibiting the most important changes are married women living with their husbands, older men, and teenagers.

The changing role of women in the labor force:

The participation of women in the labor force is the number and ages of her children. Women having children is major obstacle to participate in labour force as she has to take care of her kids.

Major difference is between those women having child below 6 years and above 6 years. Though the difference has been seen but the participation for both the category has been increased. Even childless women participation has also been increased. The study showed that labor force participation of all married women living with their husbands has increased.

The changes in labor force participation rates by sex and ages have been consistent across the two

younger age groups and are not the result of unusual behavior of a particular group as it ages.

Female labor force participation rate has been enormously increased for each age category except those 65 and over. The growth specially happened with the age group of 25 and 34 years old. Although females between the ages of 20 and 24 remain the group with the highest labor force participation rate, the differences between the age groups generally have narrowed between 1955 and 1976. Therefore, it appears that the increase in female labor force participation is a result of factors that affect all age groups and not just one particular generation or one particular age group.

Female labor force participation has increased due to three factors i.e. an increase in age at first marriage, a reduction in the birth rate, and better educational achievement alone would have increased female labor force participation.

Employment Scenario of Maharashtra:

The percentage of distribution of workers in different activities over a period of time from 1961 to 2001 is as follows: Agriculture and allied activities have shown remarkable change in total workforce. It was 69.9% of the main workers in 1961, which declined to 66.4 % in 1971, 57.9% in 1981, 55.9% in 1991 and which further declined to 45.1% of the main workers in 2001. It shows that declining trend in agriculture and allied activities for employment of main workers in the state. On the other hand, activities other than agriculture like mining and quarrying, manufacturing, trade, transport, communication and others have shown a remarkable increase in providing employment in the state over a period of 50 years from 1961-2001.

Out of these activities, mining and quarrying and manufacturing have shown a declining trend while construction, trade and transport have considerably shown an increasing trend over the years which means these activities have played an important role in providing gainful employment opportunities in Maharashtra. It can be said that there has been a shift of the workers from agriculture and allied activities to various non-agricultural activities in the state.

Major Reasons for such a shift can be that land is limited and it cannot support the growing population, therefore, people fail to find gainful employment in agriculture and Maharashtra being an industrially developed state, employment generation in non-agricultural activities has attracted the workers to shift from agriculture to nonagricultural activities.

All economic activities in which the rural workforce is employed, other than agriculture and allied like animal husbandry, fishing, forestry and plantations are included in rural non-agricultural activities. These activities can be viewed as one of the potential options in offering employment to rural workforce across the state. Focusing on non-agricultural activities will certainly reduce the pressure on agriculture to provide additional employment to the ever increasing population.

Series of census data, from 1961 to 2001, shows that there is decline in percentage of cultivators from 46.1 in 1961 to 24.8 in 2001 which may be attributed to the shift of employment in other sectors because of industrialization and globalization. Over the years, employment pattern of the state has undergone a drastic change as the share of agriculture and allied activities has considerably reduced from about 70% in 1961 to 45% in 2001, while the share of activities other than agriculture has increased.

As per the study made by Subrata Kumar Ray in the research paper titled Economics of Change in Cropping Pattern in Relation to Credit: A Micro Level Study in West Bengal

She observed that the state's agricultural performance is that productivity has been the main contributor to output growth. While the rate of growth of food grains output has been very high, the cropping pattern in most of the districts has noticeably changed in favor of high-value non-food crops.

Research paper titled Patterns of crop diversification in Indian scenario by V. Kalaiselvi He noticed that Indian agriculture is highly influenced by economic factors. This is in line with irrigation expansion, infrastructure development, penetration of rural markets, development and spread of short duration and drought resistant crop technologies have all contributed to minimizing the role of non- economic factors in crop choice of even small farmers. Liberalization and globalization policies are the forcing factors for farmers to change the crop pattern both at the micro and macro levels.

Cropping patterns have been drastically changed due to modern agricultural technology, which was

accepted during green revolution. There is a constant rise for diversified crops to earn economic advantages.

Changing economic environment is leading to change government pricing and trade policies. Thereby the crop pattern changes in line with the changing demand-supply conditions. In a condition where agricultural growth results more from productivity improvement than from area expansion, the increasing role that price related economic incentives play in crop choice can also pave the way for the next stage of agricultural evolution where growth originates more and more from value-added productions.

Research paper titled an analysis of changing pattern in area, production and productivity of coffee and tea in India by Gholam Abbas Darvishi & Dr. M. Indira mentioned that the farmers are opting for high value commercial crops. This has greater economic importance. The major plantation crops include coconut, cashew nut, coffee, tea and rubber. Exports of tea, coffee and rubber are contributing 15 percent to the total agricultural export earnings. The export earnings from plantation crops like coffee and tea played a significant role in financing Indian development. This changing cropping pattern plays an important role in the socio-economic development of the Indian regions.

New economic policy has had direct impact on cropping pattern. The focus is more towards cash crops rather than traditional crops.

Findings:

- 1) It can be said there has been a shift of the workers from agriculture and allied activities to various non-agricultural activities because of industrialization and globalization.
- 2) Workers are shifting because agriculture cannot support the growing population, therefore, people fail to find gainful employment in agriculture and Maharashtra being an industrially developed state, employment generation in non-agricultural activities has attracted the workers to shift from agriculture to non-agricultural activities.
- 3) The percentage share of rural non-agricultural employment in India and Maharashtra from 1983 to 2009-10 shows that there has been an increase in rural non-agricultural employment at an all India level from 18.6% in 1983 to 32.1% in 2009-10.
- 4) It is also been observed that agricultural growth shifts from finer grains to oilseeds and pulses; from areas with intensive irrigation to rain fed (dry land) regions; from input-capital intensive to labor intensive farming practices; and from crops alone to diversified farming systems.

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A Reflection on Ambedkar Gandhi Political conflict through An experiment with Truth by Asif Currimbhoy

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Abstract:

Plays always play a vital role in presenting the human society since ages. The pattern of the plays and the writing skills of the writers have changed with the change in the condition of society and the people within it. As the society changed the form of presentation also changed from the epic art, to the rise of the kingdom. The theatre was/is always a form of the art which let the people in the society get easily connected with the change. This presentation art developed with time and form gracing and enabling the writers to write for their audience from their point of view. The play has the specificity of adapting the change which can be seen in the writings of the contemporary writers. The writers like Asif Currimbhoy dare to present the contemporary issues in which the true condition of the people during and after the independence is presented. An Experiment with Truth is one such classic example which uses the historical theme and the pattern of stream of consciousness for the first time to influence the audience and reader class. Considering the play with major historical events the writer rather limits from changing the conditions and yet giving it a contemporary look. An Experiment with Truth is an adaptation of the events which took place as the life event of Mahatma Gandhi. The focus of the study is on his popular agenda of fasting and the conflict which took place between Ambedkar and Gandhi for the rights of the people, and in which the preceding considers it to be pure political agenda. Currimbhoy through the play tries to mention about the fallibility of the person which is the very truth of the society.

Key Words: Stream of Consciousness, Theatre art, Political agendas

Influence of Theatre art in Political Agendas:

The role of the theatre was always a part of debate since ages. This is not only the point of discussion in India but, in many western countries also where the point for knowing the exact idea of theatre art is questioned. This theatre art has expanded its area and is seen to be working on the social, political and economic conditions of the people within the country. It serves majorly for presenting the problems of the people in front of them when it could hardly be discussed. The theatre art reached a wide class of the people for the education, publicity and the major source of propaganda of the change society. But, one cannot claim that the entire changes in the theatre art are the form which is a result of the contemporary society. The root for the theatre art is the art of understanding the changing roles of this art.

The theatre art in the western countries can be counted to have dated with the Greek culture with the presentation skill, which dealt with the stories of God. It is this time when the people of the region were made acquainted with the idea of the God and his power through the church plays. The main focus of the plays was to teach the people that good over the bad. The same when looked from the Indian point we find that the concept of theatre ways much back in the history of country. The *Natyashastra* is an example for it, which mentions that Bharata attributes to Brahma the creation of the art form for the education and the entertainment of the people. This formed the art form which is a combination of the different Vedas and the art culture which are compiled and given to human. Whether the goal is obtained or not is another point but, the theatre art has changed with time phase and developed with the eras. This art form has changed drastically with the change in the ruling powers. The 'Bhakti' moment developed with the art form during the 15th and the 18th century was used for the spread of the Hinduism among the common people. This was done by the saints and the poets during the period at a wide range. One of the surviving and developing examples of the Bhakti movement was/is Ramlila which spread all over the country and still can be seen to have been working in the North Indian states. Also, during the rise of the period we can find the influence of the powerful king on the drama art. This influence was not that positive factor as many kings killed the dramatist and the writers on the name of punishment. Vira Narshimadeva Raya in 1504 was one such king who enforced the punishment to the artist

who performed which was against the king and represented his torture on the region and the people over there. This could be understood as the start of the political influence on the art form. This form of culture continued till the late 19th century where a huge class of writers and artist came forward with the sole purpose of patriotism. Here was the start of the presentation of the rights and the independence fight of the people. This fight was against the Britishers and also against the Hindu rights which were forced on the people of the country. For years this method of presenting the problems of the people through the art form is a method of propaganda and is widely used till day.

When it started about the freedom of the country from the ruling powers of the British company the use of the theatre form was at the peak as the people could easily get connected with the theme being put forward before them. Yet, one can also observe that the development of the plays on the Indian stage could not gain that much fame as was desired. The reason for this could be the lack of education with regards to the rights of the people and the method to fight for the rights with the colonisers. Yet, many other also claim that the lack of people's interest in the form of the art form turned as a drawback for it. In the 1940's when the urge of freedom was at full fledge with not exactness for the same the theatre art developed and which continued its term in 1950's also. After the freedom and the development of the political powers in the country the political parties now used the method of theatre art to propagate their party with maximum force. But, this time it was meant for the urge for the democratic stability which could be obtained when the people of the country are with one party. Rather, now it can be raised as a question where the people served for the theatre or the theatre served for the people. The theatre was the source for giving people the idea of role model by looking back into the historical events.

Niladarpan by Dinabandhu Mitra is an illustration for it. Written in 1860 the play is based on the problems of the crop cultivators in the Bengal during the period of 1858. This class of cultivators were forced for the production of the 'Indigo' by the British raj which they denied as a method of opposition. The play even though was staged for the people of the country yet could not receive much popularity which was later then being translated by Reverend Long in English. The translation of the work was meant for the spread of the problem which is being presented within the huge group of people, but it was not permitted and later Long was being punished for the same. Rather, the translation work was completely sealed as it should pass among the educated people of the country with knowledge of English and on other ways the Bengali version of the play continued for longer period. The reason for the same can be very easily predicted as many people were belonging to the illiterate class and were hence not interested in looking at the problems. Years later with the advancement of the play on the stage where the public could actually admire and study the play gained the emergence of other such plays which can be called to be working purely with the theme of Indian nationalism and propagating patriotism. This was the centre point for the sentimental change of the country people. This play of controlling powers continued for years and in many states. Many such writings which defined the nobility of the great king and cruelty of others at the same time were being presented which was also banned by the colonisers so that the power could be maintained. *Sirajudulla, Mir Kasim, Chatrapati Shivaji* were some of the writings banned of such reasons. This makes the clear distinction that the powers played a major role in the country. The powers of controlling the people which in turn gave them the rights to get benefits to be in the country and enjoy the rights by making country men more helpless. The idea of helplessness was so strong that it continued even after the colonisers in the form of political agendas. The truth that the theatre can be used logically as a tool against the coloniser also, marked the idea that the same tool can be used to create and gain sympathy from the people of the country with regards to the political policies.

Asif Currimbhoy:

Among the very few Indian dramatists writing in English, Asif Currimbhoy made his debut in the field of theatre art with the plays which could be easily connected to the audience/reader of the country. Though he started writing for the stage with exceptional dramatic plays, he did not receive the recognition as one of the renowned writers in the Nation. On another hand he was internationally recognized and having a special position the artistic excellence. Many Indian creative writers occasionally attempted in writing the plays in English though writing in English was not the popular form and Asif Currimbhoy being one of such writer. Currimbhoy, brilliantly for ages together made successful attempt in writing the plays which were 'actable'

and could be performed with great theme before the audience which could easily get connected with the real life situations. Currimbhoy is also one of the renowned faces of the theatre art writing who intends to use to the art of stage craft for the presentation skill which enables the audience to be one of the character. For these reasons K.R.Srinivas Iyengar quotes him to be the “India’s first authentic voice of the theatre”.

Born on 15th August, 1928 in a ‘Khoj’ Muslim Family, Currimbhoy belonged to an industrial family having a very strong background which granted him the facility of higher studies and development. His father was ‘armchair’ and a ‘liberal minded’ person while his mother was a ‘social worker’ the influence of which can be seen in the plays of Currimbhoy. The influence of the university studies gave much exposure to the difference in the thought process of understanding the Indian culture and the western culture. Also, he had a major impact of the British studies on him during the days in India as a result of which the quality of the work with regards to the problems of the country people can be seen with the voice of English. In an interview we find him mentioning about the effect of British Raj during his schooling days as-

“This was of course pre-Independence days and the colonial influence was felt full blast. It meant going through schools under the institutions that existed at that time for which I have my own sense of preparation and perhaps criticism; the family environment was centred around English; we were literally brown sahibs- as they call it, with a sense of humour and a sense of frustration.”

We also find a great impact of the Indian culture and ethics on Currimbhoy with special reference to the *The Ramayana*, *The Mahabharata*, *Bhagavad Gita* and *Upanishad’s* which a part of his study culture is. Currimbhoy had experienced the period where he saw the British rule/British raj and at the same time saw the independent era. Both the era’s had a different impact on the writer where on one part during the British raj he saw both the faces within the country. The country people during the British Raj were suffering politically, socially and economically and at the same time the class of people were getting educated. On another hand when it came to writings of Currimbhoy after the independence a huge transformation in skill was found. This writing was influenced with the independent India and the partition. The partition changed fate of the country. This partition caused a distress among the people of the country. Variation in the class, culture and the society difference ordered him to write for the country especially about the political discomfort which the country was facing. Currimbhoy is much influenced with the writing of his plays in connection to the historical characters and events. To his credit the range of plays which came out of his pen are *Inquilab*, *The Refugee*, *Sonar Bangla*, *Goa*, *An Experiment with Truth*, *Om Mane Padme Hum* which have a much historical background. Also, through his maximum plays we can find that he was one the follower of Gandhian philosophy.

Asif Currimbhoy with his political excellence with *An Experiment with Truth*:

An Experiment with Truth is an attempt of presenting the historical event of the country with regards to Mahatma Gandhi. The events discussed in the play is being the influential agenda which Gandhiji had faced and was carried and followed by him through the manner of ‘Experiments’. The play itself discusses that Gandhiji always experimented with the events going around him in all forms and wanted that he should always be successfully in the part he played. But, rather the play describes the fact that even though being a virtuous person does not always mean that it would be a perfect character. The play, *An Experiment with Truth* has been presented in the episodic form in which many events takes place in a single play. The play is presented in three acts and is structured through the concept of stream of consciousness. The events just follow and encounter of the important events in relation to Gandhiji is presented. These events are the fasting of Gandhiji, Hindu-Muslim unity, salt march, conflicts among the great historian, role of Ba, and other major characters in the life of Gandhiji. The play ends up with the important fact of assassination of Gandhiji where the entire action is being narrated by journalist, Vincent Sheean. The best part of the play is that it starts and the end up with the common situations but in different time zone where the writer makes the point that the narration of the play starts with the event of unsuccessful attempt of assassination of Gandhiji and the ends up with the event where finally the assassination takes place. Between the two events the writer through the narrator draws the focus of his audience/ reader to the gradual events which took place in the life of Gandhiji and which were major events as they changed the complete idea and the thought process of the people within the country to look at the legend.

Currimbhoy has discussed many events which can be termed as major political concerns in the life of Gandhi. The subject such as the union of the hindu-muslim for the independent India against the Britishers is one big idea which had mainstream influence of political unions. This on part of the country was always a welcomed point. But, the same Gandhi when being found to be against the people of the country could define the internal political agendas which were being played. The freedom of the country was one major part while the actual development was completely another criterion. Currimbhoy dares to mention about the event of the Dr. Ambedkar and Gandhi conflict which caused a huge turmoil in the political system of the country and the division of the class status. The writer has mentioned the incidence through the narrative and stream of consciousness manner with regard to the conflicting condition which arised between the two leaders. Ambedkar one of the prominent social activist and leader working for the people (untouchables) and Gandhi one of the leader working for the country is the focus of our discussion. The act focuses on the event when Gandhi went on the fast unto death condition. The incidence mentions that Gandhiji was always in the state of fasting when he wanted to take major decisions and Ambedkar considers the same to be 'political play' which was played by Gandhiji. Rather, after the incidence many counted Dr. Ambedkar as villain for the Gandhian thoughts.

The actual incidence which the writer has presented is in stream of consciousness which means a sudden outbreak of the idea which is not exactly presented in a sequence. And henceforth to understand the political clash among the two one needs to understand the incidence from the very base. Dr. Ambedkar born in the untouchable society felt that he can better understand the problems of the untouchable people. Here he says "He can do more good for his 50 million untouchables in his own way". But, regardless of all the fact and wanting to adapt the democratic route for the development of the people Gandhi turns on to be against the idea as he wanted to take everyone's cause as his own. Yet, the fact which Currimbhoy mentions being the Gandhian follower is that he was not a power lover. Gandhiji called the untouchables as 'Harijan' which literally meant 'the children of God' which makes him more powerful in the act of politics and according to Dr. Ambedkar this act of calling the untouchables the children of God and in turn fasting in the name of God makes a much contrasting feature. The claim that if the fast continues will cause the Gandhiji major health issues which of course would create a problem to Dr. Ambedkar and Untouchables. Ambedkar: Very apt, Patel, but not funny. If Gandhi dies in the fast, every untouchable will feel he's died for them and will vote joint electorate.

The intention of Dr. Ambedkar was very clear; that he wanted to raise the voice of the untouchable for which the separate electorate was necessary and Gandhiji wanted the joint electorate for which the entire act of fasting was done. The concept of joint electorate meant untouchables and Hindus on one platform. For Gandhiji the separate electorate meant breaking people into many fold and weaken them and in turn the country, and for Dr. Ambedkar it was an unfair play and calls fasting as purely political stunt. With regards to same concern which the writer has shown through the Gandhi-Ambedkar act we find the comments being presented by many critics and writer which then claimed Ambedkar to be carrying the negative feature. Regardless of the presented ideas Arundhati Roy in her article on the *How Gandhi Made Ambedkar a villain in his fight to be the real representative of Dalit's* mentions and gives the proves for the same for which Ambedkar called Gandhiji fasting as Political play. The study mentions that during the round table conference when Ambedkar presented the idea of separate electorate Gandhiji after a week of discussion agreed for the separate electorate for Muslims and Sikhs. At the same time the denial of the provision for untouchables with the statement "I would far rather that Hinduism died than that Untouchability lived". Ramsay MacDonald a year later when announced for the separate electorate rights of the untouchables Gandhiji who was in Yerwada jail started his fast after the statement for the cancellation of the provision. The time and the place of fasting which Gandhiji choose were completely against his own agendas of satyagrah. Hence, can be considered as pure politics in the form of blackmail, where the untouchables had the fear that if Gandhi died because of fasting the country which majorly included the Hindu's would later not allow the untouchables to live a peace life. This created a great turbulence among all the classes and resultant was the statement against Dr. Ambedkar, for the safety of Gandhiji were raised, petition were signed, meeting were conducted, prayer offered and finally with and appeal Dr. Ambedkar was forced to sign the Poona pact.

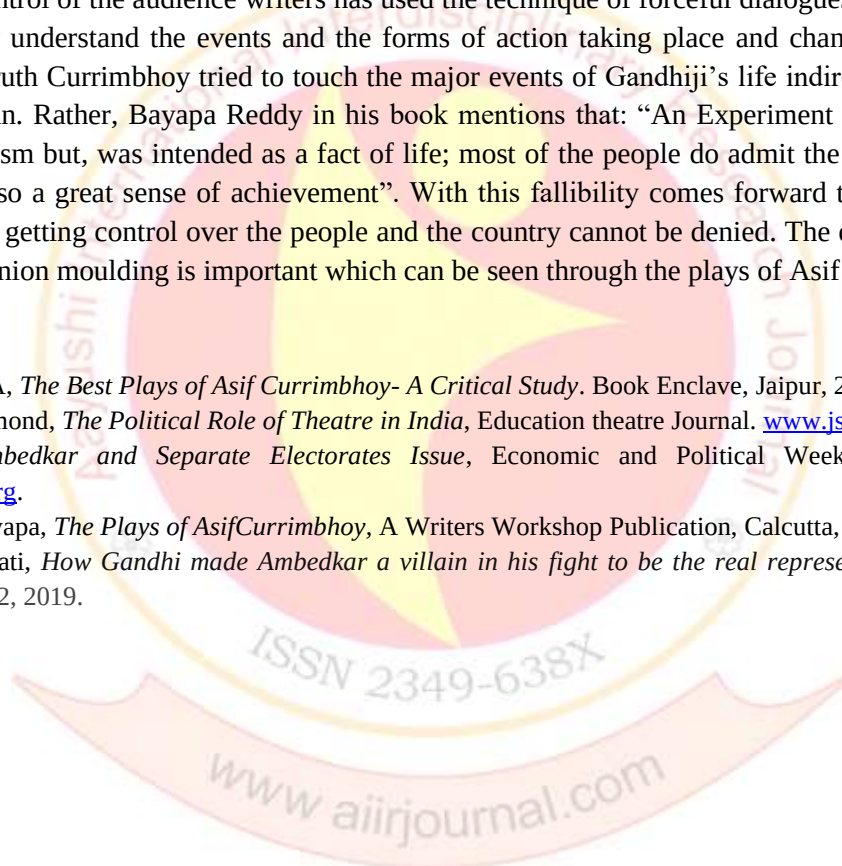
These reasons makes one understand how the politics was being played against the untouchables calling them as one, and regardless giving the entire right to take control to the Hindus. The writer even though being the Gandhian philosopher did not mention about the same against Gandhi idea but, re-reading and the historical evidence which the writer has followed for creating the incidences in the play help the reader/ viewer understand the political base. As the major source being the historical events the writer could hardly deny the fact, and which also supports the statement that even being virtuous in nature no man is perfect.

Conclusion:

Asif Currimbhoy was/is an outstanding name in the field of theatre. Appearing in the 20th century he tried to point out all shades of the society. To his credit he has 29 plays which define the capability of the writer to create and handle the plays which are varied in nature. Also, the use of the stream of consciousness in the play is the first ever attempt made in the theatre art creating distinctive and impressive use of technique. Currimbhoy took the liberty of presenting historical characters and events in the plays. With the help of the flash back which Sheean is shown during the entire act, shadow, and special effects makes the play vivacious. To take over the control of the audience writers has used the technique of forceful dialogues through which the people could easily understand the events and the forms of action taking place and changing. Through *An Experiment with Truth* Currimbhoy tried to touch the major events of Gandhiji's life indirectly presenting the fallibility of the man. Rather, Bayapa Reddy in his book mentions that: "An Experiment with Truth was not intended as a criticism but, was intended as a fact of life; most of the people do admit the fact that great men have great faults also a great sense of achievement". With this fallibility comes forward the play of political agendas, played for getting control over the people and the country cannot be denied. The effect of drama as a mean for public opinion moulding is important which can be seen through the plays of Asif Currimbhoy.

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Agro Tourism Centers Problems in Maharashtra:-A Geographical study

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Abstract

Tourism sector is the powerful tool of economic development in Global Level. Such like developing countries India here good opportunity and potential in tourism industry. These ideas created new way towards the rural agro tourism development. Agro tourism is the traditional agricultural activities. Here use of resources great opportunity new Innovation Way. In Agro tourism farmer attitude play very important role in Agro tourism industry. In recent time organic farming also attract to the tourist. In the state of Maharashtra District Pune, Satara have express the agro tourism development in rural area in Village level. In Maharashtra the need of Government make new Policies of Agro tourism development to solve the agro tourism Problems.

Key words - Agro tourism, agricultural transformation, sunrise industry, rural life.

Introduction-

The concept of agro tourism developed in actually 20th century. Rapidly increasing the urbanization people need of the change in daily schedule life and so short period and chief tourism product are demanded by public. So it is an good opportunity for rural local people for various activities to give chance their earning through agro farming.

Following are the basic requisites to develop as an agro tourism Centre

- Offering something New to see/ observe / enjoy - Animals, birds, farms and nature, culture, dress, festivals and rural games or nearby forts, religious places, forest, bird watching etc. could create interest among visitors in Agro-Tourism.
- Novel activity to perform or play - Participating in agricultural operations, swimming, bullock cart riding, camel riding, buffalo riding, fishing, cooking and participating in the rural games / festivals / celebrations are few activities to quote in which tourists can take part and enjoy.
- Purchasing innovative / attractive items - Have something for visitors to buy. Rural crafts, dress materials, farm gate fresh agriculture products, processed foods etc. are the few items which tourist can buy as memento for remembrance. Agro-tourism is an innovative agricultural activity related to tourism and agriculture both. It has a great capacity to create additional source of employment and income generating activities to the farmers. It is a fact about agriculture that the dependence on monsoon leads to the failure of crop and ultimately to the losses but agro tourism can prove to be one of the solutions to diversify the farming activity and earn money. The reasons why farmers tend to take diversion from their routine agriculture activities are as follows
 - Indian agriculture is facing tremendous competition driven by global trends.
 - The practices of farming are changed due to forces of globalization
 - The dependence on Monsoon makes the situation worse if the climatic conditions are not favorable.
 - Agriculture support prices many times are not favorable to the farmers.
 - Agricultural surpluses are not sufficient to cope the increasing need of the farmers. In this scenario the Agro-tourism has emerged as a complimentary activity to farming and farmers are coming up with heterogeneous products in the agro tourism.

Maharashtra is the third largest state in India, both in area and population. It is 720 K.M. long coastlines. It is nestled in the Western Ghats and Sahyadri mountain ranges and with semi- evergreen and deciduous forests.

Following factors are instrumental enhancing agro tourism in Maharashtra –

- Diversity regarding climate, crops, people, mountain etc.
- Glorious cultural heritage
- Existence of various tourist places supporting agro tourism.
- Good connectivity through communication and transport facilities.
- High-Tech agro farming in various areas for fruits, flowers and vegetables.
- Maharashtra has emerged as horticulture state due to deliberate efforts of government.
- Development of non-urban tourist spots. Due above all reasons various places in Maharashtra have become popular as tourist places.

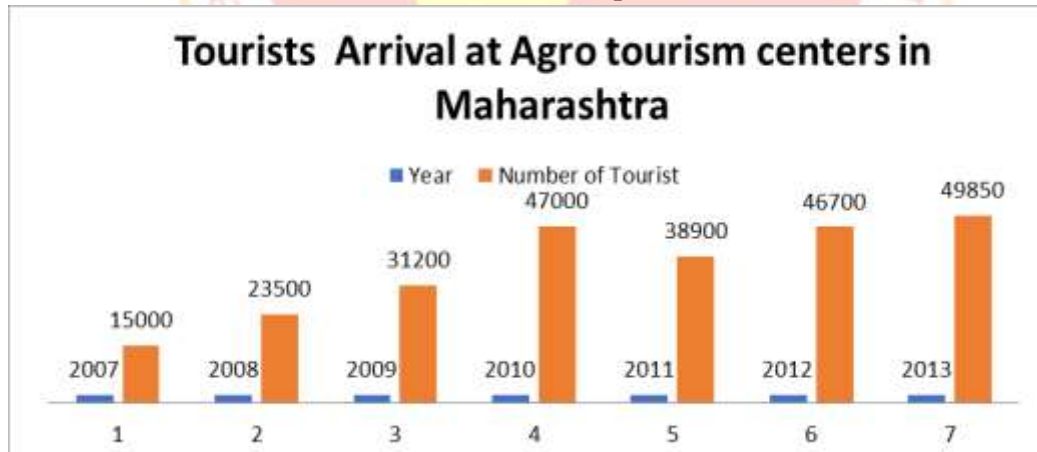
Following table shows tourists in Maharashtra-

Table -1
Tourists Arrival at Agro Tourism Centers in Maharashtra

Sr.No	Year	Number of Tourist
1	2007	15000
2	2008	23500
3	2009	31200
4	2010	47000
5	2011	38900
6	2012	46700
7	2013	49850

Sources: Compiled from Various Sources

Graph-I



The above table -1 and graph-1 shows increasing trend in tourists visited Maharashtra from 2007 to 2013. More than threefold increase has taken place in tourist visited to agro tourism centers in Maharashtra.

1. Review of literature

Vijay Kumhar (2009) in the report ‘Agro-Tourism: A Cash Crop for Farmers in Maharashtra (India)’ discusses about the basics of agro tourism and the reasons for the development of agro tourism. Also he compares traditional and agro tourism.

Kumbhar Vijay Maruti, (2009) in the article ‘Agro-Tourism: Scope And Opportunities For The Farmers In Maharashtra’ discuss about the benefits and potential for agro tourism development in Maharashtra. Also he discusses about the problems faced by agro tourism and solutions for the same.

Nicole Häusler and Dörte Kasüske, in the article ‘Back to the Roots: Agritourism in India, International Cases in Sustainable Travel & Tourism’ (2011) introduces agro tourism as an approach to tourism which may pave

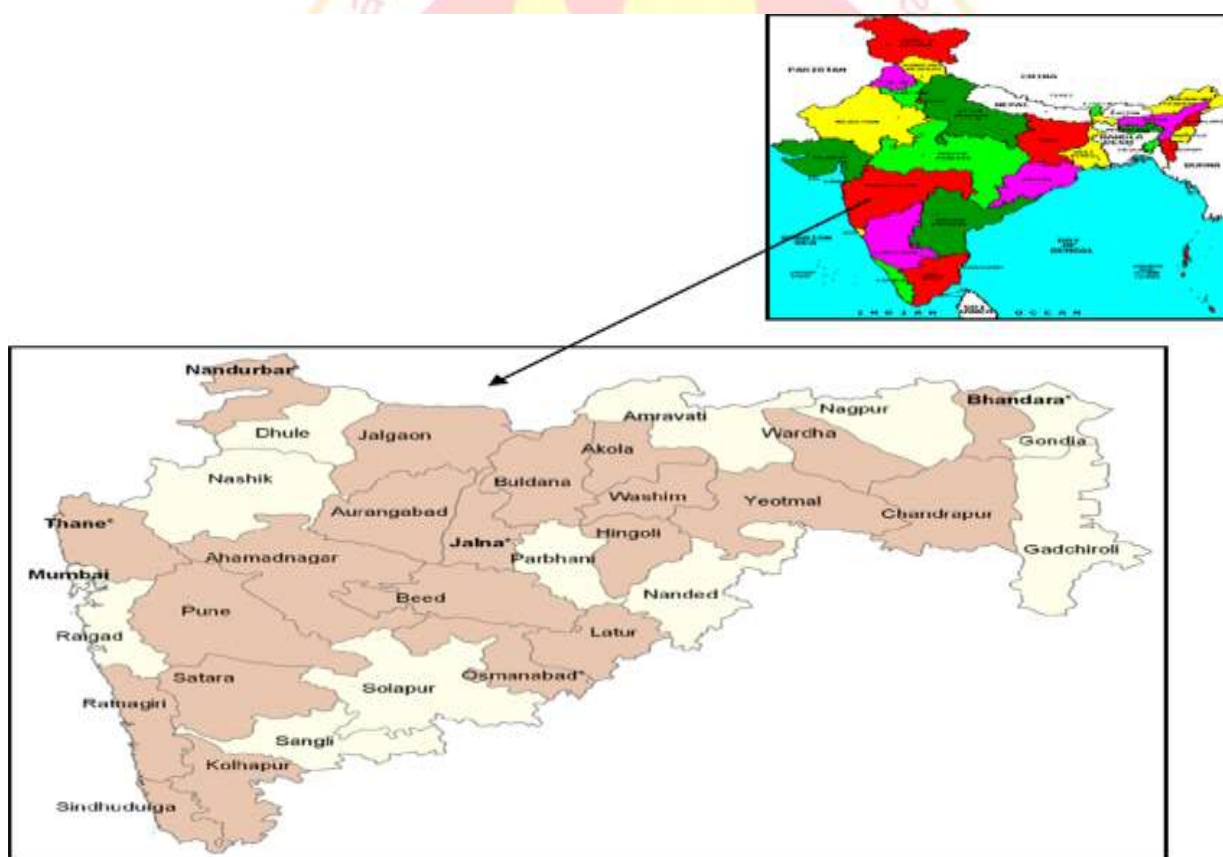
the way for sustainable development in rural areas. It provides a detailed discussion of the concept of agro tourism, including the benefits, constraints and success factors involved, using the example of India, a country where 85% of the population depend on agriculture for their livelihood.

A paper contributed by **Pandurang Taware** and published by Confederation of Indian Industry titled 'Basic Principles of Agri – Tourism Situation of Agro tourism by region, elements, scope, of agro tourism. **Azimi Hamzah and others (2012)** in the article 'Socio-economic impact potential of agro tourism activities on Desa Wawasan Nelayan community living in Peninsular Malaysia' discuss about the the potential socio-economic benefits that can be offered by the agro-tourism activities to progressive fishing communities in Malaysia. It enhances the understanding the probable potentialities to bring socio economic changes due to agro tourism.

2. Study region-

Maharashtra State came into existence on 1st May,1960.It extends between 15° 33'46'' N to 22° 02'13'' N latitudes and 72° 38'45'' E to 80° 53'17'' E Longitudes. Its geographical area is 3.08 lakh Sq.km. It is located along the western coast of Peninsular India.

Location Map of Maharashtra in India



3. Objectives- The present paper discuss the Agro tourism with the following objectives

1. To examine the importance of agro-tourism development in Western Maharashtra.
2. To study the various products provided by Agro Tourism in Maharashtra
3. To study the problems of agro tourism Centers in Maharashtra

4. Methodology-

The present study is based on the secondary data. The data has been procured from the related articles, research papers, reports and 11th plan document of the government of India. In this research paper use of Geographical techniques, use of cartography, and Statistical Data. Some data has been furnished from the

website of the Ministry Of Tourism And Culture for the Government of Maharashtra. Also the personal observations during visits to agro tourism centers are instrumental in the present study.

5. Various Products Provided by Agro Tourism

Tourists opting for agro tourism are attracted towards agro tourism because of variety of innovative products which they cannot enjoy with traditional tourism. Thus agro tourism is getting very good response from urbanites. The innovative products provided by agro tourism are as follows-

Visiting eating organic food, fruits items and enjoy pictures view of flowers.

- See water storage farm pond – Shet-tale
- Sweet water fishing
- Local / herbal tree plantation
- Tour of farm
- Various rides like – bedfellow, bullock cart, tractor, horse etc.
- Rod fishing
- Dairy, piggery, poultry etc.
- Processing of farm products
- Demonstration of farm activities
- Wool processing
- Cross country skiing
- Special Events and festivals
 1. Music Festivals
 2. Holiday celebrations
 3. Harvest festivals
 4. Rural festivals (Jatra, Mela etc.)

Above mentioned are few of the products and there is much scope for providing innovative products depending on place, time etc.

6. Importance of Agro Tourism Development in Western Maharashtra.

The importance of agro tourism development can be discussed from demand for and supply of agro tourism in Maharashtra. The demand / supply side factors are as

Cost effectiveness – This widens the tourist's base as tourists can enjoy their holidays in affordable prices with wide range of products to enjoy.

Live experience of rural life – Agro tourism revolves around village life, culture, crops, animals, village crafts, festivals etc,

Family oriented recreation activities- Villages provide wide range of recreational activities to all age groups through variety of entertaining and recreation activities.

Preference to peaceful destinations and tranquility – Work more and earn more is the 'Mantra' of urban life. This demands change in life at weekends and holidays as their life is full of worry and hurry. Agro tourism can be one of the destinations to avail with peace and tranquility which is not possible in resorts of overcrowded cities.

Interest in nature and environment – Urban population is leaning towards nature. Proximity to nature through birds, animals, mountains, crops, village etc. provides an atmosphere to urban people where they can forget their busy urban life.

Rural recreations – Various festivals and celebrations in rural area provides recreation to urbanites. Various forms of agro tourism like – Agri- shopping, culinary tourism, health tourism etc. are examples for the same.

Educational Value of Agro –tourism – Agro tourism could create awareness about rural life and knowledge about agricultural science among urban school and college children. It provides an opportunity for hands on experience for urban students in agriculture and rural life /activities.

7. Socio Economic aspect of Agro Tourism-

Agro tourism development is bringing about changes in agricultural practices, earning of the farmers etc. It will be interesting to see the socio economic changes taking place in rural area due to agro tourism. TM

- The economic impact can be discussed as follows –
- Increased income of the local community – backward and forward linkages of agro tourism business becomes an instrumental in enhancing income of the local community. These linkages pave path for various income generating activities in rural area.
- Intensified and diversified economic activities – Economic activities in rural area gets intensified due to interlinks of agro tourism and various income generating activities as
 - ✓ Accommodation (Bed and Butter scheme of Govt. of Maharashtra)
 - ✓ Food
 - ✓ Transport and excursion
 - ✓ Tour Operators
 - ✓ Tourist Guides
 - ✓ Ready market for village craft items
 - ✓ Opportunity for programs by village artists
- **Employment opportunities** – With diversified and intensified economic activities new and innovative employment and self-employment opportunities get generated leading to enhanced earnings of the villagers.
- **Poverty alleviation** – Enhanced earnings of the community leads to alleviation of poverty in rural area.
- The social impact can be discussed as follows
- Agro tourism programs can help in community development.
- It helps building pride and confidence of the community.
- **Better quality of life** - Intensification and diversification of economic activities through agro tourism enhances the purchasing power of the community. No doubt, that improves the standard of living and ultimately quality of life in rural area.
- **Cultural transformation** – cultural transformation is possible through interaction with various guests / tourist of different caste, creed and communities.
- **Strengthening the community institution** - Also it is possible that agro tourism will strengthen the community institution specialization, networking and leadership. The services like schools, library, health care, ICT centers, public transportation etc. also gets developed due to agro tourism.

8. The problems of agro tourism industry in Maharashtra-

Agro tourism in Maharashtra is developing very fast in Maharashtra. In spite of this fact, there are problems, which limit the further development of agro tourism in Maharashtra. Some of them are as follows

- Quality and complexity of services
- Dependence on stake holders involved in tourism development on local and regional level.
- Entrepreneurial environment in Maharashtra
- Government support to agro tourism

Quality and complexity of services

Quality in service is the basic prerequisite for the survival of local entrepreneurs in agro tourism. The existing products in agro tourism are attractive enough and the equipment supporting these products is improved in last few years. The problem lies in lacking of motivated and skilled staff, presentation of products in a professional way, hygienic conditions etc. It is fact that tourists want to enjoy rustic flavor of rural life but majority tourist from urban area expect professional approach by host and hygienic conditions for stay and food. The quality service is a task as there is complexity in services provided to the tourist in agro tourism. Usually the hosts try to provide accommodation services in private facilities to reduce service cost. On the other hand, in many villages there is lack of other facilities and other services like entertainment services, rental services, swimming pools etc. This leaves a negative impact on satisfaction level of visitors. Majority

entrepreneurs in agro tourism do not have training in tourism and hospitality. Also there is limited possibility of getting professional knowledge for their entrepreneurial activities.

a. Entrepreneurial Environment in Maharashtra

- Low per capita Income
- Low land holding
- Low level of development
- Inadequate transport facilities

Low level of education Due to all above features majority farmers rely only on traditional cropping pattern. Due to limited land holding they cannot create / develop new products for agro tourism. As the professional attitude is lacking in rural area they are reluctant to take entrepreneurial task in agro tourism. Risk bearing and uncertainty are the basic tasks of an entrepreneur. Rural farmers in Maharashtra are basically from low income group and thus have less courage to undertake entrepreneurial task.

b. Government Support-

To Agro Tourism The development of agro tourism in Maharashtra and creating suitable policy for the same is task of Ministry of Tourism and cultural affairs of Government of Maharashtra. The tourism policy of government of Maharashtra is in effect from 2006 and will effect till 2016. In the action plan it speaks about agro tourism under rural tourism and indirectly speaks under craft development. The detailing about the provisions and action plan is not in the above mentioned policy document. It is necessary to prepare strategic documents aimed on agro tourism development under umbrella policy for rural development. This will enhance the possibility for agro tourism entrepreneurs to get support for development. If the holistic approach is taken by government towards the development of agro tourism, it will help agro tourism entrepreneurs to have technical, financial, marketing support etc.

Conclusion –

These changes have generated new ideas as well as approaches to leisure and recreation. These ideas and approaches have towards rural and agro tourism development. Agro tourism is complimentary to traditional agricultural activities. It is a best opportunity for farmers to use the available resources in a diversified and innovative gets way. Farmers earn better from innovative use of available resources and the tourist can enjoy village life and nature in a Chief prices. Not only is that, the villages also benefited due to the development of agro tourism. Some cases of agro tourism in Maharashtra DistPune and Satara have proved that agro tourism not only bring development of farmers but to the village as a whole from social and economic view. It is help full of growing agro tourism, the fact remains that the government support through Proper way and conductive new policies for agro tourism development is lacking and government should give priority to agro tourism business in Maharashtra through appropriate policy measures.

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Resent Trends and Issues in Social Science & Science towards Sustainable Development

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Abstract

The need for twenty-first century to achieve sustainable development has become urgent and compelling. Although draped in natural resources in abundance, continues to trail the rest of the world in many areas such as education, healthcare, decent employment, infrastructural amenities, food security, considerable per capita income, technological progress and access to technological tools per capita, security and others. This research paper attempt to dissect the rubric of sustainable development in twenty-first century and the role of the social science & science. Using the theoretical paradigms of Modernisation and Human Development theories, the research paper the need for societies to embrace the secrets of development as employed by developed countries and to priorities human development in place of statistics-laden & science economic growth and development. This research paper identify the role that the social science academy can should play for the sustainable development particularly regarding the realisation of the 2030 Sustainable Development Agenda with its 17 goals.

Keywords: Social Sciences, Social Science Academy, Sustainable Development, Sustainable Development Goals

Introduction:

The imperative for sustainable development in twenty-first century world continues to perturb international governments, leaders, development institutions, civil society groups, and a cortege of stakeholders including academia, particularly those belonging to the social science family and science disciplines. When such human development indices (HDIs) as education, healthcare (covering the gamut of child, maternal and adult healthcare), decent employment, which affords decent income to workers, infrastructural amenities, food security, considerable per capita income, technological progress and access to technological tools per capita and security are consider.

For instance, out of the 47 least developed countries (LDCs), designated by the Committee for Development Policy (CDP), a group of independent experts working for and reporting to the United Nations Economic and Social Council (ECOSOC), 33 (about 70%) of these countries are found in Africa, 8 are in Asia but none in Europe and America (United Nations Conference on Trade and Development [UNCTAD], 2018). The African countries that made this list include Angola, Benin, Burkina Faso, Burundi, the Central African Republic, Chad, the Comoros, the Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, the Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, Togo, Uganda, the United Republic of Tanzania and Zambia. These countries show negative indicia of either failed, failing or struggling states. In fact, they are specifically characterised by agrarian economies, dominance of the informal sector, chronic current account deficits and they remain highly dependent on external resources to finance a significant portion of their investments and part of their consumption (UNCTAD, 2018).

Social Science:

The social sciences are academic disciplines or fields of learning that focus on understanding the society and the relationships of human beings within it. They often rely on or deploy empirical approaches in the methodological process of data gathering, analysis and interpretation of modern academic practice, often employ eclectic or multiple methodologies (for instance, by combining the quantitative and qualitative techniques) in the investigation of a particular phenomenon notes that the social sciences are branches of science that deal with human behaviour in its social and cultural aspects. Thus, unlike the physical or natural sciences that deal with inanimate or animate things, the social sciences focus on social phenomena as they affect human beings or are affected by human beings. Therefore, the laboratory of social sciences is the society, peopled by human beings with their unique behaviours, perspectives, opinions, feelings, subjectivities, preferences, natural inclinations, world views, experiences and so on. For instance, two individuals exposed to

the same situation, the same time, the same place, and having similar opportunities, may not respond the same way. This unpredictability is what defines and underlines theories within the social sciences.

Emerging Approaches in the Social Sciences:

Considering the changing environmental conditions as well as the dynamic process of rapid transformation which societies are undergoing in the present situation, sustainability stresses the need to focus on the dynamic character of the process of societal change in which the natural environment is involved as a central dimension. Hence, sustainability should not refer to the conservation of specific structures or to static qualities of societies or the natural environment, but, rather, should refer to stabilized and preserved patterns within socioecological transformations. Both approaches are providing important insights into the societal implications of sustainability. This is especially true with respect to the conceptualization of the society/nature relationship as it has been worked out within Ecological Economics. However, the limitations of both approaches are obvious as they take social activities and processes into account only as far as they are part of the economy. A remarkable attempt to move beyond economic concerns by introducing issues of social justice and political participation in the debate on sustainability has been formulated by Ignacy

Sachs (Sachs 1996). Drawing on a “whole sustainability” approach, Sachs distinguishes between environmental and social sustainability in terms of “outer” and “inner” limits of society. While environmental sustainability is concerned with the biophysical limits of social activities, social sustainability is related to the internal organization of individual societies as well as of the world community as a whole.

Sustainable Development

The doctrine of ‘sustainable development’ derives from a discipline in economics that has been evolving for almost two centuries. The debate about whether Earth’s limited natural resources will continue to provide life support for humanity’s burgeoning population began with the work of the English political economist Thomas Malthus in the early 1800’s. In *An Essay on the Principle of Population*.

According to Šlaus and Jacobs (2011), sustainable development impinges on a wide array of economic, social, political, ecological, and technological issues, including energy, water, mineral resources, climate, urban congestion, population, pollution, industrialisation, technological development, public policy, health, education, and employment. The goal of sustainable development is that development should not only be reproducible but should also be sustainable. The definition of sustainable development, to which many scholars have subscribed and derived their various interpretations, is that mooted by the United Nations World Commission on Environment and Development (WCED) as enshrined in the Brundtland Report. This definition states that sustainable development is that development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Brundtland Report, 1989).

The Rio Declaration on Environment and Development further illumines the subject of sustainable development by identifying 27 principles of sustainability (The Rio Declaration, 1992) some of them as presented below:

- Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature
- States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem with developed countries taking the lead because of the pressures their societies place on the global environment and of the technologies and financial resources they command.
- States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies in order to achieve sustainable development and a higher quality of life for all people
- Environmental issues are best handled with the participation of all concerned citizens, at the relevant levels. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Conclusion:

World's countries are resource-endowed but have continued to struggle and straggle behind nations those hitherto are their contemporaries in the past. The social sciences are important fields of knowledge whose researchers, academics, thinkers and scholars can help in rescuing world from underdevelopment and placing it on the path of sustainable development. By utilising what it has in abundance such as research ability or propensity, building industry-academy partnership, framing policies, providing qualitative social science education, the social sciences in world would be able to turn the continent around from its downward course of underdevelopment and carve a new trajectory that the continent and its people can walk on to sustainable development. Particularly, the role of the social sciences cannot be underestimated in the realisation of the 2030 Sustainable Development Agenda and its 17 goals.

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E Learning During The Lockdown Period Due To Coronavirus Diseasespread

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Abstract:

E learning has been a talk of the town. In this complicated and complex time the only option people have is E Learning .Time is money and money is honey .thus people have become all the more practical because of the COVID 19 situation. E learning has become a requirement of the time. Many school,classes and training centers will be running electronically as COVID 19has restricted the movement of people. By E learning means electronic learning through your computer or by using social media like google etc. It also mean formalized education with the help of electronic technology and media.It learning enabled by electronic means.

Keywords: E learning, technology, Time , Electronically, Media, enabled, restricted.

Methodology : Purely **based** on secondary data and little on primary too.

Aim: To make our Government aware that computer is a must at every poor persons home and it should be provided free to the poor with net facilities either at a reasonable price or free if we want to reduce illiteracy during the COVID 19 while.

Introduction:

E Learning has become more popular during the Lock down period due to corona virus disease spread. Physical books have been replaced by digital content that they can easily access on their device .It has benefited schools,colleges training centers ,offices and workers. Now during the COVID 19 spread most of the educational institutions have to shift to e-learning.E learning provides a gateway for the young minds to indulge in learning despite the lockdown which keeps them busy ,productive so that they don't lose their confidence and feel insecure about the future .The nationwide lockdown due to the spread of Covid-19 has led to the acceptance of digital tools in numerous fields, including education. Universities, schools, colleges have swapped towards e-learning to continue the never-ending flow of knowledge in spite of the current lockdown which is probable to extend looking at the rising number of Coronavirus cases various parts of the country. In this fight against the pandemic what cannot suffer is education and knowledge distribution.

The debate around adopting digital technologies for educational purposes has been unending for some time now. But what was a conversation has now turned into authenticity, owing to the Corona breakdown throughout the world. It has now become a planned action sequence . In fact it has become a blessing indeed to the education scheme. Educational institutions are now making the utmost use of technology during this current scenario. Offices were using it but now there is more intense use of it too .

In view of the Covid-19 outbreak all across the world, everyone is taking all protective, safety and defensive measures to battle this pandemic. We are ensuring the norms of social distancing and keeping ourselves by doing so , in the limits of our homes or offices.

All schools, varsities, workplaces have been shut down to contain the spread of this novel virus. It was expected that the shutdown would impact the learning process to a great extent. But it actually has not due to the availability of this alternative method. All thanks to know-how invented by great inventors

Somebody has correctly said that learning is never ending and come what may ,should never stop even at the time of crisis. ICT, which a great enabler and implementor of online learning, has kept the learning and teaching development unbroken even at this time.

Numerous Digital platforms and ICT enterprises are opened by teachers, students, researchers and corporate officials round the clock. These tools enable constant learning and offer several benefits such as flexibility, comfort, and interactive user a boundary.

In the context of this, UGC with the help of ICT has arranged and shared several online links which can be accessed by students, faculties, academicians and researchers for audio, video and text content. Thus we are

actually now in a digital era in the real sense. Pupils can be in continuous touch with their faculties with the help of online classes directed through Skype, Zoom, google hangouts, google classroom etc.

Students and academicians can make maximum usage of this lockdown period to enroll into numerous courses which are available online like Swayam, Coursera, edX and many more. Students can access the detailed notes, content and free books through various online platforms like ugcmooocs.inflibnet.ac.in, epgp.inflibnet.ac.in, swayamprabha.gov.in, youtube.com, etc.

It is also a wonderful opportunity for every academician and researcher to create their own OERs (Open Educational Recourses) which not only serves the purpose of students for education but also serves as a catalyst in enhancing professional self-image. Digital initiatives help every academician to see themselves as not only teachers but creators of knowledge.

This is the time of learning and educating ourselves and others and at the same time fighting Covid-19. There is no need of wasting time just waiting, time once gone is gone forever. We cannot get the time back if we waste it. Let's beat Covid-19 by keeping ourselves busy and work at our own growth getting prepared for the unforeseen future which may be more darker than expected.

It is also a wonderful opportunity for every academician and researcher to create their own OERs (Open Educational Recourses) which not only serves the purpose of students for education but also serves as a catalyst in enhancing professional self-image. Digital initiatives help every academician to see themselves as not only teachers but creators of knowledge.

Students all over the world are learning on their electronic devices through different apps as of now. Yes learning and teaching is on. Life is going on. But if technology could be a replacement for teachers then there would be no demand for schools colleges and teachers. Classroom environment is different from home environment. There is different mentality of children when it comes to studies. I asked the children from Podar school if they are happy to learn from home permanently. They said no. They enjoy more in the class among their friends. They enjoy the recess. They enjoy travelling to school by bus. Some sing in the school bus some tell jokes. According to them Corona is an enemy of human. They feel that the Lock down is a punishment for them. It has separated them from their friends.

Why is class room learning with black board and duster still preferred by students? Why do students prefer going to college when E Learning can be done from home? If E learning was so effective then all schools will save in appointing teachers and staff. They can function with few human resources but that will lead to unemployment of teachers and other non teaching staff.

When I asked my students while teaching them on google meet, are you all happy with E learning, majority of them said no. College is one excuse to come out of home environment. All are not lucky to have a peace loving environment at home. So it gives them some refreshment along with studies. It's rightly said that all work and no play makes Jack a dull boy.

E learning through PPT is good but not self explanatory. One needs a teacher to explain the PPT.

Yes E learning is better than no learning. Children all over the world are not going to school and college but then because of e learning they are in touch with their education. Children don't feel that they are learning they feel just as they use the computer to play games they are passing their time.

Yes instead of wasting time it's better to keep the children busy with E Learning.

Actually the lock down has disturbed the daily routine of not only elders but small children too. They go for variety of classes like swimming, football drawing etc. Now their world is around the PC. Sometime back the parents who would not like to see their children on the computer studying or playing games are now reverting back and asking them to keep themselves busy on the computer.

E learning has a limit it cannot replace manual teaching completely.

Due to the lock down announced by the government their play time, rest time, study time has all merged and this is affecting not only them but their parents too. Their routine and the routine of their parents is totally disturbed.

Online courses can be good if the parents are able to discipline their children to it. But the lock down has already affected the mental balance of the children. So disciplining them becomes very difficult. Their dreams

are shattered and their vacations are totally spoiled too. We cant afford to be strict. They have become too sentimental as they have many questions playing in their mind about corona virus and their future.

E learning has many compensations:

- 1.Easily available and handy.
- 2.Budget friendly.
- 3.Opportune.
- 4.Any day and at any time .
- 5.Flexible.
- 6.No travelling cost .So we save our time, money and energy.
- 7.Easily managed.
- 8.Eco-friendly.
- 9.Fast to be delivered and to many at one time.
- 10.It can spread education to any corner in the world where there is connectivity.
- 11.Lastly E Learning will help us to have social distancing and keep ourselves far from Corona virus.

Disadvantages:

- 1.Needs monitoring and discipline.
- 2.No connection with the teacher and so no teacher pupil relationship.
- 3.No friends ,no caring and sharing.
- 4.No exchange of ideas and knowledge.
5. They may only get certificate but may not know anything much If not checked by their parents.
- 6.Cyber crime.

Since we cannot compromise with neither the health or education, which is the future of the students ,we have to bank on E learning as the only support

Today's parents are afraid to surrender their children totally to technology as they have a fear that they could actually pretend to be learning but get diverted to some wrong sites or pick up some bad vices But the other side of the coin is that there are lot of cyber crimes happening in the country and more during the lock down because of poverty ,unemployment ,cut in salaries etc.

We are warned of a surge in litigation of cyber-crime related cases in the future post-Covid-19 period due to the high uptake of technology During the Covid-19 pandemic has seen a tremendous rise in the use of online stages for sectors such as education and learning, financial transactions, and even the justice system to minimize spread of the virus. Unavoidably, the flow in the use of online podiums rises the risk of cybercrime, online scams, and other web crimes. "While technology presents efficient and easier ways of carrying out transactions making life easier for all of us, technology misuse is also a reality. After the COVID 19 period there will be lot of litigation of a cyber-crime nature; than before COVID-19 ,before the courts. This makes cybercrime and electronic evidence a relevant issue in the country . The Judiciary is not excused or exempted from cyber threats given that cases are now being filed, heard and determined virtually, such as cyber security, hacking and social media in our day to day use of technology the digital world.

The Covid-19 situation exposed gaps in leveraging technology for justice.Cybercrime has a great impact on economies world wide.It reported that a lot of money lost yearly to cybercrime. A statement by the National Kenya Computer Occurrence Response Team Coordination Centre specifies that Kenya is among top 10 countries on the continent with the highest number of people exposed to cybercrime. Conferring to the report, nearly 26.6 million cyber threats occurred in the country almost between April and June 2019.Cybercrime accounts for losses worth a lot in Kenya annually.Similarly cyber crime is very common even in India

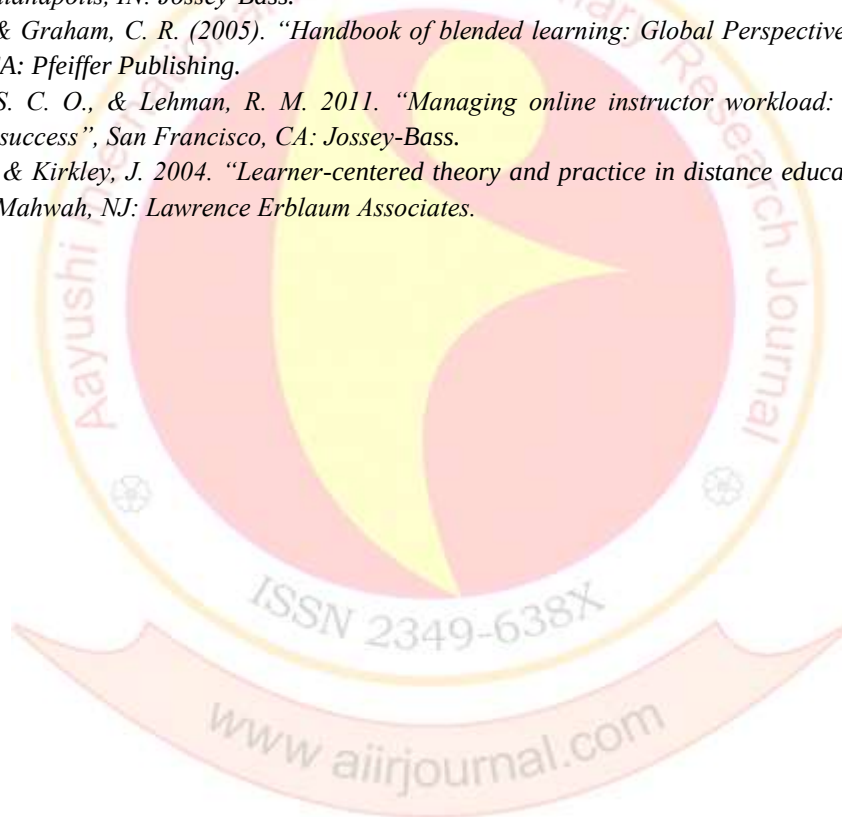
Conclusion:

Successful E Learning very much depends on the person himself or herself .One has to self motivate oneself and be honest to oneself ,don't get diverted or tempted .One should be focused and study well .But all are not lucky to have a android phone and computers with the latest technology and net connection. If the government and the university distributes one ,to the actual needy student by looking into their backgrounds ,then education can reach out to the poorest child in the country and it will lead to inclusive growth in the lock

down period or E Learning will reach out only to the rich and the affordable. Only hope it does not add to unemployment of teachers in the economy. But to conclude E Learning cannot replace a teacher in the real sense, as it does not have a rapport with the teacher, a must for human development. So hopefully the disease is controlled. Students are waiting to go to college and teachers are waiting to go back to their work environment. Let's pray that E Learning does not become a permanent method of teaching.

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Transformaton of Food Crops into Cash Crops: A Case of Solapur District

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Abstract:

This paper studies the dynamics between cash cropping and food crop production at the district level. The paper focuses on the potential pathways by which cash crop production may affect food crop productivity and then empirically measures these effects using the case of Solapur district a major Jowar producing area. The present study is an attempt to identify the effects of cash crop production on food crop productivity in Solapur district. Solapur district is the heart of the drought prone area in Maharashtra but it is the most valuable land resources which is famous for black soil. In this district the jowar is famous for agricultural production. Solapur district is situated in south east part of Maharashtra. The area of study region is 14,895 sq.km. The study region consists of 1167 villages and has 4620205 populations in 2019. Population density is 310 people per square km. Solapur district climate in summer the maximum temperature is 42°C and minimum is 28°C and in winter the maximum temperature 27°C and minimum is 13°C.

In both year (1990-91 and 2017-18) the Jowar is major crop in the study region, but in 2017-18 the area under Jowar is decreased, because of agricultural commercialization, so cash crops became important crops in study region. The major food crops transformed in the cash crops in study region during investigation period.

Keywords: Food crops, Cash Crops, Commercialization, Agricultural Productivity, Subsistence crops

Introduction:

Food crops are any plants intentionally grown with the primary purpose of being eaten by man and animals. This definition separates a food crop from wild edible vegetation, grazing material and edible food used for any other purposes. The vast majority of store-bought fruits, vegetables and grain-based foods started in this category are included. This makes up one of the three main divisions of useful growing plants, the other two being wild plants and non-food crops. In this study region Jawar, Bajra, wheat, rice, maize and barley was the main food crops in this region. Other hand a cash crop is an agricultural crop which is grown for sale to return a profit. It is typically purchased by parties separate from a farm. The term cash crop is applied exclusively to the agricultural production of plants and animal agriculture is not a part of the terminology. The term is used to differentiate marketed crops from subsistence crops, which are those fed to the producer's own livestock or grown as food for the producer's family. In earlier times cash crops were usually only a small part of a farm's total yield, while today, especially in the developed and as well as some undeveloped countries, almost all crops are mainly grown for revenue. In least developed countries, cash crops are usually crops which attract demand in more developed nations, and hence have some export value. Sugarcane, fiber types crops, cotton and oilseeds are the main cash crops in the Solapur District.

Objectives:

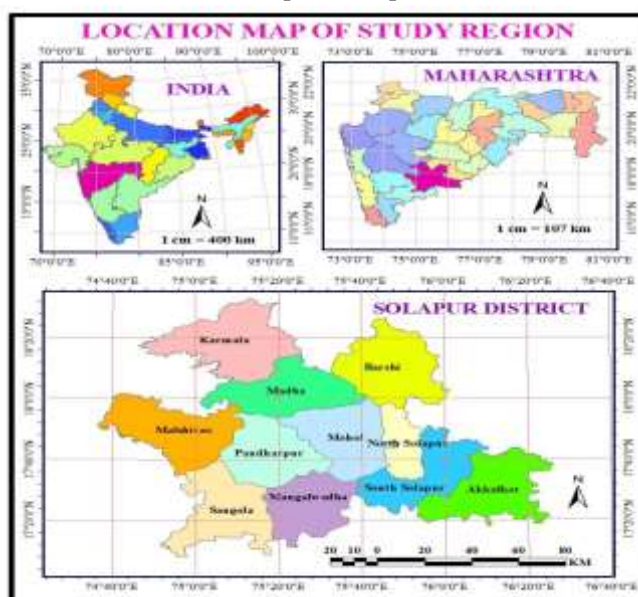
The present study has been undertaken with the following specific objectives.

1. To identify the major determinants responsible for transformation of cropping pattern in district level.
2. To determine the effect of increasing crop commercialization in Solapur district.

Study Region:

Solapur district has been selected as per study which located in western Maharashtra. The district of Solapur lies entirely in Bhima-Sina main river basin of Maharashtra state.

Map No.1
Location Map of Solapur District



The Solapur district bounded by 17°07'N to 18°33'N latitudes and 74°37'E to 76°26'E longitudes. The total geographical area of Solapur district is 14845 sq.kms. divided into eleven tahsils. In 2019 total population of Solapur district accounts 4620205. This gives it a ranking of 43rd in India (out of total of 640). The total population accounts for 3.84 percent of the state. Solapur district has dry climate. The daily mean maximum temperature range between 30° C to 35° C and minimum temperature range between 18°C to 21°C. The highest temperature is recorded in the month of May. The average annual rainfall is registered 510 mm. The soil of the district essentially derived from the Deccan trap.

Database and Methodology:

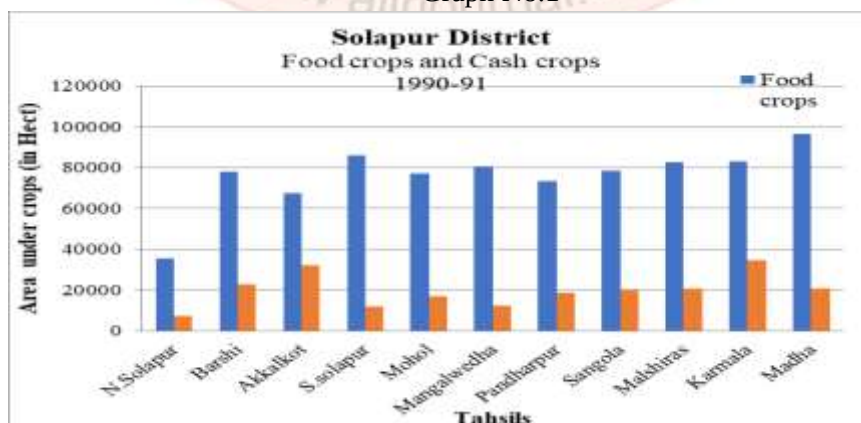
The present investigation is based on secondary data to the study of changing pattern of cash crops and food crops in the Solapur district. The secondary data obtained from Socio-Economic Review of Solapur district from 1990-91 to 2017-18 and district Gazetteers.

Spatial Distribution of cropping pattern:

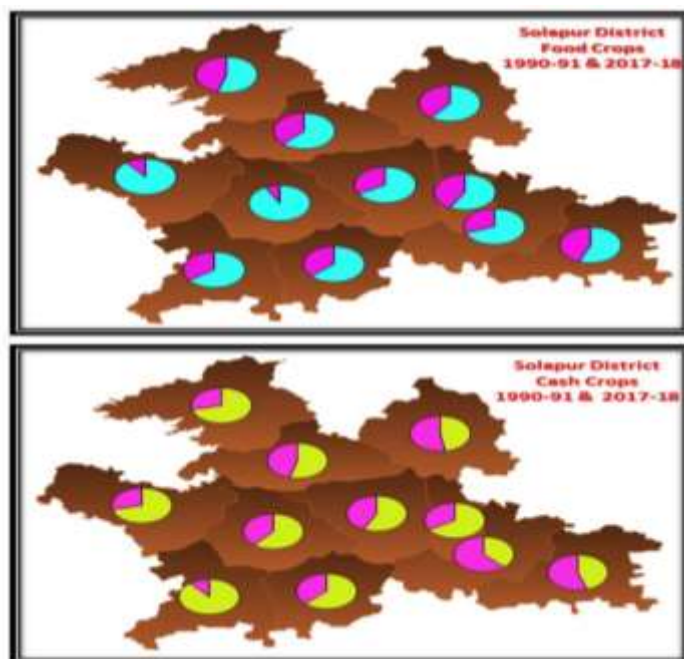
1. 1990-91:

In this year Jowar is main food crop which is 66.06%, followed by Pulses which is 11.84%. In this study area the high majority of crops are food crops. Because this time.

Graph No.1



the agricultural technology was not developed. In this year Wheat 7.70%, Bajra 4.89%, Sugarcane 3.37%, Groundnut 2.11%, Sunflower 1.31%, Cotton 0.35, fruit crops 0.41, other oil seed 1.03% and 0.93% crops are other crops. That means in this region the Jowar is main food crop, which is overall distributed. That means in this year more than 75% crops are food crops



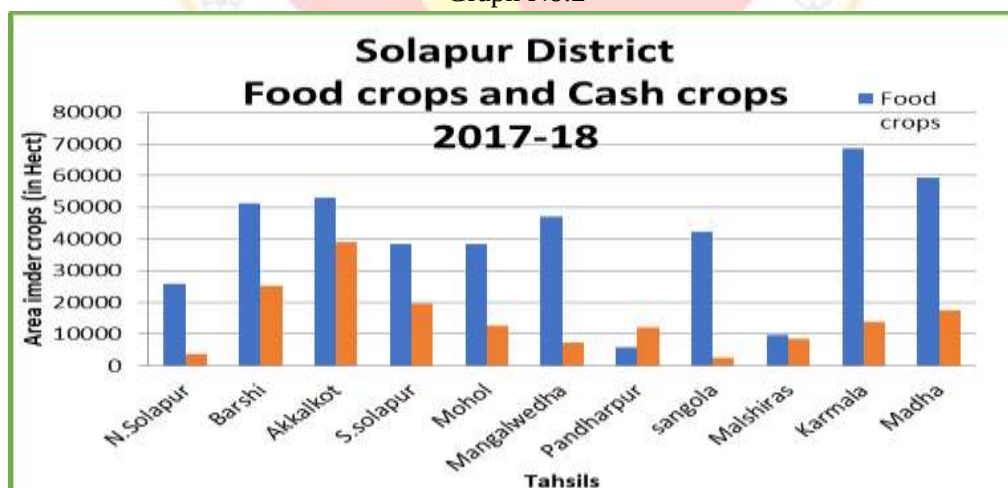
Map No-2

The above graph indicates that the large area of food crops in 1990-91 was Madha tahsil and lowest areas were North Solapur. If we observed the above graph Karmala tahsil recorded the highest percent of cash crop and North Solapur recorded lowest percent of food crops in 1990-91.

2. 2017-18:

In this year Jowar is also main crop but the percentage is decreased (29.22%) due to the change the trend towards cash crops, Fruit crops etc. In 2017-18 the facilities of drip irrigation, new agricultural technology is the main reasons to improve the agriculture system and focused on cash crops production. So the Jowar became only 36.84% in this study region. The other crops as like wheat 1.58%, Bajra 1.80%, Maize 1.70%, Sugarcane 5.85%, Oil Seeds 6.18%, fruits 2.37% are the major crops in Solapur district.

Graph No.2



The above graph shows that Karmala tahsil was maximum area under food crops and Pandharpur tahsil recorded lowest area under food crops in 2017-18. If we think about cash crops the Akkalkot tahsil recorded the high percent and Sangola tahsil recorded lowest percent of cash crops in 2017-18.

Results and Discussion:

The finding indicates that there are major differences in performance (i.e., intensity of input use, crop productivity, and smallholder incomes) across different types of cash cropping arrangements involving private firms and smallholders in Solapur district. The more successful cash cropping arrangements between smallholders and private firms have a markedly positive effect on food crop productivity and smallholder

incomes. This emerging empirical work is beginning to indicate strongly that commercialization of smallholder agriculture, featuring high-valued cashcrops, can under certain conditions provide a strong stimulus to smallholder agriculture and havemajor indirect benefits for food crop productivity.

The principle findings of this investigation include:

1. Majority of crops in this study region were Jowar because of overall distribution of regur soil(Black Soil) in both years.
2. The proportion of Jowar crops is decreased in the 2017-18 as compare 1991-92.
3. Madha and South Solapur is the tahsils where the difference between cash crops and food crops is high, means the both tahsil are focused on food crops.
4. The areas under sugarcane increased in the year of 2017-18 due to commercialization, new agricultural technology, increase the drip irrigation etc.
5. Oilseeds also major crops in study region in 2017-18, it is 7.03%.
6. The area under fruits also increasedfrom 0.41 to 2.37%.
7. In this study region Jowar, Bajra, Wheat, Maize is major crops in both years.
8. Commercialization was significantly positively affected by farm size, other factors held constant, but farm size was significantly inversely related to food crop productivity.
9. Overall, the findings show that farm dynamics between cash cropping, capital investment, andfood crop output, are important to consider in discussions of agricultural commercializationamong smallholder farmers. Two key pathways have been identified by which cropcommercialization may improve food crop productivity.

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Production of Food Grain in Jalgaon District: A Geographical Analysis

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Abstract: -

In the present paper, an attempt has been made to examine food grain crop production Jalgaon district. For this examination, fifteen years (2000-2015) crop production data is used. A further attempt is to identify the variations in food grain production. The paper shows that food grain production is increasing in a very small ratio. Modern agricultural and irrigation are common affects the area under food grain in the district. Jalgaon has registered a significant increase in the crop production area under crop and per hector yield during the last fifteen years. The district has a deficiency of the food grain due to poor fertility and low yield has able to overcome the situation very successfully. The problem is passing away with the help of introducing new agricultural technology land come under agriculture. But in the yield per hectare in kg is not sufficient.

Introduction: -

Maharashtra has registered a very significant increase in crop production, area under crop as well per hectare yield. During the last fifty years, the state marked by famine and hunger due to poor fertility and low yield has been able to overcome the situation very successfully. Overall country the new agricultural technology introduced in the form of the Green Revolution, plays a vital role in food security in the country. Jalgaon has registered a significant increase in the crop production area under crop and per hector yield during the last fifteen years. The district has a deficiency of the food grain due to poor fertility and low yield has able to overcome the situation very successfully. The problem is passing away with the help of introducing new agricultural technology land come under agriculture. But in the yield per hectare in kg is not sufficient

Keywords: Yield, Food grain, rain-fed area, Irrigation, Green Revolution

Objective:

- 1) To analyze the food grain production in the study region.
- 2) To assess the per hector production of food grain in the Jalgaon District.

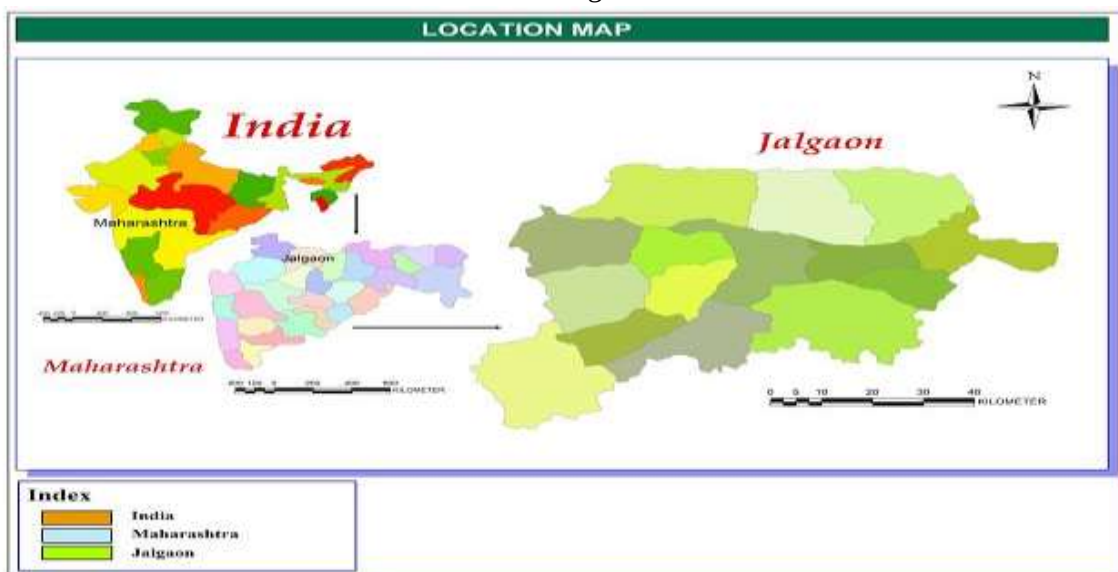
Methodology

The present paper depends upon the primary and secondary data. The Primary data are collected from the village level, firstly data about food grain collected from the whole district. The secondary data collected from the district agriculture department and socioeconomic survey. The district is considered as a real unit of the present research work.

Study Area:-

Jalgaon district lies between 200 15' 30" to 210 25' North latitude and 740 45' 30" to 760 17' 51' East longitude. The area of Jalgaon district is 11765 sqm. The east-west extent of the district is 120 km. Jalgaon district lies on the northern border of Maharashtra as well as in Tapi Valley of the northern Deccan trap. The length of the Tapi river in the district is 130 km. Jalgaon district is situated on the Deccan plateau of North Maharashtra. Because of his different physical characteristics, it differs from the other district of Maharashtra. The northern frontier of the Jalgaon district is bounded by the Satpuda ranges. North and North – East side of district boundary connected with the state border of Madhya Pradesh state. The Aner river marked much northern border in the west continues to separate Jalgaon district from Dhule till its junction with the Tapi. On the east and southwest, a range of low hill and some streams without any marked natural boundary separates Jalgaon from the Bhuldhana district of Vidarbha. Southern border marked by the Ajanta, Satmala, Chandor ranges which are separate Jalgaon districts from Aurangabad and Jalna district of Marathwada. Nasik district at the west of Jalgaon district Panzara River being the only natural feature demarcating the western border.

Figure No 1



Result and Discussion

Table No 1 Production, Area and Yield of Some selected Food grain in Jalgaon District 2000 to 2015

Sl .No.	Category				
1	Years	2000	2005	2010	2015
2	Area "000"hect	676.6	608.2	618.3	794.8
3	Production "000"tonnes	5400	6281	6510	6607
4	Yield (Kg/hect)	831.27	904.87	1032.71	1093.7

Source:- District Agriculture Department Jalgaon District

The area under crop has risen from 676.6 thousand hectares in 2000 to 794.8 thousand hectares in 2015 an increase of 118.2 thousand hectares over the 15 years. But in the period of the first five years the major downfall in the area under crops. In the year 2000, it is 676.6 thousand hectares land under the crops it becomes 608.2 thousand hectares it decreases by 68.4 thousand hectares. In between 2005 to 2010 it increases by 9.9 thousand hectares. The area under crop has not increased so much as the total production and yield per hectare. The total production has gone up from 5400 thousand tons to 6607 thousand tons in 2015. This is an improvement in the first five years is very significant by 881 thousand tons and in the second five years, it increases by 226 thousand tons.

The yield per hectare in kg is increased in 2000 per hectare yield is 831.27 kg, it becomes 904.87 kg in 2005 here the yield increase by 73.6 kg. In the year 2010 the per hectare yield is 1032.7 it has an increasing trend to become continuous in 2000 to 2005, 127.84 kg yield has increased per hectare. In the year 2015 yield per hectare is also increased up to 1093.7 kg per hectare which is 60.99 kg more than in respect of 2010.

Five Year Variation in Major Crop Production (1990-2005) Table No 2
(Production in '00' Metric tone)

Sl No	Crop	2000	2005	2010	2015
1	Jawar	4217	4503	3057	2959
2	Bajara	1233	989	443	559
3	Wheat	580	802	668	1119
Total food grain		6030	6294	4168	4637
4	Tur	172	200	204	238

5	Mung	208	233	159	193
6	Udid	348	348	251	299
7	Gram	386	446	413	570
8	Sesame	281	158	91	371
9	Groundnut	691	449	310	1112
Total food crop		8116	8128	5596	7420
10	Banana	11731	20577	21691	29328
11	Cotton *	1896	3455	6042.5	8042
12	Sugarcane**	11333	15842	197820	2229120
13	Maize	5	200	946	1340
Source: Jalgaon District socio-economic survey & District Agricultural Dept. (2000-2015)					

Table No 2 The district food grain production of Kharif and rabbi season is estimated to be 46.37 lack metric tons in the years 2015 The area under food crops has reduced from 659.7 thousand hectares in 2000 to 427 thousand hectares in the years of 2015 registering the decrease of 232.7 thousand hectares over the 15 years. There is a major downfall in the total area under food crops during 2000 it was 659.7 thousand hectares and goes down up to 546.3 thousand hectares in 2005. But the total food crop production was 811600 metric tons in the year 2000, and it goes up 812800 metric tons in 2005. There has been a marginal increase in the area under food crops during 2005 as it was 546.3 thousand hectares and the year 2010 it becomes 550.6 thousand hectares. Importantly the area under food crops has increased by $(550.6-546.3=4.3)$ 4.3 Thousand hectares but here the crop production was decreased by $(812800-559600=253200)$ the major downfall in the Mung, Udid, Gram, sesame, and groundnut. This downfall of food crop production due to shortfall rainfall this year. This is an important improvement over the last five years production was 742000 metric tons it rise by $(74000-559600=182400)$ metric tons. The food crop production in the year's was 742000 metric tons whereas it was 559600 metric tons in 2010. This is explained by the decreasing yield per hectare. In the year 2000 per hectare yield was 831.27 kg per hectare whereas in 2005 yield was 904.82 kg per hectare. In the next five years the district, yield per hectare also goes up 1032.71 kg and in 2015 it also continuously increases 1093.7 kg per hectare. It has been increasing continuously and in 2015 it was 1093.7 kg per hectare. In the year 2005, the total food production is 6607 thousand tons the per hectares yield went up. There is well reflected at taluka level as well table 5.2 presents the trend of production of different crops during the last 15 years.

Table No 3 shows the yield per hectare during 2000-2015 almost all crops are having registered increase. Jalgaon district ranks third after Buldhana and Satara in the production of the Jawar. At the district level Buldhana district with a yield of 1868 kg /hectare rank first followed by Satara where it is 1860 kg/ hectare. This is much higher than that of the average yield of Maharashtra. The most dominant staple food crop is Jawar in Maharashtra. Jawar average production in the district was 1504kg/hectare in 2000 the average yield has gone up to 1760 kg /hectare in 2015 the average yield of Jawar was 1809 kg/hectare and only in 2010 average per hectare yield is 1722kg.

The state average is 1336kg per hectare. The crops like Bajara, Maize, Wheat, and Gram have also recorded significant improvement in the average per hectare yield. However, Arhar shows an exception because its yield has been a decline from 822 kg/ hectare in 2000 to 764 kg/ hectare in 2015. But it appears only a temporary phenomenon because in 2000 the average yield of Arhar is 809 kg/hectare. It is always low to the state, which is 888kg/hectare. Cotton, Banana, and Sugar cane are the major cash crop in the district. Cotton is a widespread crop in all tahsil. In the year 2000, the average cotton yield was 1007kg/h and it continuously increasing such as in 2000 1312kg/h in 2010 it goes up to 1350kg/h and in the last year (2015) of the study period the cotton per hectare production was 1389. Sugarcane is another cash crop in the district, the state average is 89997cane per hectare. The district production is 80950cane/hectare in 2000 in 2005 it goes up

92710 cane/hectare, but in the years 2010 the sugar cane production goes down 65000 cane/hectare it stays continuous to the year 2015. The sugar cane production depends upon irrigation facilities, labor supply, and local political conditions of the factory region.

Table No 3 Trend of Crop Yield in Jalgaon District(2000-2015)
Yield in Kg/Hectare³

Sr.No.	Crop	2000	2005	2010	2015
1	Jawar	1504	1760	1722	1809
2	Bajara	987	1074	737	1061
3	Maize	833	1695	2873	2906
4	Wheat	1584	2162	1846	2202
5	Tur	822	809	697	764
6	Mung	489	581	421	490
7	Udid	517	697	409	529
8	Gram	716	760	866	967
9	Sesame	430	240	336	371
10	Groundnut	1051	1217	823	1112
11	Banana	58000	59000	67500	62500
12	Cotton	1007	1312	1350	1380
13	Sugarcane	80950	85632	65000	65000

Source: Jalgaon District socio economic survey & District Agricultural Dept

Five Year Variation in the Area under Different Crop (2000-2015)
Area in '000' Hectare Table No 4

Sl No	Crop	2000	2005	2010	2015
1	Jawar	279.2	240.9	219.7	145.0
2	Bajara	120.6	98.4	71.8	58.6
3	Wheat	35.3	19.1	23.8	12.5
4	Tur	22.0	17.2	25.1	25.9
5	Mung	6.0	29.8	50.3	49.0
6	Udid	6.3	45.9	55.0	49.9
7	Gram	53.9	9.8	61.1	24.7
8	Sesame	68.8	60.4	25.0	20.0
9	Groundnut	66.1	23.1	17.2	17.2
10	Banana	19.2	44.1	35.5	48.0
11	Cotton	189.3	208.9	399.1	396.0
12	Sugarcane	11.7	14.4	17.4	9.4
13	Maize	1.5	1.7	2.5	25.3

Source: Jalgaon District socio economic survey & District Agricultural Dept

Table no 4 make visible that Jawar, Bajara, and wheat have become dominant food crop as they together occupied 334000 hectares of agricultural land in 2000 which was nearly 37.95 percent of the total. It is very noticeable that the area under Jawar, Bajara, and Wheat grain crops is decreasing more rapidly in the 15 years. Jawar occupied a 31.71per cent area. But in 2000 it goes down 27.27 percent of the total major cropped area. Likewise the area under Bajara decrease from 13.63 to 11.13 percent from the2000 to 2015. The dominance of food grain crops has been declining since 1990. The pulses like Arhar Mung (Green gram), Udid (Black gram), etc occupied 3.89 percent of the area under major crop in 1990, whereas the area under these crops increases to 10.55 percent in 1995. The Udid and Mung proved the land for a double crop in the rabbi season. But the area

under gram was reducing from 53.9 thousand hectares In 1990 to 9.8 thousand hectares in 2000. It also increases by 61.1 thousand hectares in 2010 and also goes down 24.7 thousand hectares in 2015. It means the area under gram was not stable because the availability of irrigation water and this crop are easily affected by the disease which reduces the yield. Among the pulses, Arhar, gram, Mung, and Udid are quite important in the diet. However, the area under gram has been declining in 2000 and 2015. But Arhar, Mung, and Udid have increased in 1995 and 2000 only in 2005 it is declining slightly, among the oilseed groundnut and sesame major oilseed crop. It covers an area of 15.33 percent in 2000. These crops are continuously declining up to 2015 and it becomes 10.26, 4.2, and 3.7 percent in 2000, 2005 and 2010 respectively.

Banana and sugarcane are the perennial crops in the Jalgaon district. Banana of Jalgaon is best selling fruit in India because it is a sweet test in eating. The area under sugar cane was not constant. It affects by different factors such as availability of irrigation water, transportation facility, government policy about minimum support prize, labor availability, and local politics. Due to these factors, the production of sugar cane also reduces in the district. After banana sugar cane is the major cash crop in the district particularly in Raver, Yawal, Muktainagr, Chopda, Bhusawal, and Jalgaon tahsil. The area under sugar cane rapidly decreasing in the study area except 2010. Faijpur, Chopda, Chalisgoan Erandol, and Jammer having sugar factories in which jammer sugar factory is not in the working condition.

Conclusion

Modern agricultural and irrigation are common affects the area under food grain in the district. Jalgaon has registered a significant increase in the crop production area under crop and per hector yield during the last fifteen years. The district has a deficiency of the food grain due to the poor fertility and low yield have able to overcome the situation very successfully. The problem is passing away with the help of introducing new agricultural technology land come under agriculture. But in the yield per hectare in kg is not sufficient.

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Assessment of Land surface Temperature of Kolkata Urban Agglomeration, West Bengal, India

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Abstract

Kolkata Urban Agglomeration is one of the third largest urban agglomeration as well as third largest rapidly urbanizing, oldest and densely populated city in India. Due to urbanization and industrialization, the number of built-up areas are increasing and replacing the vegetation and land cover area. As urbanization is known as one of the most contributing factors for urban warming, so it is necessary to express the pattern of urban warming and degradation of land vegetation. Remote sensing and GIS with statistical procedure have enabled continuous monitoring land surface temperature (LST) and its correlation to land use and land cover change (LULCC). Landsat image creates an opportunity to study land surface temperature. This study to estimate LST through thermal bands (10 & 11) with Normalized Difference Vegetation Index (NDVI) using Landsat 8 (OLI / TIRS) satellite data through ArcGIS software. Mean LST varied from 302.3°C to 276.5°C. A weakly positive correlation was observed between NDVI and LST ($R^2 = 0.0159$). It is found that the correlations between Land Surface Temperature (LST) and Normalized Difference Vegetation Index (NDVI) depend on the time of season and day. The correlation between NDVI and LST for winter is positive, but summer is negative. The combined knowledge of LST and NDVI is necessary for understanding eco-environmental change and human-environmental interactions.

Keyword- Land Surface Temperature (LST), Normalized Difference Vegetation Index (NDVI), Kolkata Urban Agglomeration (KUG), Remote Sensing, GIS

1. Introduction:

In 1947 AD Kolkata city is the capital of West Bengal state, and former national capital (1772 AD – 1911 AD) of British India. Actual rapid urbanization started to plague Kolkata from the 1650s. Within 1961 AD, its population exceeded 20,00,000 and it was declared a municipality in 1965 AD. After the period, people are being migrated to here, all part of India for various purposes and so to accompany them the building is built in an exponential rate. At present 2020 AD population reach about fifteen millions. Urbanization and industrialization has changed the existing natural of land surfaces with the modern land use (LU) i.e. buildings, roads and other construction, which indicates vegetation loss. Human population in the form of settlements and industrial area has a negative impact on the eco-environment as well as eco-environmental quality. Therefore, it is mandatory to have detailed information about spatiotemporal land use changes and their increasing rate. Land use should be matched with the land capability and at the same time, it should respect the eco-environment, and global climate systems (UNEP, 1996; Suraj et al., 2018).

Land surface temperature (LST) is fundamental parameter for understanding land surface characteristics, such as land use and land cover (LULC), vegetation type, and climate change. It can provide information about the surface, physical properties and climate which plays a role in many environmental processes (Dousset et al., 2003; Weng et al., 2004; Jiménez-Muñoz et al., 2014). LST used for an extensive variety of scientific studies (Running et al., 1994; Vining and Blad, 1992; Diak and Whipple, 1995; Crago et al., 1995; Kimmura and Shimizu, 1994). It can provide surface temperature of the ground and also information about the surface physical properties and climate play a role in numerous environmental processes (Sanjay K. Jain et al. 2007; Dousset & Gourmelon 2003; Weng, Lu & Schubring 2004). Landsat 8 comes with two different sets of images from Operation Land Imager (OLI) with nine bands (30 m resolution, except band 8 with 15 m resolution) and Thermal Infrared Sensor (TIRS 1 & 2) with two bands (band 10 and band 11 with 100 m resolution) which is useful in providing more accurate surface temperatures.

Normalized difference Vegetation Index (NDVI) is the one of the most widely utilized and significant remote sensing indicators which have been created to quantify ecological status (Hanqiu Xu, et al., 2019).

Higher NDVI maps the presence of vegetation on a pixel basis, which is the amount or condition of vegetation within a pixel. Lowest LSTs usually are found in high NDVI areas. This negative correlation between NDVI and LST is positive significant for urban climate and eco-environmental studies (Yuan and Bauer, 2007). Weng et al. (2004) found that the vegetation fraction has a slightly negative correlation with LST. But it's found that the correlations between LST and NDVI depend on the season-of-year and time-of-day. Correlation between NDVI and LST is found in winter and warm seasons are strong positive and strong negative, respectively. Nonetheless, Karnieli et al. (2006) establish that the northern ecosystems at high latitudes are characterized by positive correlations among LST and NDVI.

This paper considers only NDVI as a main cause of change in land surface temperature (LST). In this study, we investigate the effects of urban land use change on the land surface temperature in the Kolkata Urban Agglomeration based on the remote sensing analysis and zonal statistic methods. This paper focuses on the relation of NDVI with LST and pattern of temperature change and forecasts the climate change-related risks, supports on capacity building, policy and decision making of the agglomeration for certain NDVI.

2. Methods and materials

2.1 Study area

Kolkata Urban Agglomeration (KUA) also identified as Kolkata Metropolitan Area (KMA) which is the largest urban area in Eastern India and third largest urban agglomeration as well as third largest city in India (14.72 million) after the National Capital Region (46 million) and Mumbai Metropolitan Area (20.7 million), with population density of 7950 persons per Sq. Km. (2011 Census). The study area is situated between the latitudes of $22^{\circ} 0' 19''$ N to $23^{\circ} 0' 1''$ N and the longitudes of $88^{\circ} 0' 4''$ E to $88^{\circ} 0' 33''$ E. It covers an area of over 1851.41 sq. km. and its elevation varies from 1.5 m to 9 m (5ft. to 30 ft.) from sea level (Fig. 1.0). This area has communicable linear urban prototype along both east and west bank of the river Hooghly, within the lower Ganges Delta, which is one of the lifelines of Southern Bengal. The agglomeration is surrounded by rural hinterland lying as a circle around the metropolitan area and acting as a shielding green belt (KMC, 2015). It consists of a complex set of administrative entities of 3 important municipal corporations (MC) i.e. Kolkata, Howrah and Chandernagore, 38 municipalities, 77 Census towns (CT), 16 outgrowths and 445 rural villages or Gram panchayat.

The annual mean temperature is around 24.8°C ; monthly mean temperatures ranges from 15°C to 30°C . Extreme temperature is observed over 40°C (104°F) during the month of May and June. Lowest temperature ranges from 9°C – 11°C during the months of December and January. While the highest and lowest recorded air temperature is 43.9°C and 5°C respectively. The average annual rainfall is 1,582 mm. The maximum rainfall occurs during the monsoon in August (306 mm). The study region receives 2,528 hours of sunshine per annum, with the maximum sunlight in March.

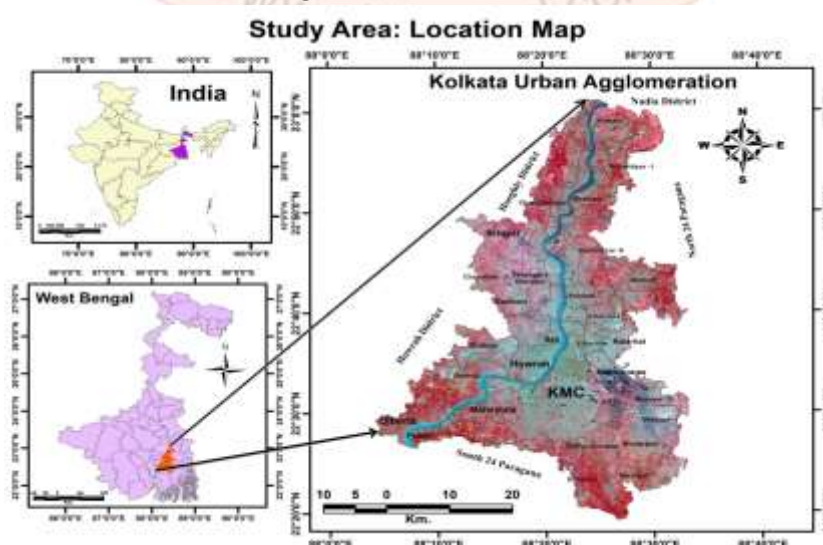


Fig. 1. The location map of Kolkata Urban Agglomeration

Land use analysis of Kolkata urban agglomeration has revealed a decline of vegetation from 33.6 % (1980) to 7.36 % (2010). The economic development of Kolkata urban agglomeration has been accompanied by a large influx of population and much of the farmland has given way to impervious built-up areas.

2.2 Methodology:

2.2.1 Data resources and pre-processing:

This study uses images from Landsat 8 OLI / TIRS on 2020-01-17 from United States Geological Survey (USGS, <http://earthexplorer.usgs.gov>). The path/row was 138/44. Due to the focuses on the relation of greenness and heat. The authors used ArcGIS 10.8, ERDAS imagine 14, Microsoft Office 2010 and IBM SPSS statistics 26 software to complete radiometric correction of the remote sensing images, as well as to carry out this study. During the pre-processing of datasets, the gray value or digit number (DN) of the multispectral bands, converted into the reflectivity values of the sensor, used the Fast Line-of-sight Atmospheric.

2.2.2 Normalized Differential Vegetation Index (NDVI):

Vegetation is the most delicate factor to specify the quality of regional eco-environment. Greenness denoted Normalized difference vegetation index (NDVI) can reflect biomass, leaf area index, and vegetation coverage (Rouse *et al.*, 1973).. Furthermost researchers recommend that the NDVI is sensitive to low density vegetation, and it is particularly suitable for urban areas with high densities of built-up land (Wang *et al.*, 2015; Liu *et al.*, 2017). After conversion of the digital numbers (DN) to reflectance, the NDVI is expressed by the following equation (Rouse, J.W. *et al.*, 1973; Tucker *et al.*, 1979; Jeevalakshmi *et al.*, 2016; Giannini *et al.*, 2015; Hanqiu *et al.*, 2019):

$$NDVI = (\rho_{NIR} - \rho_{Red}) / (\rho_{NIR} + \rho_{Red}) \quad (1)$$

Where, *NIR* and *Red* represent the DN values from the Near Infrared band 5 (0.85 – 0.88 μm) and Red band 4 (0.64 – 0.67 μm) of Landsat 8 (OLI / TIRS) image, respectively. The NDVI value range between – 1.0 to +1.0, Negative values of NDVI may point to water bodies and snow cover, while greater than 0.5 values specified dense vegetation cover (Ozelkan, E. *et al.*, 2005; Mohammad Zare *et al.*, 2019).

2.2.3 Land Surface Temperature (LST):

Landsat data have used for LST study (Ding *et al.*, 2013; Erenner *et al.*, 2012; Kaul *et al.*, 2012; Xiao *et al.*, 2007). The standard method for recovering LST from raw Landsat datasets requires the conversion of the DN values of the TIRS bands (Bands 10 and 11 in Landsat 8) into at-satellite spectral radiance values (L_λ) (Chander *et al.*, 2009; Xu *et al.*, 2009; USGS, 2016b; Mohammad Zare, *et al.*, 2019) and then into the at-satellite brightness temperature (BT), which is calculated beneath an assumption of unity emissivity (ϵ) and using pre-launch calibration constants (Chander *et al.*, 2009; Xu *et al.*, 2009; USGS, 2016b).

In order to preprocess the satellite images, the DN of TIRS and OLI bands were converted to spectral radiance and top of atmosphere (TOA) planetary reflectance. For conversion from a satellite temperature to land surface temperature as well as DNs to radiance the following equation was used (USGS. *Landsat 8 Data users Handbook*, 2016):

$$L_\lambda = M_L * Q_{cal} + A_L \quad (2)$$

Where, L_λ is spectral radiation (Watts/ ($\text{m}^2 \cdot \text{sr} \cdot \mu\text{m}$)), M_L is Band specific multiplicative rescaling factor from the metadata, (RADIANCE_MULT_BAND_n), Where ‘n’ is the band number. (10 or 11 for Landsat 8), Q_{cal} = Level 1 value in DN or Corresponds to band 10 & 11, and A_L is Band specific additive rescaling factor from the metadata, (RADIANCE_ADD_BAND_n), Where ‘n’ is the band Number 10 or 11 (OLI /TIRS).

TIRS data were converted from spectral radiance to brightness temperature (BT_i):

$$BT_i = \{K_2 / \ln [(K_1/L_\lambda) + 1]\} - 273.15 \text{ (in } ^\circ\text{C)} \quad (3)$$

Where, BT_i is top of atmosphere (TOA) brightness temperature for TIRS band *i* (is 10 & 11 for TIRS) in Kelvin or Degree Celsius, K_1 = Band specific coefficients are thermal conversion constant from the metadata. ($K_1_CONSTANT_BAND_n$), Where ‘n’ is the band Number 10 or 11 for Landsat -8 (Table 1), K_2 = Band specific thermal conversion constant from the metadata. ($K_2_CONSTANT_BAND_n$), Where ‘n’ is the band Number (10 & 11 for Landsat 8).

In this process, the temperature results will be estimated in Celsius, the radiant temperature is adjusted by adding the absolute Zero which is approximately to – 273.15 $^\circ\text{C}$.

Table 1: The values of λ , Quantized calibration pixel and Spectral radiance for Landsat bands

Satellite	Band	λ (μm)	Thermal conversion constants (Parameter i)	
			K1	K2
Landsat – 8 (OLI/TIRS)	10	10.895	774.8853	1321.0789
	11	12.005	480.8883	1201.1442

Source: NASA (2013), USGA (2015)

The same to be implemented for the Band 11, from the equation we can get Band 10 radiance and Band 11 Radiance as an output.

Calculated to P_v from NDVI values obtained in formula 2. It gives the estimation of area under each land cover type. The vegetation and bare soil magnitudes are acquired from the NDVI of clean pixels (Zahir, 2020). Values of NDVI_v and NDVI_s is 0.5 and 0.2 respectively, were proposed to apply in global conditions while the value for vegetated surfaces (NDVI_v = 0.5) may be too low in some cases, for higher resolution data over cultivated sites, NDVI_v can reach 0.8 – 0.9 (Wang, F., et al., 2015). Proportion of vegetation in mixed pixels to be estimated using the equation (Zahir, 2020):

$$P_v = \left(\frac{(NDVI - NDVI_{\text{minimum}})}{(NDVI_{\text{maximum}} - NDVI_{\text{minimum}})} \right)^2 \quad (4)$$

Where, P_v are the Proportion of Vegetation, NDVI is the DN values from NDVI Image, NDVI minimum and maximum value is minimum and maximum DN values from NDVI Image, respectively.

LST is largely dependent on the surface roughness, nature of vegetation cover etc. (JavedMallick et al., 2008). LST is the average emissivity (ϵ) of an element of the earth surface calculated from NDVI values. ϵ is calculated according to the empirical formula of Van de Griend and Owe (1993). NDVI is expressed as the equation:

$$\epsilon = 0.004 * P_v + 0.986 \quad (5)$$

When, NDVI < 0, ϵ is 1 (the emissivity of water body is close to 1).

When NDVI is 0 – 0.157, the vegetation coverage is very low, and ϵ is 0.92. When NDVI > 0.727 then ϵ is 1 (Qin et al., 2004).

The LST is the radiative temperature which calculated using TOA brightness temperature (BT), wavelength of emitted radiance, LST is calculated using equation (Orhan and Yakar, 2016):

$$LST = BT_i / [1 + (\lambda * BT / C_2) * \ln(\epsilon)] \quad (6)$$

Where, BT is TOA brightness temperature ($^{\circ}\text{C}$), λ = Wavelength of emitted radiance (Table -2), $C_2 = h * c / s = 14387.685 \mu\text{m K}$; h = Planck's constant = $6.626 * 10^{-34} \text{Js}$; s = Boltzmann constant = $1.38 * 10^{-23} \text{J/k}$; c = Velocity of light = $2.998 * 10^8 \text{m/s}$.

3. Results and Discussion:

Figure 2 depicts the NDVI image generated by using Landsat 8 OLI data of the study area acquired on 17th January 2020. Here, the maximum and the minimum NDVI was 0.442 and -0.118, respectively, mean and standard deviation (SD) value of the study area is 0.137 and 0.076, respectively. Higher value of NDVI shows the more dense vegetation (forest) while lower value shows the water bodies. Paper template from study shows that the NDVI high at the periphery of the agglomeration and lowest at the heart of the urban agglomeration mainly 3 important municipal corporations (MC) i.e. Kolkata, Howrah and Chandernagore; 38 municipalities and 77 Census towns (CT) of the study area. Moderate NDVI range can be noticed on the translation zone of urban and village of Kolkata urban agglomeration.

The LST map for the agglomeration shows that the LST value range between 29.80°C to 15.79°C (Figure 3). Mean temperature is 22.41°C and 1.051 is the standard deviation (SD) in our research area. Altitude is the principal factor in the spatial variation of temperature (DHM, 2005). Paper template from study shows that the temperature decreases from the heart of the urban agglomeration to the periphery. Extreme temperature rages noticed in the heart of the urban area.

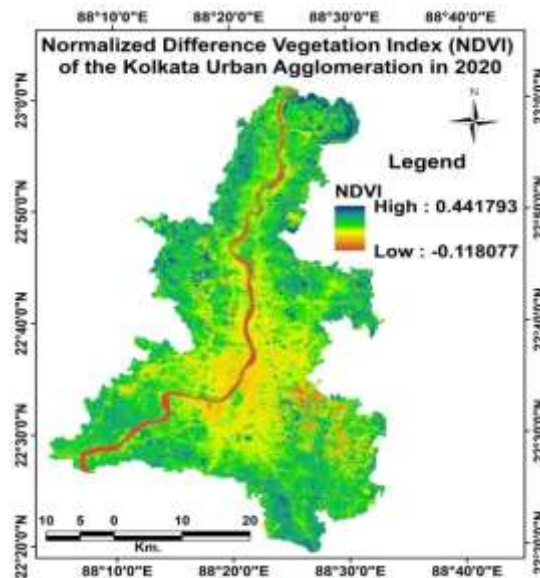


Figure 2: Spatial distribution of NDVI over Kolkata Urban Agglomeration in 2020

The relationship between the LST and NDVI has widely documented in the literature (Chen, 2006; Weng, 2001 & 2006). Karl Pearson's correlation coefficients have been computed between NDVI and LST over the study area using SPSS software. Figure 4b the scatterplot shows the correlation (pixel by pixel) between LST with NDVI for the study agglomeration. LST has a slight positive ($R^2 = 0.0159$) association with NDVI as well as vegetation cover. It means that wherever there is high NDVI, the surface temperature is high and vice versa. For winter seasons, the correlation between NDVI and LST is positive. The strong negative correlations between LST and NDVI are only found during the warm seasons (Kaufmann et al., 2003; Donglian et al., 2007).

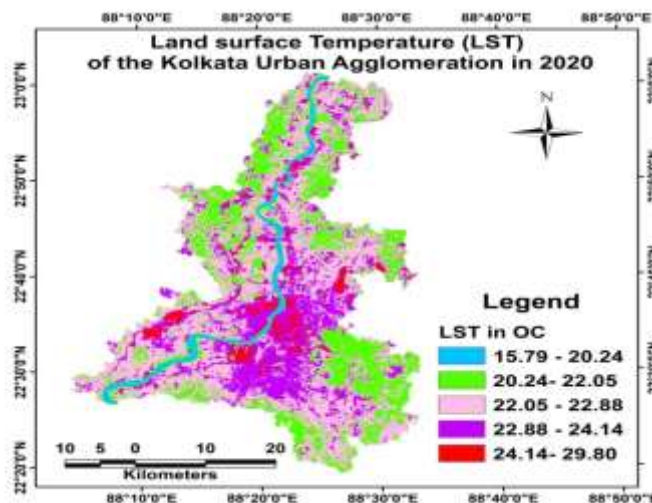


Figure 3: Spatial distribution of Land Surface Temperature over the Kolkata Urban Agglomeration in 2020

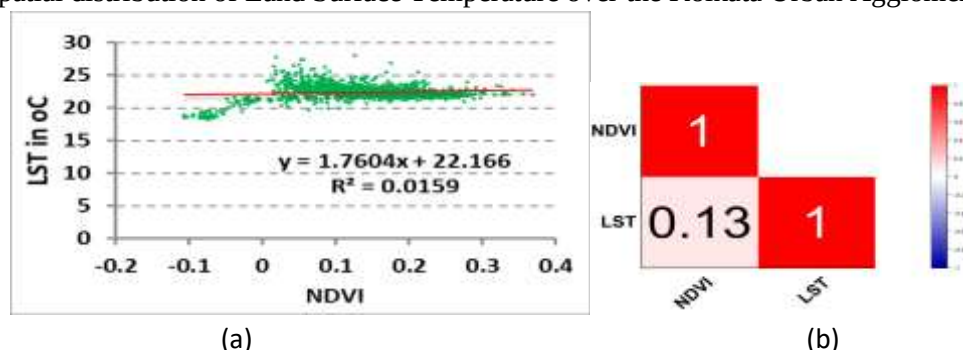


Figure4: (a) Scattered plot between LST and NDVI; (b) Correlation analysis of NDVI and LST.

4. Conclusions and recommendations

The study shows that there is high rate of urban area enhancement due to high the population influx and unsuitable land use plan. As a result, productive cultivated land, vegetated area and open area are being interchanged by the concrete structures. This study area rapidly facing a rise in the temperature in summer and winter for different time intervals. Regarding the determination of the appropriate approach for LST prediction, we use NDVI. In this present study, it is found that the correlations between LST and vegetation depend on the season-of-year and time-of-day. For winter season, the correlation between NDVI and LST and correlation coefficient from NDVI to LST are positive. The cooling effect of vegetation on LST is much stronger during daytime than the nighttime. Further investigations will require for analyzing the more recent change in temperature and vegetation as well as more updated spatiotemporal data databases, and also will be require of long term spatial climate data for statistical analysis of better understanding the pattern of temperature and relation between NDVI and LST, climatic change and extreme eventuality.

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Location Quotient of Rural Population in Beed District (Maharashtra State)

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Abstract

India is a country of villages and most of the population of India lives in villages. Agriculture in India is predominantly rural, so the participation of the rural population in agriculture is very important. Today, most of the population in India is migrating from rural to urban areas, so rural development is low. Rural population plays an important role in rural development.

Present paper reveals the concentration index of rural population in Beed district of Maharashtra state.

Keywords : Location quotient, concentration index, rural population, distribution, development, tahsil wise

Introduction

The location index of the rural population is an indicator of the development of the region. In a region with a higher rural population index, development is higher than in a region with a lower index.

In the present research paper, the location index of rural population in Beed district of Maharashtra has been removed and its tahsil wise analysis has been done.

Objectives

The main objectives of the present research paper has follows,

- 1) To analysis the distribution of rural population in the district of the census year 2001 and 2011.
- 2) To calculate the concentration index of rural population in the study region.
- 3) To suggest the remedies about rural development.

Data Source

Present analysis is based on the secondary source of data. Data of rural population and rural area is complied from District Census Handbook of Beed District in the year 2001 and 2011. The base map of the district is also complied from District Census Handbook of Beed district.

Methodology

Location quotient of the rural population in the study region is calculated with the help of Deshpande C.D. (1941) and Shastri (1942)'s formula. The formula as follows,

$$LQ = (P_i \div A_i)$$

LQ – Location Quotient), P_i – Increasing Rural Population between Two Decades, A_i – Rural Area of Tahsil

The population, area data and the calculated figures are arranged in the table also results are shown in the map of the study region.

Study Region

Beed district is the part of Maharashtra state and located in Marathwada region. District lies in between $18^{\circ} 23' N$ to $19^{\circ} 21' N$ latitude and $74^{\circ} 48' E$ to $74^{\circ} 44' E$ longitude. District includes total 11 tahsils Ashti, patoda, Shirur, Georai, Manjlegaon, Wadwani, Bid, Kaij, Dharur, Parli and Ambejogai.

District covered total 10679 sqkm area and total population of the district is 2585049 while out of them 2070751 is rural and 514298 is urban population according to the census year 2011.

Rural Population of Beed District (2001)

Total rural population of the district is 1774180 in the year 2001 and it is 82.10% to the total population. In this year Beed tahsil recorded maximum distribution of rural population. Beed, Georai, Kaij and Ashti tahsil recorded more than 2 lakh rural populations.

Patoda and Dharur tahsil found the lowest distribution of rural population in the entire region. The population in these tahsils found less than 1 lakh. Remaining tahsils recorded rural population in between 1 to 2 lakh.

Rural Population of Beed District (2011)

In the year 2011 total rural population of the district is found 2070751 and it is 80.10% to the total population. As compare to the rural population of 2001 it is increased but the ratio compare to total population it is decreased.

In this year Georai tahsil recorded highest distribution of rural population. More than 3 lakh population is situated in this tahsil. Beed, Ashti, Kaij and Manjlegaon tahsil recorded rural population in between 2 to 3 lakh.

Wadwani tahsil found the lowest population in rural region in the year 2011. Rural population of this tahsil found less than 1 lakh. The rural population of this tahsil in the year 2001 was more than 1 lakh but in 2011 it found decreased due to the over growth in urban region. Rural population in remaining tahsil found in between 1 to 2 lakhs and no major change found during 2001 to 2011.

Location Quotient of Rural Population

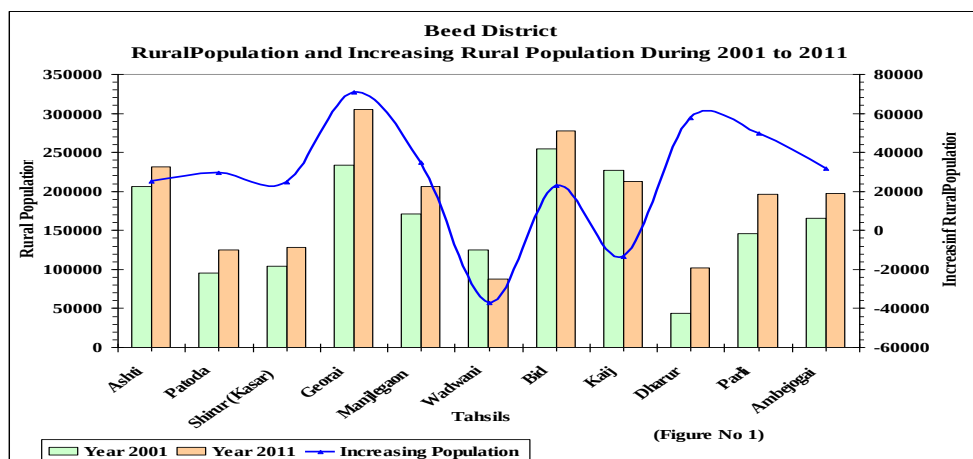
Distribution of rural population, rural area and increasing population between two decades according to the tahsils are shown in the table no 1. Also table no 1 shows tahsil wise location quotient i.e. concentration index of rural population in the study region.

Table No 1
Beed District: Location Quotient of Rural Population

Tahsil Name	Year 2001	Year 2011	Rural Area Sqkm (Ai)	Increasing Population (Pi)	Location Quotient (LQ)
Ashti	206666	231635	1381	24969	18.08
Patoda	95738	125081	916	29343	32.03
Shirur (Kasar)	103698	128583	465.55	24885	53.45
Georai	234048	305048	1451	71000	48.93
Manjlegaon	170968	205728	870	34760	39.95
Wadwani	124829	87685	118	-37144	-314.78
Bid	255086	277955	1393	22869	16.42
Kaij	226612	213128	1189	-13484	-11.34
Dharur	43893	101693	661	57800	87.44
Parli	146450	196233	687	49783	72.46
Ambejogai	166192	197982	1507	31790	21.09
Total	1774180	2070751	10638.6	296571	27.88

Source: - Location Quotient is calculated by Author

The location quotient i.e. index of rural population is considered in five groups, index value less than zero considered as very low concentration of rural population, index 0 to 20 as low, 20.01 to 40 as moderate, 40.01 to 60 as high and above 60 as very high concentration of rural population in the study region.



Very High Concentration Index of Rural Population

In the district Parali (72.46) and Dharur (87.44) recorded the highest value of location quotient and found the maximum concentration of rural population in these two tahsils.

Dharur tahsil was found lowest distribution of rural population in 2001 but in 2011 near about total 57800 rural populations is increased and it is second highest increasing in the region. The ratio between rural area and increasing population in Parali as well as Dharur tahsil is greater in the entire district. This higher index denotes the rural development.

High Concentration Index of Rural Population

Georai (48.93) and Shirur (Kasar) (53.45) tahsils recorded the index in between 40 to 60 and found the high concentration of rural population. Georai tahsil has found the second highest rural area in the district also higher distribution of rural population in the year 2011. During 2001 to 2011 total 71000 rural population is increased in Georai tahsil which is highest in Beed district.

Shirur Kasar tahsil is also found the maximum concentration after Georai tahsil. Ratio between rural area and increasing population in Shirur Kasar tahsil is found quite well than other tahsils in the district.

Moderate Concentration Index of Rural Population

Ambejogai (21.090, Patoda (32.03) and Manjlegaon (39.95) tahsils observed the index of location quotient in between 20 to 40 and included in moderate concentration of rural population in Beed district.

Ambejogai tahsil has covered maximum rural area in the region also observed more than 30 thousand increased populations between two decades. The increasing population is moderate compare to its geographical area and therefore the rural development of this tahsil is found an average in the district.

Patoda and Manjlegaon tahsil has occupied less than 1000 sqkm rural area but increasing population is satisfactory compare to its area and therefore the development of this tahsil has found moderate.

Low Concentration Index of Rural Population

In the study region Beed (16.42) and Ashti (18.08) noted the index value in between 0 to 20 and found low concentration of rural population.

Beed tahsil is the main tahsil in the district and also recorded maximum distribution of urban population. The growth of urban population is greater than rural population in Ashti and Beed tahsil during 2001 to 2011. Over increasing rate of urban population in Beed and Ashti tahsils is effects on rural development.

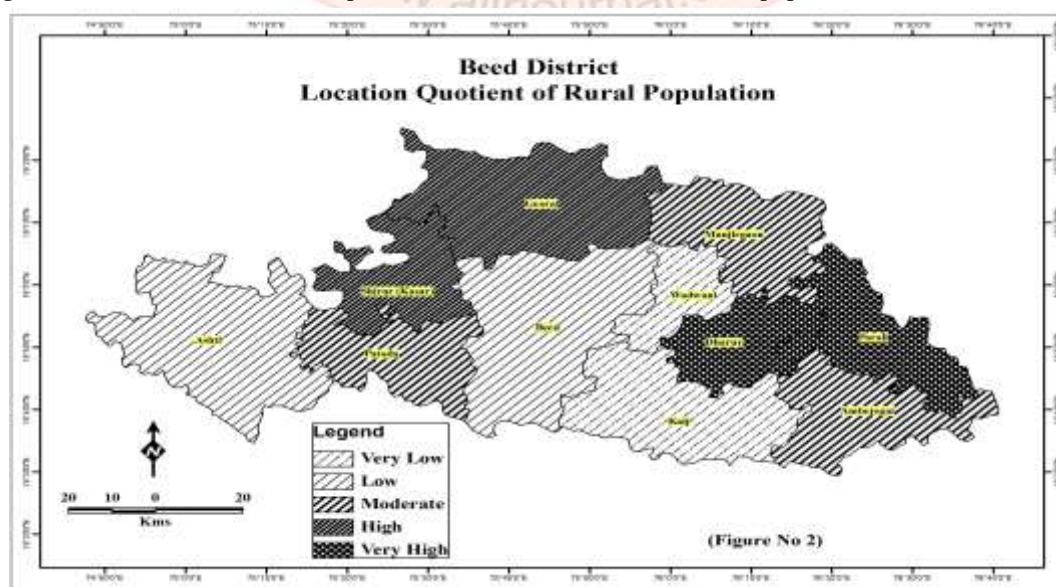
Very Low Concentration Index of Rural Population

In the district Wadwani (-314.78) and Kaij (-11.34) tahsils recorded very poor value of location quotient and lowest concentration of rural population. It is indicated that the very poor development in rural region in Wadwani and Kaij tahsils.

The rural population is decreased in 2011 compare to 2001 in both Wadwani and Kaij tahsil due to the no opportunities of more income in rural region. Wadwani tahsil is totally rural region and due to low development near about 37144 populations reduced in 2011. They were migrated near by villages in other tahsils of the district.

The increasing urban population in Kaij tahsil directly impacts the development of rural region. The location quotient in Kaij and Wadwani tahsil shows the improvement in rural strategies.

Figure No 2 shows the tahsil wise pattern of concentration index of rural population in Beed district.



Conclusions and Suggestions

Although Wadwani tahsil is entirely rural, the rural population has been declining since 2001 to 2011 and this is the real obstacle to rural development.

Beed district is a part of Marathwada and the rainfall in this region is erratic and very low so it gives low income through agriculture in rural areas. That is why people from rural areas migrate to urban areas for work. This has a direct impact on rural development

The declining rural population makes them aware of the development deficiencies in the rural areas. It takes time to pay special attention to the overall development of such a region

Improving farming techniques, cultivating crops that produce more in less water, as well as soaking rainwater in the soil through various measures are essential. Today it is necessary to set up joint ventures along with agribusiness in rural areas, starting various jobs in rural areas. This will stop additional migration to urban areas and boost rural development.

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To Study Socio Economic Condition of Agricultural Labour

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Abstract:

Agriculture sector is one of significant sector which provides employment to 60 percent population in rural area. Laborers in rural area are mainly constituted by males and females. Male labourers are engaged in ploughing, sowing, planting, cutting etc. whereas female labourers are engaged in Applying Manure, Transplanting, Weeding, Harvesting, Threshing, Winnowing etc. Year after year these Labourers work but there is no drastic change in their life as such. Socio-economic condition of agricultural labourers depends upon a number of factors, like income, consumption, asset holding position, availability of farm and non-farm employment, wage rates, indebtedness etc. each of the said parameter is very crucial to measure the socio economic condition of agricultural labourers.

Key Words: Female Labour, Socio Economic Condition, Agriculture Sector etc.

Introduction:

Labour is one of important factor of production in each and every sector of the economy. Especially in agricultural sector, it occupies a pivotal position for every activity. The total demand of 65% of agricultural sector is fulfilled by the labour market.

The size of labour force is determined by the number of people's in the age group of 15-59 years. Agricultural labor mostly belongs to the poorest, economically backwards and backward communities. They are basically unskilled and un-organized. In India about 6.38 lakh villages and agricultural labour are scattered in the villages. They are dispersed, unorganized and they have poor bargaining power. Due to seasonal work, they usually migrate. The demand of agricultural labour is highly in the season periods and uneven in the off season. Due to the seasonal nature of agricultural operations, there is a peak demand for labour in the harvesting seasons and next to that in time of transplanting and weeding. The duration of employment in a year varies from five to seven months in dry area and nine to ten months in irrigated areas. Numbers of labour demand depend upon the size of holding and the nature of cultivation. So agriculture sector does not provide full time job for agricultural laborers.

The famous agricultural scientist, Dr. M. S. Swaminathan, explained the importance of women in agriculture sector by saying that some historians believe that it was woman who first domesticated crop plants and thereby initiated the art and science of farming. While men went out hunting in search of food, women started gathering seeds from the native flora and began cultivating those of interest from the point of view of food, feed, fodder, fibre and fuel. Women have played and continue to play a key role in the conservation of basic life support systems such as land, water, flora and fauna. They have protected the health of the soil through organic recycling and promoted crop security through the maintenance of varietal diversity and genetic resistance. Therefore, without the total intellectual and physical participation of women, it will not be possible to popularize alternative systems of land management to shifting cultivation, arrest gene and soil erosion, and promote the care of the soil and the health of economic plants and farm animals. (Prasad & Singh 1992)

Women constitute nearly half of the adult population in India and 77 % of them belong to rural area. The major occupation of rural women is agriculture and related activities and thereby they contribute about three-fourth of the labour required for agricultural operations. Women workers play a significant role in agricultural development and allied fields including in the main crop production, livestock production, horticulture, post harvest operations, agro/social forestry, fisheries etc. Women also play vital role in allied agricultural activities such as entire management of dairy animals, starting from collection and cutting of fodder to feeding, cleaning of cattle and cattle shed collection of dung, milking, preparation of milk products etc.

women's role varies from sector to sector like they get engaged in poultry, piggery, duckery, goatery, sheep rearing, rabbit rearing, fisheries, sericulture and mushroom cultivation etc.

Support systems such as land, water, flora and fauna are taken care by mostly women. They have protected the health of the soil through organic recycling and promoted crop security through the maintenance of varietal diversity and genetic resistance. Therefore, without the total intellectual and physical participation of women, it will not be possible to popularize alternative systems of land management to shifting cultivation, arrest gene and soil erosion, and promote the care of the soil and the health of economic plants and farm animals.

Definition of Labor Force:

The current definition of the total labor force is that it refers to all non-institutionalized individuals 16 years of age and over who are at work, seeking work, or unemployed.

Types of Female Agricultural Labour

Classification of Female Agricultural Labour:

To understand the nature and rural class structure, rural women are classified into two categories, namely, landless agricultural labour and very small cultivators. Landless labour in turn can be classified into two broad categories, say, permanent labour attached to cultivating household and casual labour.

Permanent or attached labour generally works on annual or seasonal basis and they work on some sort of daily wage.

Their wages are determined by custom or tradition. On the other hand, temporary or casual labours are engaged only during peak period for work. Their employment is temporary and they are paid at the market rate. They are not attached to any landlords.

The second category very small cultivators can again be divided into three subgroups, namely, cultivators, share croppers and leaseholders. Small farmers possess very little land and therefore have to devote most of their time working on the lands of others as labour. Share croppers are those who, while sharing the produce of the land for their work, also work as labour. Tenants are those who not only work on the leased land but also work as labour.

Agriculture laborers can be classified into two broad categories:

1. Landless Agricultural Laborer: The laborers don't possess land and can be further sub-divided into:

- (i) Permanent Laborers attached to cultivating households:** Permanent or attached laborers generally work on some sort of contract. The wages are determined by custom or tradition.
- (ii) Temporary or Casual Laborers:** Casual labourers are engaged only during peak period for work. The employment is temporary and labourers are paid at the market rate. These labourers are not attached to any landlords.

2. Small and Marginal Land-Owners: These are very small cultivators whose main source of earnings due to their small and marginal holdings is wage employment. These laborers can again be divided into **three subgroups**:

- (i) Cultivators:** Cultivators are small farmers, who possess very little land and therefore, have to devote most of their time working on the lands of others as labourers.
- (ii) Share croppers:** Share croppers are those who, while sharing the produce of the land for their work, also work as labourers.
- (iii) Lease holders:** Lease holders are the tenants who not only work on the leased land but also work as labourers.

Classification of Agricultural Labourers:

Agricultural labourers can be divided into four categories:

1. Landless Labourers, who are attached to the land lords;
2. Landless labourers, who are personally independent, but who work exclusively for others;

3. Petty farmers with tiny bits of land who devote most of their time working for others and
4. Farmers who have economic holdings but who have one or more of their sons and dependants working for other prosperous farmers.

The first group of labourers has been more or less in the position of serfs or slaves; they are also known as bonded labourers.

Agricultural labourers can also be divided in the following manner:

1. Landless agricultural labourers
2. Very small cultivators whose main source of earnings due to their small and sub-marginal holdings is wage employment. Landless labourers in turn can be classified into two broad categories:
 1. Permanent Labourers attached to cultivating households.
 2. Casual Labourers. The second group can again be divided into three subgroups:
 - (i) Cultivators (ii) Share croppers (iii) Lease holders.

Permanent or attached labourers generally work on annual or seasonal basis and they work on some sort of contract. Their wages are determined by custom or tradition.

Temporary or casual labourers are engaged only during peak period for work. Their employment is temporary and they are paid at the market rate. They are not attached to any landlords.

Under second group comes small farmers, who possess very little land and therefore, has to devote most of their time working on the lands of others as labourers.

Share croppers are those who, while sharing the produce of the land for their work, also work as laborers.

Tenants are those who not only work on the leased land but also work as laborers.

Objectives of the Research Paper:

- 1) To study social condition of agricultural labour
- 2) To study economic condition of agricultural labour
- 3) To study social condition of female agricultural labour
- 4) To understand economic condition of female agricultural labour

Research Methodology:

This paper is based on the secondary data where the researcher has drawn the material from various sources like magazines, journals, textbooks, reference books, internet etc.

Krishna S. Vatra (2006) made an assessment of the effectiveness of the employment Guarantee Scheme (EGS) of the Maharashtra Government in reducing risk and vulnerability to which households are exposed during the lean season or when crops fail due to climatic factors. Further, it is argued that if the National Rural Employment Guarantee Act has to become a successful intervention in poverty alleviation and drought mitigation, it needs to follow a well defined strategy for building and maintaining assets, rather than becoming a short-term intervention in relief employment as the EGS turned out to be.

Abhiroop Mukhopadhyay and Indira Rajaraman (2007) analyzed that there is an overall rise in rural unemployment, in terms of both total and partial failure to find work during the reference week, between the 55th (1999-2000) and 61st (2004-05) round of employment surveys of the national sample survey. This is something of a puzzle given the reported rise in monthly per capita rural expenditure between the two rounds. The decline in unemployment among males with secondary school or higher education, relative to illiterate males, suggests that the rise in rural prosperity closely matches the pattern of access to rural school facilities of the four disadvantaged groups tested for; scheduled tribes face the highest incremental unemployment, which remains unchanged into the 61st round. This is an important pointer to the required regional configuration of workfare programmes like the National Rural Employment Guarantee Scheme, and for the spread of rural schools.

Findings of the Study:

1. 75 per cent of the population is rural— a third of rural households constitute landless labour households which depend completely on wage employment. Another 60 per cent of rural households are comprised of marginal farmers and small farmers who do not generate sufficient income from their land.
2. Even small farmers with up to five acres supplement their agriculture without side jobs or wage employment.
3. The evidence relating to rural labour households and agricultural labour households shows an explicit overall decline in employment both for male and female labour.
4. There is also a decline in the average number of earning members per household.
5. Rural labour households and agricultural labour households in this study found that they are characterized by low earning, decline in income, low consumption and high debt, and remedies will have to be found to generate more employment and income.
6. Almost 75 percent labourers are staying in kaccha house.
7. 85 percent labourers education is below 7th standard
8. 70 percent of labourers are debt ridden either cooperative or money lenders.
9. There is a significant improvement in India's economic and social development but in agriculture sector especially labour condition is not improved.

Suggestions to improve the socio economic conditions of agricultural labour:

1. Improve work conditions of agricultural labourers.
2. Public works programmes should be made available for labourers for longer period in year.
3. Avail Credit facility at cheaper rates of interest on easy terms of payment for undertaking subsidiary occupation.
4. Implementation of legislative measures should be better.
5. Strengthening of Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) creating alternative sources of employment
6. Protection to women and child labourers should be provided
7. Cooperative farming needs to be implemented
8. Proper training should be given for agricultural labourers through self help group for improving the skills of farm labourers

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To Study the Temporal Variations in Land Use the Pattern in Tapi- Purna Basin at Jalgaon District

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Introduction –

Land use is any kind of permanent or cyclic human intervention on the environment to satisfy human needs and the land use capability or land suitability is the potential capability of given tract and to support different types of land utilization under given cultural and socio-economic conditions.

Land is one of the finite resources. The general land use is distributed under various categories like forest agriculture settlement waste etc. The geographical climatic economic and human factors directly affect the land use. The geographical factors that affect the land use are the types of land including terrain slop soil texture soil color altitude and drainage. The climate factors include sunshine fog temperature humidity winds cloud cover frost and precipitation. The socio economic cultural political technological and infrastructural factors affect the land use. These factors are based on land holding land tenancy irrigation and availability of technology accessibility of market agricultural inputs political interference and level of economy. The general land use is also influenced by external factors like population growth industrialization urbanization construction and development of roads the increase in railway rout etc.

Objective –

- To study the Temporal Variations in Land use the Pattern in Tapi Purna basin at Jalgaon District

Study Region :-

The tapi Purna basin in jalgaon district lies between 20⁰ and 21⁰ north latitude and 74⁰55' and 76⁰28' east longitude. It is situated in the Tapi Purna basin stretching nearly 128 km along the river and varying in breadth from 128 km to 144 km .It has an area of 11765.00 sq km constituting 3.82 % of the total area of the state. Its location is in the North West part of Maharashtra. Along the whole northern frontier the region is bounded by the satpuda ranges a mountain tract of 40 to 60 km wide. It is bordered by Madhya Pradesh state in the north. The northern western boundaries between Jalgaon and Dhule district is demarcated by Aner and Nimb rivers up to till its junction with Tapi Purna Rivers. On the eastern side the boundaries between Jalgaon and Buldhana district is demarcated by some major stream like Purna and a range of low and detached hill. The demarcation of southern boundaries between the Jalgaon and Marathwada territory is roughly mark by Ajanta Satmala and Chador range. The region share western boundaries with Nasik district over a stretch of 40 km and Dhule district about 80 km it over the major stretch only the Panjhara river being natural demarcation of the boundary.

Methodology –

The present study of general land use is examined on the basis of data referred and utilized from socio economic review. This study was covered 35 years data from 1971- 76 to 2006-2010.

This data converted in the percentage to the total geographically area in the study region. On the basis of this data land use in the study region was categorized in to various groups.

In recent days the study of land use is playing a key role in the development of lands. While studied the spatial land use pattern in the study region there are some important aspects need to study i) Net Sown Area

- ii) Land not Availability for Cultivation
- iii) Cultivable Waste
- Iv) Fallow Land
- v) Forest Area

Discussion and Result –

The table is showing the temporal variation in land use pattern in the Tapi Purna basin at Jalgaon district from 1971-76 to 2006-2010

Table no- 1 Temporal variation in land use pattern in study region

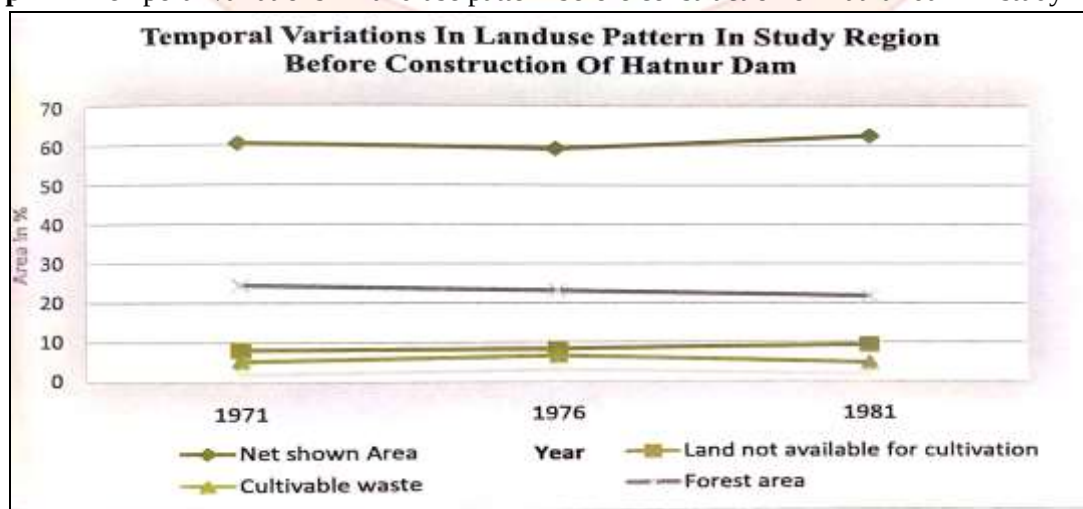
Land use Types	Land use Area Percentage							
	Before construction of Hatnur dam			After completing construction of Hatnur dam				
	1971-76	1976-81	1981-86	1986-91	1991-96	1996-01	2001-06	2006-10
Net Sown Area	60.45	59.27	62.54	60.57	60.59	61.01	59.21	62.38
Land not Availability for Cultivation	8.02	8.26	9.30	9.35	7.64	7.71	8.45	4.92
Cultivable Waste	5.19	6.55	4.68	4.61	7.59	5.23	7.28	5.05
Fallow Land	1.91	3.01	1.74	2.50	3.45	2.15	3.13	1.28
Forest Area	24.43	23.12	21.78	22.96	21.59	23.95	21.34	26.21

Source i) Calculated by Author ii) District Statistical abstract of Jalgaon 1971-76 to 2012

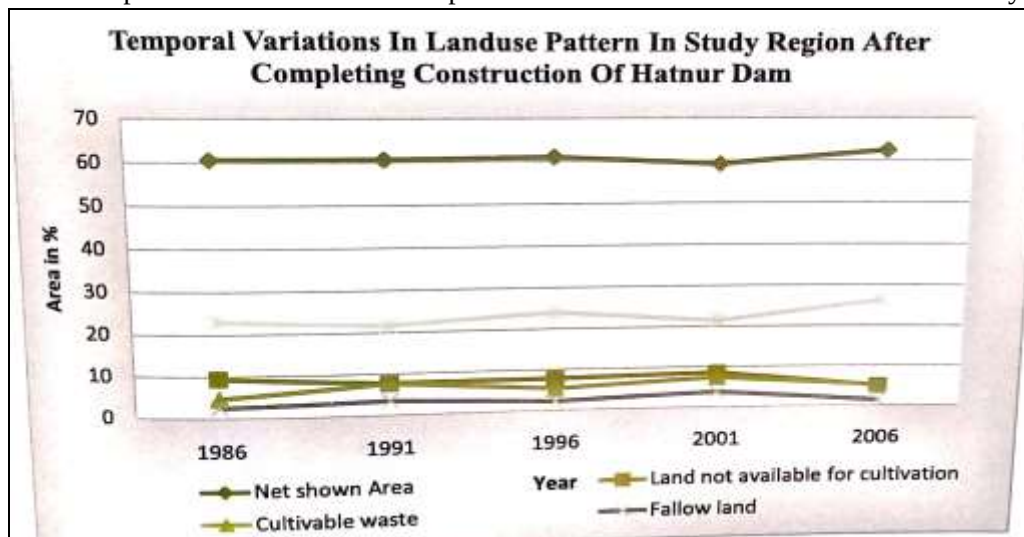
Table no 1 is showing the temporal variations of general land use in the study region from 1971-76 to 2006-2010 by 5 year difference were studied. This general land use calculated for study region included Mukatainagar, Bhusawal, Raver, Yawal, and Chopda tahsils. In 1971-76 the net sown area was 60.45 % and it has increased by 62.38 % within 35 years it was increased highest in 1981- 86 up to 62.54 %. The lowest net sown area within study period noticed 59.21 % in 2001-06. In land not available for cultivation category was moved up and down during the study period. In this category 8.02 % land not available for cultivation in 1971-76 and it has decreased to 4.92 % in 2006-10. The highest percentage was noticed in this category 9.35 % in 1986-91.

Area under cultivable waste categories 5.19 % was noticed in 1971-76 and it was quite same noticed 5.05 % in 2006-10. In the fallow land category highest percentage recorded 3.45 % in 1991-96. The forest area in the study region was increased by 1.77 % in the given time of period the forest area in 1971-76 was recorded 24.43 % and it was increased to 26.21 % in 2006-10. The lowest forest area was noticed 21.34 % in 2001-06 in the study region.

Graph – 1 Temporal variations in land use pattern before construction of Hatnur dam in study region.



Graph – 2 Temporal variations in land use pattern after construction of Hatnur dam in study region.



COVID-19: A challenge in the context of Global Environmental Health

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Abstract:

The COVID-19 pandemic, the worldwide threat has strengthened the environmental healthcare system reducing global warming, air, marine, and noise pollution due to decreased travel and production allowing the environment to slowly flourish and sustainable recovery via conservation of biodiversity to achieve Sustainable Development Goals on Climate Action, Life on Land and below water, Responsible consumption and production. But, it has negative impacts too as a consequence of discarded plastic wastes such as masks and gloves, an increase of domestic wastes, agricultural and fishery organic wastes, reduction in their recycling process in the natural environment further endangering the contamination of water, land, and air. Therefore, sound environmental stimulus measures and policies should be planned and implemented on climate change and protection of the environment through waste disposal management and its recycle, pollution management protocols, public awareness programs on Sustainable work styles and lifestyles, green recovery planning, urban environmental sustainability, Planning to combat infectious disease outbreak. This study discusses both the positive and negative effects of the coronavirus on the environment through objectives, analysis on each effect, suggestions, and conclusions. Many of us think that the virus has brought about positive environmental changes taking people's lives but it has no logical or ethical meaning because environmental well-being cannot be done making human life risky. When the pandemic is finally over, there will be a great challenge and responsibility for mankind to protect the environment of the planet from traffic, pollution, and climate change again. The worldwide economic activity will return very soon, so decreasing pollution for a while is not a permanent sustainable solution to rejuvenate the environment. Therefore, the environmental problems may last longer in the future due to the virus crisis if the world neglects its fatal impacts on the environment.

Keywords: Climate, Environment, Pollution, Plastic wastes, Sustainable.

Introduction

Generally, rapid Industrialization, transportation have increased the levels of pollution in air and water which has a further effect on people's dietary patterns, physical activities, lifestyles, directly increasing the possibility of global epidemics of obesity, diabetes, and associated diseases which have led these environmental health problems global health problems. The immense production of greenhouse gases through Industrialization due to anthropogenic activities has led to the rise of the pollution level, average global temperature of the Earth causing the melting of glaciers, rising sea levels, environmental degradation before the outbreak of the pandemic. But quarantines and social distancing during the COVID-19 has reduced the economic activity of the population, global warming, environmental hazards like air and water pollution due to which the poorest people on the planet suffer most. Therefore, every people on the earth has a responsibility towards the wellbeing of the environment so that it can be slowly flourished through biodiversity conservation along with the help of various recovery strategies such as management of toxic waste, reduction on the burning of fossil fuels, and over-consuming natural resources.

Objectives

1. To study the positive and negative effects of the coronavirus on the environment.
2. To analyze each effect in detail.
3. To find out the suggestions for the betterment of global environmental health.

Methodology

For this descriptive method of analysis, I have searched various materials, policy and media reports, blogs, surveys, and study reports, reviewed research reports and papers, journals, and news articles related to global environmental issues published mainly during April, May, in the year 2020 based on the secondary data collection process.

The utility of promoting Global Environmental Health

Global environmental health deals with the right care for the natural world in terms of protecting air, water, biodiversity, ecology, animals, and humans to build a sustainable world mitigating present needs along with taking concerns for future generations so that natural systems are treated ethically and equally by every human who is dependent upon the resources of industrialized society which is degrading at the present era of time. That's why long-term sustainability should be created to take care of the wellbeing of both the planet and its citizens.

The relation between Environment and COVID-19

Covid-19, the large-scale epidemics of the 21st century, having widespread and complex environmental and ecological impacts has come into contact with high population density and mobility through domesticated or wildlife pathogens passing from wildlife reservoirs due to hunting and consumption of wild species, wild animal trade. Therefore, the environment has become the media to spread out of the coronavirus.

Positive effects on the environment

Fresh air Quality

Air quality is highly sensitive to anthropogenic emissions by nonmethane volatile organic compounds, NO_x, PM_{2.5}, greenhouse gas emissions such as CO₂, aerosols, and SO_x emissions which have been reduced during March and April 2020 due to the reduction of transportation usage and industrial activities during the COVID-19 crisis. According to the study report published in May 2020, it is seen that the daily global carbon emissions, annual carbon emissions, and the demand for fossil fuels during this time have been decreased by 17%, 7%, and 10% respectively that has kept a good effect on the global health system.

Population

Due to the increase in the COVID-19 death rate, the population growth has slowed down. Therefore, in the future people will be more careful on this matter.

Water quality and aquatic Systems

The immediate impact has cleared the water in the canals of Venice experiencing greater water flow for aquatic systems and water resources due to the less boat traffic and tourist activities, industrial and agricultural activities, religious and cultural activities on the banks of the rivers of Ganga, Cauvery, Sutlej, and the Yamuna, etc in India during the Coronavirus lockdown in March and April 2020 making suitable for propagation of wildlife and fisheries and bathing.

Reduction in seismic noise

The reduced transport, industrial and economic activities have led to seismic noise reduction up to 50% which helps for better monitoring and detection of earthquakes and volcanic activity.

Accuracy in weather forecasts

A reduction in aircraft flights due to lockdown has helped a lot for better and accurate weather forecasts

Flourishing of wildlife and Biodiversity

Due to a reduction in fishing practice, Fish biomass has been increased as well as a reduction in fish prices and demand. Due to travel restrictions of people, some animals have been located in town areas. Sea turtles were located laying eggs at the coast of the Bay of Bengal. Also, the fatal road accidents of animals with cars have declined by up to 58% during this time.

Optimum use of food

During the lockdown, there was a vast decrease in the consumption of natural resources and other cellulosic products but the Farmers and online grocery stores are directly producing, selling organic and more local foods to the consumers who like to receive through online deliveries during the pandemic leading to less waste of food.

Negative effects on the environment

Individualization

Individualization of consumers can be expected in the transport sector in coming future leading to the use of their cars with cheap unecological gasoline, an increase in the numbers of second-hand and obsolete vehicles which will further make pollution more than the present time.

Worldwide Economic crisis

People now prefer low-carbon development and renewable energy worldwide during this crisis period. There is a huge fall in prices for non-renewable energy resources such as oil, gas, and coal. The economic crisis and the worldwide increase in public budget deficits have led to giving less attention to sustainable development, implementation, and combating climate change in most countries of the world.

Risk in Crisis of water

Due to the rapid increment in handwashing to maintain hygiene and cleanliness, there can be a huge crisis of water in near future.

Risk of the natural ecosystem

The protected species in the natural ecosystem are at risk because the workers working at national parks and marine conservation zones left them unmonitored as well as stoppage of ecotourism activity lead to a great risk of illegal deforestation, fishing, and wildlife hunting. For example, a view of deforestation was seen from a satellite image for the Amazon rain forest during the pandemic.

Risk of Methane emission

Although the carbon emissions declined during the pandemic, methane, which is a more potent greenhouse gas than carbon dioxide, continued to rise from livestock.

Dumping of wastes

Discarded plastic wastes such as masks and gloves, an increase of domestic single-use packaging during online food order and medical wastes, agricultural and fishery organic wastes in the natural environment will further endanger the contamination of water, land, and air.

Impacts on Politics and Global Affairs

The pandemic has also impacted environmental policy and climate diplomacy by postponing the 2020 United Nations Climate Change Conference limiting the ability to develop nations with low state capacity to strengthen the economic and environmental policies on a global scale.

Reduction in the waste recycling process

Recycling is a process to prevent pollution, save energy, and conserve natural resources. As a result of the pandemic, the USA and Italy have stopped recycling programs. In India, the Central Pollution Control Board (CPCB) has issued guidelines on the collection, handling, disposal, labeling over the COVID-linked biomedical waste to build a sustainable environment.

Sustainable measures

- We have to give importance to Future-proofing sustainable recovery through sound environmental responses, plans, and policies.
- Management of Medical Waste should be done in collaboration with relevant UN and other organizations in developing countries through the recycling system identifying challenges and proposing solutions.
- Caring for healthy environments is an integral and important part of sustainable development. Respiratory illnesses caused by high levels of air pollution may be dangerous for Individuals infected with COVID-19. When this crisis will be over, non-motorized transport such as cycling, walking, and alternative working arrangements as well as battery and hydrogen technology should be promoted as sustainable solutions in large cities so that pollution which can cause a high risk for serious illness and premature death, can't reach its critical limit. The environmental burden of disease risk for poor peoples should be improved by reducing biomass burning and providing clean water and sanitation.
- The severe destruction of wild habitats through unsustainable farming, mining, and housing by humans leads to direct animal-human interaction and spread out of diseases easily. Therefore, we should develop biosafety and biosecurity policy along with regulatory measures to save the habitats of the Life on Land (SDG Goal 15).
- We should protect natural marine, coastal and freshwater ecosystems, and their biodiversity to stop ocean warming, ocean acidification, and widespread pollution to stop eutrophication through safe chemicals and waste management to protect the Life below water (SDG Goal 14).
- Remote work should be rapidly introduced across the world leading to substantial changes in lifestyles and workstyles to maintain a work-life balance. Attention must be given to protect the environment and natural resources on which many rural and coastal populations such as government stakeholders, MSMEs, independent

producers, women entrepreneurs, and civil society rely on in the production of BioTrade, forestry, and fishery products and ecotourism services to fully maintain their livelihoods. Unsustainable production and consumption have led to a degradation of natural resources, disruption of ecosystems, environmental health issues, and diseases. Closed borders, availability of commodities, and confinement have changed a remarkable lifestyle worldwide. Therefore recovery policies should be implemented for sustainable and resilient economies on sustainable food and agriculture systems, and lifestyle choices through responsible consumption and production (SDG Goal 12).

- Green economic recovery plan and actions should be promoted to build a more sustainable, resilient, and inclusive society which will manage similar crises in the future collaborating with various international partners.
- Holistic sustainable development at the regional level through integrated efforts and the regional circulating and ecological spheres (Regional-CES) should be promoted to achieve social, economic, and environmental targets, resource flows, economic recovery, and collective resilience. The planned stimulus package should be planned to boost up renewable energy transitions and energy resilience.
- Sound Urban Environmental Measures in Developing Countries should be adopted by international cooperation with local governments to manage environmental sustainability and urban resilience to eradicate the risk of coronavirus in urban cities where it can spread out easily through shopping, unsustainable production and consumption patterns, primary sources of environmental pollution, dumping of municipal waste and plastic bags.
- The climate crisis such as global warming has its long-term effects which are threatening to mankind so plans should be geared up through embracing renewable energy and green technology, announcing green fiscal stimulus packages, and financing for decarbonization for climate stability to build a strong economy to meet the SDG Goal 13 of Climate Action. Measures for Climate Adaptation Planning should be implemented by the IGES with its relevant partners because climate change is an important factor contributing to the rise in infectious diseases like COVID-19 in developing countries.
- Both international and domestic sustainable and resilient policies and practices should be promoted to combat the pandemic to control global risks of massive socio-economic impacts such as disruptions of global supply chains and the collapse of global sustainable tourism.

Conclusion

Many of us think that the virus has brought about positive environmental changes taking people's lives but it has no logical or ethical meaning because environmental well-being cannot be done making human life risky. Within a few months, the world will go back to a normal life (called a new normal). When the pandemic is finally over, there will be a great challenge and responsibility for mankind to protect the environment of the planet from traffic, pollution, and climate change again. The worldwide economic activity will return very soon, so decreasing pollution or other environmental crisis for a while temporarily is not a permanent sustainable solution to rejuvenate the environment. COVID-19 has produced both positive and negative impacts on the environment, but the latter may last longer in the future due to the virus crisis if the world neglects its fatal impacts on the environment. Therefore, global economic activity, environmental sustainability, healthy societal consumption patterns should be boosted up to reduce environmental degradation in a future crisis-free world.

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Geographical Study of the Demographic Characteristics of Pune District between 1991 and 2011

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Abstract

The population of any region is considered a resource for that region. Due to the nature of population resources is different from any other natural resource. So, every country is aware of its human resources. They collect and update information on socio-economic characteristics such as population distribution, density, literacy, and sex-ratio. Because based on this information, it becomes easier for the citizens to announce as well as carry out various government schemes. Geographical factors have a major impact on various characteristics of the population. So, these features change as the geographical situation changes. The western part of the Pune district is remote as it is adjacent to Sahyadri. There is no transportation ease. Also, the rainfall is high, but there is not enough flat land available for farming. In contrast, the eastern region is flat, but receives less rainfall. In present research paper tries to understand, what is the difference in the socio-economic characteristics of the population of such different regions during 20 years from 1991 to 2011

Keywords: population density, sex-ratio, literacy, GIS

1. Introduction

The population is an important factor in the development of a country. Population The nature of this resource is different from any other natural resource. Because the importance of natural resources is hidden in its number. But in case of population is not in numbers but its qualitative form. Population density, age-sex ratio, literacy, SCs, STs, per capita income are the socio-economic characteristics of the population. The nature of the population changes according to these socio-economic characteristics. These characteristics of the population are greatly affected by geographical conditions. Therefore, the nature and distribution of the population vary according to different geographical conditions. The system of government in each country collects information on the various forms of socio-economic characteristics of the population. Based on this information, what is the actual working population, i.e. how many jobs are needed in the country? Or what is the proportion of dependent people in the country? Or how fast can the population growth in the next decade? It is possible to discuss several such questions and decide based on which new schemes should be implemented. Does the present research show any difference in the characteristics of the population over time in regions with two different natural structures, mountainous and plain? An attempt has been made to study this.

2. Objectives

- i. To examine the demographic characteristics between 1991 and 2011.
- ii. To identify the effect of physiography on demographic characteristics.

3. Methodologies and Data base.

This research is based on Census 1991 and 2011 data. Apart from this, Arc GIS and Microsoft-Excel were used for mapping. Digitized the Village Boundary with the help of SOI toposheets and census. The spatio-temporal results are shown through various cartographic as well as statistical techniques.

4. Study Area.

Pune district has been selected for present study. The Pune district lies between 17° 54' N to 19° 24' N latitude and 73° 19' E to 75° 10' E longitude. The total geographical area of the Pune district is 15,642 sq.km. (fig. 1). The district consists of 14 tehsils namely, Ambegaon, Baramati, Bhore, Daund, Haveli, Indapur, Junnar, Khed, Mawal, Mulshi, Pune City, Purandar, Shirur, and Velhe. According to the 2011 census, Pune district has 14 tehsils having 35 towns and 1877 villages (fig. 2).

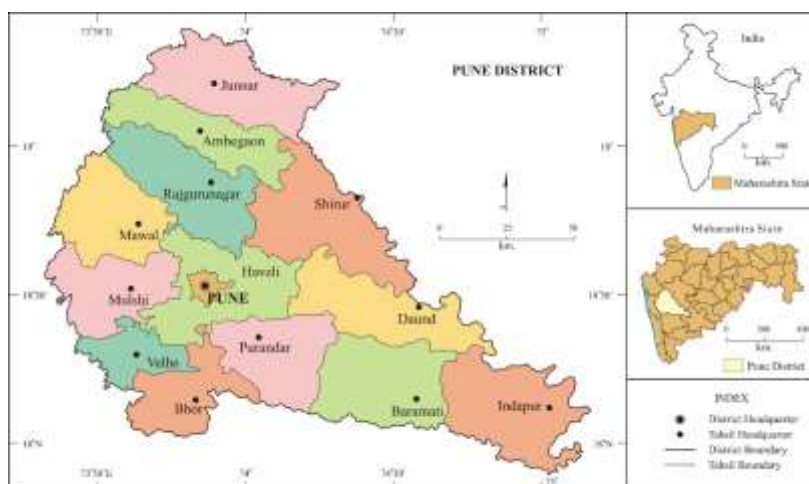


Figure 1.: Location Map of Study Area

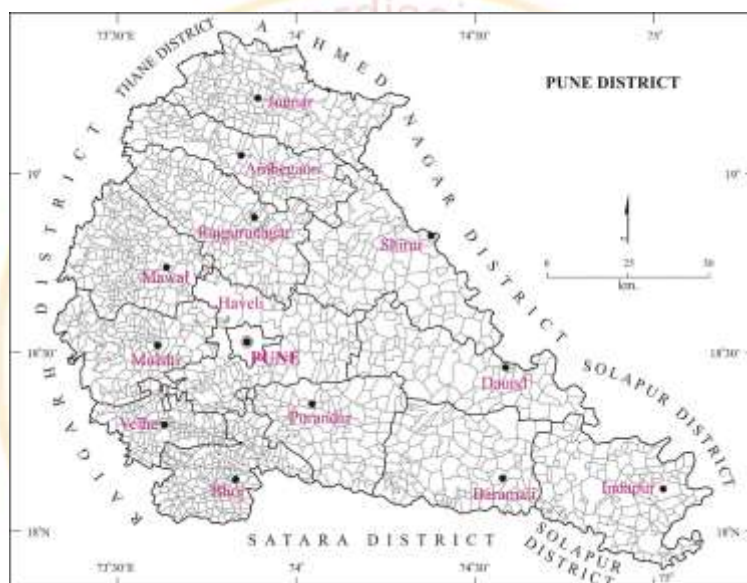


Figure 2.: Village boundaries of Study Area

Source: Census 2011

On the basis of elevation Pune district is divided into three physical divisions namely,

- i) Western Ghat Zone or Ghatmatha (> 900 m)
- ii) Transition Zone or Mawal (600 – 900 m)
- iii) Eastern Low Land Plateau Zone or Desh (< 600 m)

The study area is a part of Bhima basin. Its drains by the Bhima River. Ghod, Bhama, Indrayani, Vel, Mula-Mutha and Nira rivers are the main tributaries of Bhima River. The study area has tropical monsoon climate. The year is generally divided into summer, winter and monsoon seasons. The summer is moderately high and temperature varies from 36° to 42° C. From March onwards is a period of continuous rise in temperature and May is generally the hottest month of the year. With the onset of the monsoon there is an appreciable drop in temperatures. The average annual rainfall in the district is 722 mm. Due to uneven topography, rainfall is unevenly distributed in study region. This clearly shows that the amount of rainfall in the study region goes on decreasing from west to east. Evergreen dense forests, deciduous forests and dry forests are distributed in the study area. The western and north-western mountainous ranges have densely covered with forest while the density of the forest cover gradually decreases and plants and shrubs are found on the eastern part of the Pune district.

5. Growth and Distribution of Population.

According to Census 1991, there were 53,81,434 populations in Pune district and population has increased up to 94,29,408 in 2011 (table 1). In the last two decades the growth rate was almost 43 per cent. Due to the migration of people for employment, education and other purposes district shows high growth rate. Pune city has highest population of 33,04,888 and Velhe tehsil has lowest population of 54,516 in Pune district. The average growth rate of Pune district is 42.93 per cent. With the value of 80 per cent the Haveli tehsil shows highest growth rates in Pune district. Except Mawal tehsil, the remaining 12 tehsils have growth rates below the district average. Velhe have no urban areas in tehsil and shows only one per cent growth rate. Pune city is the most urbanized tehsil with 32,74,923 being urban, while Bhore, is the least urbanized with 18,453 populations in urban areas.

Table 1: Tehsilwise Population of Pune District (1991- 2011)

Sr. No.	Name of Tehsil	1991	2011
1	Junnar	3,01,110	3,99,302
2	Ambegaon	1,91,326	2,35,972
3	Shirur	2,25,210	3,85,414
4	Khed	2,75,595	4,50,116
5	Mawal	1,48,452	3,77,559
6	Mulshi	1,25,384	1,71,006
7	Haveli	4,87,299	24,35,581
8	Pune City	24,93,987	33,04,888
9	Daund	2,30,641	3,80,496
10	Purandar	1,56,326	2,35,659
11	Velhe	53,968	54,516
12	Bhor	1,45,338	1,86,116
13	Baramati	2,71,706	4,29,600
14	Indapur	2,75,092	3,83,183
Pune District		53,81,434	94,29,408

Socio-economic Abstract, Pune District, 2013-14.

6. Results and Discussion

For the purpose of examination, the demographic characteristics, we conduct village-wise analysis of various aspects of demographic study such as density, sex-ratio, literacy and population of Scheduled Tribes.

6.1 Density

The density of population (fig. 3) in Pune district is recorded 603 person per sq. km. The Pune city tehsil has recorded the highest density of the population (19,728 sq.km.). The lowest population density is recorded in Velhe tehsil (110 sq. km.). The density of rural area of Pune district was 212.21 person per sq.km. in year 1991. This value increased to 244.98 in 2011.

Figure 3: Density of Population (1991 and 2011)

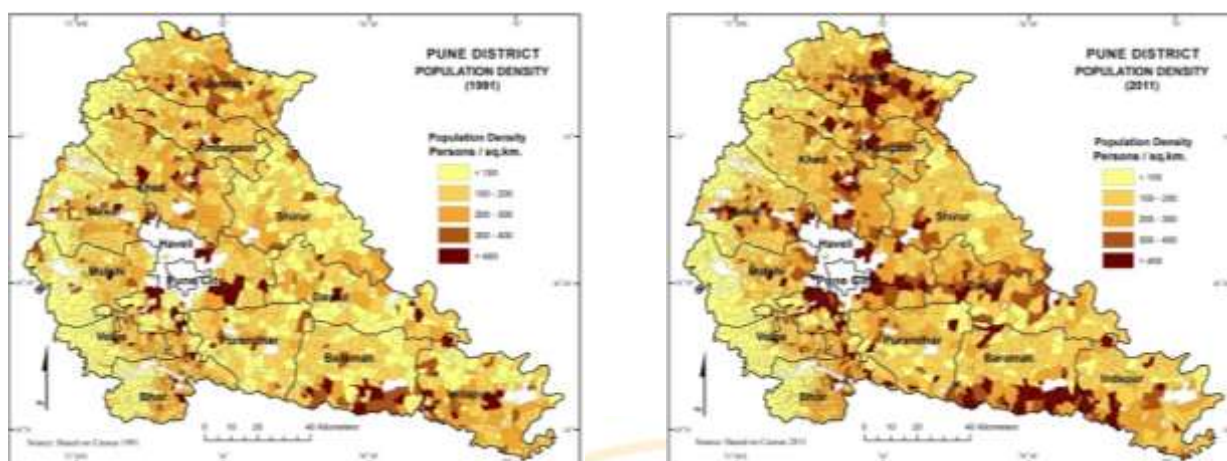


Table 2: Demographic characteristics of Pune District (1991 – 2011) – Density

Sr. No.	Density (person/s q.km.)	1991		2011	
		No. of Villages	Percentage	No. of Villages	Percentage
1	< 100	529	28.18	401	21.36
2	100 – 200	736	39.21	677	36.07
3	200 – 300	367	19.55	425	22.64
4	300 – 400	128	6.82	180	9.59
5	> 400	117	6.23	194	10.34
	Total	1877	100.00	1877	100.00

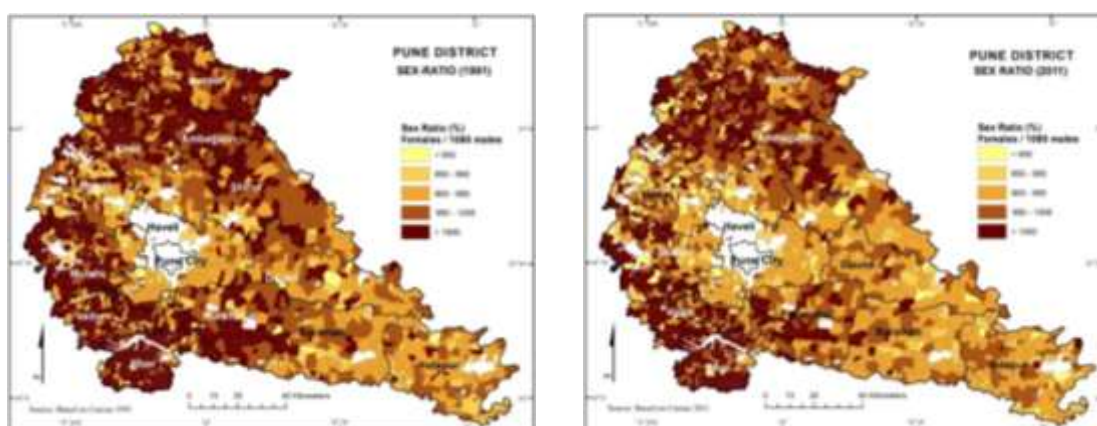
Source: Census data 1991, 2001 and 2011.

Table 2 shows that, the villages with low density are decreases with time and high-density villages are increases. It means that there is increase in rural-urban migration over the time and process of urbanization of village is also at high level.

6.2 Sex Ratio

Sex ratio is the best indicator of any social progress. Though it is physical characteristic of population but it is depending upon the social development. The sex ratio of the District is 915 females per 1000 males which is lower than 929 at State level. Sex ratio varies from 850 in Haveli Tehsil to 982 in Velhe Tehsil. In the rural area, sex ratio is 932 within the Pune District (fig. 4).

Figure 4: Sex Ratio (1991 and 2011)

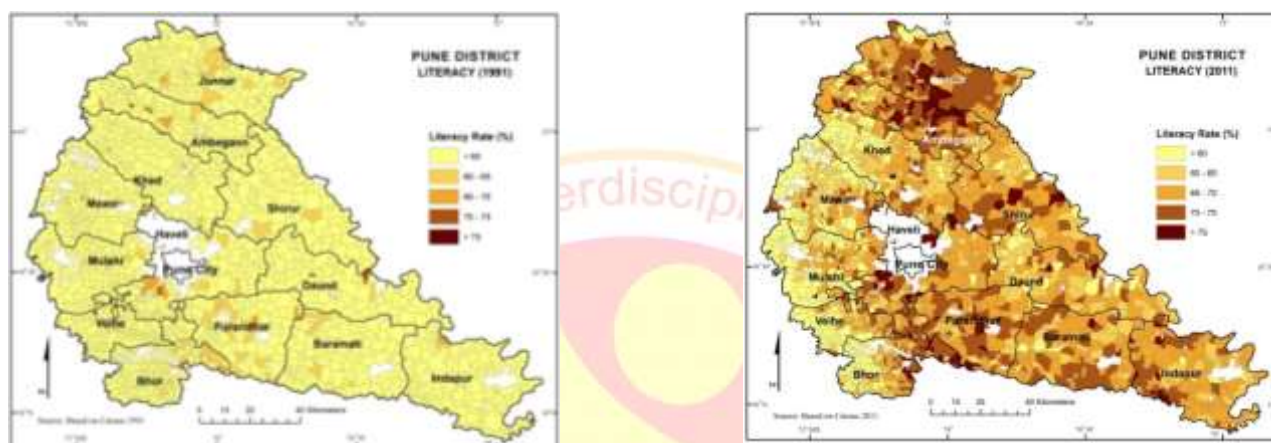


The fig. 4 shows that western region especially north-western and southern part of district along the Western Ghat sex ratio is much higher than the south-eastern region. In 2011 the percentage of high sex ratio is decreases but still in western region it is high. The increased number of low sex ratio villages also indicates the migration and urbanisation processes are active.

6.3 Literacy

Literacy is the main factor, on which the social development is depending. In rural areas of the District, literacy rate is 80.98. Junnar Tehsil has highest literacy rate as 90.64 per cent whereas Velhe tehsil recorded lowest as 75.96 per cent.

Figure 5: Literacy (1991 and 2011)



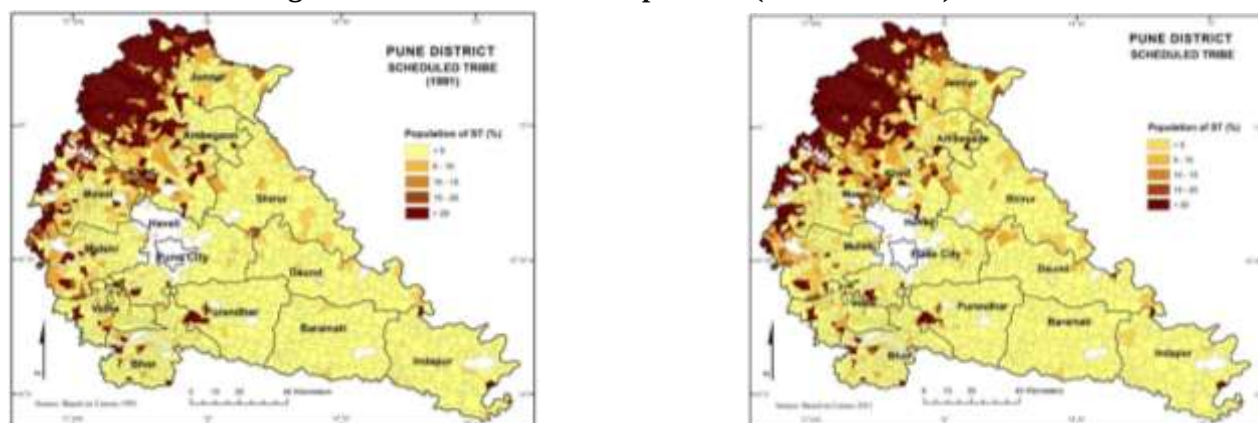
The level of development achieved by society is indicate through the level of education and Literacy. Expansion of literacy promotes modernization, urbanization, industrialization, communication and commerce and also plays a role in development of economic and social conditions. In social upliftment in term of enhancing the population control, health, hygiene, environmental degradation and employment generation, literacy acts as a catalyst. Educational progress is a major factor in the social and economic transformation of society. Education creates skilled and efficient workers, they increase employment opportunities, in such areas. Education has also played an important role in regional development.

Figure 5 shows that there is tremendous growth in literacy between 1991 and 2011. The government has started the Sarva Shiksha Abhiyan aimed at increasing the quality of education and spreading education across the society. It provided minimum pre-primary or primary education facility in every village. Plans like providing free education for girls to get education are implemented. At least one such school is available in 98 per cent villages of the study area.

6.4 Schedule Tribes

Tribal population may play an important role in rural tourism, because they have unique cultural feature, folk dance etc. In Pune district most of the tribal population is lives along the Sahyadri mountainous region. Junnar, Ambegaon and Khed are the main tehsils having more than 50 per cent tribal population in district (fig. 6). There is not much difference in ST population of 1991 and 2011.

Figure 6: Scheduled Tribes Population (1991 and 2011)



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Digital Marketing - Social Media Surges Economic Growth: A Perspective

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Abstract:

Changes are inevitable; cut throat competition has shrunk the profit margin but the monopoly. To take the product/services at global level, traditional approach is not enough, we look for innovative and creative idea to reach millions to register our product/services in their mind, technology (digital) helps to take a big leap in the world of digital media. Technology companies have come up with novel idea of connecting the people. Users started registering and getting connected with others having same interest, demography and various professions/hobbies. This networking ultimately expanded in to a huge circle, a big family with different taste and interest. Now, using such a huge network, to penetrate the brand and idea of promoting the product/services or feedback or demand or quality or need or want of the people came in existence. Showing their needs and wants made the supplier to rethink about their product and services and in turn it has immensely increased the brand value, goodwill and most important the bigger customer base and customer loyalty. This is a platform for any individual or SME or corporate to present new ideas and reach to millions with not much investment as compare to traditional approach, which is much more expensive affairs.

Keywords: Social Media, e-Economy, Growth factor.

Introduction

The rise in price of magazines and newspapers would be not economically viable at all. This would necessarily reduce the quantity sold to practically zero. Same applies to broadcast television and other media. If social media network sites start charging users, probably millions of users will close their accounts or will never pay. Free account policy by social media garnered millions of users. Greater numbers of advertisers willing to engage them and the more those advertisers are willing to spend Using advertiser support model. The advantages of social media are that it gets a global audience and considered cheaper than traditional advertisements. It has changed the consumers buying behaviour because of the choices available and access to information, which guides them in their buying process. In a country like India, social media has become a driving force in the modern economy where it has changed the whole concept of online marketing Social media has emerged as the key factor to change the dominant position of established markets by creating new markets by word of mouth information, customer empowerment and rating platforms. Influence of social media in India has not reached the top yet but in the coming years when the economy, society and cultures adopt the full potential of social media there will be large-scale influence on the economy of India.

Literature Review

Since the inception of the internet and integration of email technology into our personal and work lives, our ways of communicating began to change. However, it was not until the creation of social media interfaces the term social media technology (SMT) refers to web-based and mobile applications that allow individuals and organizations to create, engage, and share new user-generated or existing content, in digital environments through multi-way communication. Despite the widespread use of SMT, little is known about the benefits of its use in postsecondary contexts and for specific purposes (eg. Marketing, recruitment, learning and/or student engagement)

Objectives

1. To understand importance of social media
2. How social media deals with their business partners
3. How business partners reaches to millions of potential customers

Inception

Social media has come a long way since the days of BBSs and IRC chats and continues to evolve on a daily basis, with progress in user base, social media sites making changes and improvements on an almost daily basis. "Social networking" has been around forever. It's the simple act of expanding the number of people you know by meeting your friends' friends, their friends' friends and so on. As always, growth has always been a number game, use of technology (internet) by individuals and corporate users have been increased by leaps and bound, potential of increase business also increased equally. One of the best way to link (get connected) to individual or groups or corporate or association or industry is through social/professional networking sites.

Valuable Social Media Content

Industry specific news / articles, educate and inform customers Testimonials / reviews / opinions from industry experts, increase brand awareness of services Best practice guides from other companies and improve customer service News articles about other companies and monitor brand reputation.

Revenue Model

The goal is to increase sales and branding with the help of social media. Social media is not the platform and does not give much traffic but sign-ups and sales conversions. Ultimate goal for any business should be either to educate, to entertain or to empower them. One may hate to invest on social media network sites, but will sure impact your business especially if start-up or small business. People always need a change, consistent testing and experiments are necessary once you use them. People love contest and free stuff, by creating a contest for your followers will give higher engagement scores and activity. Showing gratitude and enthusiasm on appreciation will have more fruitful relationship and loyalty. Distributing coupons on like and comment, it has been found out that more than 42% of fans like a page to get a coupon or discount. Engaging and talking with your community will definitely build a strong relationship, trust and loyalty.

Disadvantages Of Social Media

As it has gain popularity, faced with growing controversy and criticism. Optional usage of security policy like hiding personal data (good idea for professional profiles) is a boon for stalker to track their victim. The perils of social media technology – students spend far too much time on non-academic activities related to the internet and social media The speed with which news can travel and inaccurate myths spread as a result of inaction can often have a lasting and damaging effect.

Future Of Social Media

It's always been ticking in our mind What Next?. Will it be the accepted as communication tools of the future? Sustainability of social networking is highly unpredictable due to users' online actions and behaviours but social media is not a phase and likely won't go away soon till revolutionary change and creativity

Recommendations While Working With Social Media

Presence of every business is must for the growth as well as recognition of the organization / community/ individual via Social Media Network. Social Network is not decay and useless, but part of the routine life (aids to businesses) and without it, all your activities are in isolation.

1. Leverage your existing website traffic by putting social media icon, which redirects to your social media pages.
2. Use your e-mail signature to display your Face book Fan Page URL.
3. Send out an e-mail blast to let your audience know that your business exists on Face book
4. Promote your Face book page in-store.
5. Determine the best days to post.
6. Create and schedule status updates.
7. Use Plugins to easily grow your followers.
8. Use Social media ads to help you achieve the results you want to have for your business.
9. Think outside the box and create a Social media contest.
10. Develop a reveal page for coupon, discounts, and any other exclusive deals.
11. Integrate social media sharing buttons on your website pages.
12. Engage with your fans and current community.
13. Engage with other Social media Pages.

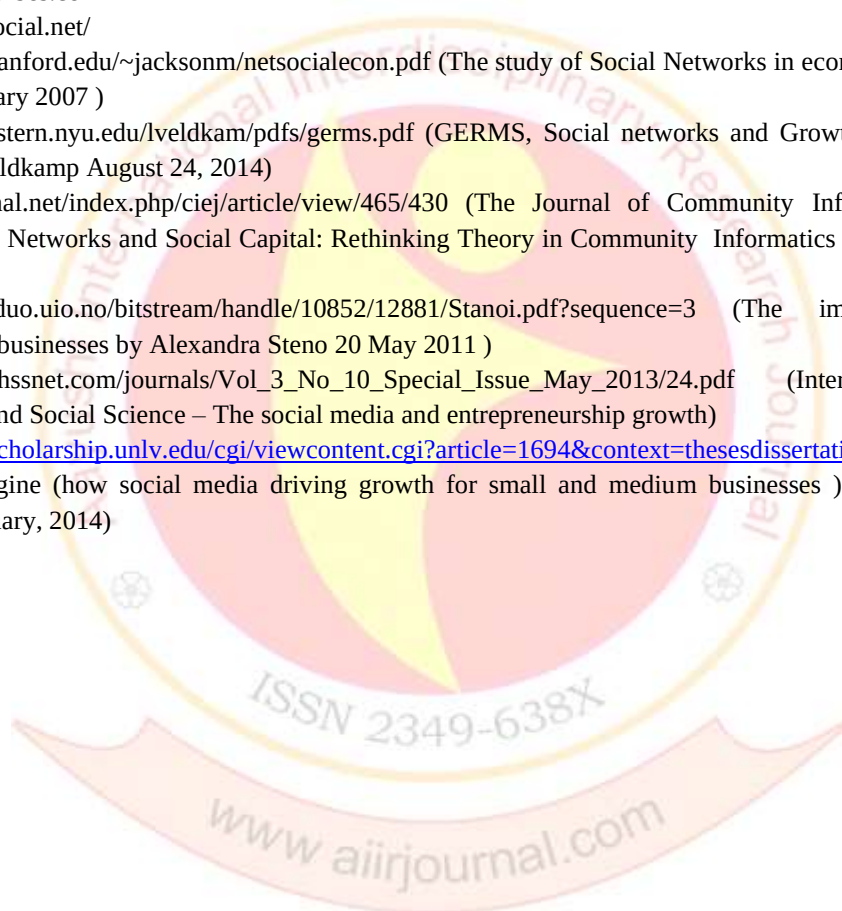
14. Use image and videos on your status updates.
15. Create or join Social media groups

Conclusion

'The key question is not whether to deploy Internet technology – companies have no choice if they want to stay competitive – but how to deploy it.' – By Michael Porter Indians are very active on different social networks and 88% of users share content on their social profiles. Social media has become a driving force behind every changes happening in the modern world. Technology has brought all community, industry and specific interest group much nearer with great influence of so called 'Social Media Network'. Reaching to almost every individual was not possible due to geographical and socioeconomic factors.

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Motives and Regulations of Buyback of Shares in India

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Introduction:

Buyback or share repurchase to return capital to share holders has as summed significance in 1980s in US and in Canada, U.K., Germany, Taiwan, Hong Kong and Japan which earlier prohibited stock purchase. In our country, buyback assumed importance in the course of the takeover debate during 1995-97 where it is considered as a legitimate method of defence by companies facing hostile takeover.

The Indian corporate sector, in its attempt to be contemporary with international practices, had been clamouring during the recent past few years for legislation permitting buyback of shares. Competitive forces with the unleashing of the liberalisation policies have made corporate restructuring a sine-quo-non for survival and growth. Operational, financial and managerial strategies are employed to maintain competitive edge and turnaround a sickened performance. Financial restructuring involves Internal or External restructuring (i.e. Mergers and Acquisitions). In the internal restructuring an existing firm undergoes through a series of changes in terms of composition of assets and liabilities. With the purpose of making the market optimistic and allowing more flexibility to the corporate in regards to managing their capital structure, Union Government on Oct 25th, 1998 passed the buyback ordinance. And later on the buyback norms were announced by the SEBI on November 14, 1998. The concept of buyback which is widely used in the US and the other developed countries, will now enable the Indian companies to catch up with other developed markets as part of the governments moves to liberalise the local market and hence emerged the concept of Share Buyback in the Indian Corporate scenario.

Why companies buyback? Motives or Objectives of buyback

Shares may be bought back by the company on account of one or more of the following reasons.

- 1) **Return of Unused Cash:** If they have huge cash reserves with not many new profitable projects to invest in and if the company thinks the market price of its share is undervalued. Eg. Bajaj Auto went on a massive buy back in 2000 and Reliance's recent buyback. However, companies in emerging markets like India have growth opportunities. Therefore applying this argument to these companies is not logical. This argument is valid for MNCs, which already have adequate R&D budget and presence across markets. Since their incremental growth potential limited, they can buy back shares as a reward for their shareholders.
- 2) **Tax Gains:** Since dividends are taxed at higher rate than capital gains companies prefer buyback to reward their investors instead of distributing cash dividends, as capital gains tax is generally lower. At present, short-term capital gains are taxed at 10% and long-term capital gains are not taxed.
- 3) **Market perception:** By buying their shares at a price higher than prevailing market price company signals that its share valuation should be higher. Eg: In October 1987 stock prices in US started crashing. Expecting further fall many companies like Citigroup, IBM et al have come out with buyback offers worth billions of dollars at prices higher than the prevailing rates thus stemming the fall. Recently the prices of RIL and REL have not fallen, as expected, despite the spat between the promoters. This is mainly attributed to the buyback offer made at higher prices.
- 4) **Exit option:** If a company wants to exit a particular country or wants to close the company.
- 5) **Escape monitoring of accounts and legal controls:** If a company wants to avoid the regulations of the market regulator by delisting. They avoid any public scrutiny of its books of accounts.
- 6) **Show rosier financials:** Companies try to use buyback method to show better financial ratios. For eg. When a company uses its cash to buy stock, it reduces outstanding shares and also the assets on the balance sheet (because cash is an asset). Thus, return on assets (ROA) actually increases with reduction in assets, and return on equity (ROE) increases as there is less outstanding equity. If the company

earnings are identical before and after the buyback earnings per share (EPS) and the P/E ratio would look better even though earnings did not improve. Since investors carefully scrutinize only EPS and P/E figures, an improvement could jump-start the stock. For this strategy to work in the long term, the stock should truly be undervalued.

- 7) **Increase promoter's stake:** Some companies' buyback stock to contain the dilution in promoter holding, EPS and reduction in prices arising out of the exercise of ESOPs issued to employees. Any such exercising leads to increase in outstanding shares and to drop in prices. This also gives scope to takeover bids as the share of promoters dilutes. Eg. Technology companies which have issued ESOPs during dot-com boom in 2000-01 have to buyback after exercise of the same. However the logic of buying back stock to protect from hostile takeovers seems not logical. It may be noted that one of the risks of public listing is welcoming hostile takeovers. This is one method of market disciplining the management. Though this type of buyback is touted as protecting over-all interests of the shareholders, it is true only when management is considered as efficient and working in the interests of the shareholders.
- 8) **Safety Value:** Buyback by being an effective alternative to disburse excess cash insures that a management is not tempted to plough the surplus cash in risky and unrelated businesses, where the management does not have the required competencies. This way it safeguards against the agency costs of free cash flows. Since for some managers, the perks of managing larger, more influential organisations may outweigh the benefits of having satisfied shareholders.
- 9) **Restructure the equity base:** When a company tries to finance its new ventures it is hesitant to do so through shares repurchase. As one raising equity depresses share-values, and second compels the company to service the new capital. With the buyback as an alternative, they can now fund capital-intensive projects with equity, which can be shrunk later. For example, the Rs 1,706 crore National Aluminium Company's (Nalco's) equity base of Rs. 1,268 crore results in a Sales- to-Equity ratio of only 1.34 while the Rs 1,466 crore Hindalco's equity capital of Rs 75 crore translates into a Sales-to-Equity ratio of 20. As a result NALCO can use the buyback as an option. Through the extent to which a corporate can de-capitalise itself will depend on its free reserves and its post-buyback Debt-to-Equity ratio allowed by the regulations.
- 10) **Boost the share value:** When your company's shares are quoting below their intrinsic value a buyback can send signals out that they are undervalued. This is typically true for the firms that have a high book-to-market ratio. Statistical studies in the US-where \$ 150 billion of buyback was announced in 1996-show that stocks soar after such announcements, and continue to rule high for a long time. Also these were the corporations, which announced a large offer-at least 15 per cent of the equity capital- at an attractive price; at least 25 per cent more than the ruling market. For these corporations, Return on Net worth (RONW), EPS and book value also rose. Further, when a flagship company opts for the buyback, the impact can be also be felt across the group; the market values of its sister companies rise too.
- 11) **Low market capitalisation:** If a company is quoting at a low price on the stock market, it can delist itself cheaply through a buyback, and re-issue its shares at a higher price later.
- 12) **To improve the bottom line:** In the case of profit making, high dividend paying companies whose share prices are languishing, buybacks can actually boost bottom lines. Now, dividends are cash outflows, and also attract a 10 per cent tax. A buyback, and the subsequent neutralisation of shares, can reduce dividend outflows, and if the opportunity cost of funds used is lower than the savings on the dividend and the dividend taxes, the firm can actually see an increase in its bottom line.
- 13) **Protect the creditor:** The takeover code allows the promoters to acquire up to 5 percent equity every year, but that would soak of a promoters own money or his subsidiary funds. This root of creeping acquisition is also littered with hurdles; the share holders of the acquiring companies may vote against the acquisition, realising that there is nothing in it for them. But when a company purchases its own shares in a transparent manner, the non promoter share holders are bound to support the move since they also stand to gain. It can also work as a counter offer or a competitive bid in a situation when a

management passes a situation to purchase shares at a maximum price, which the creditor can never match.

- 14) **ROCE:** The simplest bench mark one can use to see if a buyback adds value is to compare the ROCE (Return on Capital Employed) of the company with its cost of debit. If a company has a ROSE in excess of its cost of debit, it makes since for the company to take debit and buyback its equity this is neither a sufficient condition in itself or for that matter a necessary condition. But ignoring all other factors for the movement this is the best criterion to judge if a buyback adds value or not.
- 15) **Optimal Leverage Ratio Hypothesis: Repurchases and Capital Structure Policy** when the firm distributes its capital, it reduces its equity and increases its leverage ratio. Thus, assuming that an optimal leverage ratio exists, firms may use a stock repurchase to achieve this target ratio. The companies can also use repurchase mechanisms to adjust their leverage, if the fixed tender mechanisms giving the maximum effect and the open market being used for the fine-tuning.
- 16) **Management Incentive Hypothesis: Repurchases and Compensation Policy** by absorbing equity, a stock repurchase not only alters the firms leverage ratio, but it also allows the manger of the firm to distribute cash without diluting the per share value of the stock. Preserving the stock price may be of particular interest in a scenario where management holds stock option. This however is of less consequence in Indian scenario where there are no treasury stocks.
- 17) **Substitute for Dividends:** A repurchase may be prepared to dividends for two reasons. First, in open market repurchases (the most prevalent type), the firm does not have a commitment to repurchase. Additionally, unlike a dividend, there is no expectation that the distribution will recur on a regular basis. Thus, a repurchase is a more flexible menace of distributing capital since a penalty is incurred if dividend distributions are subsequently reduced. Firms may therefore choose to repurchase to distribute excess capital.
- 18) **Offset dilution:** firms could also announce buying of shares to offset the “dilution” which comes in due to the execution of the employee and executive stock options incentive schemes.
- 19) Sometimes **Governments nationalize the companies** by taking over it and then compensates the shareholders by buying back their shares at a predetermined price. Eg. Reserve Bank of India in 1949 by buying back the shares.

Infact the best strategy to maintain the share price in a bear run is to buy back the shares from the open market at a premium over the prevailing market price.

The Provisions of buyback

The provisions regulating buy back of shares are contained in Section 77A, 77AA and 77B of the Companies Act, 1956. These were inserted by the Companies (Amendment) Act, 1999. The Securities and Exchange Board of India (SEBI) framed the SEBI(Buy Back of Securities) Regulations,1999 and the Department of Company Affairs framed the Private Limited Company and Unlisted Public company (Buy Back of Securities) rules,1999 pursuant to Section 77A(2)(f) and (g) respectively. Prior to this amendment, a company could not purchase its own shares because it would have amounted to reduction of its share capital without permission of the court. The Securities and Exchange Board of India [SEBI] has issued SEBI (Buy back of Securities) Amendment Regulations, 2013 [hereinafter referred to as "New Regulations"] vide notification **No. LAD-NRO/GN/2013- 14/16/6348 dated 8th August, 2013** amending the existing SEBI (Buy back of Securities) Regulations, 1998 [hereinafter referred to as "Regulations"/ "Old/Earlier Regulations"].The Governing Sections of Companies Act 2013 are68, 69, and 70.

Resources of buyback

A Company can purchase its own shares from:

- i. **Free reserves:** Where a company purchases its own shares out of free reserves, then a sum equal to the nominal value of the share so purchased shall be transferred to the capital redemption reserve and details of such transfer shall be disclosed in the balance-sheet or

- ii. Securities premium account; or
- iii. Proceeds of any shares or other specified securities. A Company cannot buy back its shares or other specified securities out of the proceeds of an earlier issue of the same kind of shares or specified securities.

Conditions of buyback

1. The buy-back is authorised by the Articles of association of the Company;
2. A special resolution has been passed in the general meeting of the company authorising the buy-back. In the case of a listed company, this approval is required by means of a postal ballot. Also, the shares for buy back should be free from lock in period/non transferability. The buyback can be made by a Board resolution If the quantity of buyback is or less than ten percent of the paid up capital and free reserves;
3. The buy-back is of less than twenty-five per cent of the total paid-up capital and free reserves of the company and that the buy-back of equity shares in any financial year shall not exceed twenty-five (25%) per cent of its total paid-up equity capital in that financial year;
4. The ratio of the debt owed by the company is not more than twice the capital and its free reserves after such buy-back;
5. There has been no default in any of the following:
 - i. In repayment of deposit or interest payable thereon,
 - ii. Redemption of debentures, or preference shares or
 - iii. Payment of dividend, if declared, to all shareholders within the stipulated time of 30 days from the date of declaration of dividend or
 - iv. Repayment of any term loan or interest payable thereon to any financial institution or bank;
6. There has been no default in complying with the provisions of filing of Annual Return, Payment of Dividend, and form and contents of Annual Accounts;
7. All the shares or other specified securities for buy-back are fully paid-up;
8. The buy-back of the shares or other specified securities listed on any recognised stock exchange shall be in accordance with the regulations made by the Securities and Exchange Board of India in this behalf; and
9. The buy-back in respect of shares or other specified securities of private and closely held companies is in accordance with the guidelines as may be prescribed.

Procedure for buyback

1. Where a company proposes to buy back its shares, it shall, after passing of the special/Board resolution make a public announcement at least one English National Daily, one Hindi National daily and Regional Language Daily at the place where the registered office of the company is situated.
2. The public announcement shall specify a date, which shall be "specified date" for the purpose of determining the names of shareholders to whom the letter of offer has to be sent.
3. A public notice shall be given containing disclosures as specified in Schedule I of the SEBI regulations.
4. A draft letter of offer shall be filed with SEBI through a merchant Banker. The letter of offer shall then be dispatched to the members of the company.
5. A copy of the Board resolution authorising the buyback shall be filed with the SEBI and stock exchanges.
6. The date of opening of the offer shall not be earlier than seven days or later than 30 days after the specified date.
7. The buyback offer shall remain open for a period of not less than 15 days and not more than 30 days.
8. A company opting for buy back through the public offer or tender offer shall open an escrow Account.

Penalty:

If a company makes default in complying with the provisions the company or any officer of the company who is in default shall be punishable with imprisonment for a term which may extend to two years, or with fine which may extend to fifty thousand rupees, or with both. The offences are, of course compoundable under Section 621A of the Companies Act, 1956.

Prohibition of buyback:

- A company shall not directly or indirectly purchase its own shares or other specified securities-
- Through any subsidiary company including its own subsidiary companies, or
 - Through any investment company or group of investment companies.

Conclusion

The elementary goal of this paper is to identify the motives and basic regulations of share buyback in India. It may be remembered that buyback has no impact on the fundamentals of the economy or the company. Therefore investors should be cautious of unscrupulous promoters traps. Further, researchers have many dimensions or buyback areas to unfold through their research.

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The Role of Migration Remittance in Promoting Livelihoods in Bihar

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Abstract :-

The incidence of out-migration from rural Bihar is probably greater than anywhere else in India. A combination of circumstances, both natural and societal, has created a situation in the state where sending a family member out to earn was the only way of staying alive. There was a marked increase in migration after 1990 and even more so towards the end of the decade as the rural economy ground to a virtual standstill. While migration from flood and drought prone areas was not new, the closure of industries as well as law and order problems added to the outflow of people.

Although migration in Bihar is well studied, it is arguably poorly understood in terms of its complexity and diversity and how it affects different groups of people. This report aims to fill some gaps by providing an assessment of migration and remittance patterns in six districts of Bihar covered under the World Bank Funded Bihar Rural Livelihoods Project (BRLP) and the IFAD funded Women's Empowerment and Livelihoods Project in the midGangetic Plain (WELPMGP) with a view to offering practical suggestions for interventions to maximise the positives and minimise the negatives associated with migration.

The report is contained in four parts. Part I provides background information on the state of the rural economy in Bihar with attention to farm and non-farm employment trends, agricultural productivity, infrastructure and education. Part II contains the main findings of the study by district focusing on variations in migration and remittance patterns by social group, occupation and destination. It also provides an assessment of the positive and negative impacts of migration and remittances Part III discusses sources of risk and vulnerability and how these are being addressed by migrant support programmes. Part IV discusses ways forward and practical steps that can be taken by BRLP and WELPMGP.

The fieldwork covered the six districts of Nalanda, Gaya, Muzaffarpur, Purnia, Madhubani and Sitamarhi of which four are among the poorest districts in India . A minimum of two multi-caste villages were studied in each district, one remote and the other well-connected in order to examine the effects of connectedness, if any, on migration patterns. In addition, one extra village was studied in both Muzaffarpur and Purnia to ensure the dynamics of migration among Muslims were captured. A description of the villages is provided in Appendix 2.

The main sources of primary evidence used are key informant interviews and focus group discussions (for a list of people and organisations contacted see Appendix 3). We would like to stress that figures provided in the report (related to numbers of migrants, earnings, remittances and savings etc.) are guesstimates made by highly experienced professionals as well as migrants themselves and should therefore be regarded as reasonably accurate. A list of villages visited and people met is provided in Appendix 1. A number of secondary sources have also been used including research studies on migration, poverty and rural development in Bihar as well as data from the Indian Post Office and government officials. Information collected through interviews and group discussions has been triangulated and cross.

Reliable sources and this has been indicated in each instance through referencing.

Key word :- Economic policy, Business, Development, Migration, Rural Economy.

Introduction :-

Bihar is the poorest state in India with the lowest per capita income amongst the major states⁴ . In 2004/05, the real per capita GSDP was Rs. 4435 while the nominal per capita GSDP was Rs. 7080 which were less than half that of the neighbouring state of Jharkhand. More than 40% of the population lives below the poverty line. It is also the third most populated state with a total population of 83 million. The state's performance lags seriously behind others. Although moderate progress was made during the 1990s (1993-94 to 1999- 00) in reducing poverty by nearly 7 percentage points, the rate of poverty reduction was well below the national average. Current projections are that Bihar is likely to fall well behind on most of the MDG targets for 2015. Bihar's rank for HDI among the Indian states has remained unchanged at 15 since 1981 while its score has increased marginally from 0.237 in 1981 to 0.308 in 1991 to 0.267 in 2001. It fares very badly on a number of indicators. In the 1990s Bihar had the lowest Gender Equality Index in India, and had witnessed a decline in absolute terms over the earlier period.



According to the 2011 census Bihar has the lowest literacy rate in the country - 48% against a national average of 65%. It is the only state where primary enrolment fell between 1993 and 1999, and 80% of the bottom quintile heads of household have no education.

Bihar is a predominantly agrarian economy with a small manufacturing base. The share of services has increased from 41% to nearly 50% of GSDP, which is roughly the same as the Indian overall average. While the share of agriculture has declined, it is still very large. According to the NSS, nearly 40% of the workforce is engaged in agricultural labour (1999-2020) down from 42% in the previous round. Cultivation and farm labour together account for 80% of employment.

Crop productivity has been below the Indian average for most cereals. The causes for the large yield gap include: low investment rates, lack of water management with annual flooding of the Gangetic plain, weak transport and marketing infrastructure as well as severe fragmentation of land holdings. 31 districts are flood prone and 11 are drought prone. Only five districts are not prone to floods and drought.

Poverty is predominantly rural in Bihar and is associated with limited access to land and livestock, poor education and health care, as well as low-paid occupations and social status. NSS data show that 75% of the poor were landless or near landless in 1999-2000. Although land reforms were introduced in 1950 they have been slow and ineffective. The rural poor tend to depend on agricultural wages or casual non-farm jobs for a living. Over time the proportion of non-farm labourers in the poorest quintile has increased and the proportion of farm workers decreased.

North Bihar and the Chhotanagpur Plateau are significantly poorer than southern parts of the region. Regional variations are in part explained by structural factors such as ecology, population density, infrastructure and transport, but belonging to a scheduled caste or being female or landless significantly increases the risk of being poor. SCs and STs are likely to be three times poorer than other castes. They are also three times more likely to be landless, and their status on these two counts has remained virtually unchanged since 1993-94. They are deprived on various counts: only 2.9 per cent of Scheduled Tribe and 4.9 per cent of Scheduled Caste households had access to electricity, compared to over 14 per cent in the case of other households. Muslims do not do very well either: a study by Patna-based Asian Development Research Institute (ADRI) on the socioeconomic status of Muslims found that 49.5 percent of rural Muslims and 44.8 percent of urban Muslims live below the poverty line.

Take the case of the Musahar who are classified as a scheduled caste. They are spread across the districts of Madhubani, Muzaffarpur, Darbhanga, Champaran, Hazaribagh, Santhal Pargana, Bhagalpur, Munger, Purnia, and Gaya. There were 13,91,000 Musahars in Bihar in 1981 (not clear if enumerated since then). They are thought to be an offshoot of the bhuiya tribe of Chhota Nagpur and are in fact referred to by that name in Bihar as well. The name translates into rat-taker or rat-eater. Musahars are mainly landless agricultural labourers. The Musahars have largely remained on the periphery of society.

Bihar has a poor record on poverty alleviation programmes and government services, for example, serious mis-targeting in the PDS and chronic teacher absenteeism. Electricity supplies have been erratic: in 2003-04, per capita consumption of electricity was 44.85Kwh as compared to 606Kwh at the national level.

Transmission & Distribution losses for the state are 37.69%. Less than 8% of the 81,655 km of roads in Bihar are national or state highways. Approximately 45% of the road network is unpaved. Although 50% of the assessed ultimate irrigation potential from major and medium irrigation schemes has been created, the utilisation of these is only 60%. It must be noted that the new government has introduced a number of policies to address these problems and it is likely that these measures will improve the rural economy and provide people with more opportunities close to home.

Migration has a long history in Bihar and has been studied in depth by a number of scholars. According to the 1998 Uttar Pradesh Bihar Living standards survey conducted by the World Bank 95% of the migrants in Bihar are male, and migration is highest in the richest and poorest quintiles and the poorest migrate for shorter durations. The ratio of remittances to household consumption was 4% on average and lower for SCs and STs. Studies in north Bihar (Karan 2003) show a phenomenal increase of migration rates from 28% to 49% in a 17 year period. All caste groups, as well as Muslims migrate and the recent increase has been most marked in OBCs, SCs and Muslims. Remittances account for approximately one third of total average annual income in sample villages. As expected, higher castes remit more, and the amount remitted by Muslims is disproportionately high. The most common use of remittances was to cover consumption needs and medical expenditure.

A study of 36 villages across six districts (Nalanda, Rohtas, Gopalganj, Gaya, Madhubani and Purnia) in north and central Bihar by Dayal ad Karan (2004) found that roughly 12% of males in the sample households were seasonal migrants and 9% permanent migrants. The intensity was greatest in Madhubani (25%) followed by Gopalganj and Purnia. There was very little permanent migration in Purnia. Purnia and Madhubani had a high incidence of seasonal migration commuting compared to districts which were better off agriculturally. Seasonal migration was highest among Muslims (12%), followed by OBC-I. Permanent migration was higher among OBC-II and Forward Castes. The magnitude of seasonal and permanent migration among SCs was low but they commuted more than others. In general poor and marginal farmers migrated seasonally or commuted and the rich migrated permanently. It was found that poorer Forward Castes were also engaged in seasonal migration due to the stigma of working as manual workers locally (we return to this point in the report). The study while highlighting the vulnerability of migrants and migration as a coping strategy also shows that young people are now consciously opting to migrate to explore other areas and in the case of lower castes to break away from caste oppression in the village.

Other studies show very high migration rates among Muslims especially in Gaya, Aurangabad, Vaishali and Darbhanga districts because of their poor socioeconomic status. A study on the socio-economic status of Muslims in Bihar by Patna-based Asian Development Research Institute (ADRI) sponsored by the Bihar State Minorities Commission found that there were 63 migrants for every 100 Muslim households in rural Bihar. Two out of every three Muslim households in rural Bihar send at least one of its working members away to earn. The average Muslim migrant is a male aged 28.5 years in rural areas and 27.4 years in urban areas. Only men migrate and there is a very high percentage of de facto female headed households. There are many international migrants among Muslims: more than 40 percent of rural Muslim migrants from Siwan and Gopalganj district head for Gulf countries. The average annual remittance by migrants from rural areas is about Rs.1,350 per month, and from urban migrants is Rs.1,840 per month.

However scholars differ in their conclusions on the drivers and impacts of migration. For example Arjan de Haan's study of migrants from Saran to the industrial areas of Calcutta⁷ argues that early out-migration was not necessarily the result of underdevelopment – rather, early development contributed to out-migration. He also suggests that the income that was derived from this migratory work helped to maintain a high population density and high outmigration and population density reinforced each other. He differs from others (Iyer 2004)⁸ who have emphasised the distress-nature of migration. De Haan views migration as a household strategy that builds on existing migratory links and traditions.

Sitamarhi

Migration is increasing in Sitamarhi every year due to the growing population and divided farms. On average 50-60% of the households in the district have at least one person migrating³¹. Migration is mainly among the SC and OBC who are landless or nearly landless. Land is concentrated among the Yadav, Kurmi,

Sahu (OBC), Rajput, Bhumihar and Brahmin (Forward Castes) who make a living from farming and do not migrate much. The blocks of Dumra, Sonbarsa, Sursand, Parihar, Malangwa and Majorganj were named as high migration blocks³². In the past the northeast was the preferred destination, especially Assam. However migration to Assam has almost stopped in last 4-5 years because of political unrest and antiBihari attitudes there. Around 2-3000 people from Sitamarhi villages near the Nepal border used to migrate and commute to Nepali towns for construction work (Rs.50-100/day) but due to political problems this source of work is no longer available.

Gobindphanda, block Gumra, Sitamarhi. Connected. 6 km from Sitamarhi but 9 km from block hq but very near Rega block (2KM).

Caste	HH	Migrating individuals
Chamar	110	100
Kanu (Bania)	100	40
Koyri	75	10
Brahman	50	40
Paswan	50	15
Yadav	35	10
Sahar (BC)	30	10
Nai	20	0
Lohar	10	0
Muslim	10	15
Kurmi	10	4
Kalwar	5	0
Amat (BC)	5	0
Mali	3	0

Lots of sugarcane here. Work all year round. Yadav and Kanu hold the land.

Pathanpura block Sursand Sitamarhi remote 23 km from Sitamarhi and 3 km from block

Caste	HH	Migrating individuals
Muslim	400	350
Koyri	65	10
Chamar	50	50
Nonia (Sc)	35	45
Sahu	30	5
Bhumihar	10	10-15
Dhobi	10	20
Kumhar	8	10
Halwai	6	3
Lohar	6	3-4
Khatwa	5	5
Paswan	5	3
Sonar	4	3
Nai	4	5

Major migration streams

The main kinds of migration by social group, occupation and destination are discussed below. The first four appear to be more prevalent among the lowest castes and least educated people. These jobs also pay less than Industrial work that has been captured by better connected and better educated OBCs, BCs and FCs. Under each broad heading we provide location specific information to highlight variations by district and social group.

Farm Work within the State and Uttar Pradesh

The poorest (but not the very poorest or poorest of the poor who cannot migrate) SCs and OBCs with no land and no education, especially the Musahars are often engaged in local or nearby farm work where they go for a crop season and are paid in kind.

f The Musahars of Harnaut block in Nalanda go for paddy harvesting and threshing to the agriculturally prosperous districts of Shahabad, Ara, Sasaram, Bhabhua, Kaimur and Buxar within the state. These migrants take their wives and young children. They are paid at the rate of 1/12th of the crop with one meal and fuelwood. Each family is able to bring back 8-10 quintals of paddy.

Around 40 very poor Paswan (SC) and Mallah (EBC) households from Birjoo Milki, village in Nalanda, migrate to neighbouring blocks and districts (Badh) for paddy harvesting and threshing. They are paid in grain (1/16th of the total harvest) at harvest time and 3.5 kg rice/day for weeding. The wage for threshing is Rs.30/day. If paid in kind then wages are the same for men and women but if paid in cash women receive Rs.5-10 less. Farm work is available for 60-90 days/year. For the rest of the year they go to nearby urban centres as discussed below.

The Market Based Approach

This model works with existing labour market patterns and offers services on a cost recovery basis. An example of such an approach is the initiative launched by Samarthan, an NGO and the World Bank funded District Poverty Initiatives Project (DPIP) in Madhya Pradesh called mazdoor.org. This will provide skills enhancement and certification programmes, advice and information on jobs and help workers to link up with government schemes on insurance and workers funds. They intend to work within the existing structure of industry and the labour market i.e. recognise that capital and labour are highly mobile and that capital/industry locates itself where cheap labour can be accessed. They also recognise that a majority of industrial workers are not named on the employment registers of industries and are recruited by intermediaries who are not accountable to anyone under the law. Mazdoor.org will create a proposition that is acceptable to industry by taking on the responsibility for the welfare of the workers even though it is the responsibility of the industry and employers under law. For this they plan to make industry pay services charges.

The Labour Union Model

This is a rights based approach and works for better implementation of labour laws and regulation of labour flows. Some NGOs like (Sudrak in Rajasthan and Disha in Gujarat) believe that unionising migrant workers will go a long way towards realising their rights, improving their bargaining power in the market and prevent exploitation. The Aajeevika Bureau established by Sudrak for example has set up a union of migrant workers who work in cotton fields. One of the main objectives of the union is to regulate the supply of labour because they feel that an excess supply situation lowers the bargaining power of the migrant. They have enrolled over 1500 "mates" and the Union has put out a charter of demands. It has set up around 16 manned check points at all the border crossings between Gujarat and Rajasthan. As a result, employers have offered a partial hike in wage rates and negotiations are continuing. A similar approach has been adopted by the Bandhkam Majoor Sangathan (BMS) established by DISHA in Ahmedabad. Both Sudrak and DISHA are also engaged in policy advocacy for the amendment of the Inter State Migrant Workmen Act which they argue is unimplementable in its current form.

The Rehabilitation Model

The best example of this is the work done by Action Aid with brick kiln workers in Orissa and Andhra Pradesh. ActionAid conducts raids on brick kilns together with the police to release bonded migrant workers and rehabilitate them. They believe that migration of this kind is forced migration or trafficking where workers are lured on false promises, often borrow money from recruitment agents which they repay through punishing work schedules, their movement is restricted at the work site and wages are well below the legal minimum. In addition women and children are also exploited in various ways and living conditions are appalling.

Given that neither BRLP nor WELPMGP are advocacy or human rights organisations, the choice is between the first two models or developing one that combines elements of both. Lessons could be learned from the experience of both the migrant support programme of the GVT and the DPIP in Madhya Pradesh.

Providing Migrant-friendly Financial Services

As mentioned earlier poor migrants still continue to handcarry money at great risk. Some private banks have now started to recognise the need for financial services for migrants. For example ICICI Bank has recently launched an initiative for Tamil migrants from Thirunelveli who stay in the slums of Dharavi in Mumbai. Some NGOs have also entered this area. Adhikar, an NGO in Orissa has been helping migrants in Gandhidham in Gujarat in remitting money to Orissa. They started this service after the 2001 earthquake when they found more than 10,000 migrants from Khurda district working in and around Gandhidham - at the Kandla port, free-trade zone, IFFCO and for the Railways. Adhikar was supported by the research and innovation fund of CARE India's CASHE (Credit & Savings for Household Enterprises) project. Both BRLP and WELPMGP should develop ways of helping the poorest migrants in sending money home safely and efficiently. Both MPRLP and DPIP in MP are working with government bodies and the private sector to build skills and human capacity. DPIP is now aiming to create a cadre of workers that have the skills to take up jobs that are being created by economic development both within the state and elsewhere. On the government side they are collaborating with CIDC for training and certification programmes for masons, electricians and other workers who are in great demand all over India. Some private sector organisations such as Dr Reddy's Laboratories are interested in the broad area of skills enhancement but are not at present covering poor illiterate workers. The possibility of doing this could be explored.

Conclusion :-

The only BRLP document available for scrutiny was the Draft Aide Memoire of the Preparation Mission dated August 2006. The focus is clearly on village based enterprise - dairy, fisheries, Makhana and handicrafts. Migration as an existing and potential livelihood strategy for the poor is not mentioned.

WELPMGP documents do mention migration but mainly in the context of taking men away from their families, exposing their wives to the risk of HIV/AIDS and increasing the drudgery of women left behind.

There is a need to give explicit recognition to the importance of human resources in addition to land, access to credit and technology in livelihood systems. For the vast majority of landless and near landless people labour is the only tradable asset and this needs to be factored in to discussions on livelihoods which currently appear to be focused on farmers. In the case of Bihar migration is widespread even among the landed partly due to circumstance and partly as a planned stage in the advancement of the household. Improving education levels, skills and access to health services will go a long way towards building the future of Bihar's migrants and the economy.

Specific steps that BRLP and WELPMGP should consider:

Develop a clear conceptual and operational framework for migration (a strategy and workplan) reflecting the points above.

Develop migrant support initiatives (especially for the most disadvantaged communities such as Musahar, Dom, Majhi, poor Muslims) in partnership with other World Bank funded projects and NGOs who have experience in the area. This could be taken up under the Bihar Rural Livelihoods Innovation Forum as well as the Innovation Fund of the WELPMGP.

Reference :-

1. According to a recent survey by Rajiv Gandhi Foundation, out of the 100 most poor Districts in India 26 Districts are from Bihar: Araria, Banka, Begusarai, Darbhanga, Gopalganj, Jamui, Kaimur, Khagaria, Kishanganj, Lakhisarai, Madhepura, Muzaffarpur, Nalanda, Navada, Paschim Champaran, Purvi Champaran, Purnia, Saharasa, Samastipur, Saran, Shekhpura, Sheohar, Sitamarhi, Siwan, Supaul, and Vaishali.
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7. However it needs to be borne in mind that major changes are occurring now with a change in government that may alter migration patterns. These include policies to improve the law and order situation, revitalize industry and agriculture as well as the introduction of the NREGA.



Agribusiness Opportunities in India: Special Reference to Sericulture Industry

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Abstract

Agriculture is the backbone of the Indian economy. John H. Davis of Harvard University first used the term agribusiness in 1995. At present agribusiness is defined as all business enterpriser or sells to farmers / traders / consumers. Such a very agriculture has evolves into agribusiness and has become a vast and complex system. India is largely agrarian economy with 52.1%. Of the population. Sericulture industry is a best suited remedy to economic development of rural India. Silk is the one of the natural textile fiber produces with the help of sericulture industry, sericulture industry is an enterprise that involves the process of silk production starting form mulberry cultivation to weaving with the in tar phases of silk worm raring silk reeling and silk twisting. The variety of silk is mulberry, tassar, eri and muga. Mulberry about 95% of the world production. India rank second among the silk production countries. Agribusiness is being viewed as an essential pathway to Indian agriculture. Sericulture is the one of the profitable agribusiness which gains the benefits to farmers.

Key words: Agribusiness, Sericulture, Agriculture, Farmer. etc.

Introduction:

John H.Davis of Harvard University First used the term agribusiness in 1995. In 1980 it was given three connotations.

- (I) Synonymous with term agriculture.
- (II) Synonymous with term agriculture economics.
- (III) A modified concept of agriculture, excluding farming or the farm aspects of Agriculture.

A present agribusiness is defined as all business enterprises or sells to

Farmers / traders / consumers. The transaction may involve either or input or a Produce or service and encompasses items such as.

- (1) Productive resources (feed, seed, fertilizer, equipment, energy, pesticides, machinery etc.)
- (2) Agricultural commodities (raw processed commodities of food and fiber)
- (3) Facilitative services (credit insurance marketing, storage, processing, transportation, packing, distribution, consultancy soil testing etc.)

Such way agriculture has evolved into agribusiness and has become a vast and complex system that reaches far beyond the farm to include all those who are involved in bringing food and fiber to consumers. Agribusiness include not only those that farm the land but also the people and firms that provide the inputs (for i.e. Seed, chemicals, credit etc.) process the output (i.e. Milk, grain meat etc.) manufacture the food products (such as ice-cream, bread, breakfast corals etc.) and transport and sell the food product to consumers (for example Restaurant, supermarkets)

Scope for Agribusiness in India:-

India is largely agrarian economy with 52.1% of the of the population estimated to Directly or indirectly employed in agriculture and ailed sector in 2009-10

- (1) India is endowed with varied agro-climate which facilitates production of temperate sub tropical agriculture commodities.
- (2) There is growing demand for agricultural inputs like feed, fodder, inorganic fertilizers biofertilizers.
- (3) Bio-technology applications in agriculture has vast scope in production of seed, bio-control agent, industrial harnessing of microbes for bakery products.
- (4) Export can be harnessed as source of economic growth. As a signatory of WTO. India has vast potential to improve its present position in the WTO of agricultural commodities both raw and processed form.

The product line includes cereals, pulses, oilseeds and oil, spices and condiments, fruits and vegetables, flowers, medicinal plants and essential oil, agricultural advisory services, agricultural tools and implements, milk and milk products, fish and fish products ornamental fish, forest by product etc.

- (5) At present processing is done at primary level only and the rising standard of living expands opportunities for secondary and tertiary processing of agricultural commodities.
- (6) The vast coastal line and internal water courses provides enormous opportunities for production of marine and inland fish and ornamental fish culture gaining popularity with in aesthetic value among the citizens of India.
- (7) The livestock wealth gives enormous scope for production of meat, milk and milk products, poultry etc.
- (8) The forest resources can be utilized for production of by production of forestry.
- (9) Beekeeping and apiary can be taken up on large scale in India.
- (10) Mushroom production for domestic consumption and export can be Enhanced with improvement in the state of art their production
- (11) Organic farming has highest potential in India as the pesticide and inorganic fertilizer application are less in India compared to industrial nations of the world. The farmers can be encouraged and educated to switch over for organic farming.
- (12) There is wide scope for production and promotion of bio-pesticides and bio-control agents for production for crops.
- (13) Seeds, hybrid and genetically modified crops, have the highest potential in India in the future, since the productivity of high yielding varieties have reached a plateau.
- (14) Micro irrigation systems and labor saving farm equipment have good potential for the years to come due to declining ground water level and labor scarcity for agricultural operations like weeding, transplanting and harvesting.
- (15) Production of vegetables and flowers under green house conditions can be taken up to harness the export market.
- (16) Trained human resources in agriculture and allied sciences will take on agricultural extension system due to dwindling resources of state finance and downsizing the present government agricultural extension staff as consulting services.
- (17) The enhanced agricultural production throws open opportunities for employment in marketing, transport cold storage and warehouse facilities, credit, insurance and logistic support services.

Objectives:-

1. To study the scope of Agribusiness in India.
2. To understand cost benefit analysis of Sericulture industry.

Methodology: -

This research based on secondary data used. As well as survey method are used to find cost structure of Sericulture.

Classification of Agribusiness.

(A) Based on Plants Production :

Food Crops
Commercial Crops
Horticulture (Fruits Production)
Floriculture (Flower Production)
Medicinal Plants like neem tulsi
Grasses as fodder for animal husbandry

(B) Based on Animal Production

- (1) Poultry farms for the Production of eggs meats etc.
- (2) Cattle Production like goat, sheep, pigs for meat
- (3) Domesticated animals like Elephant, Camel Birds

(4) Aquaculture – keeping Fishes

(C) Based on Insects Production :

Silkworm rearing (Sericulture for silk Production)

Bee rearing (Apiculture for Honey Production)

(D) Based on Micro-Organism : Production of Algae, Fungi

(E) Based on Forest Product : Collection of Hirda, Behada

Wood, rubber

(F) Others: it includes the marketing of all agro based products as well as processing manufacturing, packaging and distribution of Product.

(G) Based on services : It includes suppliers of seeds, pesticides hiring agricultural implements

Case Study of one of the Agribusiness: –

Sericulture Industry:-

Sericulture Industry is a best suited remedy to economic development of rural India. Silk is the one of the natural textile Fiber produces with the help of sericulture industry. The process of large scale rearing of silkworm i.e. insect to obtain raw silk in general referred as sericulture (Sericus silk and culture –rearing) sericulture is one of the labour-intensive agro based cottage industry that has been attracting considerable rural population especially in south India. Its high remuneration with less investment rich dividends and frequent attractive returns throughout the year made it a hot favorite of the rural population in certain pockets of the country. It plays a vital role in transferring the wealth from the richer sections of society to the poorer sections and forms the urban to the rural areas.

Sericulture industry is an enterprise that involves the process of silk production starting from mulberry cultivation to weaving, with the inter phases of silk worm rearing, silk reeling and silk twisting. There is different variety of silk the major ones are mulberry, tassar eri and mug. However, mulberry silk alone accounts for about 95 percent of the world production of natural silk (Naik and Babu 1993:13) has India has the unique distinction of being the only country in the world, producing all the four varieties of silk. India ranks second among the silk producing countries.

Cost-Benefit Analysis of Cocoon Production in Sericulture

Industry:-Sericulture industry is divided into two parts

- 1.Pre-Cocoon technology
2. Post Cocoon technology

The Pre-Cocoon technology involved the mulberry cultivation and silkworm rearing which is related to the most on Agriculture and the post-cocoon technology involves reeling, twisting and weaving of silk which is the final product of sericulture industry. Cocoon is the final product of sericulture industry in the hands of farmers. After selling this product they get benefits of the business. To understand the profitability of sericulture industry following tables are the

Table 1.1 Capital Investments in Mulberry Garden

Sr.No.	Particular	Qty.Unit	RatePer unit	Amount
A	Remuneration Charges			
1	Ploughing by tractor	1acre	1200/-	1200/-
2	Harrowing by tractor	1acre	800/-	800/-
3	Ploughing by bullock power	3 pair	300/-	900/-
4	Manure and fertilizer application	12 Man Days	75/-	900/-
5	Preparation of Cutting	5 Man Days	75/-	375/-
6	Plantation	8 Man Days	75/-	600/-
7	Irrigation	5 Man Days	75/-	375/-
8	Weeding	10 Man Days	75/-	750/-

	TOTAL			5900/-
B	Material Cost			
1	Manure	4 Trailers	1200/-	4800/-
2	Mulberry Cuttings	3.2 Tons	1500/-	4800/-
3	Transportation			1000/-
4	Irrigation	4 Times	150/-	750/-
5	Fungicide and Growth regulars			1000/-
6	Fertilizes	192 Kg	6/-	1152/-
	TOTAL			13502/-
	Grand Total			19402/-
	Depreciation Cost			1293/-
	Total Cost			20695/-
	Total Cost per kg of Leaf			1,03475/-

Economics worked out for a farm size of 1 acre mulberry garden with recommended variety under irrigated condition. The rearing situation is five crops and 300 DFLS (deases free layings) in a year using shoot rearing method.

Production Parameters:-

Details of Production Parameters considered

For the economics

Production	
Farm Size	1 Acre
Method of Rearing	Shoot
Mulberry Leaf Yield (kg.acre ⁰)	20000
Economic life Period of Mulberry Garden	15 years
Feed (leaf) Requirement (k.g./1000DFL)	1400
No.of Crops per year	5
No.Of DFL/CROPS	300
Yield per 100 DFL	60
Price (RS.kg)	150

The Cost of Mulberry leaf Production:

As mulberry is a perennial crop, it yields lives from the six month of its plantation to over fifteen years. All the cost incurred right from preparation of mulberry field to the establishment/ maintenance of the garden for six month after planting were considered as establishment or fixed cost. The expenditure incurred thereafter for the continuous production of mulberry used was considered as maintenance or variable cost.

The leaf production cost for one acre of mulberry garden is given in Table 1.1 Labour was the major cost component in the leaf production. The total cost of establishment of garden worked out to Rs. 19402/- for one acre

TABLE 1.2
INVESTMENT OF BUILDING AND EQUIPMENT FOR REARING 300 DFLS

Sr. No	Particular	No/ Qty.	Rate	Value	Life Span	Depreciation
A	Building					
1	Rearing House including Chawki and shoot store room sq/ft	1200	300	360000	50	7200
2	Varandha/Padavi	360	150	54000	25	2160
B	Equipment					
1	Power Spryer	1	12000	12000	10	1200

2	Mask	5	10	50	1	50
3	Heater	1	2500	2500	10	250
4	Humidifier	3	1800	5400	10	540
5	Egg Transportation Baq	1	150	150	10	15
6	Chawki Rearing Stand	2	600	1200	10	120
7	Wooden Rearing Stand	20	200	4000	10	400
8	Feeding Stand	2	600	1200	10	120
9	Leaf Chopping Board	1	300	300	10	30
10	Knives	1	100	100	10	10
11	Leaf Chamber	1	1000	1000	5	200
12	Bed Cleaning Net	32	60	1920	4	480
13	Plastic Basin	2	50	100	2	50
14	Shoot Rearing Rack	2	5000	10000	10	1000
15	Plastic Chandrika	100	100	10000	10	1000
16	Plastic Bucket	2	100	200	5	40
17	Foot Rest	2	50	100	1	100
18	New cloth	6 mtr.	40	240	2	120
19	Jute	6.mtr.	30	180	2	90
20	Plastic Incubation Frame	6	50	300	5	60
21	Nylon Net	1	1500	1500	5	300
	TOTAL			466360		15535

India Special Reference to Sericulture Industry.

TABLE 1.3
COST AND RETURN STRUCTURE COCOON PRODUCTION

Sr. No	Particular	Cost/Revenue Rs/acre/year	Cost/Revenue Rs/100 dfls	Cost of Production kg cocoon
A	Variable Cost			
1	Leaf	21735	1449	24.15
2	Dfls	3000	200	3.33
3	Material-Paraffin Paper, News Disinfectants	9750	650	10.43
4	Labour Charges 25 man days per 100 dfls	26625	1775	29.58
5	Transportation and Marketing	1800	120	2.00
6	Other Cost	1000	66.66	11.11
	Total Variable Cost	63910	426	80.60
B	Fixed Cost			
1	Depreciation on Building on Equipment	15535	1036	17.26
	TOTAL	79445	5297	97.86
C	Revenue			
	Cocoon yield kg	60	60	
	Average Cocoon Price	140	140	
	Cocoon Production	900	60	
	Income From Cocoon	126000	8400	
	Income From By-Product	5600	373	
	Total Revenue	131600	8773	
	Net Income	52155	3476	
	Cost Benefit Analysis	1.65	1.65	

The Economic Life of Mulberry Garden was considered as 15 years and the establishment cost was apportioned for 15 years in the straight line method and consider as fixed cost. The fixed cost was those, work out the Rs 1293/- per acre per year. The total leaf production cost was estimated to Rs. 20695/- Leaf yield between 20000-25000 kg per acre per year by adopting. The recommended package of practices. Considering this the mulberry leaf production. Cost work out of the yield level of 20000kg/ acre /year as Rs. 1.03475/- per kg in the present study.

Cost And Return Sttucture For Silkworm Rearing:

Requirement of the rearing building and equipment as well as their cost for rearing 300 dells at a time indicated in table 1.2 the depreciation was worked out in the straight line method based on the life span the assets and consider as fixed cost. The depreciation on rearing building and equipments was work out to Rs. 15535/-

The cost of retuned structure of cocoon production shown in Table 1.3 cost incurred of leaf, dells, material and labor were considered. Leaf was the major input used in silk worm rearing accounting for Rs .21735/- /acre /year. Followed by the wages which worked to Rs. 26625/- the material and disinfectant use for rearing accounted to Rs. 9750/- The cost of dfls was estimated as Rs. 3000/- acre/year. The total variable cost amounted to Rs.63910/- /acre/year. The fixed cost and the depreciation on rearing building and equipment were estimated to be Rs.15535/-. The total cost incurred on silk worm rearing worked out to Rs. 79445/- The cost of production of cocoon was also estimated for 100 dfls as well as 1 kg of cocoon for better understanding of cost structure. The cost of production of cocoon for 100 dfls worked out to Rs.5297/- The cost of production of 1 kg cocoon was estimated at Rs.97.86/- The cocoon yield of 60 kg/100 dfls can be harvested on an average b followed new package of technologies. By studding the pricess during last 3 years, the average sell price per kg of cocoon was assumed at Rs. 140/- the income from the sale of cocoon worked our Rs.126000/- and Rs.5600/- dfls.The income obtain from by products such as silk worm litter and leaf wastes, which can be used a organic manure after decomposing, worked out to Rs. 5600/acre/year. The total revenue worked out 13600 /-acre/years. The net revenue Rs.52155/ acre/year. The cost –benefit ratio was found 1.65/-

Conclusion:-

Dr. M.S. Swaminathan has repeatedly said “if farm ecology and economics go wrong, nothing else will have a chance to go right in agriculture” Right from economics is a simple as remunerative price and assured market for the farmer. The shift of focus from ‘Production only’ to production as well as efficient marketing has come after very long time. A shift from agriculture to Agribusiness is being viewed as an essential pathway to Indian agriculture to increase the share of agriculture in GDP. Agribusiness plays an important role and sericulture is the one of the profitable agribusiness which gains the benefits to farmers as well as reelers, twistors and weavers also. And transfer of the wealth from rich section of the society to poor section of society .

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Defacement of Public Property: A Case Study With Special Reference To Marathwada Region Of Maharashtra

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"Public Property" means any property, whether immovable or movable which is owned by or in the possession of or under the control of the Central Government or any State Government or any local authority or any government-controlled corporation or company or institution.

Property damage is damage to or the destruction of public or private property, caused either by a person who is not its owner or by natural phenomena. Property damage caused by persons is generally categorized by its cause: neglect (including oversight and human error), and intentional damage. Intentional property damage is often, but not always, malicious. Property damage caused by natural phenomena may be legally attributed to a person if that person's neglect allowed for the damage to occur.

Public and private buildings and other open places disfigured by slogans written and posters pasted indiscriminately on their walls are a common spectacle in the cities and villages of the State. Indulgence in these activities apart from spoiling the beauty of the infrastructure and other space obliges the owners to incur certain expenditure to undo the mischief. As these activities have been on the increase it has become necessary to prevent them immediately.

The existing legal provisions and the municipal laws are not found to be sufficient to check this menace effectively. In these circumstances it is intended to have a separate stringent law which provides inter alia for deterrent punishment and for making the offences cognizable.

Interdisciplinary Relevance:

The present minor research aims to establish a correlation between disfiguration of public property and the effectiveness of existing legal provisions to control the same. The Classical School of Criminology is of the opinion that "*Man resorts to crime out of his negligence and free will*". The research also intends to study the sociological and psychological aspect of the problem. The Maharashtra Prevention of Defacement of Property Act, 1995 provides a minimal punishment of imprisonment upto three months or fine or both. The punishment remains the same even where the gravity of the offence is extremely severe. Thus, this minor research project has some inter disciplinary value and it touches the fields of- Criminology, Penology, Sociology and Psychology.

Prior to the enactment of the Maharashtra Prevention of Defacement of Property Act, 1995, the issue was dealt with the help of the common law remedies and with Law of Tort. Since there was absence of some specific statute, the Indian Penal Code, 1860 and the Law of Tort were the most referred statutes. After the enactment of the Maharashtra Prevention of Defacement of Property Act works as a checkpoint but the problem still remains.

Research Methodology:

Research Methodology is an important aspect of any research work. Considering the research problem doctrinal as well as non-doctrinal method is to be used. For this both primary and secondary data shall be used. The research aimed to analyse the position of the Maharashtra Prevention of Defacement of Property Act, 1995 in Maharashtra with special reference to Marathwada region. The initial first year research work shall include collection of facts and figures. It shall include collection of evidences of defacement of public property. Such evidences shall include- photographs, pictures, videos, news paper cut-outs, court cases, personal interviews and questionnaires etc. information may also be called under the Right to Information Act for further depth of the subject.

The research is dedicated to the analysis of data collected during the preceding year of research. The present state of the existing statute, specific as well as general, shall be analysed. A reference needs to be taken from the countries which are successful in eradicating the problem of defacement.

International Scenario:

Defacement of property is not only occurring in India but it is an international turmoil. Almost all the first world and second world nations have the laws to tackle with the problem of defacement. It is not only the administrative authorities that keep the check on such issues but also the society plays an important role. For example- in *Georgia*, where the famous “*Georgian Guidestones*” were disfigured with polyurethane paint and graffiti, the incident was highlighted by the media. In *Singapore* (April 2014) the police officials warned the Labour Day protest organizers against defacing poster of Prime Minister and public property. Thus, defacement and disfiguration of public property seems to be an international issue. The present research shall take into consideration the case studies of various nations.

National Scenario:

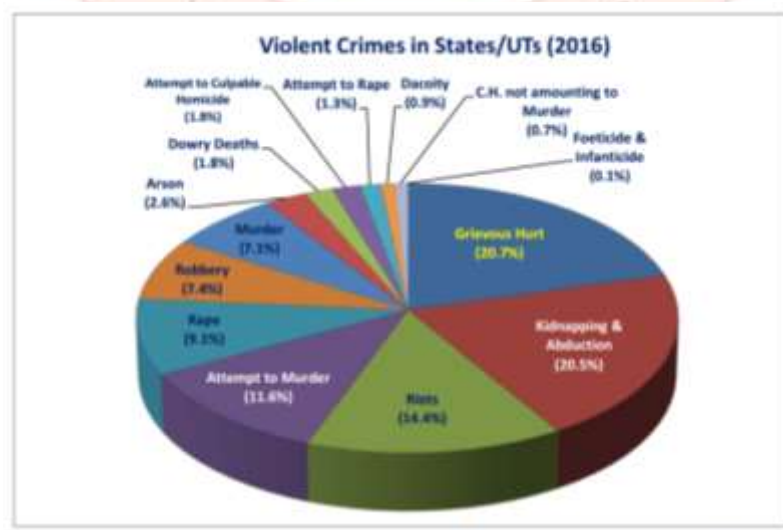
At the national level, the subject of protection of public property falls under the State List of Seventh Schedule of the Constitution of India. Each state has its own policy to deal with this issue. For example- the Karnataka Open Places (Prevention of Disfigurement) Act, 1981, The Delhi Prevention of Defacement of Property Act, 2007, The Rajasthan Prevention of Defacement of Property Act, 2006, the A.P. Prevention of Disfiguration of Open Places and Prohibition of Obscene and Objectionable Posters and Advertisements Act, 1997 etc. Discrepancy in the statutes and meaning of the general terminologies creates confusion and ambiguity. Thus, there seems to be a need for national/central statute over the same.

Instances of Defacement:

Banners, buntings, flags, cut-outs are considered to be the main reason behind defacement of public property. This takes place mostly during the election period and some special occasions like festivals, birthdays, processions etc. almost all the states have the legal provision to control such defacement but the outcome seems to be unsatisfactory.

Vandalism seems to be another reason behind damage of public property. Vandalism to the public property causes either nuisance or actual loss to the government. The term vandalism is often used synonymously with intentional property damage, although that term is often associated with superficial or aesthetic damage, such as defacement. When property damage is undertaken for the purpose of intimidating a government or society at large, it may be categorized as terrorism.

Statistical data shows that rioting has a staggering 14.4% of share in overall crimes in the state.



(Data showing % of Riots in India)

[Statistics, Crimes in India, 2016 Report, Nation Crime Record Bureau (Ministry of External Affairs)]

The present research aimed towards conducting a survey to look into the position of defacement law in Maharashtra State with special reference to Marathwada region.

Defacement of Public Property:

A Holistic Approach: The contracts such as- property, public property and defacement carry a wide interpretation. the present chapter attempts to anilines the definition of this concept, essentials of this contract and application of the same in the present Indian legal system.

Defacement is a type of vandalism that involves damaging the appearance or surface of something. The object of damage may be architecture, books, paintings, sculpture, or other forms of art. Vandalism is the action involving deliberate destruction of or damage to public or private property. The term includes property damage, such as graffiti and defacement directed towards any property without permission of the owner. The term finds its roots in an Enlightenment view that the Germanic Vandals were a uniquely destructive people.

Examples of defacement include:

- Marking or removing the part of an object (especially images, be they on the page, in illustrative art or as a sculpture) designed to hold the viewers' attention
- Scoring a book cover with a blade
- Splashing paint over a painting in a gallery
- Smashing the nose of a sculpted bust
- Damaging or chiselling off sculpted coats of arms
- Altering the content of web sites and publicly editable repositories to include nonsensical or whimsical references

Legislative & Judicial Approach:

This chapter takes into consideration an in-depth study of different laws relating to defacement of public property in India and in other Nations. since the subject of research Falls within state jurisdiction, there exists a number of floors to look into. the researcher has considered few laws for its study as the provisions of these laws are similar in nature. the researcher has also taken into consideration the different judicial precedent relating to defacement of public property.

Damage to Public Property during violent protests is common place across the country. Taking note of such destruction of the public property which has become so rampant in the name of bandhs and hartals, a bench of the Supreme Court in the year 2007 initiated suo motu proceedings. A need was felt by the court to amend the existing law on this matter i.e. Prevention of Damage of Public Property Act, 1984 and hence, the court appointed two committees headed by two of the legal luminaries of the country, Justice KT Thomas and Fali S Nariman. The Union Home Ministry has accepted the recommendations of the committees and has proposed amendments to the PDPP Act, 1984 to deter prospective violators from vandalizing and destroying public/private property during agitations and other forms of protests. The proposed amendments also seek to deter the office bearers of the organizations who call for this protests/agitation.

Defacement of Public Property in Marathwada Region:

The research gives us a geographical idea about Marathwada region as the research work is largely based upon the defacement laws in this area. The Marathwada region of Maharashtra comprises of eight (08) districts. The present research is carried out in all these districts and in some nearby villages. The researcher has found that there is a pattern of defacement of public property. For instance, many of the disfiguration of public properties take place during the election period. The researcher notices that the authorities are either unaware or ignorant about the defacement laws. The researcher has also found out some other reasons behind non-detection of this wrong, non-implementation of this law and non-execution of penalty for the wrongful act and the same has been mentioned in the final chapter of this research thesis.

Conclusion & Suggestion:

The researcher has undertaken study over the topic of research and has come up with some concrete conclusions as mentioned in the report. The researcher has also suggested some recommendations and measures for better implementation of the existing laws relating to defacement and necessary changes therein.

The multiplicity of achievements, as found out in this research project, are as under:

1. This may be the first project in India which presents and inductive research about the menace of defacement of public property.
2. Even though the law relating to defacement of public property is in place the violation of these legal principles and menace of defacement is on the rise.
3. Various Municipal and state laws are taken into consideration for better understanding of the research topic.
4. Status of operation of property is comparatively crystallized but taking into consideration the ancient and mediaeval Indian history, British rule in India and post-independence development.
5. Researcher has shared some personal experiences with regards to data collection and attitude of the government officials when it comes to implementation of defacement rules.
6. It has come to the notice that the Judiciary is playing an important role in protection and upliftment of defacement laws in India.

The broad areas for the conclusion and suggestion includes, but are not limited to, the following areas-

- Implementation of the Statute
- Social attitude and awareness
- Comprehensive approach
- Categorization of defacement based upon their gravity and seriousness
- Speedy trial and disposal of cases
- Administrative activeness and cognizance

Contribution to Society:

Contribution to the society by this research is as follows:

1. This maybe the first research in India to highlight the menace of defencemen of public property and the suffering being faced by the property owners i.e. the government.
2. This research helps to create awareness among the people in the society about violation of law of defacement in India.
3. The research contributes to make the people law abiding citizen and taking our nation towards the path of development.
4. The research highlights the problems and complications being faced by the executive while implementing the laws, by the Judiciary while deciding a particular case, by the general public using the public property, and by the researcher during data collection.

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Isolation of Fungal Endophytes From *Tylophoraasthmatica* and Its Anti-Bacterial Effect

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Abstract:

The Endophytic fungi reside in the plants and play a major role in growth of plants. They produce various metabolites which include antibacterial compounds, bioactive substances and growth enhancing substances. In the study of the medicinal plant *Tylophoraasthmatica*, the fungal endophytes *Penicillium madritishowed* moderately significant antibacterial activity on *Staphylococcus aureus*. The fungal isolate *Mycelia steriliashowed* antibacterial activity on *E.coli* and *Staphylococcus aureus*.

Introduction

The word endophyte is derived from Greek, 'endo' meaning within and 'phyte' meaning plant (Caroll, 1988). Endophyte, by definition, is one which occupies in the tissues below the epidermal cell layers and has no apparent damage to the host (Petrini, 1991). According to Dreg Fuss and Chapela (1994) there may be one million species of endophytic fungi in various medicinal plants. The distribution of endophytic mycoflora differs with host, climatic factors and geographical regions. Generally different fungal community compositions and isolation frequencies are found in various host plants in endophytes study (Cohen, 2006).

Tropical endophytes have been actively studied since 2000 to explore these diverse groups of endophytes with its greater biodiversity. Most of the endophytes are capable of synthesizing bioactive compounds that may provide beneficial novel drug discovery (Guo *et al.*, 2008; Yan *et al.*, 2011). Besides the role of endophytic fungi in survival value of their host plants (Sturz and Nowak, 2000) recently, based on their good antimicrobial activity more attention has been given to the potential of exploiting endophytic fungi for novel antibiotics (Debbabet *al.*, 2012; Radic and Strukelj, 2012; Mousa and Raizada, 2013).

Rational of the study:

The isolation and study of fungal endophytes and their metabolites were studied to understand the effect of antibacterial property.

Objectives:

1. To isolate and screen for the endophytic fungi from roots of medicinal plant *Tylophoraasthmatica*
2. To investigate the effect of endophytic fungi on medical pathogens *E.coli* and *Stapylococcusaureus*.

Materials and Methods:

1.1.Sampling site: The endophytic fungal samples were collected from the roots of medicinal plants of *Tylophoraasthmatica* from Dhanvantri Vana is located at JnanaBharathi, Department of forestry, Government of Karnataka, Bengaluru, Karnataka, India.

Locality	Latitude	Longitude	Habitat/ Forest type
Dhanvantri Vana, Bengaluru	77.498159° W	12.942061° S	Cultivated

1.2 Isolation of endophytic fungi:

The collected root samples from *Tylophoraasthmatica* was washed and cut into small bits and subjected to surface sterilization. It was disinfected with 75% alcohol for 1 minute followed by immersion in 5% of sodium hypochlorite for 8 minutes. The sterilized root bits were again immersed in 75% alcohol for 30 seconds and then rinsed in sterile distilled water to remove the traces of sterilants on root bits. Finally the root bits were blot dried on sterile blotting paper a modified method. (Guo *et al.*, 2008; Wang *et al.*, 2008; Samagaet *et al.*, 2014) The processed root bits were placed on sterilized Potato Dextrose Agar (PDA) medium containing streptomycin and incubated at 28°C for 21 days and observed for the growth of fungus.

1.3 Identification of fungal isolates :

The isolated fungal colonies were sub cultured in Potato Dextrose Agar slants and identified for their colony characters and the morphological characters using lactophenol cotton blue.

1.4 Study of endophytic fungi for anti bacterial activity.

(a) Turbidity method: The bacterial strains gram positive *Staphylococcus aureus* (NCIM 5345) and gram negative *Escherichia coli* (NCIM 2068) were cultured in nutrient broth for 48 hours. The 1ml of sterile nutrient broth was taken and added with the 1ml of crude fungal broth with 100 µl of bacterial culture. The tubes were then incubated at 37°C for 48 hrs. The tubes were observed for the presence or absence of turbidity. The absence of turbidity indicates that the fungal broth is effective in inhibiting growth of bacteria.

Agar-Plate technique: A plate of nutrient agar medium was inoculated with the test organism by spread plate technique for uniform growth of bacterial lawn. Circular sterile paper discs soaked in fungal extract is placed on the agar medium. The fungal broth extracted with ethyl acetate and dissolved in DMSO was used for the study of antibacterial property. The plates were then incubated at 37°C for 36-48 hours and observed for the zone of inhibition. The control used was an antibiotic Ciprofloxacin was used to compare the zone of inhibition of test results. The diameter of the inhibition zone around the discs is measured in millimeter (mm). Agar disc diffusion method was followed by the method given by (Kirby- Baurer 1996)

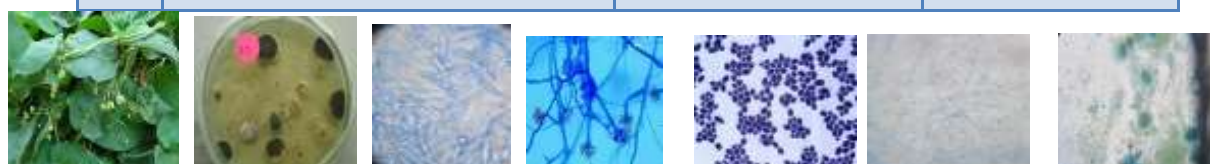
2. Results and Data analysis

2.1 Endophytic fungi isolated from *Tylophoraasthmatica*

The study showed fungi *Fusarium solani*, *Mycelia sterilia*, *Cunninghamellaelegans*, *Gliocladiumdeliquescens* and *Saccharomyces cerevisiae* isolated from the plant *Tylophoraasthmatica*.

Fig.2.1 Fungal isolates from plant roots of *Tylophoraasthmatica*.

Sl	Fungal isolates	Rhizosphere fungi	Endophytic fungi
1	<i>Fusarium solani</i>	+	+
2	<i>Mycelia sterilia</i>	-	+
3	<i>Cunninghamellaelegans</i>	+	+
4	<i>Gliocladiumdeliquescens</i>	+	+
5	<i>Saccharomyces cerevisiae</i>	+	+



Tylophoraasthmatica Fungal isolates *F. solani* *Mycelia sterilia* *C. elegans* *S. cerevisiae* *Glio. deliquescens*

Fig. 1.2 Fungal isolates from plant roots of *Tylophoraasthmatica* sampled at Dhanavantrivana

2.2 Study of Endophytic fungi for Anti bacterial activity: The study of Turbidity method was done for the fungal isolates from plant *Tylophora aethiatica* showed two dominant fungi, *Gliocladium deliquescens* and *Fusarium solani* inhibiting both *S. aureus* and *K. pneumoniae*. The endophytic fungi *Mycelia sterilia* inhibited all the three bacteria *S. aureus*, *E. coli* and *K. pneumoniae* whereas the *Penicillium madriti* inhibited both *K. pneumoniae* and *S. aureus*. The fungi *Saccharomyces* sp. and *Cunninghamella elegans* did not show inhibition of both gram positive bacteria and gram negative bacteria.

Table: 2.2 Study of fungal endophytic extract as an anti-bacterial property.

Sl No	Name of the Plant	Name of the Fungi	Zone of inhibition (mm)		
			<i>E. coli</i>	<i>Staph. aureus</i>	<i>K. pneumoniae</i>
1	<i>Tylophora aethiatica</i>	<i>Penicillium madriti</i>	0.00	6.00	0.00
2		<i>Mycelia sterilia</i>	4.00	5.50	0.00
3	Ciproflaxacin 5µl (1mg/ml)	Standard	20.00	21.00	13.00

Conclusions:

The fungal endophytes are a resource unexplored which produce various metabolites which can be antibacterial in nature and provide greater potential in studies of medical, agricultural and industrial exploitation (Tan & Zou, 2001). The present study of the effect of crude broth from the fungi *Penicillium madriti* showed moderately significant antibacterial activity on *Staphylococcus aureus*. The fungal culture *Mycelia sterilia* also showed antibacterial activity on *E. coli* and *Staphylococcus aureus*.

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COVID 19 and Students

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Abstract:

There is a very strong relation between COVID 19 and students both positive and negative. COVID 19 has made the students realise the importance of their teachers and their responsibility towards their family and Nations .It has brought the sense of unity between the parents and the child ,between students and teachers ,between students and the nation, between students and their grandparents who are now senior citizens, between education and students etc. Together we can do a lot .Time is now to be united as matured citizens and work for the welfare of our Nation to fight the challenges faced because of this pandemic. Especially the working student who were sharing the cost of education and bearing the financial burden of their education.

Keyword: Relation responsibility ,senior citizens, challenges , financial

Methodology: Based on secondary data and qualitative.

Aims and objectives:

- 1.To understand the problems faced by students due to COVID 19 lock down.
- 2.To understand how students can play an important role in COVID 19 if they are disciplined and groomed properly by the teachers.
- 3.To make our government realise that online education will not lead to inclusive growth of the students belonging to the vulnerable section of the society who are also an important part of our human resources.
- 4.To make the teachers realise that they have to become all the more responsible towards the students as there is a third party between them and the student that is on line teaching.

Introduction:

We have experienced so many challenges but this pandemic brought by COVID 19 has totally shattered us and jailed us in the four walls of our houses .It has effected every field but the most important field that is a source of revenue to the government and helps in social infrastructure is health education , employment ,agriculture and tourism. When I refer to education I mean the students ,especially the students who come from the very poor homes .India is working at eradicating illiteracy but corona virus is a big obstacles in achieving this goal which aims at inclusive growth. It has effected the minds of each and every student ,rich or poor but comparatively it has created a complex in the minds of the poor and the vulnerable students. Education is an important social infrastructure which can help the economy in taking a V or Ushaped curve .Today Corona virus has forced institutions to go modern .But do all the students can avail the online education without android phones or a computer ?Their phone battery should be powerful too.More over they should have access to net facilities

Why is education important and how can it help during COVID 19 through students?

Education raises the productivity and creativity of a person to earn and enhances entrepreneurship It helps in economic and social progress and also in earning more income which raises the standard of living. It brings a better understanding of what is happening and keeps you cautious about the unforeseen future

Students must be well equipped with knowledge skill, which will help the economy to grow and flourish as they are the future pillars of the economy. Every child is blessed in a different way .But the health and

education of the child decides his future and the future of the economy. The quality of students plays a very important role in the future of the Nation. Our students should be educated to take good care of themselves and their home surrounding too. Save oneself, save one's family members and save the environment. They should be encouraged to participate in sports and other curricular activities. We can greatly say that students can make the future of the coming generation; they can contribute to the progress and development of the country. They can help in introducing new technology; the self-confidence of the students should increase by parents and teachers in spite of all odds. They can help senior citizens by caring, sharing and guiding.

Students should be taught to follow the rules and regulations made by the government, so that they can teach others to follow them too. They should be explained the importance of sanitation during COVID-19, time and even after as they can spread the message where they stay. They should be explained the values of life like honesty, patriotism and healthy competition and not take bribe. They should be taught to respect and help senior citizens and even take care of them so that they are not infected by COVID-19. Even they should be taught to safeguard public property and always help in maintaining law and order, empower the people about their fundamental rights as citizens. And see that they don't cheat others and others don't cheat them.

Students can make vocal local. Their voice will reach out to others and will be made to understand, what is going on in the country and how they can contribute in fighting the pandemic. Since most of their parents have lost their jobs, they should think of how to shoulder their parents and educate themselves with putting the burden of taking loans as loans will reduce their purchasing power and leave their family with less disposable cash that could support consumer spending. Students working and studying abroad should be taught to send remittances from abroad. Students should be taught the importance of paying taxes.

Student stage is prominent to all stages of life. In this stage itself one has to learn life issues and how to tackle learn and make life beautiful; this stage not only helps him grow but also decides nation development. A nation should be developed by its people, who should work hard to strengthen it.

Just as, good tree gives good fruit. A student becomes a good citizen, a good citizen makes a better society. A good student forms a virtuous society which is graft-less, politically balanced, economically standard and stands on moral grounds. Such students are a blessing to the economy.

Students are prospective heirs of nation. So they should be well equipped with sound moral, political and economic views. They must have the desire to face any challenges, courage and wisdom to understand the situations and educate their family and protect their families too.

They are the vital organs of the Nation who in future could be investors, producers, guide etc. They are most important human resources of our country. They invigilate our society by participating in politics; they are bridges between the present generation and the past generation.

COVID-19 has mentally affected the hard working and the brilliant students who want to excel and who are not happy that there are no exams and all are promoted without giving exams or irrespective of failing in one or two subjects. It will kill the competitive spirit in them which makes them want to grow and excel.

Education is a phenomenon that redefines the education landscape placing the students at the centre of the ecosystem and shifting the focus from teaching to learning. Learners are now willing to experiment with how they receive their education, where they learn from. Most of the policies of the Government is an attack on the middle class, whose income is open and cannot be hidden. Increase in taxes, cutting half the salary, cutting one day's salary, delay in the salary etc.

Ridiculous policies of the governance in administration, Least foresighted about any consequences. Wrong steps, Wrong timings, erratic policies, threatening a hard working and tax paying common man's life. Struggles will vanish and hard working will struggle, The frothy cream alone will survive or float on top..

Youth are students going to college are the most important actors of sustainable development.

Work done by the students during the spread of Corona virus:

1. Students have volunteered to help in supplying food grains to the needy.
2. Distribution of Masks.
3. Monitoring the area.
4. Reducing the fear in senior citizens by caring and sharing information.

- 5.Cooperating with the educational institutions .
- 6.Making homemade mask and sanitizers.
- 7.Staying at home even though it was their vacation.
- 8.Understanding the government and obeying the orders of the government.

Solutions:

- 1.No student should be deprived of education just because of online teaching ,lack of computers inability to pay fees.
- 2.Government should ask the colleges in slums areas to reduce the fees and to take the fees in instalment .
- 3.Free ship should have given in the worst cases.
- 4.Free supply of book to the vulnerable section of the society.
- 5.Computers and internet facilities should be provided to the student s from the poor homes .
- 6.Principals should avail the CSR facilities to provide good infrastructure and facilities to students in slum areas.
- 7.When anti polio eradication can reach one billion people in India then why can't education.

Kind of spread in Delhi and Mumbai has crept a lot of disturbances in our Economic financial and mental life. Of course very soon the vaccine is going to be out to fight the virus Yes everything has come back to normalcy but that is because humans are jailed in their homes .This means that human are the root cause of exhausting the resources . COVID 19 is teaching us to make optimum use of the resources keeping in mind saving the resources for the future generation. To some extent it is disciplining us .Yes COVID19 has brought us on one globe People from far and wide have come together on one platform without travelling and has given us an exposure to the latest technology .

But just as in every misfortune there is a fortune .So also in every crisis there are opportunities which we have to search.Opportunities are like biscuits one should grab them immediately or they will sink in the tea that we will not able too getit even with the spoon

COVID19 could lead to students committing suicide as they cannot afford to pay their fees

Hope and pray we don't hear such bad news .We as academicians should not think of only the well off students. Infact we should think of those children who are very much interested in studies but belong to the vulnerable section of the society

What is the state of a child when their parents suicide and similar is the case of the parent when their child commit suicide. Mostof the children and the parent today are living infear that either way should not suicide as the circumstances are very bad .

If you loose your love one in sickness or accident the feeling is not so bad as u feel it was fatal and you did your level best but if the loved ones commit suicide its very painful especially your children on whom you spend your love your time energy and money. We teach our children to work hard study hard but at the end of the day after he or she completes ones studies one commits suicide then all your efforts goes to dogs.COVID 19 has created such situations for parents and students. Hopefully the Good lord saves us from such temptations.

COVID 19 has become so famous that it is the talk of the town.

Nurture your dreams its easily said than done for the vulnerable and the poor. Dreams can be nurtured only if we have money .Th lock down due to COVID 19 has shattered the dreams of the students and is taking away their time which will not come back. The rich can manage education online as they have Aneroid phones and computer but what about the poor ?

Students are the future of the economy .We should be concerned about them .Our government should take a strong decision of how to spread literacy in the country to each and every child , poor to the poorest.More over in the middle class families which have two children and one computer both having online classes at the same time .It will be difficult for the parent to decide whom to give the PC and whom to sacrifice. Schools are converted into quarantine, we do not know how long it will take ,thus we don't know when children will go back to school and once again enjoy the best time of their life which is school and college days .

Coming to online teaching which is capturing the market of education :

1.**Firstly**, students and teachers have realised how exhausting it is to be on screens all day long. Remote learning has reminded us that powerful learning can only happen when we are engaged, energetic and focussed ,which happens in classroom learning and teaching. If it becomes a question of filling in hours then we are missing the point.

This is why good practice during this distant learning experience has been to reduce screen time and modify the curriculum accordingly. If the online sessions are between 15 to 30 minutes then they are most effective". One is because the phone battery may not go on for so long and the students have law of diminishing when it comes to sitting without a physical teacher in front of them and with outbreaks .

All work and no play makes jack a dull boy is very true even in classroom learning ,without breaks .

2.**Secondly**, schools have understood that this is not just isolated learning, it is learning during a pandemic. Anxiety, uncertainty, fear are common problems faced by students .the fear of losing their favourite teachers contact that is face to face communication .Teachers have to be more patient loving and keep checking in with students to make sure how they are coping which is , extremely important. Online teaching and technology is allowing students to connect with one another in chats or video conferences during remote lessons. But they miss their peer groups ,miss playing ,sharing and caring for each other, birthday parties ,picnic, night out etc which creates a psychological There is a risk that by focussing on academics only, schools are forgetting that besides studies activities are also very important .As parents or teachers we should understand what are child is missing and bear with them too.

3.**Thirdly**, many students are left behind because of lack of devices and untrained teachers in their school or colleges while others have been able to fast-track their digital learning as they have an access to high Fi devices and highly trained teachers. Thus Governments, colleges and schools must make every effort to ensure that systems and infrastructures are provided to all school and colleges and the teachers are trained to use the high graded technologies to teach the students .

The COVID-crisis has added to fear in the minds of the students but also in the minds of the teachers as they are wondering how they will be able to maintain social distancing with the students if they go back to traditional teaching on the other hand how they will build a sense of community and human contact if they shift to online teaching. Will the students understand the way they understood in the classroom will they be able to maintain that rapport with each and every student and how will the students react when they are back to school or college.Students want to interact with their teachers share their problems ,share their thoughts Many find peace in talking to their teachers

We all know that we have to go up one day but still its very pain full.Corona virus has made many women widows n many children orphans and homeless There is a saying, kill depression before it kills us.Depression and mental illness are to be tackled at earliest and the best person to help you is one self .Be strong , be positive and learn to survive with what you have instead of begging and borrowing and sinking into debts this is what we as teachers should teach our students .

Idle mind is the devils workshop Always keep your self respect high as a student or as a human. Fight with the virus the way you have to fight with it and pray to God the creator to be with you. Without the creator we are useless.

Depression is the work of the devil so if u turn to god it will leave u Be positive .Students go in depression very easily as it is their tender age this is where the traditional teaching helps but since we cant help them directly we can use the online platform and council them.

It is the moral responsibility of the teachers to check-in with each and every student is in a proper state of mind and see that the students are connected to each other . practice mindfulness, to give students opportunities to connect with each other so that at least through some student they will get the information n we can save some life.

Education is vulnerable and is in danger and inequality has crept .The COVID-19 crisis may take us back to where we were before , when we had massive inequality in the education sector .There is a need to invest more in education all the more as teaching has moved to online where there is a need to have a computer

at each and every home ,especially at vulnerable homes. Moreover investment in health of students or children is amust .

Care has to be taken about the emotional and psychological state of the students Many have lost their loved ones and many have experienced having COVID 19 and the trauma they have gone through will take time to bring them back to normal, to think normal and behave normal .To add to it problems are increasing .There was a cyclone ,locusts and now war between China and our country .When things will get normal is a big question.Come what may we have see that our students are positive and seek opportunities even during these bad times.It's not too late

Indian economy is going to troubled time now and the students are going through worst as they are not sure if they will be able to finance their education and complete it.

Conclusion:

COVID 19 has put our students in a dilemma .They are now in a disturbed state and are mentally not in a state as they cannot see their families in pain nor do they want to be a burden on their families .But they are trying to keep a balance at home. They will have to work and fund their own studies since their jobs and their parents jobs and saving have drastically decreased.This is an acid test for teachers .Now they have a bigger role to play in the lives of their students .They have to console them and make them aware that the teacher are still there for them .Teachers will have to reduce the fear of COVID 19 in the students and tell them that situation will not be the same for long we will meet again and have the same fun .Have a what's app chat with them and ask them to share what is happening in their lives.Tell them that you are there for them when they need you.

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Indian Agro Based Exports And The Growth And Performance

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1. Introduction

Agriculture sector in India is one of the conventional and age old habits which help to identify the culture and behavior Indian population. Indian agriculture not only need the demands of Indian population and also exporting to various countries. The history of Indian exports is very old. During ancient times India exported spices to the other parts of the world. India was also famous for its textiles which were a chief item for export in the 16th century. Textiles and cotton were exported to the Arab countries from Gujarat. During the Mughal era India exported various precious stones such as ivory, pearls, tortoise stones etc. But during the British era, Indian exports declined as the East India Company took control of foreign trade. In the past ten years, Indian exports have grown at a rate of nearly 22 percent. Some commodities have enjoyed faster export growth than others. Some of India's main export items are cotton, textiles, jute goods, tea, coffee, cocoa products, rice, wheat, pickles, mango pulp, juices, jams, preserved vegetables etc. India exports its goods to some of the leading countries of the world such as UK, Belgium, USA, China, Russia etc. (tradechakra, 2016) [13] Exports from India increased 4.39 percent year-on-year to USD 23.56 billion in June of 2017, the smallest gain since January. Sales increased mainly for engineering goods (14.78%); petroleum products (3.6%); organic and inorganic chemicals (13.2%); rice (27.29%) and marine products(24.27%). Shipments of non-petroleum and non-gems and jewellery added 6.02 percent. Exports in India averaged 4903.46 USD Million from 1957 until 2017, reaching an all time high of 30541.44 USD Million in March of 2013 and a record low of 59.01 USD Million in June of 1958.(tradingeconomics, 2017) [14]

2. India's Agricultural Performance

India's aversion to international trade and reliance on domestic factors to fuel growth during the fifties meant that exports played a smaller role and this is evident from the following table, where India's exports lost its world market share between 1951-1960 and 1961-70. Till the mid-seventies, India's policy was restrictive and focused on developing the domestic industry, while tightening control on foreign trade (using quantitative restrictions as a tool). High levels of protection coupled with an overvalued domestic currency resulted in a growing demand for imports and discouraged exports. Moreover, India's exports also suffered because export incentives were only available to a limited number of manufacturing industries and selected agricultural exports. India is mainly an agricultural country and agriculture is the main occupation for most of the Indian families. In India, agriculture contributes about sixteen percent (16%) of total GDP and ten percent (10%) of total exports. Over 60 % of India's land area is arable making it the second largest country in terms of total arable land. Agricultural products of significant economic value include rice, wheat, potato, tomato, onion, mangoes, sugar-cane, beans, cotton, cashew, etc. India is one of the largest producers of food and it is also the largest producer of milk, sugar cane, and tea. It is the second largest producer of rice, fruits, wheat and vegetables. In India about 70 % of the population depends on agriculture and agro based industries.

3. Review of Literature

Priyanka Sahni (2014) [7] explains the India's exports performance improved significantly during the post-reform period and there has been a perceptible change in the value, composition and direction of India's exports. Though the volume and value of exports has increased manifold, India's share in the world exports is still not up-to the expectation. The share of manufactured goods as well as the proportion of high value and differential products, petroleum products has increased in India's export basket reflecting that Indian economy is being diversified and non-traditional items of exports are gaining importance. The most remarkable change in the direction of India's exports during post-reform era has been the increasing share of developing countries, OPEC, Latin America, Africa and Asia. It is expected that exports would grow at an average of 25 percent over

the next few years. India's entry into new markets and robust performance in engineering goods, gems and jewellery and textile segments are the reason behind the growth spurt. Shahana Mukherjee (2012) [8] discusses that India has followed a development model unlike that of the East Asian Economies. While the services sector has registered remarkable growth and contributed significantly to India's GDP, the manufacturing sector has grown at a comparatively slower pace. The overall performance of the Indian manufacturing sector has widespread implications for various aspects of the economy; employment, being one of the chief areas of impact. Since this sector generates large scale employment for low and medium skilled workers, it is imperative to develop features which will create a better environment for industries to grow further. Author identifies the various inadequacies which prevail within the sector. In particular, the presence of the unorganized component within industries reduces the benefits that can be derived from economies of scale. Such constraints cumulatively prevent the manufacturing sector from achieving its potential. Neha Sinha (2013) [3] concludes that India's agricultural and allied product exports have multiplied despite flip-flop in export policies. India's policy on export of agricultural commodities has often been restrictive to ensure adequate supplies at home to meet domestic need. However, this needs to be balanced by the need to step up our foreign currency earnings and also better remuneration to our farmers. Moreover, in years of domestic over supply, given the inadequate warehousing infrastructure, it is better to export food grains rather than allow them to go waste. Greater returns from agricultural goods can also create incentives for and facilitate investment to boost productivity, which in turn will further enhance farm income and support the rural economy

Manoj Kumar Sinha (2016) [9] explains that the composition of India's foreign trade has undergone substantial changes, particularly, after the liberalization and globalization. Our major exports now includes manufacturing goods such as Engineering Goods, Petroleum Products, Chemicals and allied Products, Gems and Jewellery, Textiles, Electronic Goods, etc. which constitute over 80 per cent of our export basket. The increasing trends of concentration ratio has been supplemented and complemented to the dominance pattern. India is required to make its commodities more competitive at the world level. There is also required to add new commodities and services at competitive price in the export basket for increasing export performance. For this, India needs a comprehensive policy measure and integrated efforts. Prabeena Ambidattu (2015) [6] focused on the performance of cashew nut industries in Kerala and also made attempt to understand the reasons behind in the reduction of production and exports in the state. India, and especially the state of Kerala, has a long engagement with the cultivation and processing of cashew. Cashew provides an important source of income and food security for smallholder producers and for low-income groups, particularly women, who work in the processing sector. After 2004 the production of cashew in Kerala shows a declining trend. Maharashtra is the highest cashew producing states in India. Kerala has the fourth position in production. The shifting of cropping pattern to more profitable crops like rubber is the main reason for reduction in cashew production. Sunny Thomas and Waheeda Sheikh (2012) [10] explored the growth performance of India's agricultural exports from 1991- 92 to 2009-10, using compound annual growth rate and percentage share in total export of India as well as Gross Domestic Product. An in depth composition and structure analysis of the agricultural export is undertaken. The author also examines the changing dynamics of the contribution of individual group of commodities in the basket of agricultural export. Emerging world demand for Indian agricultural commodities offers great opportunity. Indian agricultural exports have increased manifolds. However, the contribution of agricultural export in the total export of the country has decline. The buoyancy in exports of agricultural products is clearly visible. Agriculture export had been occupying the place of pride in the export basket of India.

Table 2: Basmati rice export to the top five destinations Quantity in MT and Value in US\$

Importing Countries	2015-16		2016-17	
Quantity	Quantity	Value	Quantity	Value
Saudi	948845.00	842.22	811776.00	673.14
Iran	695311.00	571.19	719478.00	566.87
UAE	612152.00	475.18	615690.00	468.68

Iraq	418312.00	340.97	456991.00	339.91
Kuwait	180730.00	211.68	162782.00	149.47
Top 5 Total	2855350.00	2441.24	2766717.00	2198.07
Other Countries	1189483.00	1036.11	1233005.00	1024.28
Total	4044833.00	3477.35	3999722.00	3222.35
% Share of Top 5 Countries	70.59	70.20	69.17	68.22

The above table reveals that the India's export of basmati rice to the leading countries. In this list Saudi Arabia records the top position of importing basmati rice from India and it has been gradually decreased 8.5 percent from the year 2015-16 (948845) to 2016-17 (811776). Iran is in the second position of importing basmati rice from India and it has been gradually increased 3.9 percent from the year 2015-16 (695311) to 2016-17 (719478). UAE is in the third place of importing basmati rice from India in the year 2016-17 it was 615690 MT. Iraq and Kuwait are imports 456991 MT and 162782 MT respectively in the year 2016-17. The remaining less than 29 percentage of basmati rice only export to other countries.

Compare to another agro based food products basmati rice only earning high value from other countries 2016-17 (719478).

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4. Conclusion

India is one of the large populations consist country in the world with more than 58 percent of the people involved in agriculture. Agriculture is an income generator of the society. It will give more employment opportunity to educated and uneducated peoples and many businesses are depending on agriculture. The major exportable agro based products of Basmati rice, Non-basmati rice, Oil meals, Guar gum meals, Cotton Spices and some other products also getting constant markets from other countries. It is not only opportunity for income earning from export, it helps to agro based industrial growth and agriculture growth. Agro based industries are the very essential to the agriculture and the sellers of agro based products. Agro based industries are help to social development by given the employment to the farmers, agricultural workers, wholesalers, retailers, exporters and other beneficiaries. If the government of state and central support (Finance, training and others) to the Agropreneurs for starting business in a right time and ease to reach rural people is must. Because in India rural areas are the raw material provider of the agro based industries. Export of agricultural products from India have vast potential and demand in international market. Therefore, it is concluded that Indian agriculture export will be more in future particularly rice and spices.

Agriculture in India helps to ameliorate the conditions of those who belong to the lowest rungs of the social and economic strata. It softens the harsh edge of extreme poverty and plays an important role in improving the health and nutrition of the India's rural masses. By providing income and upholding the human right to food, farming establishes a resilient rural sector as a basis for a relatively egalitarian distribution of income and production (Ramphul 2012). As a matter of fact, the sustained and accelerated development of agriculture in India is the key to the acceleration in tempo of its economic growth, equity and a significant dent in poverty and hunger. Janvry and Sadoulet (2010) report that there is an overwhelming body of evidence which shows that in India, a one percentage growth in agriculture is at least two to three times more effective in eliminating poverty than the same growth originating from the non-agriculture sectors. Hence, the growth in the agricultural sector remains a 'necessary condition' for the inclusive growth as envisioned in the approach paper for the India's 12th Five-Year Plan (2012–2017), with an appropriate title: "Faster, Sustainable and More Inclusive Growth". As such, the agricultural sector and its future growth potential hold a critical value for the Indian economy.

A survey of literature on the export-led growth hypothesis indicates that there are four main explanations for the relationship between exports and gross domestic product. These theoretical underpinnings are: (1) following short-run Keynesian arguments, the export growth leads to the income growth via the foreign trade multiplier, (2) the foreign exchange from exports can be used to finance the imported manufactured and capital goods and technology, which contribute to growth (Chenery and Strout 1966), (3) competition leads to the scale economies, the technological advance and growth (Helpman and Krugman 1985), and (4) following endogenous growth theory, the export sector creates positive externalities, such as more efficient production methods, which lead to growth (Balassa 1978; Grossman and Helpman 1993). During the last four decades, in average, agricultural exports accounted for 20% of India's total merchandise exports. As agricultural exports are a substantial proportion of the total merchandise exports in India, it is perhaps reasonable to assume that agricultural exports cause the GDP of agriculture also.

5. Material And Method S

We seek a casual relationship between the GDP of agriculture and agricultural exports in India. In order to trace the direction of the causal link between agricultural exports and the gross domestic product of agriculture in India, we resort to the technique of the Granger causality. This technique allows for a rigorous exploration of the potential linkages between the variables in the long-run and short-run, respectively.

6. Conclusions And Policy Implication

In the study, we have empirically investigated the nature of the causal relationship between the India's GDP of agriculture and agricultural exports using the Granger causality test via the Vector Error-Correction Model over the period 1970–1971 to 2009–2010. The time series properties of the data are examined applying three unit-root tests, namely the DickeyFuller generalized least squares, the Augmented Dickey-Fuller and the Phillips-Perron. The results of unit-root tests suggest that the series of the India's GDP of agriculture and farm exports are integrated of order one. Our results of the Auto Regressive Distributed Lag bounds testing approach to the co-integration and the Johansen-Juselius maximum likelihood tests show that there is a long-run positive relationship. Accordingly, there appears to be a potential for agricultural growth by adopting the outward-looking, export-promotion policies. The policy implication of these findings is that in order to accelerate the agricultural growth rate in India, there is a need to encourage the agricultural exports. In further research, it may be useful to extend the analysis to the other leading farm producing developing countries.

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Assessment of Tasseled Cap transformation of Mumbai Urban Agglomeration, India

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Abstract

The Tasseled Cap Transformation (TCT) is a significant tool for shortening spectral data into a few (2-7) bands accompanying with physical scene characteristics with negligible information loss. It has been commonly used in the remote sensing community. The purpose of this present paper is to derive the TCT parameters for the Landsat 8 OLI top of atmosphere (TOA) reflectance images and compare the differences between the Tasseled Cap Transformation parameters derived from the summer images. The lately established standardized mechanism was used to convert the principal component analysis (PCA) established rotated axes conformation according to the Operational Land Imager (OLI) and tasseled cap space. At first, OLI data were converted into TM TCT space directly and considered as a dummy objective. Then, PCA was applied to the original scene. Ultimately, to get the transformation results in the best conformation to the objective image. Coefficients were analyzed in detail to confirm Landsat 8 based TCT as a continuity of the original tasseled cap thought. Consequences show that the forthwith derived set of coefficients for Landsat 8 OLI is in continuation of its predecessors and hence provide data continuity through TCT to 1972 for remote sensing of surface features i.e. vegetation, albedo, and water. The results from this paper suggest that the TCT parameters derived from the image from May are most appropriate for regional remote sensing applications over the Mumbai Urban Agglomeration, India where atmospheric correction is not feasible. The lately derived TCT for OLI will also be very useful for studying biomass estimation and primary production for future studies.

Keywords: Tasseled cap Transformation, Principal Component analysis, Correlation, Remote Sensing

1. Introduction

The “tasseled cap” transformation was introduced by Kauth and Thomas in 1976 of Michigan from the Environmental Research Institute in the article of “The tasseled Cap – A Graphic Description of the Spectral-Temporal Development of Agricultural Crops as Seen by Landsat” published in the title is “Proceedings of the Symposium on Machine Processing of Remotely Sensed Data”, Indiana, Purdue University of West Lafayette. But it was originally evolved from the Landsat multi-spectral scanner (MSS) launched in 1972 and is widely adapted to modern sensors. The pro-founder of TCT used MSS data to investigate the plant growth patterns in connection with a ‘triangular cap-shaped region with a tassel’ in red-NIR space (Kauth and Thomas 1976; Ray 1994). TC with low red reflectance and higher NIR reflectance was found representative of higher vegetated areas, though the opposite to the top, the flat side of the cap (not perfectly horizontal), was found illustrative of the bare soil (Ray 1994). The encapsulation of physical scene characteristics in the form of tasseled space has made TCT a useful index and as an investigative tool in the field of phenology and ecology (Lobser and Cohen 2007).

Both multi- and hyper-spectral data have highly correlated bands. Traditionally, three axes were defined: (a) Brightness, (b) Greenness, and (c) Wetness. Firstly, a rotation was defined to separate the vegetation from non-vegetated features by maintaining the orthogonal property between a, and b components. Then, rotating components b and c orthogonally separated the water from vegetation features. Finally, orthogonal rotation between components a, and c was implemented in order to separate water from features of vegetation and non-vegetation (Zhang et al. 2002). Brightness, the first feature of TCT is a weighted sum of all the bands and accounts for the most variability in the image. It is naturally concomitant with bare or partially covered soil, natural or man-made features, as well as variations in topography. Greenness is a measure of the contrast between the NIR band and the visible bands, because of the scattering of infrared radiation resulting from the cellular formation of green vegetation and the plant pigments absorption of the visible radiation. Soil reflectance curves as well as soil signatures are represented with higher values in ‘Brightness’ while they are conveyed in

low 'Greenness' values. The third component is orthogonal to the first two components and is related with soil moisture, water, and other moist features (Crist and Cicone 1984b; Crist and Kauth 1986; Zhang et al. 2002).

There are three planes features: firstly, the plane of soils (Brightness/ Wetness space), secondly, the transition zone (Greenness/Wetness space), and thirdly, the plane of vegetation (Brightness/Greenness space). The pre-planting field having bare soil will be analyzed best in the plane of soils. After establishing, it would move up through the transition zone towards the plane of vegetation as the crops ripened and then would 'tassel out' with senescence. All these phases of plots would together form the shape of a 'tasseled cap' (Crist and Kauth, 1986; Crist and Cicone, 1984b; Kauth and Thomas, 1976). Recently, there were no standards for deriving the orthogonal revolution coefficients due to the pluralistic examination of the tasseled cap features (Lobser and Cohen, 2007).

Any number of TCT's perhaps developed if the selection of aligning these three axes is left to the discretion of a researcher. Since the launch of Landsat 8 in 2013, it was being demanded by researchers working on vegetation how to use TCT for this new sensor in the same way they used it for other sensors. Addressing that dire need of researchers, this study is presenting the new TCT coefficients for operational OLI land imager in a form of this epistle. To preserve the completeness among the sensors for the same TC idea imperils propounded by Kauth and Thomas (1976) and examined by Crist with former researchers (Crist and Cicone, 1984b & 1984a; Crist 1985; Crist and Kauth, 1986).

In this article, the authors have set forth the reasoning underlying the model proposed for Landsat data on urban lands and illustrated the spectral behavior of urbanization, depending on their stage of development. Urban environments are heterogeneous at comparatively small scales and variety of land covers composed, principally including impermeable surfaces, green vegetation (e.g., the urban canopy), and soil. Ridd (1995) validated that urban land cover was subjugated by these three types, summarized as the Vegetation-Impervious-Soil (VIS) model. The model suffers because of the vagaries of every urban land cover analysis: There are multiple subtypes of every land cover with unlike spectral characteristics (e.g., multiple impervious surface colors, unlike vegetation species) and invulnerable surface and soil are easily confused. Nonetheless, the VIS model is still suitable and remains one of the most common, extensively applicable descriptions of urban land cover conformation (Phinn et al., 2002; Small, 2003; Kärđi, 2007).

The TC converts the six highly correlated spectral bands into six new bands arranged almost orthogonally. Most of the data variance is concentrated in the first three bands, while the noise and atmospheric effects are concentrated in the last three bands (Kauth and Thomas, 1976; Crist and Cicone, 1984 a & b). The specific research objectives are: firstly, to identify a method for estimating imperviousness index using Landsat 8 OLI, high-resolution imagery; secondly, to establish a relationship between imperviousness index change enormosity and urban land use and land cover change detected through image analysis.

2. Methods and materials

2.1 Study area

Mumbai is one of the most popular cities in India with a total population of about 12 million and second largest metropolitan region with about 20.7 million populations, density of population in Mumbai City and Mumbai suburban the district is 20,038 and 20,925 persons per sq. km. respectively (Census of India, 2011). It is the capital of the state of Maharashtra and is located on the western coast of Konkan coast, between 18° 53' and 19° 19' latitudes and 72° 45' and 73° longitudes (Figure 1). Presently the Mumbai is divided into two revenue districts, Mumbai City District that is, the island city in the south and the Mumbai Suburban District that includes the western and eastern suburbs. The island city, the old island of Salsette which lies at the mouth of Ulhas River, it is the core of the old port city of Mumbai during the colonial period and the suburbs together form the Greater Mumbai or Brithan-Mumbai or Municipal Corporation of Greater Mumbai (MCGM, formerly Bombay Municipal Corporation or BMC), The Mumbai Metropolitan Region (MMR) was formed to create the urban agglomeration residing of 7 Municipal Corporations and 13 Municipal Councils. In addition to MCGM, it includes the Municipal Corporations of Navi Mumbai, Mira-Bhayandar, Thane, Kalyan-Dombivali, Bhiwandi-Nizampur and Ulhasnagar. It also referred to as Mumbai, Mumbai is approximately 11 m above the mean sea level covering a total area of 6355 sq.km under MCGM and the rest under different authorities like

the Port Trust, Ministry of Defence, Atomic Energy Commission and Sanjay Gandhi National Park, etc. (Bhagat and Jones, 2013; Grover and Parthasarathy, 2012).

The total forest cover in the Mumbai city is only 2 sq.km while it is 120 sq.km in the Mumbai suburban district (FSI, 2011). Furthermost of this is open forest and a minimum area is under moderately dense forest. According to Dwivedi et al. (2015), the 70 % of the total area of Mumbai is built-up land, 20 % covered with vegetation, and 5% is barren or occupied with water bodies.

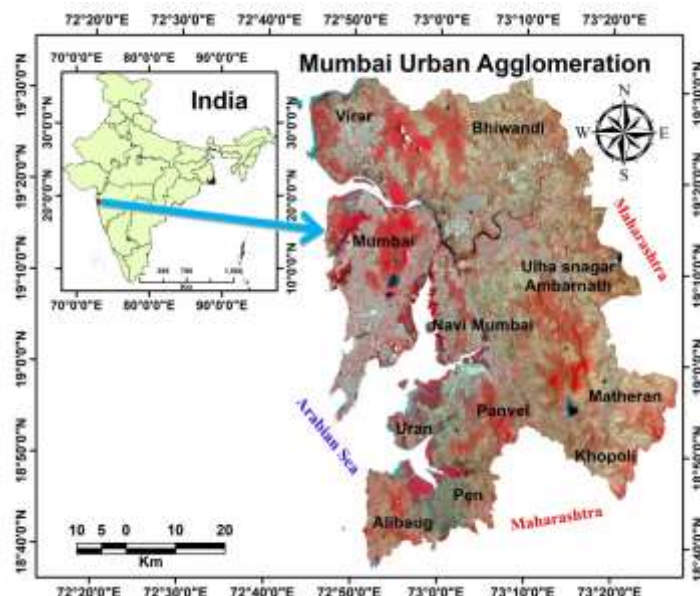


Fig. 1 The location map of Mumbai Urban Agglomeration

The study area is surrounded by Arabian Sea on the south and west, Thane district and Vasai creek on the north, Thane creek on the east and southeast. Climatologically, it is a tropical coastal city. The average temperature is 27.2^o C and average annual rainfall is about 2146.6 mm (Dwivedi et al., 2015). There are a number of big lakes in the study area such as Powai, Vihar and Tulsi. The northern side of the study area is well characterized by the tropical vegetation.

2.2 Data resources and pre-processing

This present study uses images from Landsat 8 OLI / TIRS on 23-05-2020 from United States Geological Survey (USGS, <http://earthexplorer.usgs.gov>). The path/row was 147/47 and 148/47. Due to the spectral and radiometric resolution, Landsat 8 images are suitable for tasseled cap transformation (TCT). The authors used Arc GIS 10.8; ERDAS imagine 14, and Origin 2021 software to complete radiometric correction of remote sensing images, as well as to carry out this study.

2.3 Tasseled Cap Transformation

Another transformation that was undertaken was Tasseled Cap Transformation (TC). TC is one of the obtainable methods for improving spectral information content of Landsat TM data. TC transformation was developed by Kauth and Thomas for Landsat MSS imagery (Kauth and Thomas, 1976), and later adapted for Landsat TM imagery by Crist and Cicone (Crist and Cicone, 1984; Crist and Kauth, 1986). Like PCA, it is a data reduction transformation that compresses scene spectral data into a few bands associated with physical scene characteristics. The first three components relate to values of brightness, greenness, and wetness. These three components correspond closely to the actual physical characteristics of the scene and represent approximately 95 % of image data. TCT principally optimizes data showing for vegetation studies.

TC indices give a measure of the brightness, greenness, and wetness of a pixel and utilize a linear arrangement of 6 of Landsat's frequency bands (Firl and Carter, 2011). Each of the brightness, greenness, and wetness keys can be calculated using the following Equations:

$$\text{Tasseled Cap}_i = (\text{coeff}_1 * \text{band}_2) + (\text{coeff}_2 * \text{band}_3) + (\text{coeff}_3 * \text{band}_4) + (\text{coeff}_4 * \text{band}_5) + (\text{coeff}_5 * \text{band}_6) + (\text{coeff}_6 * \text{band}_7) \quad (1)$$

where tasseled cap _i = is the calculated tasseled cap index for brightness, greenness, or wetness depending on the Corresponding coefficients values used for each band (Table 1), the bands are the TOA

reflectance's calculated in this tutorial, and the coefficients are given by Huang et al., 2002; Baig et al., 2014; Yunqing et al., 2020:

Table1. TCT coefficients for Landsat 8 (OLI) at satellite reflectance

Landsat 8	Blue	Green	Red	NIR	SWIR1	SWIR2
TCT	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7
Brightness	0.3029	0.2786	0.4733	0.5599	0.508	0.1872
Greenness	-0.2941	-0.243	-0.5424	0.7276	0.0713	-0.1608
Wetness	0.1511	0.1973	0.3283	0.3407	-0.7117	-0.4559
TCT4	-0.8239	0.0849	0.4396	-0.058	0.2013	-0.2773
TCT5	-0.3294	0.0557	0.1056	0.1855	-0.4349	0.8085
TCT6	0.1079	-0.9023	0.4119	0.0575	-0.0259	0.0252

2.3.1 Brightness or soil brightness index (SBI)

It, capable of changing the total reflectance and the physical processes affecting it, so that the new image shows surfaces with little or no vegetation. This can be calculated using the following Equations:

$$SBI_{OLI} = 0.3029 \cdot \rho_{Red} + 0.2786 \cdot \rho_{Blue} + 0.4733 \cdot \rho_{Green} + 0.5599 \cdot \rho_{NIR} + 0.5080 \cdot \rho_{SWIR1} + 0.1872 \cdot \rho_{SWIR2} \quad (2)$$

Where, ρ_{Blue} , ρ_{Green} , ρ_{Red} , ρ_{NIR} , ρ_{SWIR1} , and ρ_{SWIR2} are the corresponding bands of Blue, Green, Red, NIR, SWIR1, and SWIR2 band in the OLI / TIRS, respectively.

2.3.2 Greenness or green vegetation index (GVI)

It, responsible for the enhanced absorption in the visible specter caused by plant pigments including chlorophyll and by the high reflectance in infrared due to the internal structure of leaves. By way of importance, areas with vegetation shall understandably show in green. This can be calculated using the following Equations:

$$GVI_{OLI} = -0.2941 \cdot \rho_{Red} - 0.2430 \cdot \rho_{Blue} - 0.5424 \cdot \rho_{Green} + 0.7276 \cdot \rho_{NIR} + 0.0713 \cdot \rho_{SWIR1} - 0.1608 \cdot \rho_{SWIR2} \quad (3)$$

Where, ρ_{Blue} , ρ_{Green} , ρ_{Red} , ρ_{NIR} , ρ_{SWIR1} , and ρ_{SWIR2} are the corresponding bands of Blue, Green, Red, NIR, SWIR1, and SWIR2 band in the OLI / TIRS, respectively.

2.3.3 Wetness (WET)

It, defining the "soil plan" and represents the primary feature, it is an interrelationship of soil and canopy moisture. The wetness component of Landsat 8 OLI / TIRS is computed with the formula (Baig et al., 2014; Yunqing et al., 2020):

$$WET_{OLI} = 0.1511 \cdot \rho_{Red} + 0.1972 \cdot \rho_{Blue} + 0.3283 \cdot \rho_{Green} + 0.3407 \cdot \rho_{NIR} - 0.7117 \cdot \rho_{SWIR1} - 0.4559 \cdot \rho_{SWIR2} \quad (4)$$

Where, ρ_{Blue} , ρ_{Green} , ρ_{Red} , ρ_{NIR} , ρ_{SWIR1} , and ρ_{SWIR2} are the corresponding bands of Blue, Green, Red, NIR, SWIR1, and SWIR2 band in the OLI / TIRS, respectively.

2.4 Principal component analysis

The principal components analysis may be a means of an orthogonal transformation, inspiration and guidance for specific tasseled cap transformations (Mardia, Kent, and Bibby, 1979; Iosif, V., 2007). Become an uncorrelated PC bands are linear combinations of the original spectral bands. Few PC bands normally represent the 90-96% variance in the data, and the remaining bands represent noise (Mardia et al., 1979; Muhammad et al., 2014). This generates new variables such as the weighted sums of the digital numbers of unlike bands. Generally, most of the information contained in the data recorded is concentrated in the first components, and components higher than three are usually considered as lacking information.

PCA analysis consists in transforming data into a new system of coordinates with mutually orthogonal axes, result that can also be attained by applying the tasseled cap transformation. The latter is based on the method of PCA joined with experimental observations. In this present study, PCA is functional on the random samples representing the vegetation, soil, water and other land cover features to generate the new components in orthogonal space.

3. Results and discussion

Tasseled cap transformation i.e. brightness, greenness, and wetness perform the integration of bands and then giving the result of PCA as presented in Table 2.

Table 2: Result of principal component analysis (PCA)

Indicators	PC1	PC2	PC3
Wetness	0.09621	0.7171	0.69028
Greenness	0.99471	-0.04412	-0.09281
Brightness	0.03611	-0.69556	0.71756
Eigenvalue	0.00293	0.00108	0.00014
% eigenvalue	70.5667	26.0547	3.3786

As can be appreciated from Table 2, the contribution rate of each indicator in the first principal component (PC1) reached 70.5667% in the years of 2020. As perceived from Fig. 2 the correlation between brightness, and wetness were strongly negative, the correlation is -0.74 (Fig. 2). Remaining two indicators were weakly correlated to each other; the correlation is 0.14 and 0.13 respectively.

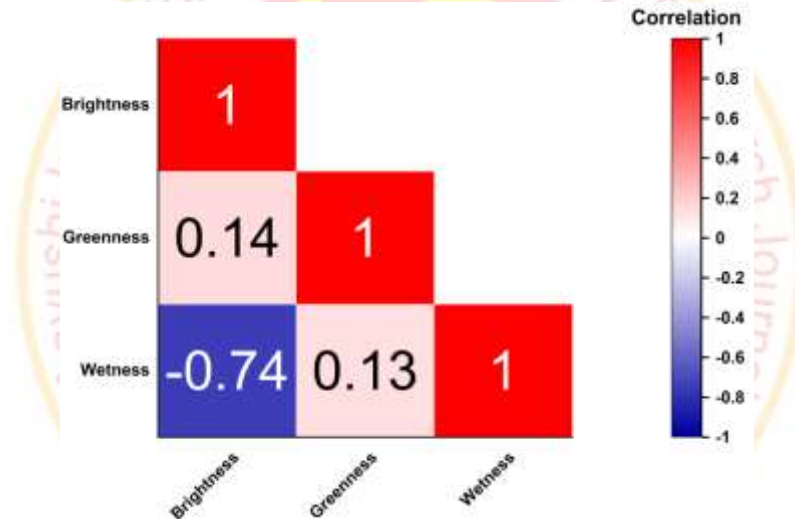


Fig.2. Correlation analysis of three indicators

The mean and SD values of TCT i.e. brightness, greenness, and wetness of the Mumbai Urban Agglomeration in 2020 are 28926.295 and 3018.835; -1391.387 and 1781.581; -3130.362 and 1978.238, respectively (Fig. 3).

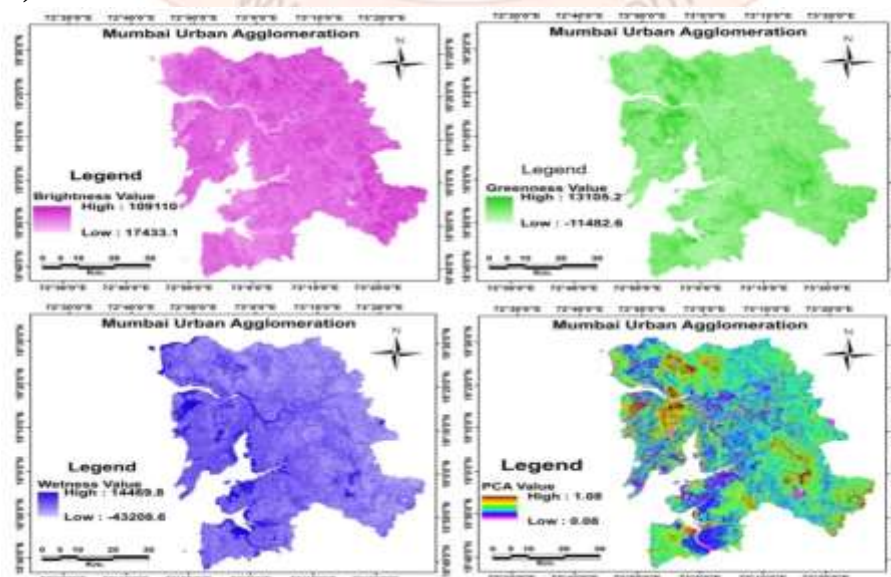


Fig.3.brightness, greenness, wetness, and PCA of the Mumbai Urban Agglomeration in 2020

Derived Tasseled cap brightness index map was displayed in figure 03a. Dark pink color area represent high brightness values while light pink colors represent low brightness values. Tasseled cap brightness index in the study area vary among 17433.1 and 109110.

Derived Tasseled cap greenness index map was expressed in figure 03b. Dark green color area represent high greenness values while light green colors represent low greenness values. Tasseled cap greenness index in the study area vary among – 11482.6 and 13105.2.

Derived Tasseled cap wetness index map was shown in figure 03c. Dark blue color area represent low wetness values while light blue colors represent high wetness values. Tasseled cap wetness index in the study area vary among – 43208.6 and 14469.8.

Above mentioned following methodology, TCT coefficients are derived for different land cover types in different time periods to make the derived scenes representative of all sorts of important features. A 3D scatter plot is confirming the concept of “triangular cap-shaped region with a tassel” Blue – SWIR space, which was put forward by Kauth and Thomas using OLI data. Establish that the point of the cap (which defamations at low red reflectance and high NIR reflectance) represented regions of high vegetation and that the flat side of the cap unswervingly opposite the point signified bare soil (Kauth and Thomas, 1976).

On the basis of these features of Brightness, Greenness and Wetness, figure 4 show the planes between first three transformations. The plane between Brightness and Greenness is considered as a plane of vegetation, while the plane between Brightness and wetness is deliberated as a plane of soils (Crist and Circone, 1984b).

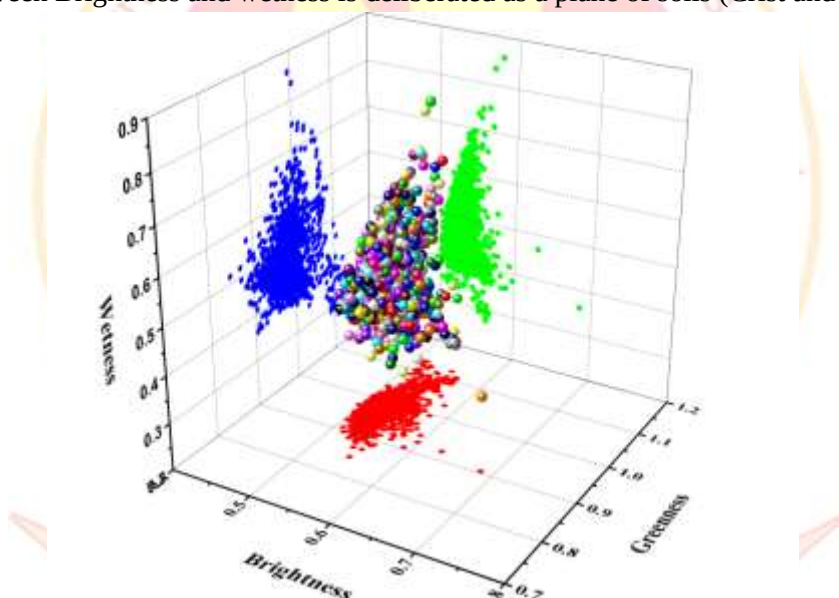


Fig.4.3D scatterplots of different indicators of PCA in Mumbai Urban Agglomeration

4. Conclusions

The TOA reflectance-based Brightness, Greenness, and Wetness TCT compress and decor relates the data into few bands associated with physical scene characteristics of the land surface based on the summer Landsat 8 OLI scene images representing a variety of landscapes of the Mumbai Urban Agglomeration. The brightness, greenness, and wetness are those few important components commonly discussed in the literature. The brightness is associated with the soil and albedo, Greenness is related to vegetation, and Wetness is typically attached to water substances. As transformation solely depends upon the interpretation of the data, standardization was necessary to develop uniformity in the TCT based on Landsat 8 OLI sensors as well as those based on the new sensors. This present study investigated the method using TM-based TCT coefficients to simulate OLI image. The transformation coefficients resulted in effectively differentiated soil from vegetation, vegetation from water, and bare soil features from water features. The changes that happened in the areas in which soft land cover is removed are separate in the brightness index map. The wetness index map provides a detailed description of the location where the water bodies are located.

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Role of SPSS in the field of Research

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Introduction-

Research is defined as the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings.

Research is the process of solving problems and finding facts in an organized way. Research is done by applying what is known (if anything), and building on it. Additional knowledge can be discovered by proving existing theories and by trying to better explain observations.

Applications of ICT are mainly used by researchers for its ability to ease the knowledge-gathering process and to enhance resource development. Computer plays an important part of every type of research which includes:

- Literature Search, Article Availability, Thesis and Dissertation Availability.
- Content Search.
- Literature Tracking.
- Data Collection.
- Data analysis-creating charts, preparing tables, and executing difficult calculations with accuracy in less time.

There are various software packages such as Biomedical Package (BMDP) statistical programming language (SPLUS), statistical Analysis system (SAS), and statistical package for social sciences (SPSS) these software help researcher in performing different statistical operations in efficient manner.

These software packages are used in every stage of research including collecting, storing, recording, and analyzing data.

What is SPSS ?

SPSS software was released in its first version in 1968. It was developed by Norman H. Nie and C. Hadlai Hull. It is among the most widely used programs for statistical analysis in social sciences. It is also used for data management and data documentation also. It is now widely used in analysis of research data. SPSS advanced statistics includes procedures for logistic regression, log-linear analysis, multivariate analysis and analysis of variance. It also includes non linear regression, Probit, Cox and actuarial survival analysis. SPSS tables create a high quality presentation quality tabular reports includes the stub and banner tables and display, of multiple response data sets. Recently the SPSS corporation announced the release of SPSS version 8.0. may consult the SPSS world wide web site for the latest developments.

There are 7 types of windows in SPSS that are helpful in data analysis and data management.

- Data Editor
- Pivot Tables
- Graphics
- Syntax Editor
- Script Editor
- Text Editor ,and
- Menu Commands and sub-commands.

The researcher can take help of SPSS package to examine similarities and dissimilarities in data and to classify data, identifying underlying dimensions in a data set. It is also useful for cluster, K-cluster,

discriminating factor, multi-dimensional scaling, and proximity and reliability analysis and for any type of statistical analysis

SPSS gives answer of some questions like

- 1-how many variables are in the data?
- 2-What is mean by different values?
- 3-What kind of interpretation we need?

TO USE SPSS RESEARCHER HAVE TO FOLLOW FOLLOWING STEPS-

Step 1- Coding of Data

Assuming that you have already collected data, the statistical analysis generally involves five stages.

- A)-Data coding, variable naming and classification
- B)-Statistical program writing
- C)-Data Entry
- D)-Error checking and
- E)-Data analysis

Step 2 – Writing an SPSS program

The program consists of several commands which are intended to instruct the computer about the data and what to do with it. First, note that some lines are intended while others are not. SPSS really doesn't care if you indent or not, but it will make your program more readable. As you can see, each each command eventually ends with a period, which tells the computer to take in the next line as a new command. This first command is actually optional, eventually SPSS will give pages of output consisting of statistical computations, and putting in the title command will put some heading that you choose on top of every page .in terms of syntax the word title is followed by the title you wish to assign in quotes. The data list command tells the computer about the positions of variables on the data lines. If you have made a table detailing this information you already have all the information needed. Otherwise you will have to do some arithmetic to calculate the beginning and ending columns of each variable.

Step 3-Entering the program and Data

There are several ways to enter program and data into SPSS, since SPSS uses an ASCII, plain text file to handle the input data, you can either use review the editor supplied with SPSS, or a word processor such as WordStar, WordPerfect, or Microsoft word .when using a word processor be sure to set the margins so that the lines can be long enough .The margins for most word processor will normally allows only about sixty five characters on a line

Be sure to save the file as an ASCII file.

Step 4 – checking Data and program for Errors-

In research we feed large amount of data for calculation so there is big chance of typographical errors hence researcher make sure that there is nothing below the end data line .

Now press<CONTROL>-<HOME>to go to the top of the file ,press <F9> followed by <RETURN><RETURN> TO SAVE , AND <F10> to run.

Unless we have turned the printer option on .we will get one screen at a time .

When we complete screen has been displayed we will hear a beep and we will be prompted with the message MORE press <RETURN >to see the next screen.

Step 5 –Using Statistical Procedures and Computations-

Statistical commands normally go at the bottom of the file, after any computation and recoding commands.

FREQUENCIES

Researcher have already exposed to the Frequencies command which provides a frequency count answer to each variable specified. the frequencies command can give more information.

CREATING NEW VARIABLE

Computation can be very useful and easy with SPSS

CROSS TABULATION-

Across tabulation allows to explore the relationship between two variables by tabulating one against the other.

Conclusion-

SPSS is revolutionary software mainly used by research scientists which help them process critical data in simple steps. Working on data is very hectic, tedious, complex and time consuming process, but this software can easily handle and operate information with the help of some techniques.

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A Study of Levels, Trends and Change of Pandemic COVID-19 in Selected Countries

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Abstract

Coronavirus disease 2019 (COVID-19) is an illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, formerly called 2019-nCoV), which was first identified amid an outbreak of respiratory illness in Wuhan City, Hubei Province, China. It was identified as the cause of a disease outbreak that originated in China. People can catch COVID-19 from others who have the virus. The disease can spread from person to person through small droplets from the nose or mouth which are spread when a person with COVID-19 coughs or exhales. These droplets land on objects and surfaces around the person. This study attempts to understand the pandemic COVID-19 situation in terms levels, trends and change of confirmed cases and deaths among the countries such as China, India and the United States of America using the data from WHO's Coronavirus Disease (COVID-19) Situation Reports. The results reveal that globally there were found 2,92,142 COVID-19 confirmed cases and 12783 deaths by 21 March 2020 according to WHO's Coronavirus Disease (COVID-19) Situation Report 61. These figures have increased to 1,45,62,550 and 607,781 respectively by 21 July 2020 during a span of 4 months. Among the world regions, the United States of America accounts for the highest level of 37,48,248 (25.7%) COVID-19 confirmed cases and 139964 (23%) deaths followed by India (1,15,519, 7.9% and 28,084, 0.8%) and China (86,152, 0.6% and 4,653, 4.6%) respectively.

Keywords: Change, COVID-19, Levels, Pandemic, Trends, etc.

Introduction

Health is the foremost prominent aspect of human development. The governments of the world countries and World Health Organization have an obligation to provide healthcare to the people. Article 21 of the Indian Constitution guarantees protection of life (Mathikaran, 2003). The WHO's Constitution envisages that the highest attainable standard of health as a fundamental right of every human being. As states around the world adopt emergency measures to adopt the crisis, it is cited that they continue to uphold the rule of law, protect and respect intellectual standards and basic principles of legality, and the right to access justice, remedies and due process (United Nations, 2016).

The nationwide lockdown has been central to the government's strategy to combat the COVID-19 pandemic (Manuraj, 2020). It becomes to monitor the COVID-19 situation and change so as to formulate policies and implement programmes for preventing and curing COVID-19- based health problems. This paper intends to understand COVID-19 situation in terms of confirmed cases and deaths with their levels, trends and change among the world regions and selected countries.

Literature Review

The coronaviruses can be explained in terms of their families and size. Coronaviruses (CoV) are the largest known RNA viruses. Their size varies from 65 to 125 nm in diameter and their nucleic acid genome is single-stranded RNA, size ranging from 26 to 32 kb in length (Shereen, et. al., 2020). They were found to cause diseases in the human beings with different symptoms. Since 1960, six coronaviruses had been found to cause diseases in humans; SARS-CoV-2 is the seventh one, after SARS-CoV and MERS-CoV (Zhu, et. al., 2020). Their nature and association with other kinds of viruses were identified. While HKU1, NL63, OC43 and 229E are associated with mild symptoms in humans, SARS-CoV, MERS-CoV, and SARS-CoV-2, belonging to the beta-coronavirus genus, cause severe to deadly pneumonia in humans (Corman, et. al., 2019). Some studies found various symptoms related to coronaviruses. Fever, dry cough, difficulty breathing and fatigue usually accompany this pneumonia (Chang, 2020; Huang, 2020). The fatality rates of SARS-CoV, MERS-CoV and SARS-CoV-2 are 9.5%, 34.4%, and 2.3% respectively (Petrosillo, 2020).

It is important to understand the beginning, trends and change of COVID-19 confirmed cases and deaths. On 31 December 2019, the WHO China Country Office was informed of cases of pneumonia unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. From 31 December 2019 through 3

January 2020, a total of 44 case-patients with pneumonia of unknown aetiology were reported to WHO by the national authorities in China. During this reported period, the causal agent was not identified. On 11 and 12 January 2020, WHO received further detailed information from the National Health Commission China that the outbreak is associated with exposures in one seafood market in Wuhan City. The Chinese authorities identified a new type of coronavirus, which was isolated on 7 January 2020. On 12 January 2020, China shared the genetic sequence of the novel coronavirus for countries to use in developing specific diagnostic kits. On 13 January 2020, the Ministry of Public Health, Thailand reported the first imported case of lab-confirmed novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China. On 15 January 2020, the Ministry of Health, Labour and Welfare, Japan (MHLW) reported an imported case of laboratory-confirmed 2019-novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China. On 20 January 2020, National IHR Focal Point (NFP) for Republic of Korea reported the first case of novel coronavirus in the Republic of Korea. As of 20 January 2020, 282 confirmed cases of 2019-nCoV have been reported from four countries including China (278 cases), Thailand (2 cases), Japan (1 case) and the Republic of Korea (1 case); Cases in Thailand, Japan and Republic of Korea were exported from Wuhan City, China; Among the 278 cases confirmed in China, 258 cases were reported from Hubei Province, 14 from Guangdong Province, five from Beijing Municipality and one from Shanghai Municipality; Of the 278 confirmed cases, 51 cases are severely ill, which means severe illness according to any of the criteria such as- dyspnea, respiratory rate more than 30 bpm, hypoxemia, chest X ray with multi-lobar infiltrates or pulmonary infiltration progressed more than 50% within 24-48 hours; 12 are in critical condition, which means according to any of the criteria such as- respiratory failure, septic shock, other organ failure which requires intensive care unit admission; six deaths have been reported from Wuhan City (WHO, 2020).

Objectives

The specific objectives of this paper are:

- (1) to understand the situation of COVID-19 confirmed cases and deaths among selected countries such as India, China and the United States of America.
- (2) to examine the trends of COVID-19 confirmed cases and deaths among selected countries; and
- (3) to demarcate the change in the COVID-19 confirmed cases and deaths among selected countries during a span of 4 months during 21 March 2020 to 21 July 2020.

Data And Method

This paper uses the data from:

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 1 (21 January 2020);

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 32 (21 February 2020)

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 61 (21 March 2020)

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 92 (21 April 2020)

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 122 (21 May 2020)

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 153 (21 June 2020)

World Health Organization's Coronavirus Disease (COVID-19) Situation Report 183 (21 July 2020)

Bivariate analysis is carried out to capture the levels, trends and change of COVID-19 confirmed cases and deaths among selected countries.

Results And Discussion

The results of the paper are discussed under the following sub-heads such as COVID-19 Confirmed Cases and Deaths: Levels; COVID-19 Confirmed Cases and Deaths: Trends; and COVID-19 Confirmed Cases and Deaths: Change.

COVID-19 Confirmed Cases and Deaths: Levels

Globally, there were 282 COVID-19 confirmed cases including 258 in China- Hubei Province, 14 in China- Guangdong, China- Shanghai Municipality, Japan and Republic of Korea, 1 in each and 2 in Thailand by 21 January 2020, according to WHO's Coronavirus (COVID-19) Situation Report 1 (Figure 1). Globally, the COVID-19 confirmed cases and deaths increased to 76,769 and 2,247 respectively, 75,569 and 2,239 respectively in China, and 1,200 and outside China respectively by 21 March 2020, according to WHO's Coronavirus (COVID-19) Situation Report 32. The data on Coronavirus (COVID-19) confirmed cases and deaths were available by April 2020 onwards. Globally, there were 292,142 confirmed cases and 12,783 deaths. China had more number of COVID-19 cases (3,267) and deaths (3,267) followed by the United States of America (15,219 and 201 respectively) and India (283 and 4 respectively) by 21 March 2020, according to WHO's Coronavirus (COVID-19) Situation Report 61.

By 21 April 2020, there has been a change in the number of COVID-19 confirmed cases and deaths in the leading regions and countries. Globally, the figures increased to 23,97,217 and 1,62,956 respectively. The USA overwhelmingly had more number of COVID-19 confirmed cases (751,273) and deaths (35,884) followed by China (84,250 and 4,642 respectively) and India (18,601 and 590 respectively), according to WHO's Coronavirus (COVID-19) Situation Report 92.

By 21 May 2020, the figures increased to 48,93,186 COVID-19 confirmed cases and 3,23,256 deaths globally. The USA continued to have a greater number of COVID-19 confirmed cases (1,501,876) and deaths (90,203). India started to have overwhelmingly more number of COVID-19 confirmed cases (1,12,359) and deaths (3,435), and China's figures have decreased to 84,507 and 4,645 respectively, according to WHO's Coronavirus (COVID-19) Situation Report 122.

Figure 6 demarcates that globally, the figures of COVID-19 confirmed cases and deaths have increased to 87,08,008 and 4,61,715 respectively by 21 May 2020. The USA continued still to have more number of COVID-19 confirmed cases (22,08,829) and deaths (1,18,895). India continued to have more number of COVID-19 confirmed cases (4,10,461) and deaths (13,254), and China's figures have further decreased to 84,997 and 4,646 respectively, according to WHO's Coronavirus (COVID-19) Situation Report 153.

Globally, the number of COVID-19 confirmed cases and deaths have increased to 1,45,62,550 and deaths 6,07,781 respectively. The USA continued to have more number of COVID-19 confirmed cases (37,48,248) and deaths (1,39,964) followed by India (11,55,191 and 28,084 respectively) and China (86,152 and 4,653 respectively), according to WHO's Coronavirus (COVID-19) Situation Report 183 (Figure 2).

COVID-19 Confirmed Cases and Deaths: Trends

Globally and all the WHO regions including the countries such as the USA, India and China had a constant increase in the number of COVID-19 confirmed cases and deaths during the span of 4 months from 21 March 2020– 21 July 2020.

COVID-19 Confirmed Cases and Deaths: Change

India had more change (8088.9% and 2346.6% respectively) followed by the USA (394.1% and 1364.6%) according to WHO's Coronavirus (COVID-19) Situation Reports 61 and 183 during 21 March – 21 July 2020. Eastern Mediterranean has increased to 18.7% in the number of COVID-19 confirmed cases, but decreased in the number of deaths (-53.7%) along with Europe (-58.8% and -41.1% respectively) and Western Pacific (-94.4% and -95.1% respectively) (Figure 3).

Conclusions

The outburst of coronavirus (COVID-19) is a life-threat to the whole humanity spread over more or less all the countries of the world, which was first found in China on 17 November 2019. The first case was reported in India on 13 January 2020 and in USA on 21 January 2020. The World Health Organization started having a formal database on COVID-19 since 1 January 2020, the first situation report, recording and disseminating on daily basis. Globally, the COVID-19 confirmed cases and deaths increased in China, and outside China since 13 January 2020. The data on Coronavirus (COVID-19) confirmed cases and deaths were available globally through WHO's Coronavirus (COVID-19) situation report since 17 March 2020. Globally and all the WHO regions including the countries such as the USA, India and China had a constant increase in the number of COVID-19 confirmed cases and deaths during the span of 4 months from 21 March – 21 July 2020. China had more number of COVID-19 cases and deaths followed by the United States of America and India. Globally, the number of COVID-19 confirmed cases and deaths have increased. The USA also continued to have more numbers followed by India and China. The number of COVID-19 confirmed cases and deaths is expected to decrease over the coming years depending on the discovery of suitable medicine and its efficiency to save the humanity. The governments of the world countries, national and international governmental and non-governmental organisations have a greater role to strive against health crises like COVID-19 through various innovative policies and programmes.

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FIGURES

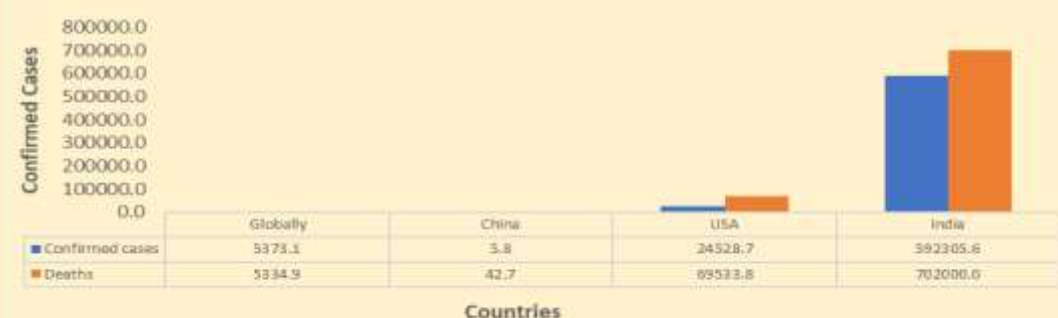


Figure 2: Number of COVID-19 confirmed cases and deaths by selected countries, 21 July 2020



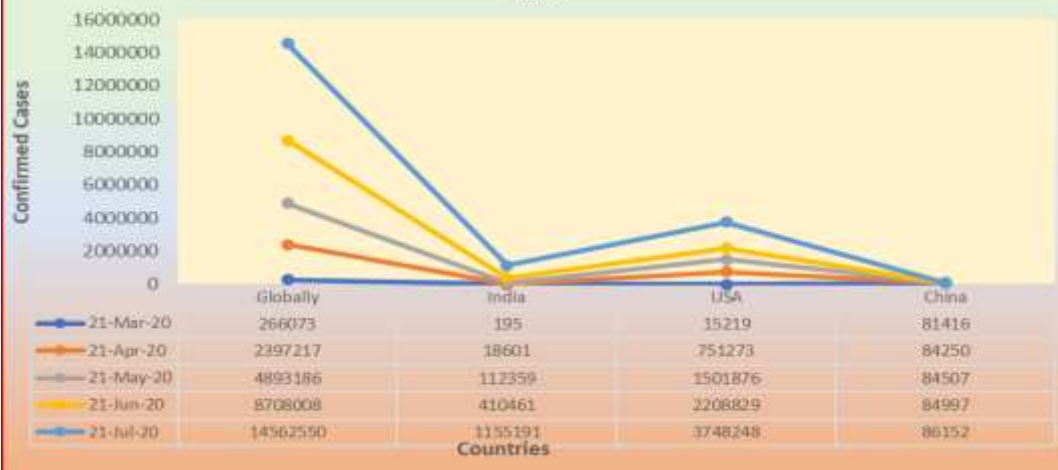
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Figure 3: Percentage change of COVID-19 confirmed cases and deaths by selected countries, 21 Mar-21 July 2020



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Figure 4: Number of COVID-19 confirmed cases by selected countries, 21 March-21 July 2020



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Figure 5: Number of COVID-19 deaths by selected countries, 21 March-21 July 2020



Condition of Temperature And Rainfall Effect on Agriculture Land Utilization in Solapur District

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Abstract

This paper is a try to investigation effect of Temperature adjustments on agricultural land use pattern in Solapur district. For the existing work, secondary data are used which is accumulated from Indian metrological branch, Pune and studies of agricultural department, Solapur. The gathered statistics and facts are analyzed and interpreted to convey out conclusions and guidelines.

The time period climate is a geographical term connoting a unique distribution of average atmospheric situations near the surface of the earth. a median circumstance of temperature, rainfall, wind and many others. are known as weather. The vital climatic elements as they at once or in a roundabout way have an effect on the plant suitability, adaptability, boom and productiveness in an area. weather is one of the hugest bodily determinants of agriculture, because it impacts the provision of water for irrigation motive. weather is also quite full-size determinant for the rural land use and agricultural sample of the location.

on this paper studies have been made to research the of land use pattern. tehsil-smart well-known land use of the Solapur district throughout 20 years is taken into consideration. in the present observe rather than taking 5 land use classes, they're grouped with no trouble into three land use classes as fallow (I) Non-agricultural land use, (II) ability agricultural land use, (III) Agricultural land.

Keyword: temperature, rain fall, Non-agricultural land use, Potential agricultural, Agricultural land.

1. Introduction

The term weather is a geographical term connoting a unique distribution of average atmospheric conditions close to the floor of the earth. an average condition of temperature, rainfall, wind and so on. are called climate. The important climatic elements as they immediately or indirectly impact the plant suitability, adaptability, growth and productivity in a vicinity. weather is one of the maximum vast physical determinants of agriculture, because it influences the availability of water for irrigation motive. climate is additionally quite extensive determinant for the agricultural land use and agricultural sample of the location. The successes or failure of the cropping seasons are determined by way of the depth of climatic factors. The crop generating capability of a given region relies mainly on the existing climatic elements, exert mainly a local influence on plants, the difference inside the behaviour of crop or a group of vegetation over giant location, as in a given state or a group of states, may additionally be considered as due in general to variations in climate as opposed to soil situation. The weather of Solapur district is on the whole agreeable and characterised by a trendy dryness of the main a part of the yr. Climatically, there are 4 seasons within the observe place, including summer season, the Southwest Monsoon season, the publish Monsoon season, and the bloodless climate season. The summer season from March to mid-June, the Southwest Monsoon season from June to August, the submit Monsoon season from September to November and iciness season from December to February. those are range of essential factors of climatic situation.

Review Of Literature

1. **Balack, Ram and Joshi D.C** (1984) Land use Soil Relationship in Arid Zone. Published "Land use of region is a combined result of the natural set up and human dynamism within socio economic set up and technological development. Physical limitation of the site finds a direct expression in land-use. Land use pattern is the to understand geographical adjustment of agriculture resources".¹
2. **Jasbir Singh & S.S Dillon** (2004) Agricultural Geography Tata MacDraw Hill Publication "Rainfall as the primary ecological parameter has created a variety of farming enterprises types or systems of agriculture. It is the dominant single weather element influencing the intensity and location of farming

system and the farmer's choice of enterprises. It also becomes a climatic hazard to farming when it is characterized with scantiness, concentration, intensity, variability and unreliability.²

3. **Stamp (1960)** "Land is mainly used for agricultural purpose, as an important economic activity of man. He uses vast tract of land for cultivation. This agricultural land belongs to rural areas and it is essential to rural activity. The use of land resources is of great interest to the geographer".
4. **Bharadwaj O. P. (1964)** "The technological development, agrarian innovation and change in attitudes towards farming have resulted in reshaping the surrounding of man. And through the unsound, mismanagement and over cultivated cropping system and irrigation, he has contaminated large part of valuable soil cover, in addition to forest clearance and over grazing. The deflection of forest cover has threatened the very existence of species of plants and animals leading to very severe ecological hazards. Hundreds of hectares of land are being converted into land every at then alarming rate. This human instruction, through over exploration, investment and excessive consumption of inputs, is the root cause behind problem emerging in the region and is throwing the agro ecosystem out of balance".⁴

3. Study Area:

Geographical Location - 17.10° to 18.32° North Latitude and 74.42° to 76.15° East Longitude. Geographical Area is 14895 Sq. Kilometers and it covers 4.84% area of Maharashtra State. According to geographical area, Solapur district is the fifth number district in Maharashtra State. This area divided into 1.15 percent (170.79 square K.m) Urban area and 98.85 (14724square K.m) rural area. According to area Karmala Taluka is the largest (1604.80 square K.m) Taluka and North-Solapur is the smallest Tahsil (746.30square K.m) in Solapur District. According to 2011 census, the population of Solapur district is nearly 38 lacks spread over its area of 14895 square Kilometers giving overall density of persons per Kilometers. In 2011 census the population of Solapur district.

Objective

1. To Study of temperature and rainfall and its changes
2. To study of agricultural land use in Solapur district.
3. To study effect of changing temperature and rainfall in agricultural land use pattern in Solapur district.

Hypothesis

1. Negative Impact of temperature and rainfall on agricultural and land use.

Research Methodology: -

Primary Sources: - Primary data will be collected from the Solapur Statistical Review Last ten year. Agricultural Department, Solapur.

Secondary Sources: - The study is based on secondary data from the respective Solapur Metrological Department, Agricultural Department of Solapur District From books, journals, and magazines.

Climatic Distribution In Study Area: -

Awareness, the region comes underneath rain shadow place, yet the average annual rainfall of the district is set 584.three mm. The South eastern elements of the district get slightly greater rainfall then the relaxation of the district. most of the rainfall is obtained throughout the South West monsoon within the months from June to September. This rainfall account for about 75 percent of the normal annual rainfall and about 17 percent of the rainfall in the district is acquired in the course of publish monsoon or chickening out monsoon season of October and November.

In Solapur district eighty percent get from south-west monsoon. The south-West monsoon isn't fixed however changeable. So, the common annual rainfall in Solapur district is 603.79mm, The South-West monsoon about eighty percent annual rainfall of the within the district. The rainiest month being July the version in annual rainfall in Solapur district is recorded in 2002 and 2004 in this two-year low rainfall there's extensive version in the quantity rainfall through time and area. The maximum rainfall is about 690mm at

Akkalkot in the South Japanese border about 448.8mm at Akluj near the western border of the district. Rainfall because the number one ecological parameter has created a spread of farming businesses sorts or structures of agriculture. It's far the dominant unmarried weather element influencing the depth and vicinity of farming device and the farmer's desire of organisations. It also will become a climatic hazard to farming while it's far characterized with scantiness, attention, depth, variability and unreliability.²

The Solapur District is located inside the drought prone vicinity of Maharashtra. The rainfall of Solapur district may be very low and uneven. so, one can apprehend spatial sample of rainfall distribution in the Solapur district, on the premise of the quantity of rainfall the region may additionally demarcated in diverse zones including sector, comprising Barshi, North Solapur, South Solapur and Akkalkot Tahsils. This sector has more or much less 60 wet days in the year.

1. Temperature:

the various diverse factors of climate, the temperature is the most critical, as it has the best impact upon the agricultural activities on the earth as well as biotic and abiotic gadget of the earth. Temperature varies from vicinity to region due to physical constrains as well as geographical region in terms of latitudes. Solapur district belong to tropical location, which gets the maximum quantity of temperature for the duration of the 12 months. within the take a look at vicinity, there are meteorological observations, one positioned at Solapur and the other at Jeur. The statistics and statistics recorded from these observations is taken as consultant of the climatic conditions for the whole take a look at area in widespread. reveals that suggest daily most temperature at Solapur and Jeur stations are recorded 34.470C and 33.870C respectively in the 12 months 2019-20.

Its miles observed that at some point of the period from March to May, there is continuous rise in temperature, both, in day and night temperature. The month of May is usually, the hottest month of the 12 months, while lowest in December. sometimes, the temperature is recorded more than 40°C. in the direction of the stop of May, when climate is at its freshest in India, the southwest monsoon winds starts off evolved blowing toward the indoors of the united states from the Indian Ocean bringing alongside with them, the moisture, the temperature at some stage in wet months (June to September) are corresponds average of 33.60C and 32.80C at Solapur and Jeur meteorological observatories respectively. After mid-November each day and night time temperature starts off evolved to drop rapidly and December is the coldest month. In the cold season the study place is once in a while affected with the aid of bloodless waters, in association with the eastward passage of western disturbances across north India, while the minimum temperature might also drop down to approximately 9°C to 11°C. In the 12 months 2019-20, study place recorded the minimum average temperature of 15.9°C.

2. Rainfall:

Rainfall, as a number one ecological parameter, has created a variety of forming establishments, types of systems of agriculture. it's miles the dominant unmarried weather detail influencing the intensity and area of farming device and the farmers' preference of establishments. It additionally grows to be a climatic danger to farming, when it's far characterized with scantiness, attention, depth, variability and unreliability (Jasbir Singh and Dhillon, S.S., 2004). The Solapur district comes beneath rain shadow place, where the average annual rainfall is 556.eight mm in 2019-20. The rainfall characteristics of the district are related to the conduct of the south-west monsoon. "The south-west monsoon is the pivot, round which almost whole Indian farm life and financial system swing." The variant of rainfall characteristics impacts agriculture as an entire, consequently, it wishes to investigation:

Land Utilization: -

Land use sample is always decided by physio-socio-financial and organizational elements. It represents the use of districts herbal assets. it's miles a dynamic phenomenon as it adjustments with the introduction of new generation, such irrigation and different inputs. Such form of have a look at may assist in expertise the regional versions, which correspond with the development of agricultural generation. the full geographical place of the district is 1487843 hectares. There are spatial variations inside the standard land use pattern inside the examine location. The land is grouped into 5 major types of makes use of, particularly (a) wooded area, (b) region not available for cultivation, (c) different uncultivated land, (d) Fallow land, (e) net vicinity sown.

As said in advance, the total geographical place of the district is about 1487843 sq. Km. the vicinity beneath forest is handiest 2.30 percent (342.39 squarekm MFD2011) of the entire geographical vicinity. that is an index to recognize the area of Solapur district within Maharashtra and India. In India forest cover of general geographical area is ready 21.05 percentage in which 2.54 percent regions is blanketed with the aid of top woodland and 8.75 percent place is covered by means of open degraded woodland (ISFR, Report2011); Ecologically required forest cowl is 33 percent of the overall geographical area. net required woodland cowl is 11.95 of the total geographical area in our united states.

To investigate and interpret the tehsil-clever general land use of the Solapur district for the duration of twenty years is taken into consideration. in the present look at in preference to taking 5 land use classes, they are grouped easily into three land use categories as fallow (I) Non-agricultural land use, (II) capacity agricultural land use, (III) Agricultural land.

Because of the area, physio-socio-financial situations and corporations, factors along with new agricultural generation prevails in the district. the overall land use differs from tahsil to tahsil. physical attributes and socio-financial shape put a prevent upon land use in the have a look at vicinity.

1. Non-Agricultural Land Use

Non-agricultural land use blanketed about 6.95 percent and 7.46 percentage to the full geographical area within the district throughout 2010-eleven and 2019-20 respectively. Non-agricultural land use protected woodland and region now not available for cultivation, and so forth. In other words, they encompass the land, which can't be brought beneath cultivation except at a very high fee (Shinde, S.D., 1974).the highest non-agricultural land use is located in Mohol tahsil (13.13%) and lowest in Akkalkot (0.71%) tahsil in the 12 months 2019-20. Above district common (7.46%) non-agricultural land use is located in North Solapur (8.90%), Mohol (13.13%), Pandharpur (12.19%), Sangola (11.86%) tahsils. while, underneath district.

Table No.1

Solapur District: Tahsil-wise Land use 2010-11 and 2019-20 (in percent)

Sr. No.	Name of Tahsil	Year	Geographical Area	Non-Agricultural Land	Potential Land	Agric. land
1	Karmala	2010-11	159600	10.48	5.38	83.89
		2019-20	159600	7.08	5.07	87.85
		VOC in %		-3.4	-0.31	3.96
2	Madha	2010-11	152600	1.88	3.75	94.37
		2019-20	152600	3.82	5.25	90.93
		VOC in %		1.94	1.5	-3.44
3	Barshi	2010-11	152200	5.45	6.09	89.46
		2019-20	152200	6.11	4.55	89.34
		VOC in %		0.66	-1.54	0.08
4	North Solapur	2010-11	68300	3.24	0.43	96.33
		2019-20	68300	8.90	2.04	89.06
		VOC in %		5.66	1.61	-7.27
5	Mohol	2010-11	131700	14.62	2.17	83.21
		2019-20	131700	13.13	1.68	85.19
		VOC in %		-1.49	-0.49	1.98
6	Pandharpur	2010-11	129400	11.97	1.00	87.03
		2019-20	129400	12.90	1.40	85.70
		VOC in		0.93	0.4	-1.33

		%				
7	Malshiras	2010-11	160800	3.73	11.82	84.46
		2019-20	160800	2.93	9.82	87.25
		VOC in %		-0.8	-1.99	2.79
8	Sangola	2010-11	159400	6.90	11.91	81.19
		2019-20	159400	11.86	10.78	77.36
		VOC in %		4.96	-1.13	-3.83
9	Mangalwedha	2010-11	114200	8.89	1.05	90.05
		2019-20	114200	7.24	4.16	88.60
		VOC in %		-1.65	3.11	-2.25
10	South Solapur	2010-11	119500	2.17	1.58	96.25
		2019-20	119500	4.43	2.68	92.89
		VOC in %		2.26	1.1	-3.36
11	Akkalkot	2010-11	140100	1.06	0.50	98.42
		2019-20	140100	0.71	3.68	95.65
		VOC in %		0.35	3.18	-2.77

(Sources:- Compiled by researcher.)

There is little positive change (0.51%) over a period of twenty years in non- agricultural land use of the study region. Positive changes are experienced in Madha (1.94%), Barshi (0.66%), North Solapur (5.66%), Pandharpur (0.93%), Sangola (4.96%), South Solapur (2.26%) and Akkalkot (0.35%) tahsils during the period of investigation. Whereas, negative changes are registered in Karmala (-3.4%), Mohol (- 1.49%), Malshiras (- 0.8%) and Mangalwedha (-1.65%) tahsils during the same period

Potential Land: -

The land for the reason of extension of cultivation can be found only in this class, which will be used for cultivation but has not been under cultivation as a result of certain reasons. It generally consists cultivable waste land and permanent pasture and grazing land and region miscellaneous timber, vegetation and groves. During 2010-11, approximately 90540 hectares' land become ability land. This land reduced from 90540 hect. to 33595 hectares in the look at location from 2010-11 to 2019-20. It means that approximately 3.83% terrible exchange was observed in this institution at some stage in the length beneath attention the highest location underneath potential land use is marked in Sangola (10.78%) tahsil, accompanied by Malshiras (9.82%), Barshi (6.11%), Madha (5.25%), Karmala (5.07%), Mangalwedha (four.16%), Akkalkot (3.68%), South Solapur (2.68%), N. Solapur (2.04%), Mohol (1.68%) and Pandharpur (1.40%) tahsils at some point of 2019-20.

both high-quality and negative adjustments in location beneath potential land use is marked within the observe region. high-quality modifications are located in Madha (1.5%), North Solapur (1.61%), Pandharpur (0.4%), Mangalwedha (3.11%), South Solapur (1.1%) and Akkalkot (3.18%) tahsils between 1999-2000 and 2019-20. even as terrible modifications are skilled in Karmala (-zero.31%), Barshi (-1.54%), Mohol (-0.49%), Malshiras (- 1.99%), Sangola (-1.13%) tahsils at some stage in the identical yr.

Agricultural Land: -

Agricultural land is the land frequently ploughed and includes the tillage (NSA) and fallow land (Shinde,1974). The term fallow is carried out to the lands not below cultivation on the time of reporting, however has been sown within the beyond (greater, 1995). The fallow land includes contemporary fallow and different fallow. whereas, internet sown vicinity represents the quantity of the cultivated region virtually sown in the course of an agriculture yr. The distribution of internet sown vicinity provides a very beneficial and precise index for comparing the capability and ability of the land.

Out of overall geographical region district having 86.97percentage and 9.79 (desk 4.2) percent of agriculture land all through 2010-11 and 2019-20 respectively. the very best boom in agriculture land use is marked in Akkalkot (95.65%) tahsil and lowest in Sangola (77.36%) tahsil within the year 2019-20. all through the year 2010-11, the best location in agriculture land is registered in Akkalkot (98.42%) tahsil accompanied with the aid of N. Solapur (96.33%), South Solapur (96.25%), Madha (94.37%), Mangalweda (19.05%), Barshi (89.46%), Pandharpur (87.03%), Karmala (83.89%), Mohol (83.21%) and Sangola (81.19%) tahsils. on the contrary this, inside the year 2019-20, while the very best area beneath agriculture land is determined once more in Akkalkot tahsil (95.65%) and lowest in Sangola (77.36%) tahsil. whereas Karmala, Madha, Barshi, North Solapur, Mohol, Pandharpur, Malshiras, Mangalwedha and South Solapur tahsils are registered 87.85 percentage, 90.93 percent, 89 percentage, 89.06 percentage, 85.19 percentage, 85.70 percent, 87.25 percent, 88.60 percentage and 92.89 percentage location underneath agriculture in 2019-20.

The nice modifications are located in Karmala (three.96), Barshi (0.08), Mohol (1.98percent), Malshiras (2.79) tahsils throughout the period of investigation. The bad adjustments are located in Madha (3.44), North Solapur (7.27), Pandharpur (1.33), Sangola (3.83), Mangalweda (2.25), South Solapur (three.36) and Akkalkot (2.77) over the duration of fifteen.

The induction of contemporary generation within the district has introduced a trade in general land use, however is not uniform in time and space because of versions in environmental, techno-economic and socio-institutional conditions. The location beneath non-agricultural land has expanded through 0.50 one percent. The negative in capability agricultural land is marked for the duration of the examine period. the share of agricultural land place become marked 86.97 percent and 90.79 percentage and it has marked 3.82 percent growth for the duration of the length of research. The growth in agricultural land is marked in those tahsils, whereas agricultural technology is prolonged throughout the study duration. The primary advantage of new generation, is that it's going to boom the land under cultivation. There will be much less land lying fallow (Singh and Dhillon, 1984).

Conclusion: -

The temperature, rainfall and humidity conditions occur that the place has usual monsoon climate with 3 marked seasons, greater than 80 percent annual rain is focused in the months of June to September which district various from 559.20 mm at Akluj close to the western border to 767.45 mm at Akkalkot close to the South jap border of the district. Temperature and Sunshine are beneficial throughout the yr and offer ripening situations of crops with inside the district.

The land use pattern of the place is the reflection of the effect of physical socio-financial aspect. The arable land occupies above 87.47 in keeping with cent of geographical area indicating that there is rarely any scope for growing the land for agriculture to any appreciable quantity. therefore, depth of agriculture has to be stopped up by means of adopting technological changes.

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Environmental Pollution Hazards, Approach towards Generation and Minimization of Wastes

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Abstract:

During the advancement of life, the available natural resources were modified, and their exhaustive use and kind of wastes produced causing a problem of disposal and its hazard to all livings. Now everyday rise of e-waste, not a proper way of collection and recycle. On the basis of environmental pollution, we think about the techniques of disposal of wastes, way to minimize of waste generation, find out best practices to aware among the citizens, society and country.

Introduction:

The developing world's common cities, metropolitan cities, density towns and villages sewage system were not properly existing and functioning untreated wastes are directly often flowing directly into the various water bodies like rivers, canals and dams. Sewage system were existing, it overflows during rainy season. It leads to long term hazardous diseases to lives. Worldwide, 2.9 billion lack accesses to adequate sanitation. Inadequate supplies poor quality water was responsible for up to seven percent deaths and globally spread dangerous diseases[1,2]. The pollutant toxic chemicals, agricultural use chemicals heavy metals like arsenic, lead, cadmium, mercury and copper, industrial chemicals occur in open spaces and contacted to air, water and soil. The variety of air pollutants have been directly linked with birth disorders, defects, cancer and weakens the immune system of humans and livings. Irregularly climate change linked to these several environmental factors. The various activities associated with the management of municipal solid waste from the point of generation to final disposal can be grouped into the various functional elements [3].

- Waste generation
- Storage
- Collection
- Transportation
- Segregation & Processing
- Use

The quality and quantity of MSW generated by a particular community varies according to their socio-economic status, cultural habits, urban structure, population and commercial activities etc

Present study focuses on industrial, medical, plastic, solid and garbage wastes. The various sources to generate wastes and its minimization methods.

Municipal waste management system works properly and everywhere run the cleanliness drive or campaign at all levels are must.

The total waste generated in India 55% is organic waste materials, 15% is recyclable waste and the remaining 30% is residual waste. Figure 1 shows composition of Municipal Solid Waste in India. (Zhu, Asnani, Zurbrugg, Anapolsku, and Mani, 2008) This waste composition indicates that the waste generated from various sources. It is challenging task to manage.



Figure:1

Type of wastes generated:

Industrial Waste

Polluted water, e-waste, plastic waste, pesticides residues, heavy oils, smoke, surfactants, carbon monoxide, nitric oxides, sulphur dioxide, other toxic gases etc. are industrial wastes. Different threats to the human health from industrial injuries from the workplaces had acute poisoning may occur.

Medical Waste:

Plasters, aerosol medications, infectious hazardous waste of surgical materials, different types of masks, blood transfusion material, blood, fractured bones, little parts of cells, tissues, empty plastic bottles, injection needles, spirit cottons, types of wrappers, unusable solid, liquid medicines and toxic materials like mercury, heavy metals chlorides, sulphates, nitrates, carbonates and other hospital wastes.

Such medical wastes required to be sealed put into disposable containers label and burned in an incinerator. They need to be neutralized by special treatment. But small villages have greater problem of dispose such a waste. Knowingly and unknowingly environment suffers.

Plastic waste:

Plastic carry bags different micron in diameter, break plastic containers, pots, buckets, household materials, pipes, wires, wrappers etc. Plastic waste goes into nearby bay, water streams and oceans. Waste plastic bags thrown by the public elsewhere without taking a care. It causes hazard to the animals, humans. Generally, dirt catches to another dirt, it's a slogan.

Garbage waste: It contains vegetable wastes, market wastes, dirty material and wet material. It pollutes surrounding area.

E-waste:

Everywhere and each one uses the various electronic gadgets. Outside each shop there are piles of old monitor screens, desktop computers, printers, broken landline telephones, mobile handsets, old televisions, voltage stabilizers, air-cons, refrigerators, microwaves ovens, vacuum cleaners and washing machines. Clocks and storage electrical cells, switch batteries, bulbs, old electric cable are strewn or rolled over the mountains of electronic trash.

Majority of household electronic material not to be recycled and not properly disposed.

As per the report published, Global e-waste monitor 2020, a biggest contributor of e-waste was china (10.1 million tons) and United States was second have 6.9 million tones and third place of India with 3.1 million tones. In last year all these countries accounted 38 per cent of world's e-waste.

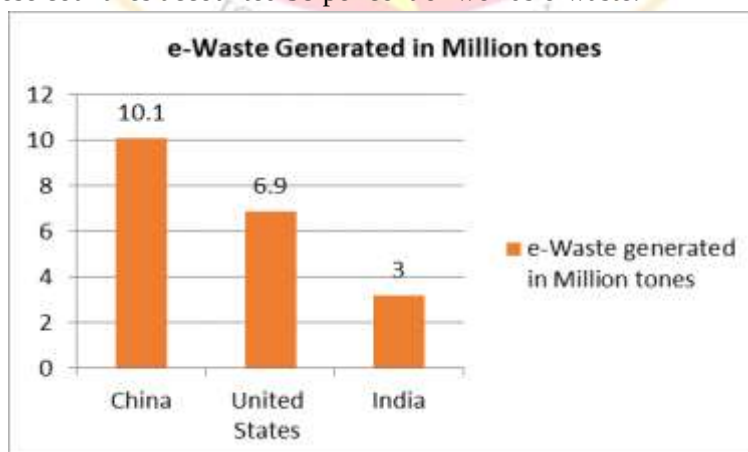


Figure:2

Status of India:

India produces more than 42-43 million tons of municipal solid waste material annually. Every year it increases 5 percent. Urban population increasing 3-3.5 percent per annum. As a per capita waste generation increased by 1.3 percent per annum.

A variety of composition contains in a solid waste. Following figure 3 showing a typical waste composition in India.

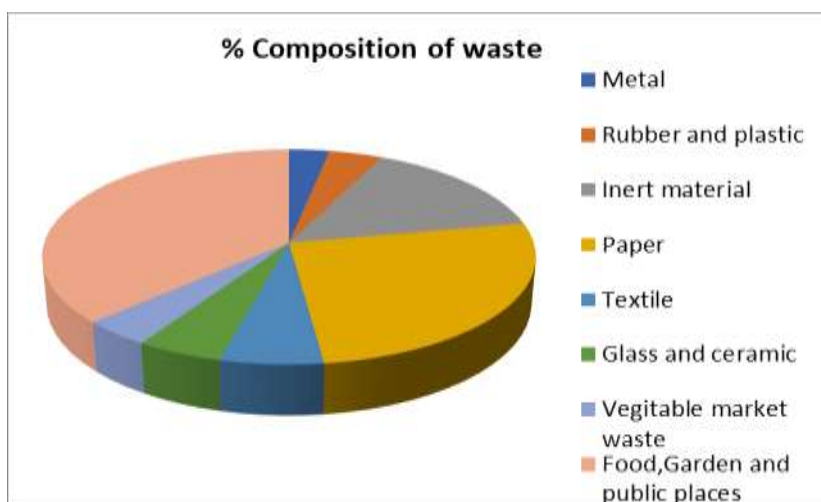


Figure:3

Waste Management:

Urban Waste Management:

There are three types of threats to the human health, traditional hazards associated with poverty, modern hazards associated with rapid development. No awareness and carelessness. Malaria fever, dengue, flu due to lack of access of clean, fresh food, water and shelter. Urban slums become breeding grounds for insects, rodents and variety of biological pathogens. Due to rapid development uncontrolled urbanization air, water pollution level increased and poor sanitary disposal.[5] In a view of carelessness the people put the household garbage dumps and medical waste elsewhere. The large numbers of rivers are running through the cities, severely polluted by sewage runoff. It has to plan by the governmental agencies which concerns with the management of solid and liquid wastes. It should be continuous watch and process of waste management.

Environmental pollution and Health:

Legal Points:

Legislative and regulatory issues regarding safe environment and human health are exists worldwide, but the mechanism for enforcing are usually very poor in some countries. Due to corruption practices worst cases can be legalized. The basic need of humans do not fulfill even can't fight. Pollution and waste become serious problem day by day. In India sixty percent population lived in urban areas.

Due to urban population growth that generates thousand tons of waste. From industrial, domestic, commercial healthcare, agricultural sources that must be managed every day. But lack of appropriate treatment and disposal facilities pose a problem to waste management system.

Waste Material Landfill:

Waste material landfill was a common practice worldwide[6]. It should be proper place and well designed and good managed are not harm to the public. High technology designed landfills may be proposed, it contains clay material lining and compact anaerobic breakdown of most of organic material. Gas can be generated could be collected and treat to use suitably. Otherwise open dumps create hazardous environmental problems, rats, microbes, and foul smell in surrounding areas.

Waste Incineration process:

Town and Municipal water collection centers generally filtrations system exist. It contains most of solid organic waste matter, dry naturally in the compartment then subjected to combustion. This converts into residue and gases can be used to generate energy. This management of waste reduces its quantity. We found that some town residues can burn directly then hazardous gases are emitting during the process and pollute the environment[6]. Health hazards cause to citizens. Open burning was not the proper way of disposal. Again, specially designed incinerators may be useful for town wastes. Preparation of composts as a soil fertilizer. Generally, industries can perform the process in large incinerators.

Follow to avoid and reuse for reduction of Waste:

An important method of waste management is the prevention of waste material being created; other words also known as waste reduction. Methods of avoidance the material include reuse of second-hand products, objects; repairing machines instead buying new things and any broken items instead of new purchases, produce minimum waste and buy the material which is usable don't buy unnecessary goods, unnecessary objects which crates crowding at home, again crates another problem of space and handling.

Design products to be refillable or reusable such as cotton bags instead of plastic shopping or carrying bags, encouraging consumers to avoid using disposable products (such as disposable material like cutlery, removing any food/liquid remains from cans and packaging, and industries should design the products that use less material to achieve the same purpose, and avoid the pollution problem.

Positive approach of citizens:

1. Reduce
2. Reuse
3. Recycle

Best practices for minimization of waste:

Everyone should do not use excess building material unnecessary. In each sector encourage employees to reuse office materials rather than purchase new ones. If possible, Use incoming packaging materials for outgoing goods. Use durable towels, tablecloths, napkins, dishes, cups, glasses and vessels. Reuse office furniture and supplies, such as interoffice envelopes, file folders and one side used paper. Reuse corrugated moving boxes. To conduct an ongoing training process as new technologies are introduced, and new employees join the institution. Train employees on recycling practices. These processes can follow to minimize the waste.

Organizations related to global pollution issues:

The various issues related to pollution problem looked into the matter by World organizations.

- World Health Organization (WHO)
- World Resources Institute (WRI)
- World Bank and International Programme ((IDP)
- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)
- UN Commission on Sustainable Development (CSD)
- US Agency for International Development (USAID)
- Environment Protection Agency (EPA)

All of these organizations were linked with each other.

Conclusion:

Public awareness, political will and public participation as essential part for the successful implementation of the legal provisions and to have an integrated approach towards minimization of waste and sustainable management of municipal wastes. Different awareness programs need to help to maintain clean surroundings villages and cities.

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किरकोळ व्यापार क्षेत्रातील थेट परकीय गुंतवणूक (FDI)

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केंद्र शासनाने किरकोळ बाजार (मल्टीब्रांड) क्षेत्रात ५१% थेट परकीय गुंतवणुकीला मंजुरी दिली आहे. यामुळे यापुढे आता विदेशी मल्टीब्रांड कंपन्या भारतात भारतीय कंपन्यांसोबत भागीदारी करून व्यवसाय करू शकतील. शासनाच्या या निर्णयाला विरोधी पक्षांनी विरोध केला आहे. यामुळे संसदेत गदारोळ माजला. वृत्तपत्र , न्यूज चॅनल सगळीकडे याचीच चर्चा चालू आहे. किरकोळ व्यापार क्षेत्रात थेट परकीय गुंतवणूक (FDI) फायद्याची की तोट्याची या अनुषंगाने ही चर्चा चालू आहे. त्यानिमित्ताने किरकोळ व्यापार क्षेत्रात थेट परकीय गुंतवणुकीचा आपणास थोडक्यात आढावा घेता येईल.

FDI म्हणजे काय ? : प्रथम आपणास प्रत्यक्ष विदेशी गुंतवणूक म्हणजे काय ते पहावे लागेल. अर्थव्यवस्थेत विविध क्षेत्राच्या(शेती, उद्योग,सेवा) विकासासाठी, विस्तारासाठी गुंतवणुकीची आवश्यकता असते.देशातील लोकांची गुंतवणूक क्षमता कमी असेल तर अशावेळी परदेशी भांडवलदार जेव्हा भारतात प्रत्यक्ष गुंतवणूक करतात तेव्हा ती प्रत्यक्ष विदेशी गुंतवणूक असते. अशी गुंतवणूक विविध क्षेत्रात करण्यासाठी शासनाच्या परवानगीची आवश्यकता असते.

किरकोळ विक्री क्षेत्र (रिटेल सेक्टर): किरकोळ विक्री क्षेत्र म्हणजे असे क्षेत्र की, ज्याठिकाणी ग्राहकांना दैनंदिन वापराच्या वस्तू, टिकाऊ उपभोग्य वस्तू उपलब्ध होतात. खरेदी करता येतात.आपणास किराना माल किराणा दुकानात मिळतो. टेबल, खुर्ची, टी.व्ही., भाजीपाला,फळे इ. त्या-त्या दुकानात मिळतात. या सर्व वस्तू, त्यांची दुकाने हे सर्व किरकोळ विक्री क्षेत्रात येतात.

किरकोळ विक्री क्षेत्राची भारतातील प्रगती : किरकोळ विक्री क्षेत्र हे देशातील खाजगी क्षेत्रातील एक महत्वाचे क्षेत्र आहे. देशाच्या ग.ड.प. मध्ये,१०% आणि रोजगारात जवळपास ६-७% हिस्सा या क्षेत्राचा आहे. जेथे जवळपास १.५कोटी किरकोळ व्यावसायी आहेत. आणि जवळपास ३५० अब्ज डॉलरची उलाढाल असणारे हे क्षेत्र आहे.भारतीय किरकोळ विक्री क्षेत्रात असंघटीत शीत्राचे वर्चस्व आहे. आणि एकूण विक्रीच्या ९४% वाट असंघटीत क्षेत्राचा आहे.

भारतात १९९१ च्या आर्थिक सुधारणांनंतर या क्षेत्राने गती घेतली. मागील दहा वर्षात तर हे क्षेत्र झपाट्याने वाढत गेले आहे. मुक्त अर्थव्यवस्था, उदारीकरण, दरडोई उत्पन्नातील वाढ यामुळे हे क्षेत्र वाढत गेले. तसे तसे मोठे गुंतवणूकदार, उत्पादक यांनी यामध्ये मोठ्या प्रमाणात गुंतवणूक करण्यास सुरुवात केली. किरकोळ विक्री क्षेत्रातील वाढत्या स्पर्धेमुळे या क्षेत्रात विविध प्रकारचे बदल होत आहेत. संघटीत किरकोळ

क्षेत्रातील वृद्धी पाहून स्पर्धेत टिकून राहण्यासाठी असंघटीत किरकोळ व्यावासायिक सुद्धा आपल्या व्यवसायात नवीन तंत्रज्ञान नवीन बिझनेस मॉडल्सचा अवलंब करीत आहेत.

देशात डीपार्टमेंटल स्टोरपासून, हायपर मार्केट आणि सुपर स्पेशालीटी स्टोर(मॉल्स) भारतात उघडले गेले आहेत. मोठ्या शहरांमध्ये –मेट्रो सिटीज मध्ये मुंबई, दिल्ली, कलकत्ता, बेंगलोर, पुणे यासारख्या शहरांमध्ये खरेदीसाठी ग्राहकांची पसंती शॉपिंगमॉल्सना आहे.

किरकोळ विक्री क्षेत्र(रिटेल सेक्टर) मध्ये FDI ची आवश्यकता :

अलीकडील काळात रिटेल क्षेत्रात इतके बदल आणि अर्थव्यवस्थेतील त्याचे योगदान पाहता आजही भारतात हे क्षेत्र कमी विकसित आणि अन्य विकसित देशांच्या तुलनेत सर्वात कमी विकास दर असणारे क्षेत्र समजले जाते.मागील दहा वर्षात एकूण किरकोळ क्षेत्रात ब्राझील व चीनचा वाटा १०% पासून वाढून अनुक्रमे ४०% व २०% झालेला आहे. परंतु भारतात मात्र १९९५-२००५ या दरम्यान या क्षेत्राचा वृद्धी दर केवळ २% इतका राहिला आहे. याचे एक महत्वाचे कारण म्हणजे हे क्षेत्र भारतातील त्या क्षेत्रापैकी एक होते ज्यामध्ये प्रत्यक्षा विदेशी गुंतवणुकीला मुभा नव्हती. परंतु बदलत्या काळात जशी जशी अर्थव्यवस्थेला गती येईल तसा किरकोळ विक्री क्षेत्राचा आकार वाढणार आहे. लोकांच्या क्रयाशक्तीत वाढ झाल्याने दर्जेदार उत्पादन , वस्तू व चांगली सेवा यांना मागणी वाढणार आहे. यासाठी वितरण, तंत्रज्ञान, मार्केटिंग, फूड प्रोसेसिंग यामध्ये मोठ्या प्रमाणात गुंतवणुकीची आवश्यकता आहे. देशातील गुंतावानुकीबरोबरच विदेशी, परकीय गुंतवणूकसुद्धा आवश्यक आहे.

FDI ला विरोध:

FDI ला विरोध करणाऱ्यांच्या मते, किरकोळ क्षेत्रातील FDI मुळे छोटे छोटे दुकानदारांच्या व्यवसायावर विपरीत परिणाम होईल. बेरोजगारी वाढेल. इ.इ. त्यामुळे FDI ला काही लोकांचा विरोध आहे.

परंतु सद्य स्थितीतकिरकोळ विक्री क्षेत्रातील FDI कडे योग्य दिशेने पाहण्याची आवश्यकता आहे.

FDI चे फायदे:

१] शेतकऱ्यांचा फायदा :

FDI मुळे शेतकऱ्यांचा मोठा फायदा होणार आहे. मल्टीब्रांड स्टोर थेट शेतकऱ्यांकडून शेतमाल खरेदी करणार आहेत. त्यामुळे शेतकऱ्यांना त्यांच्या शेतमालाची वाजवी किंमत मिळणार आहे. कारण आज भारतामध्ये शेतकरी व ग्राहक यांच्यामध्ये मध्यस्त, दलालांची एक मोठी साखळी आहे. शेतकऱ्यांचा जो शेतमाल ग्राहक १०रु. ला खरेदी करतो तेव्हा शेतकऱ्याला केवळ २रु. मिळतात. म्हणजे शेतकऱ्यांचे मोठे नुकसान या विक्री व्यवस्थेमुळे होते. परंतु हे मॉल्स थेट शेतकऱ्यांकडून शेतमाल खरेदी करतील. यामुळे शेतकऱ्यांना योग्य किंमत मिळणार आहे.

तसेच या कंपनी शेतमाल साठवणुकीसाठी शितगृहे, गोदामे यांची व्यवस्था करणार आहे. त्यामुळे शेतमाल नासाडीचे प्रमाण कमी होणार आहे. केंद्र शासनाच्या आकडेवारीनुसार भारतात दरवर्षी साठवणूक सुविधाअभावी जवळपास ६५ हजार कोटी रु. नुकसान होते. ते यामुळे होणार नाही.

२] मध्यस्तांचे उच्चाटन :

मल्टीब्रांड कंपन्यांमुळे मध्यस्तांचे, दलालांच्या साखळीचे उच्चाटन होईल. कारण विक्री व्यवस्थेतील मध्यास्तांच्या अस्तित्वामुळे शेतकऱ्यांना त्यांच्या शेतमालाची योग्य किंमत मिळत नाही. आणि ग्राहकांना मात्र जास्त किंमत देऊन खरेदी करावी लागते. म्हणजेच शेतकरी व ग्राहक या दोघांचेही नुकसान होते. मल्टीब्रांड कंपन्यांमुळे शेतकरी व मल्टीब्रांड कंपन्या यांचा थेट संबंध आल्याने मध्यस्तांचे उच्चाटन होऊन शेतकरी व ग्राहक यांचा फायदा होणार आहे.

३] ग्राहकांचा फायदा :

मल्टीब्रांड रिटेल क्षेत्रात FDI मुळे ग्राहकांना फायदा होणार आहे. मध्यस्तांमुळे सर्वच वस्तूंच्या किमती कित्येक पटीने वाढत होत्या. आता मात्र FDI मुळे ग्राहकांना योग्य किमतीत वस्तू मिळतील. तसेच ग्राहकांना दर्जेदार उत्पादने व सेवा उपलब्ध होतील.

४] रोजगार निर्मिती :

किरकोळ क्षेत्रात गुंतवणुकीमुळे आगामी काळात मोठे स्टोर, मॉल्स विविध शहरांमध्ये उभारले जाणार आहेत. यामध्ये मोठ्या प्रमाणात कर्मचाऱ्यांची गरज भासणार आहे. त्यातून या क्षेत्रात मोठ्या प्रमाणात लोकांना रोजगार उपलब्ध होईल.

५] आधारभूत संरचना उभारणी :

किरकोळ व्यापार क्षेत्रातील विदेशी गुंतवणुकीमुळे आधारभूत संरचनेचा विस्तार होणार आहे. कारण या गुंतवणुकीचा ५०% हिस्सा इन्फ्रास्ट्रक्चर वर खर्च केला जाईल. यामध्ये या मल्टीब्रांड कंपन्या गोदाम, शितगृहे (cold storage) सुविधा उभारणार आहेत. त्यामुळे शेतमालाची नासाडी कमी होईल.

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सारांश (Abstract) :

कोणत्याही प्रदेशाच्या आर्थिक विकासाकरिता त्या प्रदेशात उपलब्ध असणारी साधन संपत्ती महत्वाची असते मग या साधन संपत्तीचे संरक्षण करून त्यांची सांख्यिकीय माहिती एकत्रित केल्या जाते. या साधनसंपत्ती बरोबरच मानव संसाधन संपत्तीही महत्वाची आहे. ग्रामीण भागातील आर्थिक विकासात जसे मानवी साधनसंपत्ती बरोबर पशुधन महत्वाचे ठरते त्याच प्रमाणे शहरी भागाच्या विकासाकरिता ही शहरातील उपलब्ध असणारी साधनसंपत्ती, विविध प्रकारच्या सेवा आणि सुविधा व त्या शहरांमध्ये वास्तव्य करणारी लोकसंख्या, यांच्यातील समप्रमाणात या आकडेवारीवरून त्या शहरांमध्ये विविध प्रकारच्या योजना राबविल्या जातात. म्हणून आर्थिक विकासात जसे नियोजना करिता सांख्यिकीय माहिती एकत्रित करून ती जतन केली जाते व पुढे विविध प्रकारच्या सारणी मध्ये विभागली जाऊन तिचा विविध स्तरावर विचार केला जाऊन ती सांख्यिकीय माहिती आर्थिक विकासा करिता उपयोगात आणली जाते.

यामुळे उपलब्ध साधन संपत्तीचा अंदाज घेऊन वास्तविकरित्या तेथील सेवा आणि सुविधा उभारल्या जातात, किंबहुना त्याच प्रमाणात त्या ठिकाणी प्रादेशिक नियोजनाच्या माध्यमातून विविध प्रकारच्या शासकीय योजना अमलात आणण्याकरिता सांख्यिकीय माहिती उपयोगात आणली जाते. म्हणून आर्थिक विकासात सांख्यिकीय माहितीची फार मोठी महत्वाची भूमिका असल्याचे दिसून येते.

बीजसंज्ञा (Keywords) : सांख्यिकीय माहिती, मानवी साधन संपत्ती, शासकीय योजना, प्रादेशिक नियोजन, SPSS Software , सामाजिक विज्ञानासाठी सांख्यिकीय पॅकेजचा वापर.

प्रस्तावना (Introduction) :

सांख्यिकीय माहिती संग्रहित करण्याकरिता सामाजिक विज्ञानामध्ये SPSS Software वापरले जाते. या सॉफ्टवेअरच्या माध्यमातून माहिती संग्रहित केली जाते. हे सॉफ्टवेअर सर्वप्रथम एस पी एस एस म्हणून 1968 मध्ये प्रसिद्ध केले गेले होते. तसेच सन 1983 मध्ये त्याची आवृत्ती 10 (SPSS-X) आली. या आवृत्तीमध्ये माहिती सारणी मध्ये अनेक प्रकारचे दस्तऐवज असू शकतात. यानंतर 28 जुलै 2009 रोजी SPSS ने जाहीर केले की, ते सर्व IBM कंपनी बनली आहे. 1 ऑक्टोबर 2010 रोजी आयबीएम ला संपूर्ण मालकी देण्यात आली.

SPSS (Statistical Package For The Social Sciences) हे सांख्यिकीय पॅकेज म्हणजे सामाजिक विज्ञानासाठी सांख्यिकीय पॅकेज, एसपीएसएस याकरिता सांख्यिकीय पॅकेज नंतर सांख्यिकीय उत्पादन आणि सेवा समाधान यांच्या अभ्यासाकरिता संशोधित केल्या गेले.

सामाजिक विज्ञानासाठी सांख्यिकीय पॅकेजचा वापर अधिकृतरीत्या आयबीएम, एसपीएसएस सांख्यिकीय नाव देऊन केल्या गेला. हे एक (कॉम्प्युटर) संगणकीय कार्यक्रम असून याचा उपयोग माहिती विश्लेषणा करिता केल्या जातो. जसे कि, याचा वापर बाजारपेठेतील संशोधक, सर्वेक्षण कंपन्या आणि इतर संशोधन संस्था द्वारे संरक्षित आणि इतर

सुक्ष्म व संक्षिप्त माहिती मिळवण्यासाठी आणि विविध मार्गांनी हाताळण्यासाठी उपयोग केला जाऊ शकतो. यामध्ये विस्तृत आकडेवारीचे विश्लेषण आणि अहवाल तयार केले जाऊ शकतात. एस पी एस एस चा उपयोग संशोधन कर्ता बाजाराच्या संशोधक माहिती करिता करत असताना यामध्ये आरोग्य संशोधक, सर्वेक्षण कंपन्या, सरकारी संस्था, शैक्षणिक संशोधक, विपणन संस्था तसेच विविध प्रकारच्या सर्वेक्षण माहितीच्या प्रक्रिया आणि विश्लेषणासाठी वापर करतात.

SPSS हे एक माहिती विश्लेषण सॉफ्टवेअर पॅकेज आहे.व्ययस्थित माहिती संग्रहित आणि विश्लेषण यासाठी संशोधका कडून या पॅकेजचा वापर केल्या जातो. माहिती कोणत्या सूत्रांकडून प्राप्त झाली आहे किंवा नाही हे शोधण्यासाठी आपल्या डेटाबेसमधील डेटा किंवा वेबसाईट्सवर लॉग फाइल इत्यादी एसपीएसएस सॉफ्टवेअर माहिती संकलन करण्यासाठी जवळजवळ सर्व स्वरूपात उपयोगात आणले जाते. जसे की एम एस एक्सेल किंवा ओपन ऑफिस इत्यादी करिता.

अभ्यास क्षेत्र (Study Area) :

प्रस्तुत शोधनिबंधाच्या अभ्यासा करिता अभ्यास क्षेत्र म्हणून संपूर्ण भारत देशाच्या महाराष्ट्र प्रदेशाचा विचार करण्यात आलेला आहे. परंतु सदरील संशोधन हे प्रदेशाच्या नियोजना करिता सांख्यिकीय माहितीच्या माध्यमातून मानवी साधन संपत्ती, शासकीय योजना, प्रादेशिक नियोजन(SPSS Software) सामाजिक विज्ञानासाठी सांख्यिकीय पॅकेजचा वापर करून आर्थिक विकास व विविध योजना आमलात आणण्यासाठी कसे उपयुक्त आहे. हे अभ्यासले गेलेले आहे. म्हणून अभ्यास क्षेत्रात पुढील बाबींचा सविस्तर उल्लेख करण्यात आलेला आहे. एस पी एस एस हे एक विश्वासनीय माहिती विश्लेषणाचे सॉफ्टवेअर पॅकेज आहे.या सॉफ्टवेअरला विविध क्षेत्रात संशोधनाकरिता संशोधक उपयोगात आणतात. उदा.(Scientific Research, Mechanic Research, Survey Companies, Health Research ,Data Minerals) यांच्याद्वारे विविध प्रकारची माहिती संपादन करून, संग्रहित केलेली माहिती विश्लेषणासाठी उपयोगात आणली जाते.

संशोधनाची उद्दिष्टे(Objectives) :

१. यामध्ये विविध प्रकारचे(Data Management) माहिती संकलन व्यवस्थापन आणि संपादन (Editing Tool) समाविष्ट आहेत. ही मिळवलेली सांख्यिकीय माहिती विविध ठिकाणी प्रादेशिक नियोजनाच्या माध्यमातून विविध प्रकारच्या शासकीय योजना अमलात आणण्याकरिता उपयोगात आणली जाते.या विषयी अभ्यास करणे.
2. SPSS संपूर्णता मूळ स्वरूपात विश्लेषण करण्यासाठी व सांख्यिकीय माहिती प्राप्त करण्याची क्षमता प्रदान करत आहे. या सॉफ्टवेअरला विविध क्षेत्रात संशोधनाकरिता संशोधक उपयोगात आणतात. या विषयी अभ्यास करणे.
3. SPSS एक - लेखन, अहवाल व सादरीकरणाची वैशिष्ट्ये प्रदान करते. जसे की,प्रदेशाच्या आर्थिक विकासाकरिता त्या प्रदेशात उपलब्ध असणारी साधन संपत्ती महत्वाची असते या साधन संपत्तीचे संरक्षण करून त्यांची सांख्यिकीय माहिती एकत्रित केल्या जाते.या विषयी अभ्यास करणे.

गृहितके : (Hypothesis) :

1. SPSS= Statistical Package for Social Science. SPSS द्वारे 1968 मध्ये सामाजिक शास्त्र करिता एस पी एस सी सुरु केल्या गेले आहे.नंतर 28 जुलै 2009 मध्ये SPSS द्वारे असे जाहीर केले की SPSS ला IBM मार्फत अधिग्रहण केले आहे यामुळे यास IBM,SPSS Statistics या नावानेही ओळखले जाते.

2. आर्थिक विकासाचे मापन करण्याकरिता सांख्यिकीय शास्त्राचा वापर करण्यात येतो सांख्यिकीय आकडेवारी वरूनच तथा सांख्यिकीय आकडेवारीच्या आधारे राष्ट्रातील व्यक्तीचे जीवनमान कसे आहे याचा अंदाज घेता जातो.

माहिती स्रोत व संशोधन पद्धती (Research Methodology) :

प्रस्तुत शोधनिबंधाच्या अभ्यासा करिता प्राथमिक व दुय्यम साधनसामग्री वर आधारित माहिती संकलित केलेली आहे. दुय्यम साधन सामग्री प्रकाशित जनगणना अहवाल, संदर्भ पुस्तके, विविध लेख, नियतकालिके व दर्जेदार मासिकात प्रसिद्ध झालेले लेख. वार्षिक शासकीय अहवाल, वेब जाळे (संकेत स्थल) इत्यादींचा संदर्भ साहित्य म्हणून वापर केलेला आहे. व्दितीयकक सामुग्रीच्या आधारित प्रस्तुत संशोधन निबंधात विश्लेषण करण्यात आलेले आहे. संशोधनातील निष्कर्ष हे उद्दिष्टावर आधारित, विश्लेषण व निष्कर्ष यावरच काढलेले आहेत. एस पी एस एस हे एक विश्वासनीय माहिती विश्लेषणाचे सॉफ्टवेअर पॅकेज आहे. या सॉफ्टवेअरला विविध क्षेत्रात संशोधनाकरिता संशोधक उपयोगात आणतात. म्हणून प्रस्तुत शोधनिबंधाच्या अभ्यासात SPSS= Statistical Package for Social Science यांच्याद्वारे विविध प्रकारची माहिती संपादन करून, संग्रहित केलेली माहिती विश्लेषणासाठी उपयोगात आणली आहे.

विषय विवेचन (Subject Analysis) :

आर्थिक विकासाचे मापन करण्याकरिता सांख्यिकीय शास्त्राचा वापर करण्यात येतो. सांख्यिकीय आकडेवारी वरूनच तथा सांख्यिकीय आकडेवारीच्या आधारे राष्ट्रातील व्यक्तीचे जीवनमान कसे आहे, याचा अंदाज घेता येतो. व्यक्तीला जीवनाचा गुणवत्ता निर्देशांक कसा हवा आहे, याविषयीही अंदाज बांधले जातात. त्याचप्रमाणे लोकांची वैयक्तिक प्रगती किती झाली याचे मापन मानवी विकास निर्देशांक याद्वारे केल्या जाते. आर्थिक विकासाच्या संबंधित सांख्यिकीय आकडेवारी महत्त्वपूर्ण असून आर्थिक वृद्धी ही देशात उपलब्ध असणाऱ्या सांख्यिकीय माहिती वरच अवलंबून असते. आर्थिक विकासाचा अभ्यास करत असताना आर्थिक विकासाचे निर्देशक अभ्यासने महत्वाचे असते.

एस पी एस एस (SPSS= Statistical Package for Social Science) हे एक आउटपुट संग्रहित केलेली माहिती विश्लेषणासाठी सांगणे आणि इतर प्रोग्राम मध्ये सहजपणे माहिती संकलित करण्याचे एक माध्यम आहे. जसे की एसपीएसएस वापरकर्ते ओल्ड प्रोसेसर(world prossesar) एम एस वर्ड, ओपन ऑफिस किंवा गूगल लॉक करण्यासाठी वापरतात. SPSS= Statistical Package for Social Science याविषयी अभ्यासले असता एस पी एस एस च्या माध्यमातून अनेक प्रकारच्या माहिती संकलित सारण्या तयार करून जतन केल्या जातात. जसे की, माहितीचे संपादन करणे, त्यावर विश्लेषण करणे, समुहाच्या प्रकरणांमध्ये आणि चलनावरील वारंवार त्यांची संख्या किंवा सारांश आकडेवारी तयार करणे.

जसे की, यामध्ये जमिनीची प्रति हेक्टरी उत्पादकता (Productivity Of Per Hectare Of Land), औद्योगिक विकास (Industrial Progress), प्रति व्यक्ति उत्पन्न (Per Capita Income), प्रति व्यक्ती उपभोग (Per Capita Consumption), गुणवत्तापूर्ण उपक्रमशीलता (Qualitative Inter Panel Ship), जीवनाचा गुणवत्ता निर्देशांक आणि मानवी विकास निर्देशांक (Quality Of Life Index And Human Development Index), दरडोई उत्पन्न (Per Capita Income)

सांख्यिकीय पद्धतीच्या मुलतत्वाची माहिती असावी, सामग्री संकलन यापासून संघटने पर्यंत उपयोगात आणल्या जाणाऱ्या सर्व सांख्यिकीय साधनांची - तंत्राची ही सामग्री समजून घेऊन निष्कर्ष काढण्याच्या प्रक्रियेच्या ज्ञानाचा समावेश यात होतो. यामध्ये विविध तक्ते, सूत्रे, रचना, रेखा आलेख, वर्तुळाकृती आलेख, दंडाकृती आलेख, यांची मांडणी व विश्लेषण आणि सादरीकरण याची सर्व माहिती सांख्यिकीय तज्ज्ञांना असावी लागते. सांख्यिकीयच्या

प्रक्रियेतून प्राप्त झालेल्या माहितीच्या आधारे प्रशासन आपल्या कार्याची दिशा ठरवू शकते, त्यांच्या कार्यावर नियंत्रण होऊ शकते. तसेच उचित निर्णयही घेऊ शकते. या पद्धतीने सांख्यिकीय माहितीचे संकलन व संघटन केले जाते.

विविध क्षेत्रात संशोधनाकरिता संशोधक करणाऱ्या अभ्यासकास आकडेवारीचा उपयोग कोणत्या कामाकरिता आणि कोणत्या उद्देशाने करण्यात येणार आहे याची स्पष्ट कल्पना त्याला असावी. आकडेवारीचे सर्व मूळ स्रोत सांख्यिकीय संकलित करणाऱ्यास माहिती असावे. आणि सतील तरच उचित आकडेवारी गोळा केली जाईल, उद्योगात जर त्याला कार्य करावयाचे असेल तर उत्पादन, उत्पादनाच्या पद्धती, ग्राहक सेवा, त्याचा इतिहास, आर्थिक समस्या, त्यांचा अहवाल सादर करण्याची पद्धती माहितीचे स्रोत या सर्वांची माहिती असणे आवश्यक आहे.

सांख्यिकीय माहिती चे संघटन व संकलन करण्याच्या दोन पद्धती आहेत :

1. प्राथमिक व द्वितीयक सामग्रीचे संकलन:

सांख्यिकीय शास्त्रात निश्चित केलेल्या समस्येशी संबंधित माहिती आकडेवारीच्या स्वरूपात गोळा केली जाते, या संकलित माहितीलाच सामग्री असे म्हणतात. सामग्री गोळा करण्यापूर्वी सर्वप्रथम समस्येची निश्चित व्याख्या करणे आवश्यक असते. प्रस्तुत संशोधनामध्ये संशोधन करत असताना संशोधकाला संकलित सामग्री ही त्या विशिष्ट समस्येशी संबंधित आहे का? याविषयी जाणून घेऊन प्रस्तुत माहिती सादर केली जाते. प्राथमिक माहितीमध्ये संदर्भ व समस्या रहित गोळा केलेली सामग्री ही सांख्यिकीय सामग्री समजली जात नाही. म्हणून सामग्री गोळा करण्यामागे काही निश्चित असा उद्देश असावा लागतो. त्यामुळे समस्या निर्माण झाल्यानंतरच त्या समस्येशी संबंधित माहिती गोळा केली जाते. प्रस्तुत माहिती ही एक तर नव्याने गोळा केली जाते किंवा दुसऱ्या कोणत्याही उद्देशाने गोळा केलेल्या माहितीतून वेगळी केली जाते.

संकलित केलेली सांख्यिकीय माहितीही प्राथमिक असो अथवा द्वितीयक असो ही सामग्री विश्वासनीय असणे महत्त्वपूर्ण आहे. जेव्हा सामग्री संकलनाचा उद्देश स्पष्ट झालेला असतो त्यावेळी एक सामग्री संकलित करतांना त्या सामग्रीची विश्वासाहता तपासूनच तिचा वापर करावा.

प्राथमिक सामग्री संकलनाच्या वेळी योग्य पद्धतीचा वापर आणि सुरक्षेची काळजी घेण्यात यावी. गोळा करण्यात आलेली सामग्री पूर्वग्रहदूषित नसावी. प्रस्तुत संशोधनासाठी त्याच काळातील व त्या काळाशी संबंधित सामग्री गोळा केली जावी. गोळा केलेली सामग्री जास्तीत जास्त अचूक कशी राहिल याची प्रत्येक वेळी काळजी घेणे आवश्यक आहे. अशाप्रकारे सांख्यिकीय प्रक्रिये करिता संकलित केलेली सामग्री उपयोगात आणली जाते. तसेच तिचे विश्लेषण केले जाते व निष्कर्ष काढले जातात .

सांख्यिकीय चे पुढील चार तंत्र ज्ञानाधारित निश्चित झालेली आहेत:

1. सामग्रीचे संग्रहण
2. सामग्रीचे सादरीकरण
3. सामग्रीचे विश्लेषण
4. सामग्रीचे अनुमान

यांवरून सांख्यिकीय ची एक व्याख्या सांगितली जाते ती अशी की,

"संख्याकी हे सामग्री संग्रहनाचे, सादरीकरणाचे, विश्लेषणाचे आणि त्याचा अन्वयार्थ सांगणारे तंत्रशास्त्र आहे".

सामग्री संकलनाच्या पद्धती (Methods of data collection):

अ) प्राथमिक सामग्री गोळा करण्याच्या पद्धती (Methods Of Collection Of Primary Data):

प्राथमिक प्रकारची सामग्री प्रत्यक्ष शोध घेऊन संकलित केली जाते याकरिता आणि रक्षण चौकशी मुलाखत निरीक्षणावर आधारित पत्रकारांचे वाविकर त्यांचे स्थानिक अहवाल वार्षिक अहवाल यांचा प्रामुख्याने वापर केला जातो.या सामग्री च्या संकलनाच्या पुढील पद्धती आहेत.

१. निरीक्षणाद्वारे प्राथमिक सामग्री संकलन (Primary Data Collection By Observation).
२. मुलाखतीद्वारे प्राथमिक सामग्री संकलन (Primary Data Collection By Interview).
३. स्थानिक अहवालाच्या आधारे प्राथमिक सामग्री संकलन (Primary Data Collection from Local Reports).

ब) द्वितीयक सामग्री गोळा करण्याच्या पद्धती (Methods Of Collection Of Secondary Data):

संशोधन करत असताना प्राथमिक सामग्री बरोबर द्वितीयक सामग्रीला ही महत्व देण्यात येते. व्यावसायिक संघटनात द्वितीयक सामग्रीचे अंतर्गत आणि बाह्य अशी दोन स्त्रोत असतात. उत्पादन,श्रमतास,मजुरी यांची नोंद प्रत्येक संस्थेत मूळ स्वरूपात उपलब्ध असते. या आधारे प्राथमिक सामग्री संकलित करण्यात येते.विवरणे, अहवाल यांच्या आधारे ही प्राथमिक सामग्री तपासून पाहता येते.विवरणे व अहवाल द्वितीयक सामग्रीचा स्त्रोत आहे .अंतिम लेखे आणि अहवाल परिचय अहवाल यांचा द्वितीयक सामग्रीचे स्त्रोत म्हणून संशोधक उपयोग करू शकतो.

बाह्य स्त्रोतांमध्ये खाजगी अहवाल, प्रकाशित साहित्य,उदा. सरकारी विभाग, नगरपालिका, जिल्हा परिषद, ग्रामपंचायत, राज्य सरकार व केंद्र सरकार यांच्या द्वारे अधिकृतरीत्या प्रकाशित साहित्य याबरोबरच व्यापारी संघटना, चेंबर ऑफ कॉमर्स, बँक, सोसायटी, रोखे बाजार द्वारा प्रकाशित साहित्य तसेच साहित्यिक मासिके, पाक्षिके, दैनिक, वृत्तपत्रे, पुस्तके, संदर्भग्रंथ यातून प्रकाशित साहित्य, माहिती व आकडेवारी विद्यापीठाद्वारे प्रसिद्ध झालेले अहवाल, शैक्षणिक संस्थेद्वारे, संशोधन संस्था, अर्थतज्ञ द्वारे, सांख्यिकीय तज्ञाद्वारे प्रकाशित साहित्य यांचा समावेश द्वितीयक सामग्रीत होतो.

भारतीय प्रकाशित साहित्य मध्ये भारतात नॅशनल सॅम्पल सर्व्हे, रिझर्व बँक, भारतीय नियोजन मंडळ ,सॅट्रल स्टॅटिस्टिकल ऑर्गनायझेशन, जनगणना समिती, केंद्र व राज्य सरकारी महामंडळ इत्यादी संस्था नियमितपणे विविध प्रकारची माहिती प्रसिद्ध करीत असतात.या बरोबरच “गोखले इन्स्टिट्यूट ऑफ इकोनॉमिक्स अँड पॉलिटिक्स” यासारख्या संस्था विविध क्षेत्रात संशोधन करून आपले अहवाल प्रसिद्ध करीत असतात. त्यांनी प्रसिद्ध केलेली ही माहिती विश्वासनीय समजली जाते व या माहितीचा उपयोग द्वितीयक सामग्री म्हणून संशोधनाकरिता संशोधक वापरू शकतात.

प्राथमिक सामग्री व द्वितीयक सामग्री तील फरक :

प्राथमिक सामग्री संशोधक स्वतः गोळा करीत असतो.प्राथमिक सामग्रीत साधारणतः माहिती गोळा करणे खर्चाचे असते. श्रम आणि वेळ अधिक लागतो. प्राथमिक सामग्री संकलन करण्या करिता अनेकांची नियुक्तीही वेळप्रसंगी करावी लागते.प्राथमिक सामग्री गोळा केल्यास विषयाशी संबंधित माहिती विस्तृत स्वरूपात व खात्रीशीर व अचूक योग्यरीत्या एकत्रित केल्या जाऊ शकते.प्राथमिक सामग्री चा पूर्ण विश्वासाने संशोधनाकरिता संशोधक वापर करू शकतात.

द्वितीयक सामग्री अगोदरच दुसऱ्याने गोळा केलेली असून ती संशोधक स्वतःकरिता वापरत असतो. द्वितीयक सामग्री अगोदरच संकलित केलेली असल्यामुळे कमी खर्चात, कमी वेळात आणि कमी प्रमाणात उपलब्ध होते.द्वितीयक

सामग्री ही तुलनात्मक दृष्ट्या संक्षिप्त व कमी विश्वासनीय असते. द्वितीयक सामग्रीत अचूकतेची खात्री देता येत नाही. द्वितीयक सामग्रीचा उपयोग करण्यापूर्वी तिची विश्वसनीयता तपासून घ्यावी लागते. तेव्हा तिचा वापर संशोधनात केला जातो.

एसपीएसएस - मुख्य वैशिष्ट्ये:

एसपीएसएस म्हणजे "सामाजिक विज्ञानांसाठी सांख्यिकीय पॅकेज" हे प्रथम 1968 मध्ये लाँच केले गेले. एसपीएसएस 2009 मध्ये आयबीएमने विकत घेतल्यामुळे, हे अधिकृतपणे आयबीएम एसपीएसएस सांख्यिकीय म्हणून ओळखले जाते. परंतु बहुतेक वापरकर्ते अद्याप "एसपीएसएस" म्हणून उल्लेख करतात. एसपीएसएस हे सर्व प्रकारच्या डेटाचे संपादन आणि विश्लेषण करण्यासाठी सॉफ्टवेअर आहे.

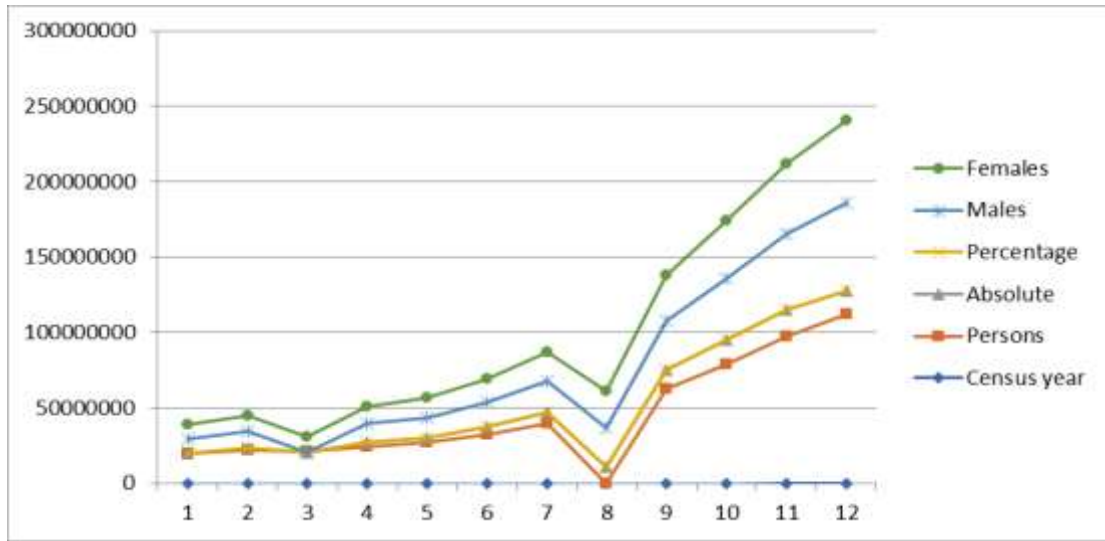
उदा.खलील तक्त्यामध्ये सन 1901 ते 2011 दरम्यान झालेल्या जनगणना नुसार महाराष्ट्रातील वाढणारी लोकसंख्या, स्त्री,पुरुष प्रमाण यांची आकडेवारी खाली वर्णन केल्यानुसार आम्ही वर्णनात्मक आकडेवारीवर अवलोकन करून सरासरी महाराष्ट्रातील लोकसंख्याचा तुलनात्मक अभ्यास करू शकतो. लोकसंख्या वाढ व उपलब्ध साधन संपत्ती यांच्यामध्ये समतोल नसल्याने दैनंदिन जीवनात ताळेबंद ठरवता येत नाही म्हणून अत्यावश्यक जीवन जगण्यासाठी उपलब्ध असणारी साधने आपुरी पडत आहेत.

तक्ता क्रं.1. सन 1901 ते 2011 जनगणना (महाराष्ट्रातील लोकसंख्या, स्त्री-पुरुष प्रमाण)

Sr.no	Census year	Persons	Absolute	Percentage	Males	Females
1	1901	19,391,643	—	—	9,802,129	9,589,514
2	1911	21,474,523	2,082,880	10.74	10,922,671	10,551,852
3	1921	20,849,666	-624,857	-2.91	10,692,865	10,156,801
4	1931	23,959,300	3,109,634	14.91	12,305,958	11,653,298
5	1941	26,832,758	2,873,634	11.99	13,769,460	13,063,298
6	1951	32,002,564	5,169,806	19.27	16,490,039	15,512,525
7	1961	39,553,718	7,551,154	23.6	20,428,882	19,124,836
8	1971	50,412,235	10,858,517	27.45	26,116,351	24,295,884
9	1981	62,782,818	12,370,583	24.54	32,414,432	30,368,386
10	1991	78,937,187	16,154,369	25.73	40,825,618	38,111,569
11	2001	96,878,627	17,941,440	22.73	50,400,596	46,478,031
12	2011	112,374,333	15,495,106	15.99	58,243,056	54,131,277

Source: Census of India 2011 (censusindia.gov.in)

आलेख क्र.1 - महाराष्ट्रातील लोकसंख्या, स्त्री-पुरुष प्रमाण



Source: Census of India 2011 (censusindia.gov.in)

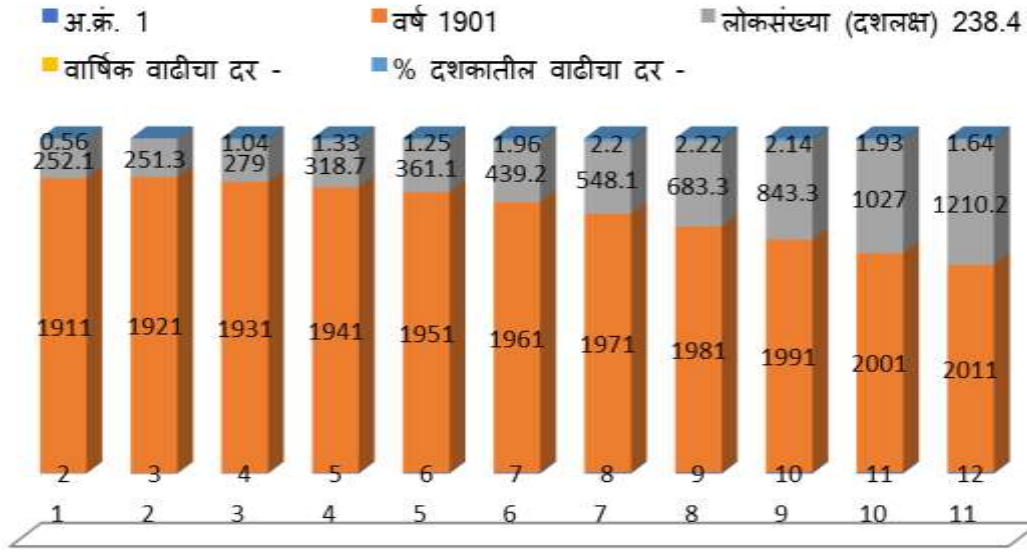
खलील तक्त्यामध्ये सन 1901 ते 2011 दरम्यान झालेल्या जनगणना नुसार भारतीय लोकसंख्या आणि वार्षिक वाढीचा दर (1901-2011) वाढणारी लोकसंख्या यांची आकडेवारी खाली वर्णन केल्यानुसार वर्णनात्मक आकडेवारी वरून सरासरी भारतीयतील लोकसंख्या वाढीचा अभ्यास करू शकतो.

तक्ता क्र.2. भारतीय लोकसंख्या आणि वार्षिक वाढीचा दर (1901-2011)

अ.क्र.	वर्ष	लोकसंख्या (दशलक्ष)	वार्षिक वाढीचा दर	% दशकातील वाढीचा दर
1	1901	238.4	-	-
2	1911	252.1	0.56	5.8
3	1921	251.3	-0.03	0.3
4	1931	279	1.04	11
5	1941	318.7	1.33	14.2
6	1951	361.1	1.25	13.3
7	1961	439.2	1.96	21.6
8	1971	548.1	2.2	24.8
9	1981	683.3	2.22	24.7
10	1991	843.3	2.14	23.9
11	2001	1027	1.93	21.5
12	2011	1210.2	1.64	17.6

संदर्भ : " Census Reports - 2011 (भारतीय जनगणना अहवाल- 2011)

आलेख क्र. 2 - भारतीय लोकसंख्या आणि वार्षिक वाढीचा दर



संदर्भ : " Census Reports - 2011 (भारतीय जनगणना अहवाल- 2011)

सन 2011 च्या जनगणनेनुसार, जालना जिल्ह्यात एकूण लोकसंख्या 19,58,483 आहे आणि लोकसंख्येची घनता 254 व्यक्ती प्रति चौ. कि.मी. आहे. तर सन 2001 च्या जनगणनेनुसार 209 व्यक्ती प्रति चौ. कि.मी. आहे. सन 2011 च्या जनगणनेनुसार जिल्ह्याची लोकसंख्या 19,58,483 आहे. पुरुषांची लोकसंख्या 10,15,116 आणि स्त्रियांची संख्या 9,43,367 आहे. जिल्ह्यात स्त्री-पुरुष प्रमाण 1000/937 असे आहे. जिल्ह्यात साक्षरता 71.52% आहे जिथे सन 2001 च्या जनगणनेनुसार साक्षरता 64.52% होती. साक्षरता दशकात दरवाढ 7% आहे. पुरुष साक्षरता 81.53% व महिला साक्षरता 60.95% आहे.

विषय	जनगणना -2001	जनगणना-2011
लोकसंख्या	16,22,357	19,58,483
साक्षरता	64.52%	71.52%
पु/स्त्री प्रमाण	1000 / 952	1000 / 937
लोकसंख्येची घनता	209 प्रति चौ. कि.मी.	254 प्रति चौ. कि.मी.

वास्तविक संशोधनात कच्च्या माहितीचे योग्य विश्लेषण केले जाण्यापूर्वी सहसा काही संपादन आवश्यक असते. ठराविक उदाहरणे म्हणजे नवीन चल किंवा परिवर्तनशील संख्या म्हणून अर्थ किंवा बेरीज तयार करणे, माहितीचे पुनर्रचना करणे किंवा संभाव्य निरीक्षणे शोधणे आणि काढणे. अशा प्रकारचे सांख्यिक्य कार्य एसपीएसएस आश्चर्यकारक कार्यक्षमतेसह अशी कार्ये आणि अधिक जटिल कार्ये करते. एखादी गोष्टी जलद पूर्ण करण्यासाठी, एसपीएसएस मध्ये अनेक संख्यात्मक कार्ये, एका दोरीत क्रमवार, तारीख क्रमवार आणि इतर सुलभ दैनंदिन माहिती संकलित करून मांडलेली असते.

सारांश (Conclusion) :

सांख्यिकीय माहितीच्या आधारे संशोधन कार्यामध्ये सांख्यिकीय विधी अमलात आणली जाते या सांख्यिकीच्या माध्यमातूनच प्रत्येक समस्या उत्तमरित्या समजून दाखवली जाऊ शकते. सांख्यिकीय एक मात्र

असे शास्त्र आहे की,सांख्यिकीय माहितीच्या आधारे वयोमान, उंची, उत्पादन, किंमत, उत्पन्न, लोकसंख्या, आर्थिक संकल्प इत्यादीचे प्रत्यक्षरीत्या विश्लेषण करून त्यांच्यातील गुणात्मक अध्ययन केले जाते. परंतु बौद्धिक,चरित्र, सुंदरता,स्वास्थ्य विषयक माहिती मिळत नाही. परंतु आरोग्यविषयक सुविधा, गरीबी, व्यावहारिक आणि सांख्यिकीय विश्लेषण याविषयी माहिती मिळवली जाते.सर्व मूलभूत सारण्या आणि चार्ट एसपीएसएसमध्ये सहज आणि जलद माहिती तयार केले जाऊ शकतात. ठराविक उदाहरणे डेटा विश्लेषण अंतर्गत दर्शविली जातात.

नावाप्रमाणेच एसपीएसएस हे सामाजिक विज्ञानाच्या क्षेत्रात सांख्यिकीय कार्यपद्धती पार पाडण्यासाठी सॉफ्टवेअर आहे. एसपीएसएसची मुख्य मर्यादा अशी आहे की, विस्तृत माहिती विश्लेषण करण्यासाठी वापरले जाऊ शकत नाही. एसपीएसएस हा सॉफ्टवेअर प्रोग्राम्सचा एक संच आहे. जो एकाच पॅकेजमध्ये एकत्रित केला जातो. या कार्यक्रमाचा मूलभूत अनुप्रयोग म्हणजे सामाजिक विज्ञानाशी संबंधित वैज्ञानिक माहितीचे विश्लेषण करणे. हा माहिती स्रोत बाजार संशोधन, सर्वेक्षण, खाण माहिती इत्यादींसाठी वापरला जाऊ शकतो. प्राप्त सांख्यिकीय माहितीच्या मदतीने, संशोधकांना बाजारातल्या उत्पादनाची मागणी सहजपणे समजते आणि त्यानुसार त्यांची रणनीती बदलू शकते.

तथापि, यासाठी बऱ्यापैकी प्रयत्न आणि कौशल्य आवश्यक आहे.अनुमानित आकडेवारी,एसपीएसएस मध्ये सर्व मूलभूत सांख्यिकीय चाचण्या आणि बहुविध विश्लेषण असते जसे की,टी-चाचण्या,काय वर्ग चाचण्या,श्रेणी अंतर स्पिररमन पद्धत,कार्ल पियरसन पद्धत,परस्परसंबंध आणि इतर असोसिएशन उपाय,प्रतिरोध,नॉनपेरॅमेट्रिक चाचण्या,घटक विश्लेषण,क्लस्टर विश्लेषण,रीग्रेशन विश्लेषण,एनोवा (भिन्नतेचे विश्लेषण),इत्यादिच्या संबंधित समावेशीत आसवेत. सांख्यिकीय माहितीद्वारे काढलेले निष्कर्ष हे समूहाच्या सामाहिक व्यवहाराचे अनुमान काढू शकते परंतु त्या समूहातील एखाद्या व्यक्तीचा अनुमान काढता येत नाही.सांख्यिकीय माहिती च्या आधारे संशोधन कार्यामध्ये सांख्यिकीय विधी अमलात आणली जाते या सांख्यिकीच्या माध्यमातूनच प्रत्येक समस्या सर्व उत्तमरित्या समजून दाखवली जाऊ शकते सांख्यिकी एक मात्र असे शास्त्र आहे की सांख्यिकीय माहितीच्या आधारे वयोमान उंची उत्पादन किंमत उत्पन्न लोकसंख्या आर्थिक संकल्प इत्यादीचे प्रत्यक्षरीत्या विश्लेषण करून त्यांच्यातील गुणात्मक तर ते जसे की बौद्धिक तर चरित्र सुंदरता स्वास्थ्य विषयक ही माहिती मिळत नाही परंतु आरोग्यविषयक सुविधा गरीबी व्यावहारिक आणि सांख्यिकीय विश्लेषण याविषयी माहिती मिळवली जाते.

मूलभूतपणे एसपीएसएस म्हणजे "सामाजिक विज्ञानांसाठी सांख्यिकीय पॅकेज" हे प्रथम दिलेली माहिती संग्रहित आणि व्यवस्थित करते, त्यानंतर योग्य विश्लेषण तयार करण्यासाठी स्थिर केलेली माहिती संकलित करते. एसपीएसएस अशा प्रकारे डिझाइन केलेले आहे की, ते परिवर्तनशील माहिती स्वरूपाचा एक मोठा संच हाताळू शकेल.

शिफारशी (Recommendation):

1. एसपीएसएसची खरी कमकुवतता म्हणजे त्याचे तक्ते कुरूप असतात आणि बऱ्याचदा अनाडी मांडणी असते. या समस्येवर मात करण्याचा एक चांगला मार्ग म्हणजे एसपीएसएस साचेबद्ध तक्ते विकसित करणे आणि लागू करणे.

गोळा केलेली सामग्री जास्तीत जास्त अचूक कशी राहील याची प्रत्येक वेळी काळजी घेणे आवश्यक आहे. अशाप्रकारे सांख्यिकीय प्रक्रिये करिता संकलित केलेली सामग्री उपयोगात आणली जावी आणि तिचे विश्लेषण केले जावे व निष्कर्ष काढले जावेत.

2. सांख्यिकीय माहितीद्वारे काढलेले निष्कर्ष हे समूहाच्या सामाहिक व्यवहाराचे अनुमान काढू शकते परंतु त्या समूहातील एखाद्या व्यक्तीचा अनुमान काढता येत नाही.
3. सांख्यिकीय एक मात्र असे शास्त्र आहे की,सांख्यिकीय माहितीच्या आधारे वयोमान, उंची, उत्पादन, किंमत, उत्पन्न, लोकसंख्या, आर्थिक संकल्प इत्यादीचे प्रत्यक्षरीत्या विश्लेषण करून त्यांच्यातील गुणात्मक अध्ययन केले जाते. परंतु बौद्धिक,चरित्र, सुंदरता,स्वास्थ्य विषयक माहिती मिळत नाही.याकरिता माहिती संकलीत करावी.

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खुल्या व निःपक्ष वातावरणात निवडणुका घेण्यासंबंधी समस्या

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देशभक्त संभाजीराव गरड महाविद्यालय मोहोळ,

ता. मोहोळ, जि. सोलापूर

स्वातंत्र्यप्राप्तीनंतर भारताने लोकशाही व्यवस्थेचा स्विकार केला. सरनाम्यातील उल्लेखानुसार गणराज्य पद्धतीचा स्विकार केले. त्यामुळे यासाठी निवडणुक प्रक्रिया ही योगाने येतेच. निवडणुकांमधूनच जनतेने निवडलेले प्रतिनिधी जनतेच्या पसंतीचे आहेत असे मानले जाते. परंतु या निवडणुका या खरेच खुला व निःपक्ष वातावरणात होतात का हा मोठा प्रश्न निर्माण होतो. प्रतिनिधी निवडीपर्यंत मतदारांवर बऱ्याच गोष्टींचा प्रभाव पडतो. मतदारांवर दडपण आणणे, भ्रष्ट मार्गांचा अवलंब करून, बोगस मतदान करणे अशा या गोष्टींमुळे निवडणुकीस अर्थ राहत नाही. यासाठी मतदारास स्वइच्छेने न घाबरता मतदान करता येईल यासाठी तशी व्यवस्था आवश्यक असते. यासाठी निवडणुक आयोगाने निवडणुका या मुक्त व न्यायी वातावरणात घेणे आवश्यक असते.

भारतात मतदारांची संख्या प्रचंड आहे. सन 1952 मध्ये पहिल्या सार्वत्रिक निवडणुकी वेळी मतदारांची संख्या सुमारे 17.50 कोटी इतकी होती. परंतु त्यावेळी मतदारांचे वय हे 21 वर्षे इतके होते. कालांतराने 1989 साली 61 व्या घटना दुरुस्तीने प्रौढ मताधिकारासाठीची वयाची अट 21 वर्षापासून 18 वर्षांपर्यंत खाली आणली गेली. 2001 मध्ये मतदारांची संख्या 60 कोटी होती तर 2008 साली 68 कोटी होती.

भारतीय मतदारांवर अंधश्रद्धा, धर्मवाद, भाषा, जात, अज्ञान, प्रदेशवाद यांचा परिणाम पडतो. विविध समाजजीवनातही आर्थिक-सामाजिक विषमता असलेली दिसून येते. सर्वात महत्वाचे म्हणजे सत्ताधारी पक्ष किंवा विशिष्ट समुदायाने निवडणुकीची प्रक्रिया निःपक्ष व स्वच्छ वातावरणात पार पाडण्यासाठी निवडणूक आयोगास सहकार्य करावे. मतदाराने न घाबरता मतदान करावे याकडे निवडणुक आयोग हा कटाक्षाने लक्ष देतो आणि आतापर्यंत निवडणूक आयोगाने आपले काम निःपक्षपातीपणे केल्याचे दिसून येते. त्यामुळे मतदारांचा व लोकप्रतिनिधींचाही निवडणुक आयोगावरील विश्वास दृढ होताना दिसून येतो. थोडक्यात मतदाराला आपल्या इच्छेनुसार लोकप्रतिनिधी निवडता येईल याची हमी निवडणुक आयोगाने भारतीय मतदारांना दिलेली आहे. आपल्या देशातील निवडणुका या निर्भय वातावरणात पार पाडण्यात प्रामुख्याने खालील अडचणी आहेत.

1) संपत्ती / पैसा -

अलीकडील काळात निवडणुकीत सहभागासाठी मोठ्या प्रमाणात पैसा वापरला जातो. त्यामुळे पेशाला मोठ्या प्रमाणात महत्व प्राप्त झालेले आहे. पैसा वाटून मते विकत घेतली जाण्याचे प्रकार

मोठ्या प्रमाणात घडताना दिसून येतात. राजकारणात येण्यासाठी व आपले प्रस्थ टिकवण्यासाठी पैसाचे आवश्यक असल्याचा समज निर्माण झाला आहे. पैशाच्या जोरावर अनेकांनी मोठी विधानिक पदेही उपभोगली आहेत. तत्कालीन हरियाणाचे मुख्यमंत्री भजनलाल म्हणाले होते की, पैशाच्या जोरावर मुख्यमंत्रीही होता येते. तसेच महाराष्ट्राचे माजी मुख्यमंत्री बाबासाहेब भोसले यांनी मुख्यमंत्री पदावरून त्यांना दूर केल्यानंतर त्यांनी दिलेली प्रतिक्रियाही महत्वाची होते ते म्हणतात की, मी दिल्लीला पैसे पुरवू शकलो नाही. म्हणून मला पदावरून दूर केले गेले. प्रतिनिधीही संसदेत आर्थिक हितसंबंधीचे प्रश्न विचारताना दिसून येतात. निवडणुकीत खर्च केलेले पैसे पुन्हा कित्येक पटीने मिळवण्याचा प्रयत्न लोकप्रतिनिधी करतात.

देशात 26% जनता दारिद्र्यरेषेखाली असूनही एकही प्रतिनिधी मात्र गरीब नाही. लोकप्रतिनिधींची संपत्ती ही डोळे दिपण्याइतकी असते. त्यामुळे पैसा हा घटक निवडणुका घेताना कारणीभूत ठरतो.

2) जातीयता -

जातीय समीकरणे ही उमेदवाराचा जय-पराजय होण्यात दिसून येतात. निवडणुकातही उग्र जातीय प्रचारही केला जातो. तसेच जातीनिहाय पक्ष ही अस्तित्वात आहेत. उमेदवार ज्या जातीचा असेल त्यास त्याच जातीचा मतदार प्रसंती देताना दिसून येते. राज्यनिहाय विविध जातींचा त्या-त्या सरकारांवर परिणाम होताना दिसून येते. यामुळे मूळ प्रश्न बाजूला राहून जातीला प्रचंड महत्त्व येताना दिसते. समाजाची ही जाती-जातीमध्ये विभागणी झाल्यामुळे विषमता वाढीस लागते.

3) धर्म -

धर्मनिरपेक्ष भारतात अलीकडच्या काळात धर्माच्या आधारे निवडणुका लढल्या जातात. 1984 च्या निवडणुकीत भारतीय जनता पक्षास केवळ 2 जागा मिळाल्या होत्या. परंतु 1999 ला 182 जागा मिळवल्या त्या केवळ धर्माचा निवडणुकीत प्रभावी वापर केल्याने मिळाल्या. सर्वच पक्ष धर्माचा वापर करताना दिसून येतात. भारतातील राजकीय पक्ष हे मोठ्या खुबीने धर्माचा वापर करून निवडणुका लढवतात. मतदार मोठ्या प्रमाणात मिळवण्यासाठी विशिष्ट धर्म डोळ्यासमोर ठेवून निर्णय घेतलेची उदाहरणे जात आहेत. मात्र मतदानापुरताच हा विषय मर्यादित न राहता व धर्मांमध्ये तेढ व संघर्ष वाढिस लागतो हे एकात्मतेच्या दृष्टीने घातक आहे. खरे प्रश्नावरून लोकांचे लक्ष दूर करण्यासाठी नेते, विविध पक्ष हे धार्मिकतेचा आधार घेतात.

4) राजकारणाचे गुन्हेगारीकरण -

भारतीय राजकारणात मोठ्याप्रमाणात गुंडगिरी वाढलेली दिसून येते. अनेक लोकप्रतिनिधींवरही अनेक प्रकारचे गंभीर गुन्हे असल्याचे दिसून येते. बिहार, उत्तरप्रदेशपुरती मर्यादित असणारी गुंडगिरी अलीकडे संपूर्ण भारतात पसरली आहे. धाक दाखवून मतदान मते घेतली जातात. निवडणुक कार्यातही हे गुंड मोठ्या प्रमाणात हस्तक्षेप करताना दिसून येतात. लोकप्रतिनिधी हे मोठ्या प्रमाणात हिंसक

वृत्तीचे लोक सोबत बाळगून मतदारांवर प्रभाव टाकतात. या निवडणुका पार पाडताना गुन्हेगारीचा अडथळा ठरतो.

5) राजकीय पक्ष -

महात्मा गांधीजींनी राजकीय पक्षाची व्याख्या ही राजकीय पक्ष म्हणजे एका गटाने संघटितपणे समाजाविरोधी केलेला कट अशी केली होती. राजकीय पक्ष व्यापक लोकहितापेक्षा स्वतःच्या हितसंबंधीचे संवर्धन करताना दिसून येतात. राजकारणातून गुन्हेगारी कमी करण्यासाठी न्यायालयाने अनेक महत्त्वपूर्ण निकाल दिले परंतु यास अनेक राजकीय पक्षांनी मतभेद दिसून विसरून विरोध केला आहे.

6) पक्षांतर -

1985 पर्यंत पक्षांतरबंदी कायदा नव्हता. त्यामुळे आमदार, खासदार हे सतत स्वहितासाठी पक्ष बदलत होते. पक्षांतरामुळे मंत्रीमंडळातील मंत्र्यांची संख्याही वाढवावी लागते. 1968 साली हरियाणा विधानसभेची सदस्य 41 होती. तरीही मंत्र्यांची संख्या 33 होती. त्यामुळे निवडणूक आयोगावर मुदतपूर्व निवडणुका यासारख्या गोष्टीमुळे ताण पडत असे.

7) भ्रष्टाचार -

प्रशासकीय यंत्रणेत मोठ्या प्रमाणात भ्रष्टाचार आहे. तरीही जनता भ्रष्टाचार करणाऱ्यांना निवडून येते. आजपर्यंत एकाही भ्रष्टाचार राजकीय व्यक्तीस ठोस शिक्षा झालेली नाही. कायद्याची अंमलबजावणी करणारी यंत्रणा तसेच कायदे करणारेही या भ्रष्टाचारी व्यवस्थेचा भाग आहेत. भ्रष्टाचार करून संपत्ती जमा करणे आणि याच संपत्तीचा वापर पुन्हा निवडणूक लढवण्यासाठी केला जातो. अलीकडील काळात मोठे उच्चपदस्थ अधिकारीही राजकारणात सक्रिय सहभाग घेताना दिसून येतात. त्यामुळे ते निवडणूक आयोगावरही दबाव निर्माण करतात.

8) स्वयंघोषित धर्मगुरु -

भारतीय राजकारणात तसे पाहता पूर्वीपासून धार्मिक धर्मगुरूंचा प्रभाव वाढताना दिसून येतो. प्रत्येक राजकीय व्यक्ती ही कोणत्या ना कोणत्या मांत्रिक-तांत्रिकाचा भक्त असलेली दिसून येते. रामदेव बाबा, नरेंद्र महाराज, आसाराम बापू, सत्यसाईबाबा, चंद्रास्वामी इ. मांत्रिक-तांत्रिक प्रत्यक्ष-अप्रत्यक्ष राजकारणात सहभाग होतात. त्यामुळे धार्मिक तेढ निर्माण होतात आणि त्याचा प्रभाव हा निवडणुकीवर होतो.

9) कायदेमंडळाचे बदलते स्वरूप -

संसद, विधानसभा अलीकडील काळात राष्ट्रीय व लोककल्याणकारी प्रश्नापेक्षा मारामारी करणारे आखाडे तयार झाली आहेत. जनतेच्या ज्वलंत प्रश्नावर चर्चा होताना दिसून येत नाही. संसदेतील अनेक सदस्यांवर खून, दरोडे, बलात्काराचे गंभीर गुन्हे आहेत. अशा या व्यक्तीकडून लोककल्याणकारी कार्याची अपेक्षा करणे व्यर्थ आहे.

10) न्यायालयीन सर्तकता -

अलीकडच्या काळात कायदेमंडळ व कार्यकारी मंडळाच्या नाकर्तेपणामुळे न्यायालयीन सक्रियता ही मोठ्या प्रमाणात वाढता दिसून येते. न्यायालयाची सक्रियता म्हणजेच प्रतिनिधिक लोकाशहीचा पराभव मानला जातो. भारतात न्यायालयाचे राज्य चालू असल्याचा भास होताना दिसून येत आहे.

सारांशाने निवडणुकीत पैसा, जात, धर्म यांचा वापर होताना दिसून येतो. जनताही आपले मत टिकताना दिसून येते. कायदेमंडळही जनहिताचे कायदे करण्यास उत्सुक नाही. राजकीय पक्षांनी आपली वैचारिक पातळी सोडून दिलेली आहे. जे पक्ष निवडणुकीत परस्परांच्या विरोधात उभे राहून मते मागतात व तेच पक्ष निवडणुकीनंतर सत्तेसाठी युती करतात हे चित्र भारतासाठी भयावह आहे.

संदर्भ ग्रंथ -

- 1) इंडियन पॉलिटी - एम. लक्ष्मीकांत
- 2) भारतीय राज्यघटना- रंजन कोळंबे
- 3) भारतीय राज्यघटना, राज्यघटना व विधी- डॉ. आनंद पाटील
- 4) भारताचे बदलते राजकारण- प्रा. रणसुभे विलास
- 5) विकीपिडीया



नगरीय पर्यावरण प्रबंधन नीति बक्सर जिला के संदर्भ में : एक भौगोलिक विश्लेषण

जैनेन्द्र कुमार

शोधार्थी नेट उत्तीर्ण भूगोल विभाग

मगध विश्वविद्यालय बोध गया

गया, बिहार

सारांश :-

बिहार के बक्सर जिला ऐतिहासिक एवं सांस्कृतिक शहर है, नगरीय विकास परियोजनाओं के निर्माण के दौरान पर्यावरण प्रबंधन नीति एवं पर्यावरण संरक्षण उपायों के निर्माण, कार्यान्वयन और निगरानी के लिए पर्यावरण प्रबंधन योजना तैयार करना अति आवश्यक है, योजनाओं को वितरणों को इंगित चाहिए कि विभिन्न उपायों को लागत घटकों सहित कैसे लिया जाना चाहिए। पर्यावरण सुरक्षा उपायों के लिए लागत को परियोजना लागत का एक अभिन्न अंग माना जाना चाहिए, एवं परियोजनाओं के विभिन्न चरणों में पर्यावरणीय पहलुओं को ध्यान में रखा जाना चाहिए। विकासात्मक गतिविधियों और तेजी से शहरीकरण की बढ़ती हुई गति के परिणामस्वरूप प्राकृतिक संसाधनों और जीवन की गुणवत्ता पर जोर पड़ा है। बढ़ते हुए शहरीकरण के वर्तमान परिदृश्य में, औद्योगिक, वाहनों के साथ-साथ जल प्रदूषण की विशाल मात्रा पर्यावरणीय मानदंडों और स्टैंडर्ड्स के अनुरूप अपशिष्टों के निर्वहन के कारण होती है, पर्यावरण की गुणवत्ता के लिए चिंता का विषय बन गया है। विभिन्न क्षेत्र के पर्यावरण में बढ़ते प्रदूषण की प्रवृत्ति जल, वायु, मिट्टी आदि की बिगड़ती गुणवत्ता से स्पष्ट है। देश में औद्योगिक विकास में संचालन में औद्योगिक विकास को बढ़ावा देने और औद्योगिक विकास के लाभों को समान रूप से वितरित करने के लिए एनआईटी की सक्रियता एस०एस०आई इकाईयाँ आम तौर पर अपने सीमित भूखंड के आकार और संचालन के पैमाने के कारण व्यक्तिगत एफ्लुएंट ट्रीटमेंट प्लांट को स्थापित करना और संचालित करना मुश्किल है। हालांकि, एस०एस०आई की ईकाईयाँ आमतौर पर औद्योगिक क्षेत्रों -सम्पदा क्लस्टर के रूप में स्थित होती है, औद्योगिक क्षेत्रों से संपूर्ण प्रवाह के लिए कॉमन एफ्लुएंट ट्रीटमेंट प्लांट की अवधारणा को उनके सामूहिक प्रयासों से संतोषजनक उपचार प्राप्त करने के लिए विकसित किया गया है। उद्योगों से आंशिक रूप से एवं गैर उपयुक्त औद्योगिक अपशिष्ट जल के निरंतर निर्वहन से स्तर और भूमिगत जल प्रदूषण होता है। बिहार में अधिकांश औद्योगिक संपदाएँ गंगा नदी के तट पर स्थित हैं। गंगा प्रत्यक्ष रूप से पीने के उद्देश्य के लिए अधिक शुद्ध नहीं है। वर्तमान समय में सरकार के योजना के माध्यम से २०२० तक गंगा नदी को शुद्ध करने के लिए "नमामि गंगे" की योजना का निर्माण किया है, एवं भारत में एनवायरनमेंटल कंसल्टेंसी के क्षेत्र में अग्रणी होने के लिए एस०एम०एस एनवायरनमेंटल लिमिटेड ने तकनीकी का निर्माण किया गया है।

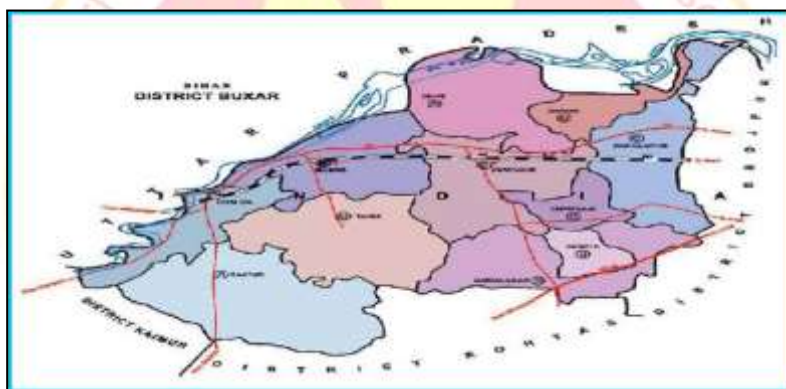
मूल शब्द :-

जनसंख्या वृद्धि, जनसंख्या की संघनता, जनसंख्या एवं पर्यावरण, नगरीय प्रबंधन, नगरीय एवं पर्यावरण

अध्ययन क्षेत्र

बिहार राज्य के बक्सर जिला के पश्चिमी भाग में गंगा नदी के तट पर स्थित है। इस जिला का कुल भौगोलिक क्षेत्रफल 162380 वर्ग कि॰मी॰ भू-भाग में फैला हुआ है। 2011 के जनगणना के अनुसार, कुल जनसंख्या 989807 है, जिसमें से नगरीय जनसंख्या की कुल संख्या 111627 है जो 5.68% शहरी क्षेत्रों में निवास करते हैं। इस जिला के अधिकांश लोगों की आजीविका कृषि पर ही आधारित है, लेकिन जनसंख्या वृद्धि के कारण प्रतिकूल प्रभाव पड़ा है। नगरीय जनसंख्या में वृद्धि 2001-2011 के अन्तराल में 8.23% की वृद्धि हुई है। इस जिले के भौगोलिक दृष्टिकोण के कारण जनसंख्या का लिंगानुपात 1000 पुरुष संख्या पर 899 महिलाएँ की संख्या है। 2001 के अनुसार आँकड़ा को दर्शाया गया है जबकि 2011 के अनुसार 1000 पुरुष संख्या में 972 महिला की संख्या है। जिसके माध्यम 2001-11 आँकड़ा के अनुसार लिंगानुपात 73 संख्या में वृद्धि हुई है।

भौगोलिक शोध अध्ययन क्षेत्र का मानचित्रण



नगरीय पर्यावरण प्रबन्धन : प्रमुख उद्देश्य

- नगरीय पोषणीय के आधारों एवं पारिस्थितिकीय नियमों के अनुरूप प्राकृतिक संसाधनों का विवेकपूर्ण विदोहन करना।
- प्राकृतिक संसाधनों का अनुकूलतम उपयोग करना।
- प्राकृतिक संसाधनों के विदोहन को नियंत्रित करना।
- मानव कल्याण को अधिकतम एवं पर्यावरण की क्षति की न्यूनतम करना।
- पर्यावरण एवं सामाजिक-आर्थिक चुनौतियों के साथ मनुष्य की अनुकूलनशीलता में सुधार करना तथा उसे बढ़ाना।
- नगरीय अवक्रमित पर्यावरण एवं रिक्त पारिस्थितिक संसाधनों का पुर्नजनन करना।
- फैशन तथा मांग, आर्थिक एवं प्रोद्योगिकीय स्थितियों, वैज्ञानिक एवं प्रौद्योगिकी क्षमता, सामाजिक मूल्य, खुले विश्व बाजार तथा वैश्वीकरण के प्रति जनता के दृष्टिकोण में हो रहे निरंतर बदलावों के साथ सामंजस्य स्थापित करना।

नगरीय पर्यावरण प्रबन्धन : विधितंत्र एवं उपागम

विधितंत्र एक युद्ध योजना जैसी होती है तथा तकनीकी उसके शस्त्र होते हैं। (सी.जे.बैरो 2005) जबकि उपागम मार्ग होते हैं, जो निश्चित लक्ष्य तक ले जाते हैं। वर्तमान समय में पर्यावरण प्रबंधन के लिये पूर्व सूचक उपकरण से लैश प्रत्याशित उपागम की आवश्यकता है। पर्यावरण प्रबंधन का प्रत्याशित उपागम भविष्य में होने वाली पर्यावरणीय समस्याओं के पूर्वानुमान के कौशल पर निर्भर करता है। अतः प्राकृतिक संसाधनों के विदोहन एवं उपयोग से उत्पन्न होने वाली पर्यावरणीय समस्याओं का समुचित पूर्वानुमान किया जाना आवश्यक होता है। पर्यावरण प्रबंधन में स्थानिक उपागम पारिस्थितिकीय उपागम एवं पर्यावरण प्रबंधन सिस्टम उपागम महत्वपूर्ण हैं।

पर्यावरण प्रबन्धन : उपागम

1. **स्थानिक उपागम :-** स्थानिक दृष्टिकोण से पर्यावरण प्रबंधन की योजना स्थानीय स्तर प्रादेशिक स्तर तथा विश्व स्तर पर पर्यावरण नियोजन की रणनीतियां व्यक्ति समाज तथा सरकार की आवश्यकताओं आकांक्षाओं बोध, प्रमुखताओं, अवरोधों एवं बाध्यताओं के आधार पर तैयार की जाती है जैसे भूमण्डलीय उष्मन तथा जलवायु परिवर्तन वर्तमान समय में अत्यन्त विकट पर्यावरणीय समस्याएँ हैं, तथा विकसित एवं विकासशील देश इन्हे लेकर चिन्तित हैं। ओजोन परत की अल्पता की समस्या एक अन्तर्राष्ट्रीय चिन्ता का विषय बन चुकी है। परन्तु इसके नियंत्रण एवं निदान के लिये पश्चिमी विकसित देश अधिक चिन्तित हैं।
2. **पारिस्थितिकीय उपागम :-** इसमें संरक्षण का यह उपागम एवं परिक्षण उपागम को सम्मिलित किया जाता है।
3. **संरक्षण उपागम :-** पर्यावरण प्रबंधन का यह उपागम इस बात पर बल देता है कि मानव समुदाय के सामाजिक, आर्थिक, विकास के लिये प्राकृतिक संसाधनों का विवेकपूर्ण उपयोग किया जाये तथा पारिस्थितिकीय संतुलन, पारिस्थितिकीय स्थिरता तथा पर्यावरण की गुणवत्ता बनाये रखने के लिये प्रयास किया जाना चाहिये।
4. **परिक्षण उपागम :-** यह उपागम मनुष्य के प्राकृतिक पर्यावरण के साथ पूर्ण अनुकूलन एवं समयोजन पर जोर देता है।
5. **पर्यावरण प्रबन्धन सिस्टम उपागम :-** इसमें टाप-डाऊन उपागम एवं बाटम-अप उपागम को सम्मिलित किया जाता है। टाप-डाऊन उपागम पर्यावरण प्रबंधन का मानव केन्द्रित उपागम है जिसके अन्तर्गत मानव समुदाय का हित सर्वापरि होता है। बाटम अप उपागम में पर्यावरण की गुणवत्ता तथा पारिस्थिकीय संतुलन के अनुरक्षण को वरीयता दी जाती है। यह उपागम सर्वाधिक उपयुक्त है क्योंकि इसके अन्तर्गत पर्यावरण की दृष्टि से उपयुक्त प्रौद्योगिकी का उपयोग किया जाता है, यह एक पोषणीय उपागम है।

6. **पर्यावरण प्रबन्धन : विधियाँ :-** पर्यावरण प्रबन्धन की दो प्रकार की विधियाँ हैं - समग्रतावादी उपागम तथा एकल उपागम। समग्रतावादी उपागम के अन्तर्गत किसी क्षेत्र या प्रदेश की पर्यावरण की सभी समस्याओं के एक साथ ही निदान का प्रयास किया जाता है। जबकि एकल उपागम के अन्तर्गत एक समय में केवल एक समस्या का निदान का प्रयास किया जाता है। किसी भी क्षेत्र या प्रदेश में संसाधनों के विदोहन एवं उपयोग के लिये किसी भी विकासीय परियोजना के क्रियान्वयन के लिये सिस्टम मॉडल को अपनाया जाता है। जे.पन..आर.जेफर्स (1937) ने भूमि उपयोग एक प्राकृतिक संसाधनों के उपयोग एवं संरक्षण के लिये निम्न सिस्टम मॉडल प्रस्तुत किया है।

अवस्था	कार्य
1.	नियोजन प्रबन्धन के लक्ष्यों का निर्धारण एवं पुष्टीकरण।
2.	सम्बन्धित विषयों का समुचित ज्ञान प्राप्त करने के लिये शोध कार्य को प्रारम्भ करना।
3.	चयनित लक्ष्यों की प्राप्ति के लिये वैकल्पिक रणनीतियों का अभि-निर्धारण एवं मूल्यांकन।
4.	किसी एक रणनीति का चयन करके उसका क्रियान्वयन।
5.	परिणामों की मॉनीटर करना।

नगरीय पर्यावरण प्रबंधन रणनीति :-

यह सत्य है कि विकास की एक सीमा होती है तथा अतिरेक संकट का कारण। जनसंख्या वृद्धि एक नैसर्गिक प्रक्रिया है किन्तु जब जनसंख्या विस्फोट की स्थिति आ जाती है। तो जनसंख्या वृद्धि एक कठिन समस्या बन जाती है। जनसंख्या वृद्धि के साथ भोजन के उत्पादन में भी वृद्धि आवश्यक हो जाती है। लेकिन जिस गति से जनसंख्या बढ़ती है, भोजन का उत्पादन नहीं बढ़ पाता। औद्योगिक उत्पादन करने वाला मानव अन्य क्षेत्रों से आयात करके पूरा करता है लेकिन जब कृषि प्रधान देश भी औद्योगिक विकास में संलग्न हो जाते हैं तो भोजन की समस्या उठ खड़ी होती है। फलतः समस्या समाधान के लिये गहन कृषि को बढ़ावा देना पड़ता है। इस प्रकार उन्नत कृषि से पर्यावरणीय संसाधनों जैसे- मृदा, जल आदि पर भार बढ़ता है। जिससे मानव प्रकृति का रिश्ता असंतुलित हो जाता है। मानव नित नई तकनीकों से प्रकृति के प्रकोपों को दबाता है, जैसे - कीटनाशकों का प्रयोग, कृत्रिम खाद, जल आदि से उत्पादकता में वृद्धि के प्रयोग करता है। यह प्रभाव अस्थायी होता है तथा प्रकृति के स्व-नियामक स्वरूप में व्यवधान डालता है। फलतः पर्यावरणीय समस्या का जन्म होता है, जिसके निदान हेतु पर्यावरण प्रबन्धन करना पड़ता है। प्रकृति के साथ सद्व्यवहार ही पर्यावरण प्रबंधन का मूल उद्देश्य है।

पर्यावरण-प्रबन्धन के प्रति समन्वित दृष्टिकोण अपनाया जाना चाहिये, क्योंकि प्रकृति के तत्व अति जटिल संवेदनशील होते हैं। पर्यावरण प्रबंधन मात्र वैज्ञानिक या इंजीनियर के वश का नहीं है क्योंकि पर्यावरण असंतुलन से उत्पन्न समस्याएँ अति व्यापक हैं, जिनके केन्द्र में मनुष्य अहम भूमिका निभाता है। व्यापक अर्थ में सामाजिक पर्यावरण का प्रबन्धन भी इसके अन्तर्गत आता है। समाज में भेदभाव, तनाव द्वेष, युद्ध उन्माद आदि क्रियाओं का सम्बन्ध किसी न किसी तरह से पर्यावरण से है। अतः पर्यावरण प्रबन्धन में तकनीकी और वैज्ञानिक पक्ष एक ओर है, तो मानवीय पक्ष दूसरी ओर पर्यावरण-प्रबन्धन का लक्ष्य मनुष्य के लिए इसलिए भी है कि पृथ्वी ही उसका एकमात्र निवास स्थान है। अतः मानव को आधार मानकर ही पर्यावरण-प्रबन्धन की रणनीति स्वीकारनी चाहिए।

पर्यावरण नीति से सम्बन्धित प्रमुख बिन्दु निम्नलिखित हैं -

1. पर्यावरण के विविध घटकों को प्रदूषित होने से बचाना।
2. मानव की पर्यावरण-प्रदूषण से रक्षा।
3. विलुप्तशील प्रजातियों का संरक्षण।
4. विभिन्न सरकारी और गैर सरकारी संस्थाओं में पर्यावरण-प्रबन्ध हेतु समन्वय बनाना।
5. विकास योजनाओं का पर्यावरणीय प्रभाव के दृष्टिकोण से विश्लेषण करना।
6. पर्यावरण सम्बन्धी राष्ट्रीय एवं क्षेत्रीय नीति-निर्धारण में सहयोग करना।
7. पर्यावरण की गुणवत्ता बनाए रखने हेतु निरन्तर पुनरीक्षण हेतु व्यवस्था करना।
8. पर्यावरण-संरक्षण एवं प्रबन्धन हेतु पर्याप्त मानवीय एवं संस्थागत साधनों को जुटाना।
9. पर्यावरण-चेतना जाग्रत करना एवं पर्यावरण शिक्षा का विस्तार करना।
10. प्रबंधन हेतु किये गये उपायोग के परिणामों की सतत जाँच एवं सुरक्षा।
11. पर्यावरण नियोजन हेतु प्रारूप तैयार करना।
12. पर्यावरण के विविध पक्षों पर शोध कार्यों को बढ़ाना।

वास्तव में पर्यावरण-प्रबन्धन नीति वर्तमान युग की महती आवश्यकता है। अतः इस पर समुचित ध्यान देना आवश्यक है।

निष्कर्ष :-

बिहार राज्य के बक्सर जिला के भौगोलिक दृष्टिकोण के माध्यम से नगरीय एवं मानव और पर्यावरण का निकट का सम्बन्ध है। पर्यावरण मानव को प्रत्यक्ष और अप्रत्यक्ष रूप से प्रभावित करता है। स्वावलम्बी विकास की अवधारणा पर्यावरण एवं विकास नीतियों के एकीकृत नजरिये पर आधारित है जिनका अभिप्राय किसी पारिस्थितिक क्षेत्र से अधिकाधिक आर्थिक लाभ लेना एवं पर्यावरण के संकट एवं जोखिम को न्यूनतम करना है। इसमें अन्तर्निहित है वर्तमान की आवश्यकताओं एवं अपेक्षाओं को भविष्य की क्षमताओं से समझौता किये बिना पूरा करना। इसको प्राप्त करने के लिये

हमें विकास का पारिस्थितिक समन्वय करना होगा जिसमें हमें अपनी प्रास्मिकताओं का पुनर्निर्माण करना चाहिये तथा एक आयामी प्रतिमान छोड़ देना चाहिये जो कि वृद्धि को कतिपय सीमित दृष्टिकोण से देखत है जिसमें व्यक्ति के बजाय वस्तुओं को उच्चतर स्थान दिया जाता है जिसने हमारे सुख की बजाय हमारी आवश्यकताओं में वृद्धि कर दी है।

अतः पर्यावरण प्रबंधन की आवश्यकता आज की प्राथमिक आवश्यकता है जिसके द्वारा न केवल संसाधनों का युक्ति संगत उपयोग हो सके अपितु क्षेत्रीय आवश्यकताओं को पूर्ण करने एवं पर्यावरण की क्रियाओं में सामंजस्य स्थापित किया जा सके और आवश्यकता होने पर उपयोग सीमित किया जा सके। पर्यावरण प्रबंधन का मूल उद्देश्य प्राकृतिक संसाधनों का युक्तियुक्त उपयोग शारीरिक एवं मानसिक स्वास्थ्य की रक्षा आर्थिक मूल्यों को नई दिशा प्रदान करना तथा शुद्ध पर्यावरण प्रदान करना है। यह कार्य एंकाकी अथवा एक संस्था का न होकर सामूहिक रूप से संभव है इसमें प्रशासन सामाजिक संस्थाएँ और प्रत्येक व्यक्ति की भूमिका का मुख्य है। यदि हम पर्यावरण की शुद्धि चाहते हैं तथा भविष्य में उसे स्वच्छ एवं स्वास्थ्यवर्धक रखना चाहते हैं तो हमें पर्यावरण प्रबंधन पर समुचित ध्यान देना होगा।

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बिहार राज्य के गया प्रक्षेत्र में सांस्कृतिक पृष्ठभूमि के संदर्भ में : एक भौगोलिक विश्लेषण

श्याम सुन्दर चौधरी

शोधार्थी नेट उत्तीर्ण

भूगोल विभाग, मगध विश्वविद्यालय

बोध गया, गया

सारांश :-

किसी देश की संस्कृति उसकी सम्पूर्ण मानसिक निधि को सूचित करती है। यह किसी खास व्यक्ति के पुरुषार्थ का फल नहीं, अपितु असंख्य ज्ञात तथा अज्ञात व्यक्तियों के भागीरथ प्रयत्न का परिणाम होती है। सब व्यक्ति अपनी सामर्थ्य और योग्यात के अनुसार संस्कृति के निर्माण में सहयोग देते हैं। संस्कृति की तुलना आस्ट्रेलिया के निकट समुद्र में पाई जाने वाली मूँगे की भ्रमकाय चट्टानों से की जा सकती है। मूँगे के असंख्या कीड़े अपने छोटे घर बनाकर समाप्त हो गए। फिर नए कीड़ों ने घर बनाये, उनका भी अन्त हो गया। इसके बाद उनकी अगली पीढ़ी ने भी यही किया और यह क्रम हजारों वर्ष तक निरन्तर चलता रहा। आज उन सब मूँगों के नन्हे-नन्हे घरों ने परस्पर जोड़ते हुए विशाल चट्टानों का रूप धारण कर लिया है। संस्कृति का भी इसी प्रकार धीरे-धीरे निर्माण होता है और उनके निर्माण में हजारों वर्ष लगते हैं। मनुष्य विभिन्न स्थानों पर रहते हुए विशेष प्रकार के सामाजिक वातावरण, संस्थाओं, प्रथाओं, व्यवस्थाओं, धर्म, दर्शन, लिपि, भाषा तथा कलाओं का विकास करके अपनी विशिष्ट संस्कृति का निर्माण करते हैं। भारतीय संस्कृति की रचना भी इसी प्रकार हुई है।

जब किसी एक स्थान पर अनेक लोग सामाजिक, धार्मिक एवं व्यापारिक कारणों से एकत्र होते हैं, उसे ही मेला कहा जाता है तथा उत्सव के रूप मेला में सम्मिलित होकर आनंदित हुआ करते हैं। प्रायः भारतवर्ष में भी प्रत्येक माह हर शहरों में मेला और उत्सव मनाएँ जाते हैं। भौगोलिक दृष्टिकोण से बिहार राज्य का गया जिला फल्गु नदी के तट पर स्थित है, जहाँ हजारों श्रद्धालु यहाँ आकर पिंडदान करते हैं तथा यह जिला धार्मिक दृष्टिकोण से आस्था का केन्द्र माना जाता है। यहाँ लाखों श्रद्धालु देश एवं विदेश से आते हैं। इस जिले के अन्तर्गत अनेक ऐसे धार्मिक स्थल हैं, जहाँ मेले का भी आयोजन किया जाता है तथा उत्सव के रूप में मनाते हैं। बोधगया में स्थित बौद्ध पीपल के वृक्ष है जहाँ भगवान बुद्ध सिद्धार्थ को ज्ञान की प्राप्ति हुई थी। यहाँ ऐसे अनेक धार्मिक केन्द्र हैं जिसका अपना-अपना महत्व एवं आस्था के प्रतीक हैं। ऐतिहासिक दृष्टिकोण से यह जिला पर्यटकों के लिए तीर्थकारी स्थल है जहाँ प्रत्येक माह हजारों श्रद्धालु आते हैं। इसी उद्देश्य के तहत गया जिले में सांस्कृतिक एवं उत्सव से सम्बंधित तथ्यों को प्रस्तुत किया गया है।

मूल शब्द :-

सांस्कृतिक एवं उत्सव, फल्गु नदी, धार्मिक स्थल केन्द्र, सामाजिक-धार्मिक-व्यापारिक, संस्कृति निर्माण।

अध्ययन क्षेत्र :-

गया, बिहार और झारखण्ड की सीमा और फल्गु नदी के तट पर बसा भारत के बिहार राज्य का दूसरा सबसे बड़ा शहर है। गया जिला की स्थापना 3 अक्टूबर 1864 को हुआ, गया जिला जनसंख्या का वितरण क्षेत्र के स्थलरूप, अपवाहतंत्र और ढाल, मिट्टी, शक्ति संसाधन, खनिज और अन्य क्षेत्रों से संबंधिता आदि तथ्यों पर निर्भर होता है। गया जिला का विकास खण्ड में पठारी भूमि, धरातलीय विषमता एवं वनाच्छादित क्षेत्र होने के कारण जनसंख्या का वितरण विरल है, तात्पर्य यह है कि मैदानी भाग में जहाँ कि कृषि भूमि अधिक उपलब्ध होने के कारण जनसंख्या अधिक पायी जाती है, और इसके विपरीत पठारी क्षेत्र में कृषि भूमि सीमित होने के कारण जनसंख्या भी विरल है। किसी प्रदेश के क्षेत्रफल तथा उसकी जनसंख्या के पारस्परिक अनुपात को जनसंख्या घनत्व कहते हैं। किसी भी क्षेत्र में जनसंख्या का घनत्व तहाँ के प्राकृतिक संसाधनों और आर्थिक विकास की अवस्था पर निर्भर करता है। अर्थात् जनसंख्या वितरण का घनत्व उस क्षेत्र विशेष की उन्नति और भावी विकास का अनुमान लगाने के लिए एक मुख्य आधार होता है। ग्रामीण जनसंख्या के प्रकार्यात्मक स्तर एवं आर्थिक सांस्कृतिक विकास उस क्षेत्र में पायी जाने वाली प्राकृतिक सम्पदा की मात्रा, धरातलीय स्वरूप, मिट्टी, खनिज, जलीय संसाधन तथा इन साधनों को कितने मनुष्य प्रयोग करते हैं, अर्थात् कितनी जनसंख्या अपने जीवन-निर्वाह के लिए साधनों पर आधारित है, लेकिन इसका एक महत्वपूर्ण पक्ष कृषि आधार है। गया जिला बिहार राज्य के मगध प्रमण्डल के अन्तर्गत आता है। यह जिला भौगोलिक दृष्टिकोण से कुल भौगोलिक क्षेत्रफल 4976 वर्ग किलो मीटर भू-भाग में फैला हुआ है। जो समुद्र तल से औसतन ऊँचाई 21 फीट है। भौगोलिक शोध अध्ययन परियोजना के परिप्रेक्ष्य में गया जिला का ग्लोबीय स्थिती एवं विस्तार 24°18' से 25°02' उत्तरी अक्षांश एवं 84°19' से 85°23' पूर्वी देशान्तर के भौगोलिक वैश्विक मानचित्रण अंकित है। शोध अध्ययन परियोजनाओं का मुख्य नदियाँ फल्गु नदी, धाधर नदी, माहना नदी एवं जमुना नदी यहाँ की प्रमुख नदियाँ है। 2011 के जनगणना के अनुसार गया जिला का कुल जनसंख्या 4391418 है, जिसमें से कुल पुरुषों की संख्या 2266566 एवं महिलाओं की संख्या 2124852 है। लिंगानुपात 1000 पुरुषों पर 937 महिलाएँ है, कुल ग्रामीण जनसंख्या 3409817 एवं शहरों की जनसंख्या 581601 है। 2001-2011 ई० में दशकीय अन्तराल 25.4 प्रतिशत है।

प्रस्तुत शोध परियोजना के उद्देश्य :-

किसी भी अध्ययन के कुछ न कुछ उद्देश्य होते हैं। बिना किसी उद्देश्य के शोध-कार्य संभव नहीं है। अतः शोध की दशा एवं दिशा करने के लिए स्पष्ट उद्देश्यों की आवश्यकता होती है।

प्रस्तुत शोध परियोजना के प्रमुख उद्देश्य निम्नलिखित हैं -

- बिहार राज्य के गया जिले के सांस्कृतिक का भौगोलिक विश्लेषण

- बिहार राज्य के गया जिला के सांस्कृतिक एवं उत्सव के व्यावहारिक समीक्षा
- बिहार राज्य के गया जिला में सांस्कृतिक विकास सम्बन्धित होने वाले परिवर्तन के ऊपर भौगोलिक कारणों की खोज
- सांस्कृतिक विकास एवं उत्सव के आधार पर अध्ययन क्षेत्र संपोषणीय विकास हेतु योजनाओं का निर्माण।

विधितंत्र :-

प्रस्तुत शोध पत्र के लिए संबंधित गया जिला का मानचित्र अपलब्ध किया गया है। प्राथमिक एवं द्वितीयक आँकड़ों का सहारा लिया गया है। प्रखंड कार्यालय से सिंचाई संबंधी आँकड़ों को एकत्रित किया गया है व्यक्तिगत सर्वेक्षण, निरीक्षण, पूछताछ के आधार पर सूचनाओं को संकलित किया गया है।

भौगोलिक अध्ययन क्षेत्र गया जिला का मानचित्रण



सांस्कृतिक की सामान्य विशेषतायें

सांस्कृति सीखी जाती है और प्राप्त की जाती है, अर्थात् मानव के द्वारा सांस्कृति को प्राप्त किया जाता है, इस अर्थ में कुछ निश्चित व्यवहार है जो जन्म से या अनुवांशिकता से प्राप्त होते हैं, व्यक्ति कुछ गुण अपने माता-पिता से प्राप्त करता है लेकिन सामाजिक-सांस्कृतिक व्यवहारों को पूर्वजों से प्राप्त नहीं करता है। वे पारिवारिक सदस्यों से सीखे जाते हैं, इन्हें वे समुह से और समाज से जिसमें वे रहते हैं उनसे सीखते हैं। यह स्पष्ट है कि मानव की सांस्कृति शारीरिक और सामाजिक वातावरण से प्रभावित होती है। जिनके माध्यम से वे कार्य करते हैं।

सांस्कृति लोगों के समूह द्वारा बाँटी जाती है- एक सोच या विचार या कार्य को सांस्कृति कहा जाता है यदि यह लोगों के समूह के द्वारा बाँटा और माना जाता या अभ्यास में लाया जाता है।

संस्कृति संचयी होती है - संस्कृति में शामिल विभिन्न ज्ञान एक पीढ़ी से दूसरी पीढ़ी तक हस्तान्तरित किया जा सकता है। जैसे-जैसे समय बीतता जाता है, ज्यादा से ज्यादा ज्ञान उस विशिष्ट संस्कृति में जुड़ता चला जाता है, जो जीवन में परेशानियों के समाधान के रूप में कार्य करता है, पीढ़ी दर पीढ़ी आगे बढ़ता रहता है। यह चक्र बदलते समय के साथ एक विशिष्ट संस्कृति के रूप में बना रहता है। संस्कृति परिवर्तनशील होती है - ज्ञान, विचार और परम्परायें नयी संस्कृति के साथ अद्यतन होकर जुड़ते जाते हैं। समय के बीतने के साथ ही किसी विशिष्ट संस्कृति में सांस्कृतिक परिवर्तन संभव होते जाते हैं।

सांस्कृतिक विकास धार्मिक स्थल केन्द्र (गया) :-

गया जिले को धार्मिक स्थल एवं आस्था का केन्द्र कहा जाता है। इस जिले में अनेक धार्मिक स्थल हैं, जहाँ मेले एवं उत्सव मनाया जाता है। सभी स्थानों का अलग-अलग महत्व है एवं संस्कृति से जुड़ी हुई है।

गया जिला के सांस्कृतिक एवं धार्मिक / तीर्थ स्थल केन्द्र एवं महत्व

धार्मिक / तीर्थ स्थल केन्द्र	सांस्कृतिक एवं महत्व तथा मेले उत्सव मनाने का स्वरूप
विष्णुपद मंदिर	यह मंदिर पर्यटकों के बीच काफी लोकप्रिय है। पुराणों के अनुसार यहाँ का विष्णुपद मंदिर का निर्माण भगवान विष्णु के पांव के निशान पर कराया गया है। गया पिंडदान के लिए भी प्रसिद्ध है।
रामानुज मठ (भोरी)	स्थायी धरणी धराचार्य स्थापित भोरी का वैष्णव मठ वैदिक शिक्षा तथा हिन्दु आस्था का प्रमुख केन्द्र है।
बाबा सिद्धेश्वरनाथ मंदिर	बराबर पर्वत पर सिद्धनाथ तथा दशनाम् परंपरा के प्रमुख नागाओं के आस्था का केन्द्र सिद्धेश्वरनाथ मंदिर है। इसके नजदीक ही नारद लोक आदि ऋषियों की गुफायें हैं, जहाँ ऋषियों ने तप किया था।
वाणवर (बराबर) पहाड़	इस पहाड़ पर भगवान शिव का मंदिर है, जो बेलागंज से 10 किलोमीटर की दूरी पर स्थित है। सावन के महिना में हजारों श्रद्धालु आते हैं। यहाँ वृहत पैमाने पर मेला एवं उत्सव का आयोजन किया जाता है।
बोधि वृक्ष	बोध गया धर्म की सांस्कृतिक धरोहर है। जहाँ पीपल वृक्ष के नीचे भगवान बुद्ध सिद्धार्थ को ज्ञान की प्राप्ति हुई थी। इस बोधि वृक्ष को आस्था का केन्द्र कहा जाता है।

निष्कर्ष :-

संस्कृति मानव जनित मानसिक पर्यावरण से सम्बंध रखती है जिसमें सभी अभौतिक उत्पाद एक पीढ़ी से दूसरी पीढ़ी को प्रदान किये जाते हैं। समाज-वैज्ञानिकों में एक सामान्य सहमति है कि संस्कृति में मनुष्यों द्वारा प्राप्त सभी आन्तरिक और बाह्य व्यवहारों के तरीके समाहित हैं। ये चिन्हों

द्वारा भी स्थानान्तरित किए जा सकते हैं, जिनमें मानव समूहों की विशिष्ट उपलब्धियाँ भी समाहित हैं। इन्हें शिल्पकलाकृतियों द्वारा मूर्त रूप प्रदान किया जाता है। वस्तुतः संस्कृति का मूल केन्द्र बिन्दु उन सूक्ष्म विचारों में निहित है जो एक समूह में ऐतिहासिक रूप से उनसे सम्बद्ध मूल्यों सहित विवेचित होते रहे हैं। संस्कृति किसी समाज के वे सूक्ष्म संस्कार हैं, जिनके माध्यम से लोग परस्पर सम्प्रेषण करते हैं, विचार करते हैं और जीवन के विषय में अपनी अभिवृत्तियों और ज्ञान को दिशा देते हैं।

अतः इस प्रकार से यह जिला धार्मिक स्थल का केन्द्र या आस्था का केन्द्र कहा जाता है। यहाँ अनेक मंदिर हैं जिसका महत्वपूर्ण स्थान है। सदियों से चली आ रही परंपरा यहाँ की संस्कृति की पहचान है, जिसके फलस्वरूप सामाजिक/धार्मिक एवं व्यापारिक कारणों से हजारों लोगों की भीड़ लगी रहती है, क्योंकि प्रायः अधिकांश स्थानों पर मेला एवं उत्सव लगता है और सभी पर्व-त्योहार काफी धूमधाम से उत्सव के रूप में मनाया जाता है। यहाँ लाखों श्रद्धालु लोग आकर पिंडदान करते हैं इसलिए यहाँ की मेले एवं उत्सव एक विशेष स्थान रखता है। संस्कृति अक्सर वैचारिक होती है, एक व्यक्ति से उन विचारों का पालन करने की आशा की जाती है, जिससे प्रायः यह एक आर्दश तरीका प्रस्तुत करती है, जिससे संस्कृति के अन्य लोगों से सामाजिक स्वीकृति प्राप्त की जा सके।

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नवे शैक्षणिक धोरण आणि स्वायत्त महाविद्यालये

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प्रस्तावना :

कोणत्याही राष्ट्राचा विकास करायचा असेल तर काळानुरूप असे शिक्षण त्या राष्ट्राने त्या राष्ट्रातील विद्यार्थ्याने दिले पाहिजे या भुमिकेतून भारत सरकारने पद्मभूषण डॉ. के. कस्तूरीरंगन यांच्या अध्यक्षतेखाली एक समिती नियुक्त केली होती. या समितीने पुढील 20 वर्षांच्या संदर्भाचा विचार करून भारत सरकारला आपला अहवाल सादर केला. या अहवालात पाच मूलभूत स्तंभांचा विचार मांडलेला आहे. ते स्तंभ म्हणजे (1) प्रवेशाची सुगमता (2) संधीची सुयोग्यता (3) गुणवत्ता (4) संधीची उपलब्धता आणि जबाबदारीयत्त्व असे हे स्तंभ असून सर्वांना उच्च शिक्षण देऊन सर्वांना संधी देणा-या चैतन्यय ज्ञानी समाजाच्या व्दारे सशक्त भारताची उभारणी करणे हे या धोरणाचे ध्येय आहे.

उच्च शिक्षण :

आजच्या उच्च शिक्षण व्यवस्थेचे प्रारूप पूर्णपणे बदलेले असून नवीन प्रारूप त्रिस्तरीय आहे ते म्हणजे (1) संशोधन विद्यापीठे (2) अध्यापन विद्यापीठे आणि (3) स्वायत्त महाविद्यालये

स्वायत्त महाविद्यालये :

नवीन शैक्षणिक धोरण संलग्न महाविद्यालयांची संकल्पना ठरविते. आणि स्वायत्त महाविद्यालयांचा पुरस्कार करते. अशा महाविद्यालयांना स्वतःचे शैक्षणिक उपक्रम ठरविणे, त्यांची अंमलबजावणी करणे, अभ्यासक्रमांचे मुल्यमापन करणे व इतर अनुषंगिक बाबींच्या संदर्भात सर्व निर्णय घेण्याचे स्वातंत्र्य असेल. येत्या 20 वर्षांत 5000 ते 10000 स्वायत्त महाविद्यालयांच्या निर्मितीवर हे धोरण भर देते. या महाविद्यालयांमध्ये उच्च दर्जाचे अध्यापन आणि अध्ययन अपेक्षित असून अशाप्रकारे कार्यरत असलेल्या महाविद्यालयांना टाईप 2 अध्यापन विद्यापीठे संस्थांमध्ये प्रवेश करण्याच्या संधी असतील.

स्वायत्त महाविद्यालयांची संकल्पना व स्वरूप :

- ❖ 2032 पर्यंत संलग्न विद्यापीठांचे परिवर्तन टाईप 1 किंवा टाईप 2 विद्यापीठात करण्यात येईल. ओघोनेच संलग्न महाविद्यालयांची संकल्पनाही 2032 पर्यंत संपुष्टात येईल.
- ❖ स्वायत्त महाविद्यालयांना शैक्षणिक, वित्तीय आणि प्रशासकीय स्वायत्तता देण्यात येईल.
- ❖ नवीन रचनेमधील विद्यापीठे पूर्णतः निवासी स्वरूपाची असतील.
- ❖ प्रत्येकी 50 लाख लोकसंख्येस एक टाईप 1 विद्यापीठ असेल.
- ❖ प्रत्येकी 5 लाख लोकसंख्येस एक टाईप 2 विद्यापीठ असेल.

- ❖ प्रत्येकी 2 लाख लोकसंख्येस एक स्वायत्त महाविद्यालय असेल.
- ❖ 2020 नंतर ज्या महाविद्यालयांना मान्यता दिली जाईल ती स्वायत्ता तत्वावरच दिली जाईल.
- ❖ 2023 नंतर कनिष्ठ महाविद्यालय ही संकल्पना अस्तित्वात राहणार नाही. कारण 11 वी आणि 12 वी चे वर्ग शालेय शिक्षणाचा भाग समजले जातील .
- ❖ नवीन शैक्षणिक धोरणाचा दृष्टीकोन पाहता 2030 पर्यंत सध्याच्या 40000 महाविद्यालयांपैकी 10000 महाविद्यालये अस्तित्वात राहतील.
- ❖ एक विद्याशाखा असलेली महाविद्यालये बंद करण्याच्या धोरणावर भर देण्यात आला आहे.
- ❖ 2020 नंतर विद्यापीठ अनुदान मंडळ संपुष्टात येऊन त्याची जागा National Higher Education Regulatory Authority (NHERA) घेईल. अशी शिफारस आहे.
- ❖ विद्यार्थ्यांचा समाजाशी जास्तीत जास्त संबंध यावा या दृष्टिकोनातून अभ्यासक्रमांची रचना आणि मूल्यमापनाचे निकष ठरविण्यात येतील.
- ❖ संशोधनास प्रोत्साहन देण्यासाठी National Research Foundation स्थापन करण्यात येईल.
- ❖ अभ्यासक्रमासंबंधी प्रवेश निश्चित करण्यासाठी प्रवेश परीक्षा घेण्याची जबाबदारी National Testing Agency ची असेल.
- ❖ भारतीय भाषांच्या समृद्धीसाठी खास प्रयत्न करण्यात येतील.
- ❖ अध्ययन अध्यापनामध्ये घोकमपट्टी किंवा पाठांतरावरील भर कमी करण्यात येईल.
- ❖ व्याख्यानाच्या एकाच अध्यापन पद्धतीपासून दूर जाऊन विद्यार्थ्यांना उपयुक्त असा विविध प्रकारच्या अध्यापन पद्धतींचा वापर अध्यापनात करण्यावर भर दिला जाईल आणि त्यावरून शिक्षकांचे मूल्यमापन करण्यात येईल.
- ❖ नवीन अध्यापकांना अध्यापन पद्धतीची ओळख निर्माण व्हावी यासाठी प्रबोधन वर्गाची सोय केली जाईल.
- ❖ मुक्त आणि दूरशिक्षण पद्धतीचा उपयोग Gross Enrollment Ration 50 टक्यांपर्यंत नेण्यासाठी चांगला होईल. त्यादृष्टीने टाईप 1 आणि टाईप 2 विद्यापीठांना मुक्त आणि दूरशिक्षण विभागास मोठ्या प्रमाणावर काम करावे लागेल.
- ❖ 30 विद्यार्थ्यांपाठीमागे एक शिक्षक असे एक प्रमाण असेल.
- ❖ शिक्षकांना शैक्षणिक उपक्रमासंदर्भात स्वायत्ता देण्यात येत असताना तिचा वापर त्यांच्या पदोन्नतीसाठी केला जाईल. पदोन्नती करत असताना शिक्षकांसंदर्भात त्यांच्या सहकार्यांचे / विद्यार्थ्यांचे मत काय आहे हे पाहिले जाईल व त्याचबरोबर अध्यापनातील नाविन्य, संशोधनाच्या गुणवत्तेची स्पष्ट फलनिश्चिती, समाजाशी जोडली गेलेली शैक्षणिक उपक्रमशीलता अशा विविध बाबींचा संदर्भ घेतला जाईल.
- ❖ संशोधन अभ्यासाच्या प्रकाशनांची गुणवत्ता काटेकोरपणे तपासली जाईल. गुणवत्तापूर्ण संशोधनपत्रिका कोणत्या असतील याच्या नोंदीही घेण्यात येतील त्यामूळे सुमार दर्जाच्या संशोधनास आळा बसेल.
- ❖ उच्च शिक्षणाच्या प्रगतीसाठी खाजगी / सार्वजनिक उद्योग व्यवसायांकडून त्यांच्या फायद्याच्या 0.1 टक्के हिस्सा उच्च शिक्षणातील संशोधनासाठी द्यावा. अशी अपेक्षा आहे.

- ❖ पीएच.डी. करीत असतानाच संबंधित विद्यार्थ्यांना 8 क्रेडिटचा अध्यापन पध्दतीशी संबंधित अभ्यासक्रम पूर्ण करावा लागेल.
- ❖ 2030 पर्यंत बी.एड. अभ्यासक्रम संदर्भातील इतर प्रक्रिया पूर्ण केल्यानंतर हा अभ्यासक्रम चार वर्षांचा केला जाईल.
- ❖ शालेय शिक्षणात काम करणा-या शिक्षकांना किमान बी.एड असणे आवश्यक मानले जाईल. त्यामूळे बी.एड अभ्यासक्रम आपोआपच संपुष्टात येईल.
- ❖ नॅक ही संस्था पुर्णतः स्वायत्त करण्यात येईल. युजीसीकडून ती स्वतंत्र ठेवण्यात येईल. देशातील सर्व प्रकारच्या उच्च शिक्षण संस्थांचे मूल्यांकन करण्याची जबाबदारी नॅकची असेल.
- ❖ उच्च शिक्षण संस्थांचे मूल्यांकन आणि मूल्यमापन करणारी नॅक ही प्रमुख संस्था असेल. ती उच्चतम संस्था राहील. आणि 100 ते 150 इतर संस्थांच्या साहाय्याने उच्च शिक्षण संस्थांचे मूल्यांकन आणि मूल्यमापन करण्यासाठी अशा संस्थांना नॅककडून मान्यता देईल.
- ❖ उच्च शिक्षण संस्थांचे मूल्यमापन आणि मूल्यांकन प्रत्येक 5 ते 7 वर्षांनी केले जाईल.
- ❖ NHERA- नवीन शैक्षणिक धोरणात सुसंगत असेल असा मॉडेल कायदा तयार करेल. भारताच्या संविधानाच्या आठव्या परिशिष्टातील भाषांसह इतर भारतीय भाषांचे संवर्धन करण्यासाठीचे प्रयत्न उच्च शिक्षण संस्थाकडून केले जाईल.
- ❖ NHERA भारतीय उच्च शिक्षण संस्थांची नियंत्रण करणारी एकमेव संस्था असेल. ती सर्वसाधारणपणे उच्च शिक्षणाबरोबरच व्यावसायिक शिक्षणावरही नियंत्रण करेल.

अशा प्रकारे स्वायत्त महाविद्यालयाचे स्वरूप नवीन शैक्षणिक धोरणात तयार केले असून या माध्यमातून विद्यार्थी स्वावलंबी व्हावा.पदवी हातात मिळताच त्याला रोजगार मिळावा ही भुमिका या पाठीमागे आहे.

संदर्भ ग्रंथ :

- 1) प्रबोधन प्रकाशन ज्योती (माहे. डिसें 2019) संपादक - प्रसाद कुलकर्णी
- 2) Mission university - Larseng wall
- 3) New Education Policy - Michael Rathbone
- 4) The Prize - Pale Russacoff

कोरोना महामारीचा जागतिक अर्थव्यवस्थेवरील परिणाम

सौरभ संजय पाटील.

भौतिकशास्त्र विभाग,

शिवाजी विद्यापीठ, कोल्हापूर.

प्रस्तावना

चीनमधील वूहान शहरात नोव्हेंबर 2019 मध्ये कोरोनाचा पहिला रुग्ण सापडला. त्यानंतर अवघ्या तीन ते चार महिन्यात ही महामारी जगातील अनेक देशांमध्ये पसरली. कोरोनाचा फैलाव रोखण्यासाठी अनेक देशांनी टाळेबंदीचा निर्णय घेतला. या टाळेबंदीमुळे अनेक देशांची आणि पर्यायाने जगाची अर्थव्यवस्था ठप्प झाली. याचा सरळ परिणाम अनेक लोकांच्या जीवनावर झालेला दिसतो. लाखो करोडो लोक बेरोजगार झाले. अनेक देशांचा विकासदर घटला. आणि त्याचाच परिणाम म्हणून जागतिक महामंदीचा धोका संभवत आहे.

विषय विवेचन

सर्वसाधारणपणे जागतिक आर्थिक वर्षाच्या पहिल्या तिमाहीत 270 बिलियन डॉलर्सचे नुकसान जागतिक स्तरावर संभवत आहे. ब्लूमबर्ग या आंतरराष्ट्रीय आर्थिक संस्थेच्या अभ्यासानुसार जागतिक अर्थव्यवस्थेचे 2.7 ट्रिलियन डॉलर किंवा त्यापेक्षा जास्त नुकसान होऊ शकते. जागतिक अर्थव्यवस्थेच्या विकासाचा वेग 3.1 टक्क्यांवरून 2.3 टक्के किंवा त्याखाली येऊ शकतो. ब्लूमबर्गच्या अंदाजानुसार विविध राष्ट्रांच्या राष्ट्रीय उत्पादनात (जीडीपी) अनुक्रमे खालील घट होवू शकते. आणि ती,

राष्ट्रांच्या राष्ट्रीय उत्पादनात अनुक्रमे खालील घट

भारत	2.3 टक्के	रशिया	4.8 टक्के
अमेरिका	2.4 टक्के	जपान	2.7 टक्के
युके	1.2 टक्के	चीन	2.4 टक्के
जर्मनी	3.6 टक्के	इंडोनेशिया	4.6 टक्के

हे अंदाज खरे ठरले तर जागतिक महामंदी येण्याची भीती आहे. बकलेजच्या मते भारताचा जीडीपीचा दर 3 ते 3.5 टक्क्यांनी कमी होऊन मागील तीस वर्षांपूर्वीच्या वेगा इतका म्हणजेच 2 ते 3 टक्क्यांवर जाऊ शकतो.¹ कोरोना महामारीमुळे 160 कोटी लोकांचे उपजीविकेचे साधनच नष्ट होईल, तर जागतिक उत्पादनात आठ हजार पाचशे (8500) अब्ज डॉलरचे नुकसान होईल, असा इशारा संयुक्त राष्ट्रांचे प्रमुख अँटोनीओ गुटेरेस यांनी दिलेला आहे.²

टाळेबंदीच्या दोन महिन्यांच्या काळात जागतिक उलाढाल जवळपास 25 टक्क्यांनी कमी झाली आहे.³ प्रलयंकारी कोरोनामुळे जगातील 43 कोटी उद्योग व्यवसाय ठप्प झाले आहेत.⁴ आर्थिक क्षेत्रात झालेल्या उलथापालथीमुळे जगभरातील शेअर बाजारांमध्ये 270 लाख कोटी डॉलर मूल्याचे शेअर बुडाले आहेत.⁵ कोरोना व्हायरसच्या साथीमुळे जगाचा अर्थिक विकास मंदावणार असल्याचे मत 'ऑर्गनायझेशन फॉर इकॉनॉमिक डेव्हलपमेंटचे' सेक्रेटरी जनरल एंजल गुरीया यांनी म्हटले आहे. या उद्रेकामुळे जगाचा विकास दर 1.5 टक्के राहणार आहे.⁶ कोरोना व्हायरसच्या संसर्गामुळे जागतिक अर्थव्यवस्थेला घातक परिणामांना तोंड द्यावे लागत आहे. त्यामुळे येणारी महामंदी गेल्या 90 वर्षांतील सर्वात भीषण असेल असे मत, आंतरराष्ट्रीय नाणेनिधीच्या व्यवस्थापकीय संचालक क्रिस्टलिना जॉर्जिया यांनी व्यक्त केले आहे.⁷ जिनीव्हाच्या इंटरनॅशनल लेबर ऑर्गनायझेशनने म्हटले आहे कि कोरोना व्हायरसमुळे जगभरातील अनेक देशांमध्ये लावलेल्या टाळेबंदीमुळे एक अब्जपेक्षा ही अधिक लोकांचा रोजगार धोक्यात आलेला आहे.⁸

टाळेबंदीमुळे बेरोजगारीच्या समस्येने उग्र रूप धारण केले आहे. ब्रिटनमध्ये 20 लाख लोकांनी बेरोजगार भत्यासाठी अर्ज केला आहे. जर्मनीत 3.73 लाख बेरोजगारांची संख्या आहे. कॅनडामध्ये 72 लाख लोकांनी बेरोजगार भत्यासाठी अर्ज केला आहे. जपानमध्ये 17.6 लाख बेरोजगारांची व इटलीमध्ये 2.68 लाख बेरोजगारांची संख्या झाली आहे.⁹ जानेवारी ते मार्च या कालावधीत जपानचे सकल राष्ट्रीय उत्पन्न घटून 3.4 टक्के झाले आहे. एकाच तिमाहीत जपानची निर्यात 32.8 टक्क्यांनी घटली, तर खाजगी गुंतवणूक 17 टक्क्यांनी घटली आहे आणि देशातील खर्च 3.1 टक्क्यांनी घटला. जपानची अर्थव्यवस्था जगातील तिसऱ्या क्रमांकाची मोठी अर्थव्यवस्था असून दुसऱ्या महायुद्धानंतर प्रथमच या अर्थव्यवस्थेसमोर इतके मोठे संकट उभे राहिले आहे.¹⁰ ऑस्ट्रेलियातील अधिकृत आकडेवारीनुसार त्यांच्याकडे कोरोना साथीच्या काळात केवळ मार्च व एप्रिल या दोन महिन्यांमध्ये तब्बल सहा लाख लोकांच्या नोकऱ्या गेल्या आहेत. निव्वळ कोरोना काळात बेरोजगारी 6.2 टक्क्यांनी वाढली. त्यामुळे बेरोजगारीचा दर 13.7 टक्क्यांवर गेला आहे. कामगारांच्या क्षमतेचा अंंडर युटीलायझेशन दर 5.9 टक्क्यांनी वाढून 19.9 टक्के झाला आहे.¹¹

कोरोनाच्या संसर्गाच्या कालावधीत जगभरातील दर सहा जणांमागे एक जण बेरोजगार झाला असून, आताच योग्य पावले न उचलल्यास आगामी काळात 'बेरोजगारांची लॉकडाऊन जनरेशन' निर्माण होण्याचा धोका आहे. असा इशारा संयुक्त राष्ट्रांच्या आंतरराष्ट्रीय कामगार संघटना (आयएलओ) ने दिलेला आहे. संसर्गाचा नोकऱ्यांवर परिणाम या आपल्या अहवालात आयएलओने जागतिक परिस्थितीचे चित्रण केले आहे. त्यानुसार 31 कोटी पूर्ण वेळ नोकऱ्या इतके कामाचे तास कोरोनामुळे वाया गेले असून त्याचा सर्वाधिक फटका अमेरिकेला बसलेला आहे.¹² जागतिक उत्पादनात दक्षिण सुदान, येमेन, सीरिया, व्हेनेझुएला या चार देशांच्या एकत्रित वाटा केवळ 0.6 टक्के एवढा आहे. मात्र जगातील 30 टक्के लोकसंख्या याच चार देशांमध्ये राहते. येथील 43 टक्के लोकसंख्या प्राथमिक आरोग्य

सुविधेपासून वंचित आहे. त्यामुळे कोरोनाचा मुकाबला करण्याची क्षमता या देशांमध्ये नाही. म्हणूनच या देशांत कोरोनाचा जर प्रादुर्भाव वाढला, तर या देशांच्या अर्थव्यवस्था पूर्णपणे मोडकळीस येऊ शकतात.^{१३} कोरोना व्हायरसमुळे जगात आर्थिक संकट आले असून याचा परिणाम कमी व मध्यम उत्पन्न गटातील देशांवर होणार आहे. या देशांतील गरीब कुटुंबात राहणाऱ्या मुलांची संख्या आठ कोटी 60 लाखांनी वाढून 2020 अखेर पर्यंत एकूण संख्या 67 कोटी 20 लाखांचा टप्पा गाठेल, असा अंदाज 'युनिसेफ आणि द सेव्ह चिल्ड्रन' या मानवतावादी संघटनेने केलेल्या अभ्यासात व्यक्त करण्यात आलेला आहे.^{१४}

टाळेबंदीमुळे तेलाचे भाव गडगडले आहेत. खनिज तेल घेण्यास ग्राहक नसल्याने एप्रिल 2020 मध्ये अमेरिकन मानक असलेले 'टेक्सास इंटरमिजिएट खनिज तेल' चक्क शून्यापेक्षाही कमी म्हणजे उणे 37.63 डॉलर्स प्रति बॅरेल पर्यंत घसरले आहे. टेक्सास इंटरमिजिएट खनिज तेलाच्या भावात झालेली ही आतापर्यंतची सर्वात मोठी घसरण आहे. फ्युचर्स कॉन्ट्रॅक्टमध्ये पुरवल्या जाणाऱ्या खनिज तेलाच्या भावात ही घट झाली आहे. प्रति बॅरेलमागे 300 टक्क्यांची घसरण झाली असून, भाव प्रति बॅरेल 55.90 डॉलरवरून उणे 37.63 डॉलरपर्यंत खाली आला आहे.^{१५} कोरोना संसर्गामुळे जगभरातील फुलबाजार कोमेजला असून या क्षेत्राचे कधीही भरून न येणारे सुमारे 8.5 अब्ज अमेरिकन डॉलरचे नुकसान होऊ घातले आहे.^{१६} कोरोनामुळे जगात सर्वाधिक नुकसान चीनला सोसावे लागणार आहे. चीनची जागतिक निर्यात 50 अब्ज डॉलर कमी होऊ शकते. कोरोनाचा सर्वाधिक प्रभाव हा मशिनरी मोटर वाहन आणि दळणवळण साधनांवर पडला आहे. कोरोनाचा सर्वाधिक फटका युरोपीय संघ (15.6 अब्ज डॉलर), संयुक्त राज्य अमेरिका (5.8 अब्ज डॉलर), जपान (5.2 अब्ज डॉलर), दक्षिण कोरिया (3.8 अब्ज डॉलर) आणि व्हियतनाम (2.3 अब्ज डॉलर) या देशांना बसला आहे.^{१७}

सारांश

टाळेबंदीमुळे अनेक देशांचा विकासदर घटला. सर्वसाधारणपणे जागतिक आर्थिक वर्षाच्या पहिल्या तिमाहीत 270 बिलियन डॉलर्सचे नुकसान जागतिक स्तरावर संभवत आहे. टाळेबंदीमुळे तेलाचे भाव गडगडले असून खनिज तेल घेण्यास ग्राहक नसल्याने एप्रिल 2020 मध्ये अमेरिकन मानक असलेले टेक्सास इंटरमिजिएट खनिज तेल चक्क शून्यापेक्षाही कमी म्हणजे उणे 37.63 डॉलर्स प्रति बॅरेल पर्यंत घसरले आहे जानेवारी ते मार्च या कालावधीत जपानचे सकल राष्ट्रीय उत्पन्न 3.4 टक्के घटले आहे. ऑस्ट्रेलियात दोन महिन्यांमध्ये तब्बल सहा लाख लोकांच्या नोकऱ्या गेल्या आहेत. कोरोना व्हायरसमुळे जगभरातील अनेक देशांमध्ये लावलेल्या टाळेबंदीमुळे एक अब्जपेक्षा ही अधिक लोकांचा रोजगार धोक्यात आलेला आहे. येणारी महामंदी गेल्या 90 वर्षांतील सर्वात भीषण असेल असे मत व्यक्त केले आहे. टाळेबंदीमुळे बेरोजगारीच्या समस्येने उग्र रूप धारण केले आहे.

कोरोना व्हायरसमुळे जगात आर्थिक संकट आले आहे याचा परिणाम कमी व मध्यम उत्पन्न गटातील देशांवर होणार असून या देशांतील गरीब कुटुंबात राहणाऱ्या मुलांची संख्या आठ कोटी 60

लाखांनी वाढण्याचा अंदाज आहे. आगामी काळात बेरोजगारांची लॉकडाऊन जनरेशन निर्माण होण्याचा धोका आहे. टाळेबंदीच्या दोन महिन्यांच्या काळात जागतिक उलाढाल जवळपास 25 टक्क्यांनी कमी झाली आहे. आर्थिक क्षेत्रात झालेल्या उलथापालथीमुळे जगभरातील शेअर बाजारांमध्ये 270 लाख कोटी डॉलर मूल्याचे शेअर बुडाले आहेत. कोरोना संसर्गामुळे जगभरातील फुलबाजाराचे सुमारे 8.5 अब्ज अमेरिकन डॉलरचे नुकसान होऊ घातले आहे.

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मन्नूजी के रचनाओं में स्त्री जीवन का बहुआयामी यथार्थ

कुमारी सोनी
शोध छात्रा

भारत के आजादी के बाद 1950 से 1960 तक हिन्दी साहित्य के कहानियों में जिस तरह के बदलाव देखने को मिलता है। वो उन स्थितियों के परिवेश की मांग थी जो नई कहानी के रूप में, नए युग बोध के रंग में यथार्थ की रेखाओं से लिखी गयी। नई कहानी के प्रवर्तकों में कमलेश्वर, राजेन्द्र यादव, मोहन राकेश, मन्नू भंडारी, अमरकांत, निर्मलवर्मा और मार्कंडेय का नाम शीर्ष पर स्थित है। संवेदना के स्तर पर सजग ये कथाकार अपने परिवेश की चुनौतियों से संघर्ष के लिए प्रतिबद्ध होकर समकालीन बहुआयामी यथार्थ की सभी मानवीय स्थितियों और संबंधों को जीवंत अभिव्यक्ति देने में सफल रहे हैं।

आधुनिक कथा लेखन में मन्नू भण्डारीजी नई कहानी की सर्वाधिक लोकप्रिय, श्रेष्ठ, और सार्थक रचनाकार के रूप में उपस्थित रही हैं। मन्नू जी का जन्म मध्यप्रदेश के भानपुरा कस्बे में 1931 ई में हुआ था। उनकी प्रमुख कहानी संग्रहों में - “मैं हार गयी, तीन निगाहों की एक तस्वीर, “यही सच है।” एक इंच मुस्कान, एक प्लेट सैलाव, अकेली जैसी कथाओं में समसामयिक परिवेश और जीवन की सभी सच्चाइयों को घटनाओं और चरित्रों की आन्तरिक जटिलता तथा संवेदनशीलता को बड़ा मार्मिकता से उकेरा गया है। जो आज भी प्रासंगिक है। इस समय की कहानी किसी एक बिन्दु पर केंद्रित ना होकर स्त्री जीवन के कई आयामों पर आधारित है।

मुन्नी जी का लेखन उद्देश्य सिर्फ पाठकों को प्रभावित करना नहीं, बल्कि समकालीन समाज में स्त्री जीवन में घट रही घटनाओं तथा उनकी समस्याओं को यथार्थता के साथ समाज के सामने रखना था। तभी तो उनकी कहानियों में संवेदनशीलता गहराई तथा सघनता अधिक दिखाई पड़ती है। उनकी कहानियों में अपने परिवेश की स्वीकृति के साथ भोगा हुआ यथार्थ जिस सहजता तथा आत्मियता के साथ पाठकों तक समप्रेषित होता है वह असाधारण है।²

प्रेमचन्द कहते हैं “पुरुष में स्त्री तत्व आ जाए तो वह देवता हो जाता है, स्त्री में पुरुष का तत्व आ जाए तो वह राक्षसी हो जाती है।”

मन्नू जी इनसे अछूती हैं। उनके यहाँ स्त्री सहज रूप से आती है। यह नहीं कि सताई हुई पीड़ित स्त्री है तो उनके अधिकार पर लिखना है। स्त्री विमर्श पर बहुत बातें हो रही हैं। पुस्तकें भी लिखी जा रही हैं, परंतु मन्नू जी इनसे अछूती हैं। इनकी कहानियों में स्त्री सहज रूप से आती हैं। पर अपना वर्चस्व स्थापित कर जाती है। वहरहाल उनकी रचनात्मक जीवन दृष्टि में पारम्परिक दृष्टि को छोड़ने का आग्रह है; दुराग्रह नहीं।

मन्नु जी की कहानियाँ अपने स्पष्टता और भाषागत सहजता के लिए खासतौर पर उल्लेखनीय रही हैं। उनके लेखन की सहजता और सरलता ने उन्हें सामान्य पाठकों और आलोचकों में प्रतिष्ठित और समान रूप से लोकप्रिय बनाया तो, इसलिए नहीं कि उसमें नारी की वेदना, व्यथा और प्रतिहिंसा साकार हुई, बल्कि इसलिए कि अधिकांश स्त्री की स्थिति, त्रासदियों और उनके मानसिक उलझनों को तटस्थ और वस्तुपरक निरूपण हुआ है। स्त्री-मुक्ति की घोषणा न करते हुए भी उनकी कहानियाँ, स्त्री की व्यथा कथा उनके दुखों का, प्रेम की कोमल सहज भावनाओं का और उनके अस्तित्व को आहत करने संबंधों की विवशता का भी स्वभाविक और बारीक चित्रण करती हैं। आधुनिक कहानी के दौर में समकालीन कथाकारों में मन्नु भण्डारी सबसे चर्चित तथा सफल कथाकार रहीं।

मन्नु जी के कहानियों में स्त्री जीवन के अनेक स्तरों पर जिस बहुआयामी संघर्ष को झेलती हैं, उसमें अंतर्मन का संघर्ष, साथ ही परिवार के भीतर और अपने आस-पास के परिवेश और समाज में अपने अस्तित्व व अस्मिता को लेकर कितनी तरह के युद्ध लड़ने पड़ते हैं। इस भीषण संघर्ष में उनकी अपनी पहचान, अपना मानसिक उत्पीड़न और स्वाभिमान को बचाने का भी भरसक प्रयास है।

मन्नु जी के कहानियों में जो व्यंग्य की तल्खी है, वह बुझे हुए दिल से निकले हुए दर्द की आवाज है। बहुत आत्मनियंत्रण सूझबूझ के साथ वह लिखती हैं। एक सहज-सरल बोलती हुई हिन्दी। जिसमें कला बिल्कुल भी मालूम न हो पर यह सहजता और कलाहीनता ही उनकी कला है। इस अर्थ में वे निर्मल वर्मा का ध्रुवोत् हैं।

“ उस समय के कथाकारों में आम प्रचलन था। नहीं नहीं, प्रचलन नहीं, बकौल उसके उनकी जिंदगी की अनिवार्यता थी कि एक अदद बीवी के साथ एक अदद प्रमिका भी रहे। एक प्रमिका तो स्थायी, बाकी अपनी अपनी औकात और हैसियत के हिसाब से यानी वो सब आनी-जानी भाया। ”

उपर्युक्त पद्धांश में मन्नु जी जिस बेबाकीपन से पुरुष जाति के हार्दिक मनषा को जितने सरल भाव के साथ अभिव्यक्त की हैं वो सराहनीय है। अतः निर्विवाद यह कहा जा सकता है कि अपने समय के अंतर्विरोधियों, जटिलताओं और चुनौतियों के द्वंद्व के भीतर से स्त्री के आत्मविकास और अस्तित्व की संभावनाओं को चुनकर अपनी मानवीय पहचान के लिए सामाजिक व्यवस्था को फिर से बदलाव के लिए प्रश्नांकित करना, मन्नु भण्डारी के बहुआयामी कथा लेखन की अविस्मरणीय उपलब्धि है।

“ लोग दूर जा रहे हैं-
हर कोई हर किसी से दूर
लोग दूर जा रहे हैं
और बढ़ रहा है
मेरे आस-पास का “स्पेस” ।

इस "स्पेस" का अनुवाद
'विस्तार' नहीं, 'अंतरिक्ष' करूंगी मैं,
क्योंकि इसमें मैंने
उड़नतश्करी छोड़ रखी है । "3

संदर्भ ग्रंथ सूची: -

- 1 आजकल(मासिक पत्रिका); संपादक-फरहत परवीन;प्रकाशन विभाग, नई दिल्ली जून 2019;पृष्ठ संख्या - 7
- 2 आजकल (मासिक पत्रिका);संपादक -परहत परवीन; प्रकाशन विभाग, नई दिल्ली; जून 2019;पृष्ठसंख्या- 8
- 3 कविता में औरत;अनामिका; वाणी प्रकाशन; नई दिल्ली; संस्करण (प्रथम) - 2019; पृष्ठ संख्या - 9,10



भूमि की गुणवत्ता एवं भूमि उपयोग बक्सर जिला के संदर्भ : एक भौगोलिक विश्लेषण

राज किशोर कुमार

शोधार्थी, भूगोल विभाग (पी. आर. टी.)

मगध विश्वविद्यालय

बोध गया

संराश :-

प्रकृति से प्राप्त संसाधनों में मिट्टी संसाधन अत्यन्त महत्वपूर्ण है, मिट्टी कृषि को प्रभावित करने वाला महत्वपूर्ण तत्व है। बक्सर जिला की अधिकांश मिट्टी अपशिष्ट प्रकार की है, मात्र नदियों के बाढ़ वाले मैदानी भाग में अपवाहित (ब्लोड) मिट्टी पायी जाती है। विदित है कि यहाँ की जलवायु उष्णार्द्र है, इसलिए लेटेराइजेशन प्रक्रिया काफी सक्रिय है, अधिक वर्षा के कारण मिट्टी में निक्षालन हुआ है। चूना जैसे घुलनशील तत्व घुलकर कहीं-कहीं नीचे बैठ जाते हैं, परिणाम स्वरूप मिट्टीयाँ प्रायः अम्लीय हैं। मिट्टी पर उच्चावच का इतना अधिक प्रभाव है कि ढाल एवं ऊँचाई में मामूली अन्तर से भी मिट्टी का प्रकार बदल जाता है। इसलिए जिले के सभी गाँवों में प्रायः तीन या चार प्रकार की मिट्टीयाँ पायी जाती हैं। इन मिट्टीयों को माटा, मटासी, डोरसा, और कन्हार नामों से जाना जाता है। माठा ऊँचे स्थानों की लैटेराइट या लाल मिट्टी है, जिसमें मुरम की प्रधानता है, दूसरी ओर निचली द्रोणियों में चीका प्रधान काली मिट्टी कन्हार मिलती है, इन दोनों के बीच मध्यम ढाल पर धूसर वर्णीय मटासी मिट्टी पायी जाती है, मटासी तथा कन्हार के बीच सन्धि क्षेत्रों में डोरसा मिट्टी पायी जाती है। मिट्टी के निर्माण में चार तत्वों का योगदान महत्वपूर्ण है (क) पैतृक चट्टान (ख) जलवायु (ग) भूमि का ढाल (घ) वनस्पति, बक्सर जिले की मिट्टी चूना पत्थर, शैल, एवं बलूआ पत्थर के विघटन से बनी है। जिले की मिट्टीयों में नाइट्रोजन का नितान्त अभाव है। जिला की यह सर्वाधिक ऊपजाऊ मिट्टी है, इसमें चीका की मात्रा 50 से 60 प्रतिशत तक पायी जाती है। यह चीका प्रधान काली मिट्टी है, जिसमें जल-धारक क्षमता उल्लेखनीय रूप से उच्च होती है, ग्रीष्म ऋतु में इस मिट्टी में गहरी एवं चौड़ी दरारें पड़ जाती हैं, इसमें पोटाश, फॉस्फोरिक अम्ल, चूना तथा जीवांशों की मात्रा अपेक्षाकृत अधिक होती है। गेहूँ की कृषि के लिए यह मिट्टी सर्वोत्तम है, जिले में खरीफ एवं रबी दोनों ही फसलें इस मिट्टी में पैदा की जाती हैं। अतः यह शोध अध्ययन क्षेत्र में मृदा कृषि संसाधनों की संभावनाओं को तालाशेगा एवं इसके आलावा इन सारे भूमि की गुणवत्ता एवं भूमि उपयोग के आधार पर अध्ययन क्षेत्र के सतत पोषणीय विकास हेतु नियोजन प्रस्तुत करेगा, जो वर्तमान समय की एक प्रमुख आवश्यकता बन गया है।

मूल शब्द :- भूमि गुणवत्ता, मृदा कृषि प्रतिरूप, कृषि संसाधनों में वृद्धि, भूमि उपयोग।

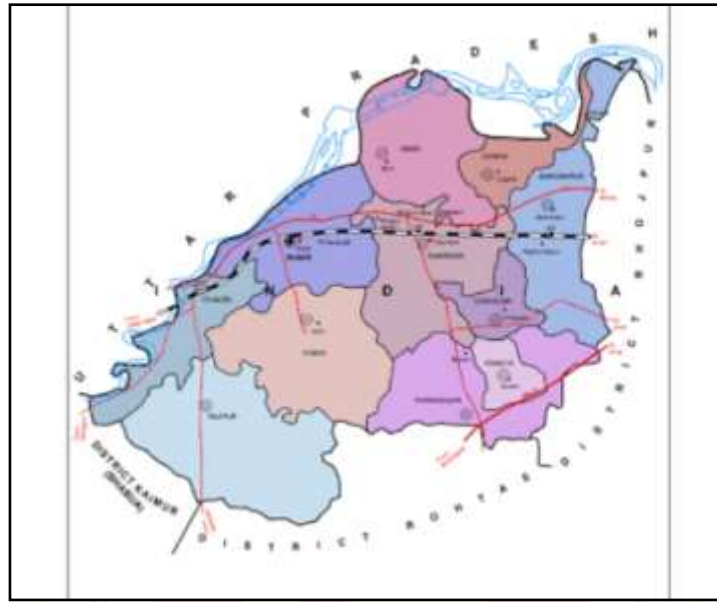
अध्ययन क्षेत्र :-

बिहार राज्य के बक्सर जिला के मुख्य रूप से ग्रामीण व्यावसाय एवं आर्थिक क्रियाकलाप व्यवस्था कृषि कार्यों में अधिकांश लोग लगे हुए हैं। बिहार राज्य के बक्सर जिला के भूमि गुणवत्ता,

मृदा कृषि भूमि उपयोग के विभिन्न पहलुओं का विश्लेषण किया जाता है, जिसमें फसल की तीव्रता, फसल की विविधता और फसल संयोजन पर विशेष जोर दिया जाता है। भौगोलिक शोध अध्ययन दृष्टिकोण से बिहार राज्य के बक्सर जिला के मृदा निर्माण प्राकृतिक तत्वों द्वारा एक लम्बी कालवधि में होता है, मृदा के ऊपरी परत को मृदा कहा जाता है, मृदा पेड़-पौधों, कीड़ों और सूक्ष्म जीवों को आधार प्रदान करता है। इस क्षेत्र में भूमि उपयोग पैटर्न विश्लेषण बक्सर जिला का प्रत्येक प्रखण्ड स्तरीय की भूमि, मिट्टी और फसल के पैटर्न का प्रतिनिधित्व करता है, लेकिन एक सामान्य कारक समय पर पर्याप्त कृषि जल आपूर्ति है। दोषपूर्ण कृषि पद्धतियों की कई समस्याओं एवं भूमि के दुरुपयोग के परिणाम स्वरूप जोत के समेकन में कमी होती है। बिहार राज्य के बक्सर जिला के अपने मूल जिला भोजपुर के साथ निकट संबंध है और उनका एक पुराना और दिलचस्प इतिहास है। पुरातात्विक खुदाई से प्राप्त अवशेष बक्सर की प्राचीन संस्कृतियों के साथ मोहनजोदड़ों और हड़प्पा को जोड़ता है। यह स्थान प्राचीन इतिहास में "सिद्धाश्रम", "वेदगर्भापुरी", "करुष", "तपोवन", "चैत्रथ", "व्याघ्रसर", बक्सर के नाम से भी जाना जाता था। बक्सर का इतिहास रामायण की अवधि से पहले की है।

ग्रामीण एवं शहरी जनसंख्या वितरण को प्रभावित करने वाला भौतिक वनस्पति है। जिला के अधिकांश जनसंख्या ग्रामीण क्षेत्रों में निवास करता है। बढ़ती आबादी के कारण भूमि में हिस्सेदारी 1.81 प्रतिशत है। इस जिले में जनसंख्या वितरण का प्रतिरूप देखी गयी है। इस जिला के समतल, पर्याप्त जल की उपलब्धि, कृषि योग्य उपजाऊ भूमि वाणिज्यिक संख्याओं, सरकारी-गैर सरकारी कार्यालय ऐसे कई कारक सम्मिलित हैं, जिसके फलस्वरूप आर्कषण क्षमता के कारण इस जिला की जनसंख्या एवं स्थान का समन्वित अध्ययन ही जनसंख्या भूगोल का केन्द्र बिन्दु है, जो जनसंख्या भूगोल को जनांकिकीय विषय से अलग करता है। बिहार राज्य के बक्सर जिला के पश्चिमी गंगा नदी के तट पर स्थित है। इस जिला का कूल भौगोलिक क्षेत्रफल 1703 किमी भू-भाग में फैला हुआ है। 2011 के जनगणना के अनुसार कुल जनसंख्या 1706352 है, जिसमें से अनुसूचित जातियों के कुल संख्या 251737 है, जो 14.75 प्रतिशत ग्रामीण क्षेत्रों में निवास करते हैं, तथा 5.65 प्रतिशत शहरी क्षेत्रों में अनुसूचित जाति निवास करते हैं। इस जिला के अधिकांश लोगों की आजीविका कृषि पर आधारित है, लेकिन जनसंख्या वृद्धि के कारण प्रतिकूल प्रभाव पड़ा है। अनुसूचित जाति की जनसंख्या में वृद्धि 2001-2011 के अन्तराल में 8.23 प्रतिशत की वृद्धि हुई है। इस जिला के भौगोलिक दृष्टिकोण के कारण जनसंख्या का लिंगानुपात 1000 पुरुषों संख्या पर 899 महिलाएँ की संख्या है।

भौगोलिक शोध परियोजना अध्ययन क्षेत्र बक्सर जिला का मानचित्रण



शोध परियोजना के उद्देश्य :-

प्रत्येक शोध अध्ययन का एक विशेष उद्देश्य होता है। इसके बिना शोध कार्य करना संभव नहीं है। अतः शोध अध्ययन की दशा एवं दिशा तय करने हेतु स्पष्ट उद्देश्यों की आवश्यकता होती है।

1. व्यावसायिक संरचना ग्रामीण जलवायु प्रभाव की समीक्षा किया गया,
2. अध्ययन क्षेत्र में आँकड़ों के आधार पर संपोषणीय विकास हेतु योजनाओं का निर्माण किया गया,
3. मृदा कृषि प्रतिरूप जलवायु प्रभाव की समीक्षा किया गया,
4. कृषि प्रतिरूप में जलवायु परिवर्तन की व्यावसायिक समीक्षा किया गया।

विधितंत्र :-

किसी भी शोध कार्य को पूर्ण रूप करने के लिए विधितंत्र की आवश्यकता होती है। विधितंत्र के द्वारा शोध कार्य संयमित, क्रमबद्ध विश्लेषणात्मक और वैज्ञानिक स्वरूप दिया जा सकता है। इस शोध कार्य को पूर्ण करने के लिए प्राथमिक एवं द्वितीयक आँकड़ों का उपयोग किया गया है।

प्रस्तुत शोध कार्य हेतु निम्नलिखित विधितंत्रों का सहारा लिया गया है:-

1. शोध परियोजना से संबंधित विभिन्न प्रकार की आँकड़ों का संकलन किया गया है,
2. आँकड़ों के प्रकृति के आधार वर्गीकरण किया गया है।
3. द्वितीयक आँकड़ों के लिए मुख्यतः कृषि विभाग, योजना विभाग एवं बक्सर जिला के सांख्यिकीय विभाग में कुछ शोध संस्थानों से आँकड़े संग्रह किया गया।

भूमि की उर्वरता एवं गुणवत्ता :-

The soil fertility includes site characteristics of the soil surface and the internal biological, chemical and physical properties of the soil. (Cruickshank, 1972, 202)

कृषि की उत्पादकता अथवा मिट्टी की उर्वरता से तात्पर्य उसकी उत्पादन क्षमता से है, मिट्टी की उर्वरता धरातलीय संरचना, रासायनिक संगठन, भौतिक दशाओं एवं जैव मात्रा आदि तत्वों पर निर्भर होती है, पौधों के पूर्ण विकास के लिए 17 पोषक तत्वों की आवश्यकता होती है, वे इस प्रकार हैं - हाइड्रोजन, ऑक्सीजन, नाइट्रोजन, सल्फर, कैल्शियम, मैग्नेशियम, गंधक, मैंगनीज, जस्ता, बोरॉन, ताँबा, कोबाल्ट, क्लोरीन आदि। कार्बन-डाई-ऑक्साइड और ऑक्सीजन तत्वों की पूर्ति वातावरण से होती है, विभिन्न फसलों के लिए मिट्टी में विभिन्न रासायनिक तत्वों का होना जरूरी है, परन्तु नाइट्रोजन, फॉस्फोरस और पोटैशियम ये तीन रासायनिक तत्व मिट्टी की उर्वरता के लिए अति आवश्यक होते हैं। इन तत्वों की उपलब्धता का प्रत्यक्ष प्रभाव फसलों की उपजदार पर पड़ता है।

तालिका 1 में इन तत्वों के आधार पर उर्वरता का स्तर दर्शाया गया है।

मिट्टी में पाये जाने वाले पाँच पोषक तत्व क्रमांक	भूमि की उर्वरता	नाइट्रोजन (प्रतिशत)	फॉस्फोरस (प्रतिशत)	पोटैशियम (प्रतिशत)
1	न्यूनतम उर्वरता वाली भूमि	0 - 05 से कम	0.05 से कम	0.075 से कम
2	मध्यम उर्वरता वाली भूमि	0.05 - 0.10	0.05 - 0.10	0.075 - 0.15
3	अच्छी भूमि	0.10 - 0.20	0.10 - 0.20	0.15 - 0.30
4	बहुत अच्छी भूमि	0.20 से अधिक	0.20 से अधिक	0.30 से अधिक

कृषि भूमि की गुणवत्ता का मूल्यांकन क्षेत्र में पायी जानी वाली मिट्टीयों की उर्वरता पर निर्भर करता है। उच्चावच तथा सिंचाई की उपलब्धता भी भूमि की क्षमता को प्रभावित करती है। I.A.A.I (All India Soil and Land use Survey organization, New Delhi) ने जिले की भूमि को चार वर्गों में रखा है - बहुत अच्छी भूमि, अच्छी भूमि, मध्यम उर्वरता वाली भूमि और न्यून उर्वरता वाली भूमि। बहुत अच्छी भूमि की उत्पादन क्षमता अधिक है। इस प्रकार की भूमि जिले में गंगा नदी दोआब क्षेत्र में मिलती है। यह भूमि समतल एवं मन्द ढाल में पायी जाने वाली कन्हार, डोरसा और मटासी से युक्त है। इस भूमि नाइट्रोजन (0.13 - 0.31 प्रतिशत), फॉस्फोरस (0.05 - 0.37 प्रतिशत) और पोटाश (0.16 - 0.25 प्रतिशत) आदि की अधिकता मिलती है, जो खाद्य फसलों के उत्पादन के लिए पर्याप्त है। जिले का गंगा नदी दोआब क्षेत्र में पर्याप्त सिंचाई सुविधा उपलब्ध होने के कारक पूर्णतः कृषि क्षेत्र है।

अच्छी भूमि क्षेत्र में उत्पादकता अच्छी होती है, इस प्रकार की भूमि समतल एवं मन्द ढाल वाली है, जहाँ सिंचाई की भी पर्याप्त सुविधा उपलब्ध होती है, इस श्रेणी की मिट्टी में नाइट्रोजन (0.05-0.15 प्रतिशत) तथा पोटाश (0.07-0.28 प्रतिशत) की अधिकता और फॉस्फोरस (0.02 प्रतिशत से कम) की मात्रा कम होती है, इस प्रकार की भूमि का विस्तार गंगा नदी मैदान में मिलती है।

मध्यम उर्वरता वाली मिट्टी जिले के अधिकतम भाग में मिलती है, जो विषम मैदान तथा माटा मिट्टी के क्षेत्र है, इस प्रकार की मिट्टी जिले में तहसील के दक्षिणी भाग, तहसील के मध्य-पूर्वी भाग में मिलती है, इस भूमि में नाइट्रोजन और पोटाश की मात्रा अधिक होती है। उपर्युक्त क्षेत्र में पायी जाने वाली मिट्टी रेतीली एवं दोमट प्रकार की है, इन क्षेत्रों में मुख्य रूप से ज्वार, बाजरा तथा तिल की कृषि की जाती है, इस भूमि का अधिकतम भाग तन एवं चारागाह के अन्तर्गत आता है।

अच्छी भूमि के लिए मिट्टी की परतों की मोटाई अधिक तथा अन्य आवश्यक रासायनिक तत्वों का होना जरूरी होता है। न्यून उर्वरता वाली भूमि में इन दोनों तत्वों का अभाव होता है, इस प्रकार की भूमि जहाड़ी एवं पठारी क्षेत्रों में पायी जाती है, क्योंकि यहाँ मिट्टी की गहराई कम और कण भी बड़े होते हैं। जिले में इस प्रकार की भूमि पठारी भाग में मिलती है, इस भूमि का प्रयोग ग्रामीण वन के रूप में होता है।

मिट्टी में पाये जाने वाले विभिन्न पोषक तत्वों का महत्व विभिन्न फसलों के लिए होता है, क्योंकि जो मिट्टी कपास की कृषि के लिए महत्वपूर्ण होती है, वह चावल की कृषि के लिए महत्वपूर्ण नहीं हो सकती।

भूमि उपयोग :-

"Land utilization is the satisfaction, from which the farm population derived the type of agriculture development the provision for future production and contribution to national need's. (Euck, 1973).

किसी भी क्षेत्र की आर्थिक प्रगति भूमि के समुचित उपयोग पर निर्भर होती है, क्योंकि भूमि क्षेत्र की महत्वपूर्ण भौतिक सम्पत्ति है, भूमि सीमित किन्तु मूल्यवान संसाधन है, इसलिए उत्पादन वृद्धि हेतु वैज्ञानिक एवं तकनीकी विधियों का उपयोग आवश्यक होता है। भूमि उपयोग आयोजन का मुख्य उद्देश्य किसी क्षेत्र के भूमि संसाधनों के आदर्श उपयोग की एक ऐसी रूपरेखा प्रस्तुत करना है, जिससे उस क्षेत्र की प्रति हेक्टेयर भूमि का अधिकतम बहुप्रयोजनीय उपयोग राष्ट्रहित में हो सके और भूमि का कोई भी भाग बेकार न पड़ा रहे।

"There are two sets of limits which determine the pattern of land use in any particular region, first, the absolute or outer limits which are set by nature and second, the relative limits set by culture, human attitudes and action which determine the range of actual and probable use within the limits. (Zimmerman, 1951,86).

प्रो० डडले स्टैम्प के अनुसार "भूमि न केवल मानव वरन् समस्त जीवधरियों को आश्रय प्रदान करती है," 1930 में किया गया ग्रेट-ब्रिटेन का भूमि उपयोग सर्वेक्षण न केवल विश्व में सर्वश्रेष्ठ अपितु अपने प्रकार का प्रथम मौलिक अध्ययन है। स्टैम्प द्वारा किये गये इस कार्य को अन्तर्राष्ट्रीय सराहना प्राप्त हुई। प्रकृति के विभिन्न संसाधनों में भू-संसाधनों का सर्वाधिक महत्वपूर्ण स्थान है। इसलिए प्रो० डडले स्टैम्प के इस अध्ययन ने भूगोलवेत्ताओं, अर्थशास्त्रियों, नियोजकों तथा शिक्षाविदों का ध्यान आकृष्ट किया।

ग्रामीण जनसंख्या व्यावसाय एवं कृषि मृदा जनसंख्या प्रभाव :-

भौगोलिक दृष्टिकोण से बक्सर जिला का ग्रामीण जनसंख्या व्यावसाय एवं कृषि मृदा जनसंख्या से संबंधि कृषि विकास में फसल उत्पादन चक्र के प्रतिरूप में परिवर्तन का प्रभाव कृषि विकास में दृष्टिगोचर प्रतिफल होता है, कृषक परिवार में राष्ट्रीय स्तर के अपनाये गए शस्य फसल स्वरूप के अनेक रूप होता है, तथा संस्थागत कारकों को प्रदर्शित करता है, शोध अध्ययन से यह स्पष्ट होता है कि फसल वितरण में क्षेत्रीय तथा सामाजिक अंतर मिलता है, इस प्रकार से ग्रामीण व्यावसायिक संरचना एवं कृषि मृदा के फसलों के प्रकार के शस्य पद्धति का फार्म मृदा, सिंचाई तथा अन्य साधनों के उपयोग पर उल्लेखनीय प्रभाव पड़ता है, मानवीय परिस्थितियों में जनसंख्या भोजन की आदत, कृषि की पद्धति, तकनीकी विकास, बीज उर्वरक एवं कीटनाशकों दवाओं के प्रयोग एवं कृषि के प्रति दृष्टिकोण उल्लेखनीय है।

निष्कर्ष :-

बिहार राज्य के बक्सर जिला भौगोलिक दृष्टिकोण शोध अध्ययन परियोजना के माध्यम से यह बिलकुल स्पष्ट है कि यहाँ के लोगों के मुख्य रूप से भूमि से जुड़े हुए आधारित कृषि में अपना जिविकोपार्जन के माध्यम से अपना भरण-पोषण करता है। ग्रामीण जनसंख्या व्यावसाय एवं मृदा को प्रभावित किया है, बेरोजगारी की समस्याओं के कारण प्रचुर मात्रा में वन सम्पदा की कटाई करने के कारण मिट्टी का कटाव एवं पर्यावरणीय को क्षति पहुँचाया है, यदि समुचित आँकड़ों पर मध्य नजर से देखा जाए तो गया जिला की मृदा को प्रभावित किया है, जिसका मुख्य कारण है, वनों की कटाई एवं खेतों में अत्यधिक सिंचाई करना। सरकारी योजनाओं एवं परियोजनाओं के माध्यम से मृदा की गुणवत्ता को यथास्थिती बनाये रखने के लिए समय-समय पर मिट्टी मॉनिटरिंग पर विशेष ध्यान देने की आवश्यकता है, साथ-साथ उन क्षेत्रों में चूँकि वन सम्पदा का कटाव प्रचुर मात्रा में हुई है, जिसके फलस्वरूप वृहत पैमाना पर वृक्षारोपण कार्यक्रम पर विशेष रूप में पहल करने की आवश्यकता बन गया है, जिसके फलस्वरूप कृषि मृदा में कृषि फसल का उत्पादन वृद्धि के लिए उर्वराशक्ति बना रहे।

संदर्भ सूची :-

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रणधीर कुमार रंजन

शोधर्थी जे०आर०एफ०

भूगोल विभाग

मगध विश्वविद्यालय बोधगया, गया

सारांश :-

किसी भी क्षेत्र में प्राकृतिक संसाधनों का उपयोग मानव की शारीरिक और मानसिक कुशलता पर निर्भर करता है, मानव संसाधन के जिन तथ्यों का समावेश होता है वे हैं, मानव संसाधन की प्रकृति, जनसंख्या, व्यवसायिक संरचना, शिक्षा आदि जो मानव संसाधन को गतिशीलता प्रदान करता है। ग्रामीण, नगरीकरण, औद्योगीकरण, मानव की तकनीकी प्रगति, बदलती सामाजिक आर्थिक प्रणालियाँ तथा समाज के नियम, ग्रामीण मानव संसाधन की अवधारणा के संदर्भ में जनशक्ति एवं मानव संसाधन दोनों जनसंख्या की ओर इंगित करता है। भौगोलिक दृष्टिकोण से बिहार राज्य के पूर्वी चम्पारण जिला के जनसंख्या वितरण एवं प्रकार्यात्मक संरचना, की विभिन्न गुणात्मक एवं परिणात्मक विशेषताओं का प्रभाव किसी भी भौगोलिक क्षेत्र के सामाजिक, राजनितिक, सांस्कृतिक एवं आर्थिक भू-दृश्य पर प्रभावित करता है, जनसंख्या विशेषताओं के अन्तर्गत पूर्वी चम्पारण क्षेत्र के विविध पक्षों तथा व्यावसायिक, आयु, लिंगानुपात, धर्म, भाषा, साक्षरता एवं ग्रामीण जनसंख्या प्रकार्यात्मक संरचनात्मक विशेषताओं का विश्लेषण के आधार पर किया जाता है। बिहार राज्य के पूर्वी चम्पारण जिला अपनी भौगोलिक विशेषताओं के आधार पर विशिष्ट स्थान रखता है। अपने पड़ोसी जिलों की तुलना में भौगोलिक स्वरूप, स्थलीय स्वरूप, ढलान, आदि में विभिन्नता है, यहाँ की जलवायु शीतल एवं आर्द्र है। मानव संसाधन विकास के द्वारा मानव संसाधन विकास वर्तमान समय में विश्व की सबसे बड़ी आवश्यकता है, मानव की दक्षता, शैक्षणिक गुण, उत्पादकता तथा संगठनात्मक क्षमता के विकास में मदद करने में सहायता प्रदान करता है, विकास जितना जनसंख्या को प्रभावित करेगा, उतना ही जनसंख्या विकास को प्रभावित करेगा। सतत् पोषणीय विकास वर्तमान समय की माँग है, क्योंकि मानव ने अब तक प्राकृतिक संसाधनों की अनधाधून्ध, अनियोजित एवं अनियंत्रित दोहन करने के कारण पर्यावरणीय अवनयन की समस्याओं को उत्पन्न कर दिया है, जहाँ एक ओर मानव द्वारा नदियों के कुप्रबन्धन के कारण यह अध्ययन क्षेत्र में प्रत्येक वर्ष भीषण बाढ़ की समस्या से झुझता है, तो वहीं दूसरा ओर अन्य प्राकृतिक संसाधनों के अनियोजित एवं अदूरदर्शी प्रबन्धन के कारण यहाँ के लोगों का आर्थिक एवं सामाजिक जीवन स्तर काफी निम्न है, इन सभी एवं कई अन्य ऐसे ही प्रश्नों के विश्लेषण हेतु प्रस्तावित शोध कार्य हेतु पूर्वी चम्पारण जिला का जनसंख्या वितरण एवं प्रकार्यात्मक संरचना के लिए चयनीत किया गया है।

मूल शब्द :- जनसंख्या वितरण, प्रकार्यात्मक संरचना, सम्पोषणी विकास, मानव संसाधन विकास, मानव गतिविधी।

अध्ययन क्षेत्र :-

प्रस्तुत शोध-परियोजना का अध्ययन क्षेत्र बिहार राज्य के पूर्वी चम्पारण क्षेत्र है, वो आज 26°16' से 27°31' उत्तरी अक्षांशों तथा 85°50' से 85°18' पूर्वी देशान्तरों के मध्य अवस्थित है। बिहार राज्य का चम्पारण क्षेत्र एवं वन्यजीव के लिए प्रसिद्ध वाल्मीकि नगर अभयारण्य बाघों के संरक्षण एवं संवर्धन के लिए जाना जाता है। पूर्वी चम्पारण के यहाँ दलदली मिट्टी का विस्तार है। चम्पारण के अन्तर्गत पूर्वी चम्पारण जिसका मुख्यालय मोतीहारी है, जो बिहार राज्य के उत्तरी पश्चिमी भाग में स्थित है। पूर्वी चम्पारण जिले का कुल भौगोलिक क्षेत्र 3959 किमी² है। पूर्वी चम्पारण जिले में जल प्रवाह का स्रोत गंडक, सिकरहाना, बागमती नदी है गंडक नदी से नियमित प्रवाह प्रणाली राज्य के उत्तरी पश्चिमी भाग में स्थित है। गंडक नदी के मार्ग में विशाल क्वार्टजाइट पत्थर के गोलाशय पाये जाते हैं, जिसमें उजला पट्टी विद्यमान रहता है जिसे शलग्राम भी कहा जाता है। यह नदी नेपाल के घाटी क्षेत्र में उत्पन्न होती है। इसका जल स्रोत क्षेत्र लगभग 24 हजार वर्ग किमी में है। यह देवधार की पहाड़ी में भारत नेपाल सीमा के 45 किलोमीटर उत्तर में प्रवाहित होकर एक साथ दक्षिण दिशा में बहती है, और सोमेश्वर श्रेणी के निकट बिहार राज्य में सीमा बनाती है। पहले यह पश्चिमी चम्पारण तथा उत्तर प्रदेश के गोरखपुर जिला के बीच सेगरा घाट की सीमा बनाती है, उसके बाद सत्तरघाट तक गोपालगंज एवं पश्चिम चम्पारण के बीच सेगरा घाट की सीमा बनाती है। बूढ़ी गंडक प्रवाह प्रणाली गंडक का ही क्षेत्र है जो नदी का ऊपरी भाग सिकराना के नाम से जाना जाता है तथा निचला भाग बूढ़ी गंडक के नाम से जाना जाता है, यह काफी मार्ग परिवर्तन है बालू-प्रधान मिट्टी का जमाव भी है। इस नदी का जल स्रोत क्षेत्र कुछ पहाड़ी भाग है तथा नेपाल का तराई क्षेत्र है। जल का सर्वाधिक उपयोग सिंचाई में उद्योगों में, घरेलु तथा अन्य चीजों में उपयोग किया जाता है।

तालिका -1: पूर्वी चम्पारण एवं पश्चिम चम्पारण जिला : एक झलक
सामान्य सूचनाएँ

Sl.No	General Information	East Champaran		West Champaran	
1	Geographical Area (Sq km)	3959		4843.51	
	Administrative Divisions			3	
	No. of Panchayats/Villages	409/1345		315/1483	
	Population (As per 2011 Census)	Rural	4698028	Rural	3541877
		Urban	401343	Urban	393165
	Average Annual Rainfall(mm)	1241.6		1510.4	

2	Geomorphology		
	Major Physiographic Units	Alluvial Plan	Alluvium, Siwaliks
	Major Drainages	Gandak, Sikarhana, Bagmati, Lal bakaya, Tilawe, Kanchhna, Motia, Tiur, Dhansuti.	Gandak, Burhi Gankad

शोध अध्ययन के उद्देश्य :-

प्रस्तुत शोध पत्र का मुख्य उद्देश्य ग्रामीण जनसंख्या का प्रकार्यात्मक संरचना प्रखंडवार वर्तमान के समय में स्थिती का जायजा लेना, प्रकार्यात्मक के विभिन्नता के स्त्रोतों का पता लगाना अतः शोध कार्य हेतु दशा एवं दिशा स्पष्ट उद्देश्यों की आवश्यकता होता है।

प्रस्तुत शोध-परियोजना के निम्नलिखित उद्देश्य है :-

1. पूर्वी चम्पारण जिला का ग्रामीण जनसंख्या प्रकार्यात्मक संरचना वितरण का भौगोलिक विश्लेषण किया गया,
2. पूर्वी चम्पारण जनसंख्या का प्रकार्यात्मक संरचना से संबंधित व्यावहारिक समीक्षा किया गया,
3. उपलब्ध आँकड़ों के सम्बन्ध में ग्रामीण जनसंख्या प्राकार्यात्मक संभावनाओं संपोषणीय विकासात्मक हेतु योजनाओं का निर्माण किया गया।

विधितंत्र :-

प्रस्तुत शोध पत्र के लिए संबंधित पूर्वी चम्पारण जिला का मानचित्र उपलब्ध किया गया है। प्राथमिक एवं दुतियक आँकड़ों का सहारा लिया गया है। प्रखंड कार्यालय से सिंचाई संबंधी आँकड़ों को एकत्रित किया गया है। व्यक्तिगत सर्वेक्षण, निरीक्षण, पूछताछ के आधार पर सूचनाओं को संकलित किया गया है।

भौगोलिक अध्ययन क्षेत्र पूर्वी चम्पारण जिला का मानचित्रण



विशेषताएँ :-

पूर्वी चम्पारण एवं पश्चिम चम्पारण जिलों की विशेषताएँ, समस्याएँ एवं समाधान हेतु विस्तृत रूप से अध्ययन कर संक्षिप्त रूप में समाहित करने का प्रयास किया गया है। किसी भी क्षेत्र के एक समूह के लोगों की विस्तृत व्यक्तिगत विशेषताएँ जैसे लिंग, आयु, वैवाहिक स्थिति, शिक्षा, व्यवसाय विशेषताएँ होती हैं, जो निम्न आँकड़ों को तालिका-1 में दर्शाया गया है-

तालिका -1 : पूर्वी चम्पारण एवं पश्चिम चम्पारण जिलों की जनसंख्या एवं बच्चों की संख्या (0-6 वर्ष) (2011 के अनुसार)

जिला/ राज्य	जनसंख्या - 2011			बच्चों की संख्या 2011 (0-6 वर्ष)			ग्रामीण/शहरी क्षेत्र की से 1000 कुल जनसंख्या	
	कुल जनसंख्या	पुरुष जनसंख्या	महिला जनसंख्या	कुल जनसंख्या	पुरुष जनसंख्या	महिला जनसंख्या	ग्रामीण जनसंख्या 2011	शहरी जनसंख्या 2011
बिहार	104099452	54278157	49821295	19133964	17383701	1750263	887.05	112.95
पूर्वी चम्पारण	5099371	2681209	2418162	1018297	949639	68658	921.00	78.70
पश्चिम चम्पारण	3935042	2061110	1873932	776031	712017	64014	900.09	99.91

स्रोत - जनगणना, 2011, बिहार सांख्यिकी हस्त पुस्तिका - 2016

उपरोक्त तालिका-1 भौगोलिक आँकड़ों के आधार पर पूर्वी चम्पारण की कुल जनसंख्या 5099371 है एवं पश्चिमी चम्पारण जिला की कुल जनसंख्या 3935042 है, जिसमें से पूर्वी चम्पारण में पुरुषों की जनसंख्या 52.28 प्रतिशत है एवं महिलाएँ जनसंख्या 47.48 प्रतिशत तथा पश्चिमी चम्पारण जिला में पुरुष जनसंख्या 52.38 प्रतिशत, महिलाएँ जनसंख्या 47.62 प्रतिशत, जबकि बिहार राज्य में कुल जनसंख्या 104099452 जिसमें से पुरुषों की जनसंख्या 54278151 है एवं महिलाओं की जनसंख्या 49821295 है। बच्चों की जनसंख्या (0-6 वर्ष) 2011 के आँकड़ों के अनुसार यह स्पष्ट होता है कि पूर्वी चम्पारण में 19.9 प्रतिशत तथा पश्चिम चम्पारण जिला में 19.72 प्रतिशत है जबकि बिहार के भौगोलिक दृष्टिकोण में 18.38 प्रतिशत है। ग्रामीण एवं शहरी क्षेत्र

भौगोलिक अध्ययन के द्वारा 1000 जनसंख्या के आधार पर ग्रामीण क्षेत्र की कुल जनसंख्या 92.30 प्रतिशत है एवं शहरी क्षेत्र की कुल जनसंख्या 78.70 प्रतिशत पूर्वी चम्पारण जिला में है। जबकि पश्चिम चम्पारण जिला के ग्रामीण क्षेत्र की कुल जनसंख्या 90.09 प्रतिशत तथा शहरी क्षेत्र की कुल जनसंख्या 99.91 प्रतिशत है।

Table : Distribution of workers in four categories of economy activity in

C.D Block Purbi Champaran/Paschim Champarn 1991

Sr. No	C.D Block	Main Worker	Cultivators	% of Cultivators Labourers to total worker	Agriculture Labourers	% of Agri, Labourers to total worker	House hold industry workers	% of House hold Industry worker to total worker	other workers	% of other workers to total worker
1	Raxaul	38470	9456	24.45	22122	57.20	4469	11.55	2423	06.26
2	Ramgarhwa	38152	13016	34.11	21623	56.67	1781	04.66	1732	04.05
3	Sugauli	42159	15680	37.19	22460	53.27	2340	05.55	1679	03.98
4	Paharpur	33545	14268	42.53	17382	51.81	930	02.77	965	02.87
5	Areras	64265	27193	42.31	30424	47.34	2885	04.48	3763	05.85
6	Kesaria	42558	21347	50.15	17955	42.18	1629	03.82	1627	03.82
7	Kalyanpur	58577	26724	45.62	27219	46.46	2272	03.87	2362	04.03
8	Harsidhi	51292	24060	42.90	24008	46.80	1907	03.71	1317	02.56
9	Turkulia	66786	24932	37.33	36092	54.04	3419	05.11	2343	03.50
10	Motihari	68692	21744	31.65	27155	39.53	1151	16.75	8282	12.05
11	Narkatia	29565	12787	36.16	20103	56.85	1426	04.03	1045	02.95
12	Adapur	35361	12787	36.16	20103	56.85	1426	04.03	1045	02.95
13	Ghorashan	52147	22616	43.36	25053	48.04	2816	05.40	1662	03.36
14	Dhara	51325	20357	39.72	26812	52.23	1967	03.83	2159	04.20
15	Chiraiya	45736	21330	46.63	21875	47.82	1075	02.35	1456	03.18
16	Patali	31744	13365	42.10	16530	52.07	742	02.33	1107	03.48
17	Pakridayal	36039	14047	38.97	19670	54.57	1089	06.85	1975	04.45
18	Chakia(Pipra)	44373	17641	39.75	21715	48.93	3042	06.85	1975	04.45

19	Madhuban	44499	18830	42.31	23418	52.62	1277	02.86	974	02.18
20	Mehsi	29253	12798	43.74	13522	46.22	1647	05.63	1286	04.39
Total Worker Purbi Champaran		904738	364999	38.75	449791	50.57	49650	5.32	40338	2.48

निष्कर्ष :-

पूर्वी चम्पारण जिला में बढ़ती हुई आबादी के कारण तथा सीमित संसाधनों की उपलब्धता के फलस्वरूप कई चुनौतियों का सामना करना पड़ रहा है। इसलिए यह आवश्यक प्रतीत होता है कि पूर्वी चम्पारण जिला में क्रमशः प्रजनन दर से कमी, शिक्षा दर में वृद्धि, स्वास्थ्य प्रणाली में सुधार, रोजगार के अवसर को बढ़ाने तथा अर्थव्यवस्था को मजबूत प्रदान करने के अलावे पूर्वी चम्पारण जिला के सभी नागरिकों के मूलभूत सुविधाएँ प्रदान करने हेतु विशेष रूप से पहल करने की आवश्यकता पर ध्यान दिया जाना चाहिए। मानव संसाधनों के आधार पर अध्ययन क्षेत्र के संपोषणीय विकास हेतु योजनाओं का निर्माण किया जाय। जिसके फलस्वरूप प्राकृतिक संसाधनों का दोहन इस प्रकार से हो जिसके पर्यावरणीय संतुलन बना रहे।

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बिहार के पश्चिमी चम्पारण जिला के थारु जनजाति पर आधुनिकता का प्रभाव : एक भौगोलिक अध्ययन

कुमार गौरव

भूगोल विभाग

शोधार्थी जे०आर०एफ०

मगध विश्वविद्यालय बोधगया, गया

सारांश :-

भारतीय सामाजिक व्यवस्था में जनजातियों का बहुत महत्वपूर्ण स्थान है। जनजातीय समुह देश के सबसे पिछड़े हुए वर्ग में रखे जा सकते हैं। विश्व में जनजातियों के वितरण की दृष्टि से भारत वर्ष में जनजातीय जनसंख्या किसी देश से अधिक है। विश्वास की दृष्टि से भारतीय जनजातियों को विभिन्न अवस्थाओं में रखा जा सकता है। अभी भी ये लोग सभ्य समाजों की तुलना में अत्यधिक पिछड़े हुए हैं। समकालीन भारत में, जनजातीय समस्या का उल्लेख साधारणतया उन व्यावहारिक, सामाजिक, आर्थिक और राजनितिक समस्याओं के सन्दर्भ में किया जाता है, जिनका सामना भारत की जनजातियाँ करती हैं। प्रशासक, समाज कार्यकर्ता, राजनीतिक और जनजातीय कल्याण विभागों में कार्यरत कुछ लोग इन समस्याओं से बेहद चिन्तित हैं। हालाँकि विशेष प्रवासी द्वारा स्वतन्त्रता प्राप्ति के छः दशकों के पश्चात् भारतीय जनजातियों की स्थिति, प्रगति, राजनीतिक चेतना, सामाजिक सहभागिता आदि की स्थिति में निश्चित रूप से परिवर्तन हुआ है। वर्तमान में आधुनिकता का बोध, अवसरों का उपयोग, राजनीतिक विस्तार, स्वतन्त्रता, समानता तथा अपने आधारों के प्रति अनुसूचित जनजातियों संगठित हुई है, परन्तु उसकी तस्वीर आज भी स्पष्ट नहीं है।

भारत की जनजातियाँ आज परिवर्तन के दौर में हैं और उनकी सभ्यता एवं संस्कृति में अनेक परिवर्तन हुए हैं। औद्योगीकरण, नगरीकरण, संचार व्यवस्था, यातायात के साधन, शिक्षा आदि के सम्पर्क के कारण उनकी सामाजिक, सांस्कृतिक, राजनीतिक एवं आर्थिक संस्था को एवं प्रथाओं में परिवर्तन हुए हैं आज के वे पहले की भाँति पृथक्-पृथक् सांस्कृति की प्रतीक न होकर राष्ट्र की सभ्यता एवं जीवन की मुख्य धारा से जुड़ी हुई हैं। वाह्य सम्पर्क एवं आधुनिकीकरण के प्रभाव के फलस्वरूप जनजातियों के सामाजिक संरचना एवं संस्कृति में अनेक परिवर्तन हुए हैं।

परिवर्तन मानव जीवन का सत्य है। हम इसे अपने प्रतिदिन के जीवन में भले ही न महसूस करें, पर हमारे जीवन की विभिन्न तरीकों से प्रमाणित करता रहता है। प्रस्तर अथवा पहाड़ों के निर्माण के लिए भले ही सैकड़ों, हजारों वर्षों का समय कम लगे लेकिन सामाजिक परिवर्तन के लिए एक या दो पीढ़िया ही पर्याप्त होती है।

पश्चिमी देशों में समाज में परम्परागत ढांचे नवीन परिवर्तन को समाजशास्त्रियों ने आधुनिकीकरण का नाम दिया है, क्योंकि पश्चिमीकरण शब्द का प्रयोग गैर यूरोपीय देशों के विकास की तर्ज की नकल का नाम था। आधुनिकीकरण का अर्थ मापने में लिया जाता है कि अमुक देश में नगरों के विकास की क्या स्थिति है? संचार तथा यातायात के साधनों का किस स्तर का है तथा वहाँ के नागरिक किस प्रकार से आधुनिक तकनीकों का प्रयोग अपने जीवन में करते हैं।

मूल शब्द :-

आधुनिकीकरण, सामाजिक, सांस्कृतिक परिवर्तन, आर्थिक, राजनैतिक, थारु समाज।

अध्ययन क्षेत्र :-

परिवर्तन प्रकृति का नियम है और विकास गुणात्मक परिवर्तन की प्रक्रिया, जिसमें उपलब्ध संसाधनों के व्यस्थित उपयोग द्वारा एक नियत तत्व उच्च स्तर की ओर अग्रसर होता है। विकास के माध्यम से मानव समाज सतत उच्च स्तर को प्राप्त करने के लिए प्रयासरत है मानव समाज में विभिन्न स्वरूपों में विविधता के दर्शन होते हैं, इस विविधता के कारण मानव समाज वर्गों में बंटा है। समान सामाजिक, सांस्कृतिक विशेषताओं से युक्त कठोर दशाओं वाले पिछड़े क्षेत्रों को एक सूत्रता से बंधे आदिम गुणी से युक्त लोगों का समूह-जनजातियाँ अब आधुनिक सभ्यता के प्रभव से उच्च जीवन स्तर जीने हेतु विकास का मार्ग चुन रही है लेकिन वे अपने मूल सांस्कृतिक गुणों से प्रथकता के साथ मूल्यहीन भोगवादी विचारधारा को अपनाने पर मजबूर है, जो विकास के एकांगी अस्थायी एवं असंगत स्वरूप का द्योतक है। सामाजिक परिवर्तन के प्रभाव ने जहाँ जनजातीय सामाजिक संरचना को प्रभावित किया है वही जनजातीय महिलाओं की स्थिति पूर्व से बदतर हुई है।

सामाजिक, सांस्कृतिक परिवर्तन के सदृश आधुनिकीकरण भी एक महत्वपूर्ण किन्तु बहुआयामी जटिल प्रक्रिया है। जो एक समाज विशेष के सदस्यों के सम्पूर्ण जीवन को स्पर्श करती है। इसके अन्तर्गत व्यक्तित्व सामाजिक संरचना एवं संस्कृति में होने वाले सभी प्रकार को सम्मिलित किया जाता है। अन्य शब्दों में इसमें वैयक्तिक सामाजिक, आर्थिक, राजनैतिक एवं सांस्कृतिक आदि सभी आयामों में घटित होने वाले परिवर्तन अन्तर्विष्ट हैं। यह अवधारणा पश्चिमी कारण से भिन्न है क्योंकि पश्चिमी कारण में केवल उन्हीं परिवर्तनों को अन्तर्विष्ट किया जाता है जो पश्चिमी संस्कृति के प्रभाव के कारण घटित होते हैं, जबकि आधुनिकीकरण के अन्तर्गत परिवर्तन किया, संस्कृति विशेष के प्रभाव के परिणाम स्वरूप घटित नहीं होता बल्कि सार्वभौम स्तर पर विचारों के क्षेत्र में होने वाली प्रगति वैज्ञानिक ज्ञान के विकास तथा वौद्धिक एवं प्रत्यक्षवादी मूल्यों की प्रधानता के कारण होता है। आधुनिकीकरण की बात करे तो सीधा सा है कि आधुनिकता जैसे मानक मूल्यों एवं प्रतिमानों की अपनाने की प्रक्रिया ही आधुनिकीकरण है।

समाज चाहे जनजातीय समाज हो या आधुनिक औद्योगिक समाज, अथवा ग्रामीण समाज ये सब सम्बन्धों की व्यवस्था है, जिसे सम्बन्धों का ताना-बाना कहा जाता है। ये समस्त सम्बन्ध एक दूसरे से असम्बद्ध और स्वतन्त्र होकर नहीं रहते अपितु एक सम्बद्ध समग्र के संयुक्त भाग है और उसी रूप में मिलकर सही ढंग से कुछ स्थापित नियमों के अनुसार कार्य करते रहते हैं। जिसके परिणामस्वरूप उस समाज के सदस्यों का पारस्परिक सम्बन्ध और सामाजिक जीवन नियन्त्रित होता है। इसी व्यवस्था को सामाजिक संगठन कहा जाता है।

समय के साथ-साथ कुछ परिवर्तन समाज में हुए और थारू जनजातीय समाज भी इससे प्रभावित हुआ। थारू जनजातियों का सामाजिक संगठन अर्थात् परिवार, विवाह, धर्म, आर्थिक, जीवन, सांस्कृतिक जीवन तथा राजनीतिक व्यवस्था भी प्रभावित हुए। प्रत्येक स्थान और काल के साथ-साथ

इस व्यवस्था में भी परिवर्तन हुए हैं। जनजातियों को आदिवासी, पिछड़े हिन्दू आदि नामों से सम्बोधित किया जाता है, जनजातियाँ वास्तव में सभ्य समाज से बहुत दूर थीं, इस कारण इन्हें असभ्य, जंगली एवं आदिवासी कहा जाता था, समय के साथ हुए परिवर्तन में जनजातियाँ भी अपने आप को नहीं बचा सकीं। सामाजिक संगठन में इस परिवर्तन का प्रभाव पड़ा और आधुनिकीकरण, शहरीकरण ने इन्हें विशेष रूप से प्रभावित किया है। इन परिवर्तनों ने जनजातीय परिवारों में अनेक समस्याओं तथा असुरक्षा का वातावरण तैयार किया है, विवाद के प्रति भी दृष्टिकोण बदला है। अर्थात् इन सभी समस्याओं का विस्तृत अध्ययन, विश्लेषण तथा निदान आवश्यक है।

शोध अध्ययन क्षेत्र पश्चिम चम्पारण जिला का मानचित्रण



अध्ययन का उद्देश्य :-

प्रस्तुत शोध अध्ययन का मुख्य उद्देश्य थारू जनजातीय सामाजिक संगठन में हो रहे परिवर्तनों का समाजशास्त्रीय अध्ययन करना है। इस शोध द्वारा यह जानने का प्रयास किया जायेगा कि आज के परिवेश में इन जनजातियों को कहाँ तक प्रभावित किया है। प्रस्तुत शोध अध्ययन के उद्देश्यों को हम निम्नांकित बिन्दुओं में रखकर प्रस्तुत कर सकते हैं -

1. आधुनिकीकरण का थारूओं पर पड़ने वाले प्रभाव का परीक्षण करना।
2. थारू महिलाएं आज के वातावरण से कहाँ तक प्रभावित हैं।
3. थारू जनजातीय समाज अपनी संस्कृति को बचाने में कहाँ तक सफल हुआ है।
4. नगरीकरण ने थारू जनजातीय संगठन को कहाँ तक प्रभावित किया है।
5. थारू जनजातीय विकास में सरकार के योगदान का अध्ययन करना।
6. थारू परिवार व्यवस्था औद्योगीकरण के द्वारा काँ तक प्रभावित हुआ है।
7. थारू जनजाति पर राजनीतिक व्यवस्था कहाँ तक सफल हुई है।
8. शिक्षा के प्रभाव ने थारूओं को कहाँ स्थापित किया है।
9. थारू जनजातीय युवतियों पर आधुनिकीकरण के प्रभाव का अध्ययन करना।
10. थारू सामाजिक संगठन में पंचायत व्यवस्था के योगदान का मूल्यांकन करना।

अध्ययन की परिकल्पनाएँ :-

प्रस्तुत शोध अध्ययन में जिन प्रमुख परिकल्पनाओं का परीक्षण किया जायेगा वे निम्नांकित हैं-

1. वर्तमान समय में आधुनिकीकरण का प्रभाव समाज के प्रत्येक क्षेत्र में हो चुका है।
2. प्रत्येक जनजातीय समाज में स्त्रियों की स्थिति एक समान नहीं है।
3. थारु जनजातीय स्त्रियाँ, पुरुषों की अपेक्षा अधिक कार्यशील होती हैं।
4. थारु जनजातियों में भी शिक्षा का प्रभाव बढ़ रहा है।
5. थारु जनजाति का पर्यावरण से अधिक लगाव है।
6. थारु जनजाति जंगलों की अपेक्षा अब बस्तियों में रहना पसन्द करते हैं।
7. थारु जनजाति आज भी अर्थव्यवस्था को सुदृढ़ करने में खेती तथा शिकार का सहयोग प्राप्त करती है।
8. थारुओं के विवाह संस्कार में भी परिवर्तन आया है।
9. थारु जनजाति आज भी कच्चे मकानों में निवास कर रही है।
10. संवैधानिक व्यवस्था का लाभ थारु जनजाति को आज भी पूरी तरह से नहीं प्राप्त हो रहा है।
11. थारु जनजाति के पहनावे आज भी परिवर्तन नहीं आया है।
12. थारु जनजाति सभ्य समाज से आज भी दूर है।
13. थारु समाज में सामाजिक, सांस्कृतिक व्यवस्था में कुछ परिवर्तन आया है।
14. शिक्षा के प्रसार से इनके सामाजिक जीवन में प्रभाव पड़ रहा है।

आँकड़ों का स्रोत

आँकड़ों के स्रोतों के प्रलेखीय एवं क्षेत्रीय स्रोतों में विभाजित किया जाता है। प्राथमिक आँकड़ों को क्षेत्रीय स्रोत भी कहा जाता है, क्योंकि इसके उत्तर व अनुसंधानकर्ता को अध्ययन क्षेत्र में कार्य करना पड़ता है, और उसी के दौरान निरीक्षण अनुसूची तथा साक्षात्कार के माध्यम से अध्ययन विषय से सम्बन्धित तथ्यों का संकलन करना पड़ता है। इसके अन्तर्गत वे उत्तरदाता सम्मिलित होते हैं। जिसको लम्बी अवधि के दौरान सामाजिक परिस्थितियों में होने वाले परिवर्तनों के विषय में पर्याप्त ज्ञान होता है। उत्तरदाता न केवल वर्तमान परिस्थितियों का यथार्थ विवरण प्रस्तुत करने में समर्थ होता है बल्कि ये एक सामाजिक क्रिया के अन्तर्भाव विभिन्न प्रवृत्तियों एवं महत्वपूर्ण घटनाओं का समुचित विवरण प्रस्तुत करने की भी क्षमता रखते हैं। इन उत्तरदाताओं को वैयक्तिक प्रत्यक्ष या प्राथमिक स्रोत समझा जाता है। इस प्रकार प्राथमिक स्रोत शोधकर्ता और सूचनादाता में सीधा सम्बन्ध रखने में सहायक होते हैं। शोधकर्ता जो कुछ देखता सुनता है तथा जो कुछ भी कहता है या लिखित रूप में जो भी उत्तरदाता करता है वह विषयों के सम्बन्ध में महत्वपूर्ण तथ्य होते हैं।

दूसरी एवं द्वितीयक स्रोत को प्रलेखीय स्रोत भी कहा जाता है। प्रलेखीय स्रोत वे स्रोत हैं जो प्रकाशित या अप्रकाशित परन्तु लिखित सामग्री का प्रतिनिधित्व करते हैं। तथा जिसके आधार पर सूचनादाता को अनेक आँकड़े तथा सूचनाएं प्राप्त होते हैं।

तालिका 1:- चयनित उत्तरदाताओं के अनुसार आर्थिक प्रश्नों में परिवर्तन

क्र. सं.	आर्थिक पक्ष	पहले से बढ़ा	पहले से घटा	पूर्ववत्	योग
1.	सामान्य आर्थिक स्थिति एवं क्रय शक्ति	70.00	16.67	13.33	100.00
2.	कृषि में रासायनिक खाद एवं दवा प्रयोग	56.67	3.33	40.00	100.00
3.	ट्रैक्टर एवं मशीन प्रयोग	72.67	0.00	27.33	100.00
4.	व्यापार एवं नौकरी में विश्वास	73.33	6.00	20.67	100.00
5.	मजदूरी	40.67	38.00	21.33	100.00
6.	कुटीर एवं लघु उद्योग	61.33	16.67	22.00	100.00
7.	जंगल से जड़ी-बूटियाँ एवं लकड़ी लाना	10.00	90.00	0.00	100.00

आर्थिक जागरूकता के सन्दर्भ में 50 प्रतिशत लोगों को इन्दिरा आवास योजना की 64 प्रतिशत लोगों को रोजगार गारन्टी कार्यक्रम की 63.33 प्रतिशत लोगों की बालिका समृद्धि योजना की 74.00 प्रतिशत उत्तरदाताओं को ग्राम स्वरोजगार योजना की 61.33 प्रतिशत उत्तरदाताओं की अन्योदय योजना की 64.67 प्रतिशत उत्तरदाताओं की अन्नपूर्णा योजना की 56.66 प्रतिशत उत्तरदाताओं को वृद्धा पेंशन योजना की जानकारी थी जो संकेत देता है कि आधुनिकीकरण की वजह से जागरूकता तो बढ़ी है लेकिन अबकी सोचनीय है।

तालिका 2 :- चयनित थारु उत्तरदाताओं में विकास जागरूकता का स्वरूप

क्र.सं.	विकास जागरूकता	जानकारी नहीं	प्रशिक्षित है	लाभान्वित	योग
1.	इन्दिरा आवास योजना	50.00	11.33	38.67	100.00
2.	रोजगार गारन्ट कार्यक्रम	36.00	11.33	52.67	100.00
3.	बालिका समृद्धि योजना	36.67	7.33	56.00	100.00
4.	ग्राम स्वरोजगार योजना	26.00	8.67	65.00	100.00
5.	अन्त्योदय योजना	38.67	8.00	53.33	100.00
6.	अन्नपूर्णा योजना	35.33	7.33	57.33	100.00
7.	वृद्धा पेंशन योजना	43.33	3.33	53.33	100.00

यदि उपरोक्त आधार को आधार मानकर थारु समाज के आर्थिक पक्ष में परिवर्तन को देखे तो जीवन स्तर में उत्थान होना, शिक्षा विकास एवं जागरूकता में वृद्धि कहा सकारात्मक विकास का द्योतक है, वहीं संस्कृति में हास खेती में उर्वराशक्ति के प्रयोग कम होने से ऊसर भूमि का बढ़ना विकास का सड़क से दूर स्थिति वन ग्रामों में कम पहुँचना असंतुलित एवं असमग्र विकास का द्योतक है।

अतः स्पष्ट है कि आधुनिक काल ने चेतना का विकास, जागरूकता को तो बढ़ाया है लेकिन अभी थारु की मुख्यधारा में लाने के लिए और प्रयास की जरूरत है।

निष्कर्ष :-

आधुनिकीकरण द्वारा जब इनका जुड़ाव बाहर के जगत से हुआ तो बाहर विकसित समाज के जुड़ने की वजह से इनमें आधुनिक मूल्यों का प्रवेश हुआ और जो भी धार्मिक कठोरता थी वह कमजोर हुई है।

शोधार्थी अपने सर्वेक्षण में पाया कि पहले जहाँ थारु दीपावली को शोक के रूप में मनाते थे अब ऐसा नहीं है बल्कि थारु बस्ती में भी पड़ाके की आवाज सुनाई देती थी। विकास खण्ड के पास के गाँवों में तो मोमबत्ती भी लगाई गई थी। तथा थारु समुदाय के लोग बधाई भी दे रहे थे। आधुनिकीकरण ने तार्किक को जन्म दिया है, तार्किकता से धार्मिक अन्धविश्वास जैसी चीजों में कमी देखी गयी है।

शोधार्थी अपने सर्वेक्षण के दौरान थारु संग्रहालय भी गया वहाँ पाया कि थारु जनजाति से सम्बन्धित पुस्तकें भी मिली जो खुद थारु समुदाय के द्वारा भी ही लिखी गई है। तो थारुओं में शिक्षा भले कमजोर रही हो, वाह्य सम्पर्क न होने से भले ही आधुनिकता से वंचित रहे हो लेकिन संग्रहालय देखन से पता चलता है कि अपने समुदाय के प्रति दृष्टिकोण आज भी समुदायिक भावना से भरा है।

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पर्यावरण संतुलन एवं समस्याएँ : बिहार राज्य के पूर्णिया प्रमंडल जिले
के संदर्भ में एक भौगोलिक अध्ययन

दिनेश कुमार

शोध छात्र (भूगोल विभाग)

मगध विश्वविद्यालय, बोध गया

सारांश

पर्यावरण उन सभी भौतिक, रासायनिक एवं जैविक कारकों की सृष्टिगत इकाई है जो किसी जीवधारी अथवा पारितंत्रीय आबादी को प्रभावित करते हैं तथा उनके रूप, जीवन और जीविका को तय करते हैं। पर्यावरण (Environment) शब्द का निर्माण दो शब्दों से मिलकर हुआ है। जो हमारे चारों ओर हैं तथा “आवरण” जो हमारे चारों ओर से घेरे हुए हैं। सामान्य अर्थों में यह हमारे जीवन को प्रभावित करने वाले जैविक तथा अजैविक तत्वों, तथ्यों, प्रक्रियाओं एवं घटनाओं के समुच्चय से निर्मित इकाई है। पर्यावरण हमारे चारों तरफ व्याप्त है और हमारे जीवन की प्रत्येक घटना इसी के अन्दर सम्पादित भी होती है इसलिए समस्त मनुष्य अपनी समस्त क्रियाओं से इस पर्यावरण को भी प्रभावित करती है। इसप्रकार से प्रत्येक जीवधारी और उसके पर्यावरण के बीच अन्योन्याश्रय संबंध भी होते हैं। अतः पर्यावरण के जैविक संघटकों में सूक्ष्म जीवाणु से लेकर समस्त कीड़े-मकोड़े, जीव-जन्तु एवं पेड़-पौधे आ जाते हैं तथा इसके साथ ही उनसे जुड़ी सभी जैव क्रियाएँ एवं प्रक्रियाएँ भी दृष्टिगोचर होती हैं। एवम् अजैविक संघटकों में जीवन रहित तत्व तथा उनसे जुड़ी तत्व आते हैं जो प्रक्रियाएँ करती हैं जिस प्रकार के पर्यावरण में व्याप्त जैसे-चढ़ाने, पर्वत, नदी, हवा और जलवायु के तत्व आदि भी शामिल हैं।

सामान्यतः पर्यावरण को मनुष्य के संदर्भ में परिभाषित शीतकाल किया जाता है और मनुष्य को एक अलग इकाई तथा उसके चारों ओर व्याप्त अन्य समस्त चीजों को उसका पर्यावरण घोषित कर दिया जाता है किन्तु यहाँ यह भी ध्यान दिया गया है कि अभी भी इस धरती पर बहुत सी मानव सभ्यताएँ हैं जो अपने को पर्यावरण से अलग नहीं मानती हैं तथा उनकी नजर में समस्त प्रकृति एक ही इकाई है जिसका मनुष्य भी एक हिस्सा है।

पर्यावरण शब्द संस्कृत भाषा के ‘परि’ उपसर्ग (चारों ओर) और “आवरण” से मिलकर बना है जिसका अर्थ होता है कि ऐसी चीजों का समुच्चय जो किसी व्यक्ति या जीवधारी को चारों ओर से आवृत किये हुए है/पारिस्थितिकी और भूगोल में यह शब्द अंग्रेजी के Environment के यथार्थ के रूप में इस्तेमाल होता है, हालाँकि अंग्रेजी शब्द Environment स्वयं उपरोक्त परिस्थितिकी के अर्थ में है। काफी बाद में प्रयुक्त हुआ और यह शुरूआती दौर में आसपास की सामान्य दशाओं के लिए प्रयुक्त होता था जो फ्रांसीसी भाषा से उद्धृत है। तथा जहाँ यह State of the being environed” (see

environment) के अर्थ में प्रयुक्त होता था तथा पहला ज्ञात प्रयोग कार्लाइल हाय जर्मन शब्द Umgebung के अर्थ को फ्रांसीसी में व्यक्त करने के लिए हुआ। इसी उद्देश्य के तहत पर्यावरण संतुलन एवं समस्याएँ विषय पर अध्ययन कर प्रस्तुत करने का प्रयास किया गया है।

मूल शब्द:-पर्यावरण संतुलन, पर्यावरण समस्याएँ, जैविक संघटक, जैविक कारक

अध्ययन क्षेत्र

पूर्णियां प्रमण्डल के अन्तर्गत पूर्णियां, कटिहार, किशनगंज एवं अररिया जिले के भौगोलिक पृष्ठभूमि विस्तृत रूप से उल्लेखित करने का प्रयास किया गया है। सर्वप्रथम पूर्णियां जिला के भौगोलिक पृष्ठभूमि से संबंधित विस्तृत रूप से अध्ययन करने का प्रस्तुत करने का प्रयास किया गया है।

पूर्णियां 3202 वर्ग किलोमीटर का क्षेत्रफल भूभाग में फैला हुआ है। और यह देश का एक स्तर, उदासीन मार्ग है, जिसमें एक समृद्ध, चिकनाई मिट्टी के जलोढ़ गठन के अधिकांश भाग शामिल है। इस जिला के उत्तर में अररिया जिले, दक्षिण में कटिहार और भागलपुर जिले, िनाजपुर जिले एवं पूर्व में बिहार के किशनगंज जिले की सीमा पर है। पूर्णियां जिला 25 डिग्री 13 मिनट 80 सेकण्ड और 27 डिग्री 7 मिनट 59 सेकण्ड उत्तर अक्षांश और 86 डिग्री 59 मिनट 6 सेकण्ड और 87 डिग्री 52 मिनट 35 सेकण्ड पूर्वी देशान्तर के बीच है। जनगणना 2011 के अनुसार पूर्णियां जिला की कुल जनसंख्या 3,264,619 हैं जिसमें पुरुष 1,699,370 और महिलाएँ की जनसंख्या 1,565,249 है। पूर्णियां जिला के निवासियों का मुख्य आजीविका कृषि है। यह जिला बेहद घने शहर और 310,817 लोगों का घर है और महानंद और कोसी नदी के किनारे स्थित है। यह हिमालय से बहने वाली कई नदियों से गुजरता है, जो सिंचाई और पानी की सुविधाएँ पर्याप्त है। इसकी प्रमुख नदियाँ कोसी, महानंद, सुवाड़ा काली और डोली है। पश्चिम में मिट्टी को इसी के दौरान परिवर्तनों से जमा की गई रेत के साथ मोटी आच्छादित है। इस जिले में महानंदा नदी के अलावे पैनार भी है। इस जिले का प्रमुख कृषि उत्पाद जूट और केला है।

पूर्णियां जिले में चार उप विभाजन हैं, पूर्णियां, बैड़सी, बनमंखी और धुमादाह हैं और आगे पूर्वी पूर्णियां, कृष्णानन्द नगर, बनमंखी, कासवा, अयोर, बंन्स, बाईसा, धयादाहा, बरहरा कोठी, रूपौली, भवानीपुर, दगारुआ, जलालगढ़ और श्रीनगर हैं। के दार्जिलिंग जिले से घिरा हुआ है। यह जिला 25.20 और 26.30 उत्तर अक्षांश, और 87.7 और 88.19 पूर्व अक्षांश के बीच स्थित है। जिले का कुल क्षेत्र 1884 वर्ग किलोमीटर का है। इस जिले के माध्यम से बहने वाली प्रमुख मीटर का है। इस जिले के माध्यम से बहने वाली प्रमुख नदियाँ महानंद, कंकई, मेची, डोनक, रतुआ और रमजान सुधानी हैं।

2011 में जनगणना के अनुसार इस जिले की कुल जनसंख्या 107,076 हैं जिसमें पुरुष 55,688 और महिलाएँ 51,388 हैं। इस जिले का औसत साक्षरता दर 64.24 हैं जिसमें पुरुष साक्षरता दर 71.7 और महिलाएँ का साक्षरता दर 56.3 हैं। इस जिले का घनत्व 900/वर्ग किलोमीटर है एवं

इस जिले की ऊँचाई 42 मीटर (138 फीट) है। इस जिला में 'गोल्डेन क्रोप' कहा जाने वाला मक्का किसानों के लिए रीढ़ माना जाता है। इस जिले में गेहूँ के बाद सबसे अधिक मक्का की खेती होती है। इस जिले के किसानों में मक्का की खेती में ज्यादा रुचि ले रहे हैं।

अररिया जिला पूर्णियां प्रमण्डल का एक हिस्सा है एवं इस जिले का कुल क्षेत्रफल 2830 वर्ग किलोमीटर है इस जिले में कुल उपखंड 2 हैं जो अररिया और फारबिसगंज के नाम से जाना जाता है एवं 9 प्रखण्ड अररिया, जोकीहाट, कुर्साकांटा, रानीगंज, सिकटी, प्लासी, फारबिसगंज, नरपतगंज एवं भरगामा हैं। यहां से पर्वत कंचनजंघा (हिमालय रेंज के महान चोटियों में से एक) का दृश्य देखा जा सकता है।

2011 के जनगणना के अनुसार इस जिले की कुल आबादी 28,11,569 है एवं जनसंख्या का घनत्व 993 प्रति व्यक्ति वर्ग किलोमीटर है। वर्ष 2001-2011 के दशक में इसकी जनसंख्या वृद्धि इस जिले का मौसम आश्चर्यजनक होने की स्थिति के कारण इसी 'मिनी दार्जिलिंग' भी कहा जाता है। यह जगह अधिकतर आद्र जलवायु स्थिति अनुभव करती हैं, लेकिन मार्च से जून के महीने में गर्म मौसम के समय यहां सर्दियों के समय बहुत ही सुखद का अनुभव करते हैं।

इस जिला का ग्रामीण क्षेत्र 2800.10 वर्ग किलोमीटर एवं शहरी क्षेत्र 400.21 वर्ग किलोमीटर है और कुल क्षेत्र 3202.31 वर्ग किलोमीटर है। सागर स्तर 171.2 फीट उपर ऊँचाई है एवं इस जिले में सामान्य वर्षा 1,470.4 मिमी औसतन व"रा होती है।

कटिहार जिला पश्चिम बंगाल की सीमा पर स्थित भारत के बिहार प्रान्त का एक शहर है। यह जिला 25°53' उत्तरी एवं 87°58' पूर्व में पश्चिम बंगाल की सीमा पर है। पूर्व समय में यह जिला पूर्णियां जिले का एक हिस्सा था। जनगणना 2011 के अनुसार कुल जनसंख्या 30,68,149 है। इस जिले का क्षेत्रफल 3 वर्ग किलोमीटर (वर्ग मील) है एवं ऊँचाई 0.20 मीटर (66 फीट) है। इस जिले का लिंगानुपात 916 है। इस जिले के अधिकांश लोग खेती बाड़ी एवं मजदूरी कर अपना आजीविका चलाते हैं। इस जिले के अन्तर्गत 3 उप प्रखण्ड कटिहार, बरसोई और मनिहारी हैं एवं 10 प्रखण्ड कटिहार, दंडखोरा, हसनगंज, कोढ़ा, समेली, फलका, कुर्सेला, बरारी, मनहारी एवं प्राणपुर है। इस जिला के लोगों का जीविका का प्रमुख स्रोत कृषि है एवं इसके अलावे उद्योग हैं। उद्योग के मामले में जूट मिल एवं आटा मिल काफी प्रसिद्ध है। एक इकाई तिन्गाचिया में कृषि उत्पादों का उत्पादन कर रही है। यहां का उद्योग मुख्य रूप से कृषि आधारित है। कटिहार जिले के किसानों की मुख्य नकदी फसल केला, जूट और मक्का है। कृषि आधारित उद्योगों में से एक मखाना है। इस जिले के मुख्य फसलें धान, जूट, मखाना, केले, गेहूँ, मक्का और दलहन है।

किशनगंज जिला के पश्चिम अररिया जिले से घिरा हुआ है, दक्षिण-पश्चिम में पूर्णियां जिला, पूर्व में पश्चिम बंगाल के उत्तर दिनाजपुर जिले और उत्तर में पश्चिम बंगाल और नेपाल।

पूर्णिया प्रमंडल का मैप



शोध परियोजना के उद्देश्य

प्रत्येक शोध अध्ययन का एक उद्देश्य होता है। इसके बिना शोध कार्य करना संभव नहीं है। अतः अध्ययन की दशा एवं दिशा तय करने हेतु स्पष्ट उद्देश्यों की आवश्यकता होती है।

प्रस्तुत शोध परियोजना के प्रमुख उद्देश्य निम्नलिखित हैं:-

- बिहार राज्य के पूर्णिया प्रमंडल के जिले में पर्यावरण संतुलन एवं समस्याएँ का भौगोलिक विश्लेषण
- 1- पूर्णिया प्रमंडल के जिले में पर्यावरण संतुलन एवं समस्याएँ से सम्बन्धित व्यावहारिक समीक्षा और
- 2- अध्ययन क्षेत्र में आँकड़ों के आधार पर संपोषणीय विकास हेतु योजनाओं का निर्माण

विधितंत्र

किसी भी शोध-कार्य को पूर्ण करने के लिए विधितंत्र की आवश्यकता होती है। विधितंत्र के द्वारा शोध कार्य संयमित, क्रमबद्ध, विश्लेषणात्मक और वैज्ञानिक स्वरूप दिया जा सकता है। इस शोध-कार्य को पूर्ण करने के लिए प्राथमिक एवं द्वितीयक आँकड़ों का उपयोग किया गया है।

प्रस्तुत शोध-कार्य हेतु निम्नलिखित विधितंत्र का सहारा लिया गया है:-

- 1- शोध परियोजना से संबंधित विभिन्न प्रकार की आँकड़ों का संकलन किया गया है।
- 2- आँकड़ों के प्रकृति के अनुसार वर्गीकरण किया गया है।
- 3- द्वितीयक आँकड़ों के लिए मुख्यतः अध्ययन विषय से सम्बंधित विभाग, योजना विभाग एवं पूर्णियाँ प्रमंडल के जिले के सांख्यिकी विभाग में कुछ शोध संस्थानों से भी आँकड़ा प्राप्त किया गया है।

पर्यावरण

पर्यावरण शब्द का अर्थ परिवेश है जिससे जीव रहते हैं। पर्यावरण और जीव प्रगति के दो गतिशील और जटिल घटक हैं। पर्यावरण मानव सहित जीवों के जीवन को नियंत्रित करता है। मनुष्य अन्य जीवित प्राणियों की तुलना में पर्यावरण के साथ अधिक सख्ती से बातचीत करता है। आमतौर पर पर्यावरण उन सामग्रियों और ताकतों को संदर्भित करता है जो जीवित जीव को घेरती है। पर्यावरण उन स्थितियों का कुल योग होता है जो किसी निश्चित समय और तत्वों के परस्पर क्रिया प्रणालियों से युक्त है जो व्यक्तिगत और जिसमें एक जीव को अपनी जीवन प्रक्रिया को जीवित या बनाए रखना पड़ता है। यह जीवित रूपों की वृद्धि और विकास को प्रभावित करता है। अर्थात् दूसरे शब्दों में पर्यावरण उन परिवेशों को संदर्भित करता है जो जीवित प्राणियों को चारों ओर से घेरते हैं और उनके जीवन की टोटों में प्रभावित करते हैं। इसमें वायुमंडल, जलमंडल, स्थलमंडल और जैव मंडल शामिल हैं। उसके मुख्य घटक मिट्टी, पानी, वायु, जीव और उर्जा हैं। इसने हमें आरामदायक जीवन जीने के लिए सभी संसाधन उपलब्ध कराये हैं। भूगोलवेत्ताओं ने पर्यावरण की परिभाषा दिये हैं जिसमें भूगोल वैज्ञानिक पी. जिस्वर्ट के अनुसार “पर्यावरण किसी वस्तु के तुरंत आसपास की चीज है और उस पर प्रत्यक्ष प्रभाव डालती है।” (Environment is anything immediately surrounding an object and exerting a direct influence on it.)

भूगोल ई. जे. रोज (E.J. Ross) ने अपने विचार पर्यावरण के सम्बन्ध में कहा है कि ‘Environment is an external force which influences us’ अर्थात् पर्यावरण एक बाहरी शक्ति है जो हमें प्रभावित करती है।”

अतः इस प्रकार से उपरोक्त परिभाषाओं के आधार पर स्पष्ट करता है कि पर्यावरण किसी भी चीज को संदर्भित करता है जो तुरंत एक वस्तु के आस-पास होता है एवं उस पर सीधा प्रभाव डालता है। हमारा पर्यावरण उस चीज या ऐजेंसियों को संदर्भित करता है जो हालांकि हमसे अलग है जो हमारे जीवन या गतिविधि को प्रभावित करती हैं। यह वातावरण जिसके द्वारा मनुष्य प्राकृतिक, कृत्रिम, सामाजिक, जैविक और मनोवैज्ञानिक कारकों से घिरा और प्रभावित होता है।

पर्यावरण के घटक

यह सर्वविदित है कि पर्यावरण में मुख्य रूप से वायुमंडल, जलमंडल, स्थलमंडल और जीव मंडल होते हैं। लेकिन इसे हम मुख्य रूप से दो प्रकारों में पर्यावरण के घटक को विभाजित किया जा सकता है :-

(i) भौतिक और (ii) जैव पर्यावरण। और इसे मोटे तौर पर दो प्रकारों में भी विभाजित किया जा सकता है जैसे माइक्रो एन्वायरमेंट (Micro Environment) और मैक्रो एन्वायरमेंट (Macro Environment)

(1) सूक्ष्म वातावरण से तात्पर्य (2) बड़ा वातावरण उन सभी भौतिक और भौतिक स्थितियों को संदर्भित करता है जो जीव को बाहरी रूप से घेरते हैं। जहाँ तक भौतिक वातावरण से तात्पर्य है यह स्पष्ट है कि सभी अजैविक कारकों या स्थितियों जैसे- तापमान, प्रकाश, वर्षा, मिट्टी, खनिज आदि को संदर्भित करता है। इसमें वायुमंडल, जलमंडल और स्थलमंडल शामिल हैं। वहीं बायोटिक वातावरण में सभी जैविक कारक या पौधे, जानवर, सूक्ष्म जीव जैसे जीवत रूप शामिल हैं।

पर्यावरण का संतुलन

आज मानव प्रकृति को नष्ट कर रहा है जिसके कारण पर्यावरण का संतुलन बिगड़ रहा है तथा मानवों द्वारा आवश्यकता से अधिक उपयोग हो जाने के कारण प्रदूषण फैल रहा है जिससे पर्यावरण असंतुलित हो गया है। आज मानवों द्वारा नदियों में गंदा पानी गिराया जाता है और उसी जल को पीकर लोग बीमारी से ग्रस्त हो रहा है। मानव द्वारा लगाए गये कल-कारखानों से जो विषैली गैसें निकलने से वायु काफी अधिक प्रदूषित हो रहा है जिससे मानवों को सांस की बीमारी हो रही है। लोग इधर-उधर तथा जहाँ-तहाँ कचरा फेंका जा रहा है तथा उसी कचरे से उत्पन्न कीटाणु के कारण हमें बीमार कर रहे हैं। वनों की अंधाधुन्ध कटाई किया जा रहा है जिसके कारण वायुमंडल में ऑक्सीजन कम हो रही है तथा कार्बनडाइऑक्साइड की मात्रा काफी अधिक बढ़ रही है।

इसलिए आज पर्यावरण के समय में वृक्षारोपण पर ध्यान दिया जा रहा है जिससे वातावरण शुद्ध होगा तथा वायुमंडल में ऑक्सीजन की मात्रा अधिक होगी। साथ ही “पर्यावरण बचाओ जीवन बचाओ” का नारा जन-जन तक पहुंचाने का अभियान चला रहा है तथा लोगों को जागरूक किया जा रहा है ताकि पर्यावरण का संतुलन बना रहे तथा मानव का जीवन भी सुरक्षित रह सके इस बात को विशेष रूप से ध्यान देने की आवश्यकता पर बल दिया जा रहा है और दिया जाना भी चाहिए जिससे पर्यावरण असंतुलित होने से बचाया जा सके।

मानव और पर्यावरण में अंतः क्रियात्मक संबंध

मानव सृष्टि के जीवों में ऐसा प्राणी है जिसे यह योग्यता प्राप्त है कि सामाजिक, आर्थिक, राजनीतिक एवं इसके अलावे तकनीकी क्रिया के द्वारा पर्यावरण के भौतिक परिवेश में परिवर्तन करके सांस्कृतिक परिवेश की रचना करता रहा है। इतिहास के प्रारम्भ के समय से ही मानव अपने चारों ओर के पर्यावरण में रुचि रखते आया है। आदिम समाज में प्रत्येक व्यक्ति को अपने अस्तित्व के लिए पर्यावरण का पूर्ण रूप से ज्ञान होता था। मानव स्वयं अग्नि तथा यंत्रों का प्रयोग पर्यावरण को परिवर्तित करने के लिए ज्ञान प्राप्त हुआ। मानव स्वयं को जाँच व विधि द्वारा पर्यावरणीय ज्ञान में वृद्धि करता रहा है तत्पश्चात् धीरे-धीरे पर्यावरण से संबंधित ज्ञान का भंडार वृहद रूप से विस्तार हो

गया कि इसे विज्ञान के रूप में संज्ञा देने की स्थिति में आ गया तत्पश्चात् पर्यावरण अध्ययन के व्यवस्थित रूप 'पर्यावरण विज्ञान' का प्रादुर्भाव हुआ।

मानव में विगत सौ वर्षों के लम्बे-लम्बे ऐसे कदम उठाये जिससे सामाजिक, आर्थिक एवं भौतिक जीवन की प्रत्येक दिशा में प्रगति की है जिसका एक मात्र उद्देश्य रहा स्वयं का हित, परन्तु कभी भी मानव ने पर्यावरण पर पड़ने वाले प्रभावों पर ध्यान नहीं दिया गया। जीवों ने चारों ओर की वस्तुएं जो उनके जीवन क्रियाओं को प्रभावित करती हैं, वातावरण का निर्माण करती हैं अर्थात् जीव और पर्यावरण में अन्योन्याश्रित संबंध है। एक की दूसरे से सत्ता की कल्पना करना संभव नहीं करते बल्कि उनकी विभिन्न जीवों का आधार ही प्रदान नहीं करते बल्कि उनकी विभिन्न क्रियाओं के संचालन के लिए एक माध्यम का भी कार्य करता है।

जीवन के अनेक क्षेत्रों में प्रगति का कीमत स्वयं मानव ने पर्यावरण की विभिन्न समस्याएँ उत्पन्न करके चुकाया है जैसे-जल प्रदूषण, घटते वन्य जीवन, धूलें द्वारा प्रदूषण, पर्यावरण के पेस्टनाशियों के द्वारा विष्करण, अस्थिर पारिस्थितिक तंत्रों, विकिरण के जैवीय दुष्प्रभावों, प्राकृतिक संपदा का दुरुपयोग, जनसंख्या में तीव्र गति से असामान्य रूप से वृद्धि शहरीकरण लोगों के छोटे-छोटे कस्बों में काफी अधिक भीड़ दिखाई देती है।

पर्यावरण और मानव समाज

लगभग पच्चीस लाख वर्षों से भी अधिक मानव जाति (Homo sapiens) का उद्भव पूर्व ही हो गया था। प्रारंभिक काल के समय से ही उनमें मस्तिष्क का अत्यन्त ही विकसित होने के कारण वे सोचने की भी क्षमता रखता था तथा अपने निर्णयों को उपयोग भी करते थे। मानव दो पैरों पर सीधे खड़े होकर चलना प्रारंभ किया जिसके कारण उनके हाथ अपने शारीरिक कार्य करने के लिए स्वतंत्र हो गये। विदित हो कि दूसरे जन्तुओं की तरह मनुष्य भी अपने जीवन के निर्वाह के लिए पूरी तरह से भोजन के लिए पर्यावरण पर निर्भर था। बौद्धिक क्षमता होने के कारण मनुष्य ने पर्यावरणीय संसाधनों को न केवल भोजन के लिए बल्कि दूसरे कार्यों को करने के लिए खोजना शुरू किया गया। पिछली कुछ शताब्दियों में पर्यावरण का दोहन तीव्र गति से इतना बढ़ गया है कि पर्यावरण के गंभीर रूप से नष्ट होने एवं विघटित होने का भी खतरा उत्पन्न हो गया है।

अतः इस प्रकार से, पर्यावरण में प्राकृतिक संसाधनों की उपलब्धता पर अध्ययन करना आवश्यक प्रतीत होता है।

पर्यावरण में संसाधनों की उपलब्धता

मानव प्रारंभ के समय से अपने जीवन निर्वाह के लिए पर्यावरण पर निर्भर करते थे परन्तु ज्यों-ज्यों मानव का विकास एवं अधिक सभ्य होते गया त्यों-त्यों मानव अपने सुख सुविधाओं एवं आराम के लिये पर्यावरण का उपयोग किया करते थे और विभिन्न प्रकार के पर्यावरणीय खतरों से

अपने को बचाने हेतु उपयोग भी किया करते थे। पर्यावरण में उपलब्ध संसाधनों को दो भागों में विभक्त किया जा सकता है - (1) अजैविक संसाधन और (2) जैविक संसाधन

(1) अजैविक संसाधन

अजैविक संसाधन वस्तुतः प्रकृति के भौतिक संसाधन होते हैं जिसके अन्तर्गत भूमि, जल उर्जा, पेट्रोलियम और प्राकृतिक गैस, खनिज अयस्क उपलब्ध है।

उपरोक्त सभी संसाधनों के सम्बन्धित विस्तृत रूप से चर्चा की गयी है जो निम्न हैं -

भूमि

पृथ्वी पर सभी जीव-जन्तु तथा मानव (मनुष्य) भी रहते हैं। पृथ्वी की सतह पर लगभग 29 भूमि है जिसमें पर्वत, चट्टानें, दलदल, मरुस्थल, वन एवं घास के मैदान शामिल हैं। मनुष्यों द्वारा भूमि का उपयोग फसल उगाने के लिए करता है। मनुष्यों द्वारा भूमि का उपयोग फसल उगाने के लिए करता है जिससे उसको भोजन प्राप्त होता है एवं मकान बनाने, सड़के तथा पशुशाला बनाने के लिए भूमि की आवश्यकता पड़ती है। आज तीव्र गति से बढ़ती हुई जनसंख्या की जरूरतों को पूरा करने के लिए औद्योगिकरण, शहरीकरण, फ्लाई ओवर, बाँध बनाने, भूमिगत सड़के (परिपथ) और फैक्ट्रियों के लिये भी भूमि की जरूरत पड़ती है जिसके फलस्वरूप भूमि की कमी हो जा रही है।

जल

पृथ्वी पर पाये जाने वाले अलवणीय जल का लगभग 80% भाग ऊँचे आक्षांशों और पहाड़ियों की चोटियों पर वर्ष के रूप में जमा रहता है। प्राकृतिक जल स्रोत जिनमें महासागर, समुद्र एवं सतही जलस्रोत जैसे नदियाँ, झील, झरने तथा तालाब आदि आते हैं। केवल 20% भाग ही द्रव अवस्था में उपलब्ध होता है एवं पृथ्वी पर जल का प्राथमिक स्रोत व"रा है। पृथ्वी पर सभी जीवधारियों के लिए पानी की अत्यन्त ही आवश्यकता है जिसमें कृषि (खेतीबारी) फसलों की सिंचाई में उद्योग में, इमारतों के निर्माण में, मछली, झींगा, पत्नीय पौधों (एक्वाकल्चर) के संवर्धन में तथा पीने, नहाने, धोने, सफाई बागवानी एवं मिट्टी के बर्तन आदि बनाने में जल की आवश्यकता पड़ती है। वैसे तो जल कभी भी खत्म न होने वाला प्राकृतिक संसाधन है इसके बावजूद जल का अत्यधिक प्रयोग एवं व्यर्थ का उपयोग यानि आवश्यकता से अधिक जल का उपयोग करने से जल स्तर में कमी होती जा रही है।

उर्जा

इसका प्राथमिक स्रोत विकिरण है तथा आदि मानव ईंधन और गोबर एवं जन्तुओं के अवशिष्टों का प्रयोग गर्माहट तथा खान पकाने के लिये किया जाता था। गुफाओं तथा झोपड़ी में रोशनी करने के लिये बीज से निष्काशित तेल और मछलियों का उपयोग करते थे। दूसरा मुख्य स्रोत उर्जा का जीवाश्म ईंधन के स्रोत के रूप में कोयला है। जैसा कि आप जानते हैं कि कोयला लाखों वर्ष पूर्व पायी जानेवाली वनस्पति से निर्मित हुआ है जो तलछटों में गिर गये थे और उसमें दब भी गये थे। इसलिए अत्यधिक दबाव के कारण तथा वर्षों तक प्रचण्ड रूप से गर्मी के कारण से वृक्ष और

अन्य वनस्पतिक अवसादों में दबकर कोयले के रूप में परिवर्तित हो गयी। मानवों द्वारा कोयला का उपयोग खाना पकाने, ईंधनों को चलाने, उद्योग में काम आनेवाली भट्टियों और बिजली उत्पन्न किया जाता है। इसके अतिरिक्त कोयले का उपयोग धातुओं और खनिजों के निष्कर्षण के लिये किया जाता है तथा साथ ही तापीय ऊर्जा उत्पादन में भी किया जाता है।

पेट्रोलियम और प्राकृतिक गैस

यह एक जीवाश्मीय इंधन है। जहाँ तक पेट्रोलियम की बात है, जलीय जीवों जो विगत भूवैज्ञानिक काल के दौरान पाये जाते थे उसी से ही हुआ है। इन्हें उसी तरह जैसे वनस्पतियों से कोयले का निर्माण हुआ था। पृथ्वी के अत्यन्त भीतरी भाग से पेट्रोलियम निर्माण हुआ था। पृथ्वी के अत्यन्त भीतरी भाग से पेट्रोलियम और प्राकृतिक गैस प्राप्त किये जाते हैं और ऊर्जा के ये संसाधन अनवीकरणीय हैं जिसे हम पुनः निर्माण नहीं किया जा सकता है। इसका उपयोग वाहनों के चलाने जैसे- स्टीमर, हवाई जहाज एवं प्लास्टिक और उर्वरकों के बनाने में किया जाता है, क्योंकि पेट्रोलियम और डीजल परिष्कृत पेट्रोलियम उत्पाद है। जैसा कि सर्वदित है कि सीएनजी गैस अर्थात् संपीड़ित प्राकृतिक गैसों से आजकल वाहनों को चलाने में प्रयोग में लाया जाता है एवं एलपीजी गैस जिसे पेट्रोलियम गैस कहा जाता है जिसका उपयोग सिलिंडरों या पाइप लाइन के द्वारा खाना पकाने के ईंधन के रूप में घर-घर उपयोग किया जाता है। वैसे तो पेट्रोलियम के समान प्राकृतिक गैस भी गैसीय हाईड्रोकार्बनों का ही एक मिश्रण होती है। इसके अतिरिक्त ऊर्जा के अन्य स्रोत जैसे सूर्य (सौर ऊर्जा), पवन (पवन ऊर्जा), जीव अपशिष्ट (बायोगैस), समुद्र (ज्वारीय ऊर्जा) और रेडियो ऐक्टिव खनिज (नाभिकीय ऊर्जा) से भी प्राप्त किया जा सकता है और किया जा रहा है।

खनिज अयस्क

धातुओं के रासायनिक अयस्क ही खनिज अयस्क होते हैं जैसे आयरन (लौह), एल्युमिनियम, कॉपर (ताँबा), जिंक, मैंगनीज इत्यादि ये सभी अयस्क पृथ्वी में एक संचित भंडार के रूप में पाये जाते हैं। सभी खनिजों का उपयोग विभिन्न वस्तुओं में किया जाता है जैसे- एल्युमिनियम का उपयोग बर्तन तथा वाहनों में जैसे- हवाई जहाज और अंतरित यान बनाने में करते हैं। आयरन और उसके समिश्रण का उपयोग हथियार भारी मशीनरी रेल इंजन, रेल-पटरियाँ और अन्य वस्तुओं के निर्माण में उपयोग किया जाता है।

कॉपर का उपयोग औद्योगिक पात्र, इलेक्ट्रिक तार बनाने इलेक्ट्रॉनिक और दूरसंचार उद्योग में किया जाता है एवं सम्मिश्रण धातुएँ जैसे-पीतल और कांसे से भी कॉपर पाया जाता है। वैसे तो यह सभी जानते हैं कि सभी धातु अयस्क सीमित मात्रा में ही उपलब्ध हैं और अत्यधिक खनन करने के कारण ये धातु अयस्क धीरे-धीरे तीव्र गति से कमी होती जा रही है तथा चांदी, सोना और प्लेटिनम जैसी बहुमूल्य धातुएँ भी हमारे बीच में पायी जाती है।

(ii) जैविक संसाधन

जैविक संसाधन के अन्तर्गत पौधे, जन्तु और सूक्ष्मजीव आते हैं जिसकी चर्चा विस्तृत रूप से की गयी है-

पौधे

प्राकृतिक खाद्य स्रोतों में अनेक प्रकार के अनाज, सब्जियाँ, फलिया एवं फल शामिल हैं जो मनुष्य के भोजन में आते हैं। मनुष्य अच्छी किस्मों के अनाज दालें सब्जियाँ फल, चीनी, मशाले तथा तेल प्राप्त करने के लिए पौधों को उगाते हैं इसके अलावे रेशा प्रदान करने वाले पौधे के उगाने से मनुष्य को जूट और पटसन, कपास इत्यादि प्राप्त होते हैं। फूलों का उपयोग अनेक प्रकार की सजावटों एवं पूजा-पाठ के उपयोग में लाने हेतु उगाये जाते हैं। पौधों में कुछ-कुछ पौधे में औषधीय गुण भी पाये जाते हैं जिसका उपयोग अविस्मरणीय होता है तथा औद्योगिक कच्चा माल में रबर, लकड़ी, रेजर अद्वितीय पादप उत्पाद माना जाता है।

सूक्ष्म जीव

सूक्ष्म जीव एंटीबायोटिक्स (Antibiotics) अर्थात् प्रति जैविकी औषधियाँ प्रदान करते हैं। प्राचीन काल के समय से ही इनका उपयोग किण्वन प्रक्रिया और शराब बनाने के लिये किया जाता है। सूक्ष्मजीव अपशिष्टों तथा मृत पौधे और जंतुओं के निपटन के लिए भी बहुत ज्यादा महत्वपूर्ण उपयोगी माना जाता है।

मानव के लिए सबसे महत्वपूर्ण बातें हैं कि पर्यावरण संसाधन मनुष्य, जीवित रहने के लिए पदार्थ, मनोरंजन, रख रखाव सजावट एवं दूसरी अन्य वस्तुओं को देता है लेकिन आज के संदर्भ में एक तरफ तो प्राकृतिक संसाधन तेजी से समाप्त होते जा रहे हैं क्योंकि इनका अति दोहन मनुष्यों द्वारा किया जा रहा है तथा दूसरी तरफ पृथ्वी बढ़ती हुई तीव्र गति से जनसंख्या की क्रियाकलापों के कारण अपशिष्ट पदार्थों को उत्पन्न करने वाली एक बड़ी सी कूड़ा एकड़ करने वाला मैदान बनती जा रही हैं तथा यह इतना तेजी से बढ़ रही है जिसके कारण मानव, जन्तु और पौधे का जीवन पर भी प्रतिकूल प्रभाव पड़ रहा है।

प्राकृतिक वनस्पति

मानव ने आदि काल से ही प्राकृतिक वनस्पति के साथ अपना घनिष्ट संबंध बनाये रखा है। वर्तमान समय में औद्योगिक विकास तथा विकसित समाज के लोगों का जीवन शैली में परिवर्तन आया है जैसे- उपकरणों के अत्यधिक प्रयोग से पर्यावरणीय ढाँचा होने लगा है इसलिए पर्यावरण को संतुलित रखने के लिए वनस्पति का होना और आवश्यक हो गया है इसी उद्देश्य के तहत अध्ययन क्षेत्र पूर्णियां प्रमण्डल के अन्तर्गत जिले पूर्णियां, अररिया, कटिहार एवं किशनगंज में प्राकृतिक वनस्पति की स्थिति पर अध्ययन करना अति आवश्यक प्रतीत होता है जिससे सम्बन्धित आँकड़े तालिका 1 में दर्शाया गया है -

तालिका : 1

प्राकृतिक वनस्पति का क्षेत्र (2011)

क्रम सं०	जिले/राज्य	क्षेत्रफल (हे०)	वन (हे०)	प्रतिशत	बाग-बगीचा तथा अन्य पेड़ (हे०)	प्रतिशत	राज्य के वन का प्रतिशत
1	पूर्णियां	313883	113	0.04	8286	2.64	0.02
2	अररिया	271712	838	0.31	18716	6.28	0.14
3	कटिहार	291349	1785	0.61	10753	3.69	0.29
4	किशनगंज	189080	354	0.18	4743	2.50	0.06
	बिहार	9359568	616446	6.58	233027	2.48	100.0

स्रोत:- कृषि विभाग, बिहार सरकार

उपरोक्त तालिका 1 में प्राकृतिक वनस्पति के क्षेत्र के बारे में दर्शाया गया है जिसके अन्तर्गत अध्ययन क्षेत्रों का क्षेत्रफल (हेक्टेयर में), वन (हेक्टेयर में), बाग-बगीचा तथा अन्य पेड़ों की स्थिति को दर्शाया गया है। आँकड़ों के आधार पर पूर्णियां जिले का कुल क्षेत्रफल 313883 हेक्टेयर वन 113 हेक्टेयर एवं बाग-बगीचे तथा अन्य पेड़ 8286 हेक्टेयर हैं। अर्थात् पूर्णियां जिले में वन 0.04% तथा बाग बगीचे तथा अन्य पेड़ 2.64% है। इसी प्रकार अररिया जिले का कुल क्षेत्रफल 271712 हेक्टेयर, वन 838 हेक्टेयर तथा बाग-बगीचे तथा अन्य पेड़ 18716 हेक्टेयर हैं यानि अररिया जिले में वन या क्षेत्र 0.31% एवं बाग-बगीचे तथा अन्य पेड़ 6.28% है। फिर कटिहार जिले का कुल क्षेत्रफल 291349 हेक्टेयर, वन 1785 हेक्टेयर तथा बाग बगीचे तथा अन्य पेड़ 10753 हेक्टेयर हैं अर्थात् इस जिले में वन का क्षेत्र 0.61% एवं बाग-बगीचे तथा अन्य पेड़ों का प्रतिशत 3.69 हैं ठीक उसी प्रकार किशनगंज जिले का कुल क्षेत्र 189080 हेक्टेयर, वन 354 हेक्टेयर एवं बाग-बगीचे तथा अन्य पेड़ 4743 हेक्टेयर हैं यानि वन का क्षेत्र 0.18%, बाग-बगीचे तथा अन्य पेड़ 2.50% हैं।

अतः इस प्रकार से उपरोक्त तथ्यों से स्पष्ट होता है कि पूर्णिया प्रमण्डल के अन्तर्गत सबसे अधिक वन क्षेत्र 0.61% कटिहार जिले में एवं सबसे कम वन क्षेत्र पूर्णियां जिला में 0.04% है, जबकि बाग-बगीचे तथा सबसे कम 2.50% किशनगंज जिला है जबकि बिहार के आँकड़ों पर नजर डाला जाय तो स्पष्ट है कि बिहार में वन का क्षेत्र 616446 हेक्टेयर जो 6.58% एवं बाग-बगीचे तथा अन्य पेड़ 233027 हेक्टेयर जो 2.48% हैं।

अतः आँकड़ों के आधार पर भी स्पष्ट होता है कि मनुष्य अपनी आवश्यकताओं की पूर्ति हेतु वनों की कटाई किया जा रहा है तथा बाग-बगीचे एवं पेड़ पौधे में भी कमी हो रही है अर्थात् प्राकृतिक वनस्पतियों का ह्रास होने के कारण पर्यावरण असंतुलित होते जा रहा है।

पर्यावरण की समस्याएँ

पर्यावरण की कई समस्याएँ हैं जिसमें वायु प्रदूषण, जल प्रदूषण और प्राकृतिक पर्यावरण के प्रदूषण है जो हमारे लिए एक चुनौती है। हमारे देश में पर्यावरण की समस्या की परिस्थिति 1947 से 1995 तक जो बहुत ही खराब थी। जब वर्ष 1995 से 2010 के बीच विश्व बैंक के विशेषज्ञों के अध्ययन के अनुसार, पर्यावरण की समस्याएँ को लेकर इसके गुणवत्ता में सुधार-लाने हेतु देश में तेजी से प्रगति कर रहा है फिर भी, हमारे देश विकसित अर्थव्यवस्थाओं वाले देशों के स्तर तक आने में इसी तरह के पर्यावरण की गुणवत्ता तक सुधार लाने के लिए एक लम्बी दूरी तय करने की बात कही गयी है, जो हमारे देश के लिए एक चुनौती भी है और अवसर भी है। पर्यावरण की समस्या का बीमारी, स्वास्थ्य को मुद्दों और देश के लिए लम्बे समय तक आजीविका पर प्रभाव का मुख्य कारण रहा है जिसकी चर्चा करना अति आवश्यक प्रतीत होता है।

हमारे देश में जनसंख्या में वृद्धि से पर्यावरण क्षरण का प्राथमिक कारण है जिस प्रकार से तेजी से जनसंख्या में वृद्धि हो रही है आर्थिक विकास और शहरीकरण एवं औद्योगिकरण में अनियंत्रित वृद्धि, बड़े पैमाने पर औद्योगिक विस्तार तथा तीव्रीकरण एवं जंगलों का नष्ट होना इत्यादि पर्यावरणीय संबंधी समस्याओं के प्रमुख कारण है।

प्रमुख पर्यावरणीय मुद्दों में वन और कृषि-भूमि क्षरण, संसाधन की कमी (पानी, खनिज, वन, रेत, पत्थर), पर्यावरण क्षरण, सार्वजनिक स्वास्थ्य, जैव विविधता की कमी, पारिस्थितिकी प्रणालियों में लचीलेपन की कमी एवं गरीबों के लिए आजीविका सुरक्षा भी शामिल है।

हमारे देश की जनसंख्या 2018 तक अनुमानित 1.26 अरब तक थी जो अभी इसकी जनसंख्या लगभग 1.33 अरब तक पहुंच गयी यानि जनसंख्या में वृद्धि तीव्र गति से हो रही है और अगर इस तरह की स्थिति रही तो अनुमानित है कि 2050 तक दुनिया में सबसे अधिक आबादी वाला देश होगा तथा चीन द्वितीय स्थान पर रहेगा। इस प्रकार से दुनियां वे कुल क्षेत्रफल का 2.4% जो विश्व की जनसंख्या का 17.5% के कारण देश का अपने प्राकृतिक संसाधनों पर दबाव काफी आर्थिक बढ़ गया है। इन समस्याओं से कई क्षेत्रों में पानी में कमी, मिट्टी का कटाव के कारण मिट्टी में कमी वनों की कटाई और जल प्रदूषण के कारण पर्यावरण की समस्या गंभीर रूप धारण कर ली है।

पर्यावरणीय समस्याओं में अनेक प्रकार की सतहें विशेष रूप से चक्रवात और वार्षिक मानसून बाढ़, जनसंख्या वृद्धि, बढ़ती हुई व्यक्तिगत खपत, औद्योगिकरण, ढांचागत विकास, घटिया कृषि पद्धतियाँ तथा संसाधनों का असमान रूप से वितरण के कारण प्राकृतिक वातावरण में अत्यधिक मानवीय परिवर्तन हो रहा है।

एक अनुमान के अनुसार खेती योग्य भूमि को कटाव 60%, तथा जल से भरा हुआ एवं लवणता से ग्रस्त है, मिट्टी की ऊपरी परत में से प्रतिवर्ष 4.7 से 12 अरब मिट्टी के कटाव के कारण खत्म हो रही हैं। जबकि 1947 से 2002 के बीच पानी की वार्षिक उपलब्ध में कमी आयी जो

प्रति व्यक्ति 70% कम होकर 1822 घनमीटर रह गयी हैं एवं भूगर्भ जल का भी अत्यधिक दोहन हुआ है। वनों की कटाई तेजी से हो रही हैं यानि वनों की कटाई ईंधन के लकड़ी और कृषि भूमि विस्तार के लिए हो रही है जो यह प्रचलन औद्योगिक और मोटर वाहन प्रदुषण के साथ मिलकर वातावरण का तापमान बढ़ा देता है जिसके कारण वन्य जीवन का स्वरूप ही बदल जाता है तथा अकाल की आवृत्ति बढ़ जाती है।

भारतीय-कृषि अनुसंधान संस्थान का अनुमान है कि तापमान में 3 डिग्री सेल्सियस की वृद्धि के कारण सालाना गेहूँ की पैदावार में 15.20% कमी कर देगी। इसलिए बढ़ती हुई आबादी की निर्भरता उत्पादकता पर ही निर्भर करता है जो हमारे सामने एक बहुत बड़ी समस्या है। प्राकृतिक संसाधनों की समस्या निम्न बिन्दुओं पर विश्लेषित किया गया है जो प्रमुख समस्याएँ हैं -

भूमि

संसाधनों की कमी एक निकट समस्या उत्पन्न हो गयी है क्योंकि जंगल और जमीन की कृषि में कमी, संसाधनों की कमी यथा पानी, वन, खनिज, रेत, पत्थर आदि, पर्यावरण क्षरण, सार्वजनिक स्वास्थ्य, जैव विविधता के नुकसान पारिस्थितिकी प्रणालियों में लचीलेपन की कमी एवं गरीबों के लिए आजीविका सुरक्षा है। देश में प्रदुषण का स्रोत ऐसी ऊर्जा का प्राथमिक स्रोत के रूप में पशुओं से सूखे कचरे के रूप में फ्यूल वुड (Fuel Wood) और बायोमास का बड़े पैमाने पर जलना, एकत्रित की गई कचरे और कचरे को हटाने सेवाओं की एजीके, मलजल उपचार के संचार में कमी बाढ़ नियंत्रण और मानसून पानी की निकासी प्रणाली, नदियों में उपभोक्ता कचरे के मोड़, प्रमुख नदियों के पास दाह संस्कार प्रथाओं की कमी है तथा अत्यधिक पुराना सार्वजनिक परिवहन प्रदुषण की सुरक्षा काफी अनिवार्य है जिसे सरकार के द्वारा पहल की जा रही हैं।

जनसंख्या वृद्धि के कारण पर्यावरणीय मुद्दों और अपने संसाधनों के लिए दबाव समस्या को बढ़ाता है। गरीब कचरे का प्रबंधन, बढ़ रहा पानी की कमी, गिरते भूजल स्तर, जल प्रदुषण, वायु प्रदुषण, सरक्षण और वनों की गुणवत्ता, जैव विविधता के नुकसान, भूमि अथवा मिट्टी का क्षरण प्रमुख पर्यावरणीय मुद्दे एक गंभीर समस्या है।

जल प्रदुषण

विश्व स्वास्थ्य संगठन 1992 के अनुसार देश के 3119 शहरों के मात्र 209 आंशिक रूप से तथा केवल 8 शहरों मलजल को पूर्ण रूप से उपचारित करने की सुविधा है। तथा 114 शहरों में अनुपचारित नाली का पानी तथा दाह संस्कार के बाद अधजले शरीर सीधे ही गंगा नदी में बहा दिये जाते हैं। तथा अनुप्रवाह में नीचे की ओर, अनुपचारित पानी को पीने, नहाने और कपड़े धोने के लिए प्रयोग किया जाता है तथा यह स्थिति देश के आम जगहों में अभी भी खुले मैदान, खेत खलिहान आदि में शौच करना आम बात है यहाँ तक शहरी क्षेत्रों में भी यह स्थिति देखने को मिलता है। वर्ष 2008 में पीजीआईएमईआर (PGIMER) और पंजाब प्रदुषण नियंत्रण बोर्ड द्वारा किये गए संयुक्त

अध्ययन से पता चला कि नुल्ला के आस-पास के जिलों में भूमिगत जल तथा नल के पानी में स्वीकृत सीमा एमपीएल (MPL) से कहीं अधिक मात्रा में कैल्शियम, मैग्नीशियम, फ्लोराइड मरकरी तथा बीटा-एंडोसल्फान व हेप्टाक्लोर जैसे कीटनाशक पाए गए। इसके अलावा पानी में सीओडी (COD) तथा बीओडी (रासायनिक व जैव रासायनिक ऑक्सीजन की मांग), अमोनिया, फॉस्फेट, क्लोराइड, क्रोमियम व आर्सेनिक तथा क्लोरपायरीफोस जैसे कीटनाशक भी अधिक सांद्रता में थे। भूमिगत जल में भी निकल व सेलेनियम पाए गए और नल के पानी में सीसा, निकल और कैडमियम की उच्च सांद्रता मिली है जिसके फलस्वरूप जल प्रदूषण की समस्या बनी हुई है।

वायु प्रदूषण

देश में बढ़ती हुई वाहनों और उद्योगों के उत्सर्जन से प्रदूषित हैं। सड़कों पर वाहनों के कारण उड़ने वाली धूल भी वायु प्रदूषण में 33% तक है, बंगलुरु जैसे शहरों में भी 50% बच्चे अस्थमा से पीड़ित हैं। वायु प्रदूषण का सबसे बड़ा कारण परिवहन की व्यवस्था है। लाखों पुराने डीजल इंजन वह डीजल जला रहे हैं जिसमें यूरोपीय डीजल से 150 से 190 गुणा अधिक गंधक उपस्थित हैं। इसलिए 2011 में पहली बार यह निर्णय लिया गया कि सम्पूर्ण सार्वजनिक यातायात प्रणाली ट्रेनों को छोड़कर कंप्रेसड गैस (सीपीजी) पर चलने लायक बनायी जायेगी। विद्युत चालित रिकशा डिजाइन किया जा रहा है और सरकार द्वारा इस पर रियायत भी दी जा रही हैं इसलिए दिल्ली में साइकिल रिकशा पर प्रतिबंध है और इसके कारण अन्य माध्यमों मुख्य रूप से इंजन वाले वाहनों को अपना रहे हैं। विश्व स्वास्थ्य संगठन (WHO) ने भी वायु प्रदूषण के संबंध में आँकड़े के आधार जानकारी दी है कि मानक से लगभग 2.3 गुणा वायु प्रदूषण एक गंभीर समस्या है जिसके फलस्वरूप पर्यावरण पर प्रभाव पड़ रहा है।

ध्वनि प्रदूषण

शहरों में बढ़ती वाहनों के कारण तथा अनावश्यक रूप से हॉर्न की आवाज एवं शोरों के कारण डेसिबल स्तर को आवश्यक रूप से बढ़ा देती हैं। राजनैतिक कारणों से तथा मंदिरों व मस्जिदों में लाउडस्पीकर का प्रयोग प्रायः सभी इलाकों में ध्वनि प्रदूषण को बढ़ाता है। इसी कारण से सरकार ने शहरी और ग्रामीण क्षेत्रों में ध्वनि स्तर के मानदंडों को स्वीकृत भी किया है लेकिन इसके बावजूद आज तक अनिश्चिता बनी हुई है।

भूमि प्रदूषण

भूमि प्रदूषण का प्रमुख कारण इसमें कीटनाशकों और उर्वरकों के साथ-साथ क्षरण के कारण हो रहा है। इसलिए मार्च 2009 में पंजाब में यूरेनियम विषाक्तता का मामला आया जिसका मुख्य कारण है कि ताप विद्युत ग्रहों द्वारा बनाये गए राख के तालाब से जिसमें पंजाब के फरीदकोर तथा भटिंडा जिलों में बच्चों में गंभीर रूप से जन्मजात ही विकार पाए गए जो एक गंभीर समस्या धारण कर ली।

निष्कर्ष :-

अतः इस प्रकार ब्रिटिश विचारक माल्थस ने ठीक ही कहा है कि बढ़ती हुई जनसंख्या के कारण और गरीब गुणवत्ता के रूप में अच्छी तरह से गरीब की भूमि की खेती के लिए मजबूर कर रहा एवं कृषि भूमि पर दबाव डाल रही है जिसके फलस्वरूप पर्यावरण क्षरण होने के कारण अंततः कृषि पैदावार और खाद्य पदार्थों की उपलब्धता को कम कर देता है साथ-ही-साथ जनसंख्या वृद्धि के कारण मकान और रोगों और तपू का कारण भी बनता है।

अतः अध्ययन के आधार पर यह सर्वविदित है कि उपर्युक्त समस्याओं के कारण पर्यावरण की क्षमता पर दबाव डाला जा रहा है तथा जनसंख्या वृद्धि ने भी हवा, पानी, ठोस अपशिष्ट प्रदूषण का एक प्रमुख कारण के रूप में देखा जाता है जिसके फलस्वरूप पर्यावरण का संतुलन बिगड़ रहा है जिस पर सरकार को विशेष रूप बलपूर्वक ध्यान देने की आवश्यकता पर पहल किया जाना चाहिए।

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पुनम कुमारी

शोध छात्रा (गृह विज्ञान)

मगध विश्वविद्यालय, बोध गया

सारांश

भारतीय समाज में अंतर्निहित स्त्री-पुरुष असमानता और उसके प्रभाव स्वतंत्रता पूर्व युग में भी भारतीय नेताओं के लिए चिन्ता के विषय थे। वस्तुतः भारतीय राष्ट्रीय आंदोलन विकास के लिए भारतीय महिलाओं के आंदोलन के रूप में घनिष्ठ रूप में अंतः परिवर्तित हो गया। असमानता और सम्बद्ध मुद्दों के दृष्टिगत स्वतंत्र भारत के संविधान में न केवल महिलाओं को समानता की गारंटी दी गई है, अपितु राज्य को यह शक्ति भी दी गयी है की वह महिलाओं के पक्ष में सकारात्मक भेदभाव के उपाय अपनाये। भारतीय संविधान की प्रस्तावना में स्पष्ट शब्दों में मानवाधिकारों -साथ ही महिलाओं के मानवाधिकारों के प्रति राज्य की प्रतिबद्धता का उद्घोष है। संविधान के भाग-3 के अन्तर्गत मूल अधिकारों के रूप में भी महिलाओं को मानवाधिकार प्राप्त हैं। अनुच्छेद 14 भारत के प्रत्येक नागरिक - महिला एवं पुरुष - को विधि के समक्ष समान संरक्षण प्रदान करता है। अनुच्छेद 15(3) महिलाओं एवं बच्चों के पक्ष में राज्य को विशेष 'सकारात्मक' कदम उठाने का अधिकार देता है। अनुच्छेद 16 के आधार पर प्रत्येक नागरिक - महिला एवं पुरुष - को लोकनियोजन के विषय में अवसर की समानता प्राप्त है। अनुच्छेद 21 विधायिका एवं कार्यकारिणी दोनों के अतिक्रमण से संरक्षण प्रदान करता है। अनुच्छेद 23 मानव के दुर्व्यापार और बलात्क्रम का प्रतिरोध करता है तथा शोषण के विरुद्ध अधिकार देता है। अनुच्छेद 32 न्यायिक संरक्षण का लाभ प्रदान करता है। इसी उद्देश्य के तहत भारतीय सामाजिक परिवेश, संविधान और महिला अधिकार विषय पर अध्ययन कर प्रस्तुत किया गया है।

मूल शब्द:-सामाजिक परिवेश, संविधान, महिला अधिकार, मानवाधिकार, न्यायिक संरक्षण

परिचय

संविधान के भाग-4 में राज्य द्वारा अनुसरणीय कुछ नीति निर्देशक तत्व उल्लिखित हैं, जो पुरुष एवं स्त्री को समानता प्रदान करते हैं। अनुच्छेद 39 जीविकोपार्जन के समान अधिकार तथा समान कार्य के लिए समान वेतन का प्रावधान करता है। इसी प्रकार अनुच्छेद 42 में काम की न्यायसंगत और मानवोचित दशाओं तथा प्रसूति सहायता का उपबन्ध है। अनुच्छेद 43 में न्यूनतम मजदूरी का प्रावधान है तथा महिला अधिकारों की दृष्टि से अत्यंत महत्वपूर्ण अनुच्छेद-44 है जो सभी 'पंथिक नियमावलियों' से परे एकसमान नागरिक संहिता की अनुशंसा करता है (कश्यप 2011 पृ. 156)। संविधान के भाग-4 में 42 वें संशोधन (1976) के बाद 'मूल कर्तव्यों' के प्रावधान जोड़े गए

जिनमें एक नागरिक कर्तव्य 'महिला की गरिमा' का सम्मान करना भी है। संविधान के अन्य सामान्य प्रावधानों में भी लिंगभेद का प्रतिशेध है तथा अनुच्छेद 325 एवं 326 सभी नागरिकों - स्त्री एवं पुरुष दोनों - को वयस्क मताधिकार के आधार पर निर्वाचन प्रणाली में लिंगभेद का निशेध करते हैं। (कश्यप 2011 पृ. 320) वस्तुतः भारतीय संविधान में कानून के शासन की बुनियादी प्रतिबद्धता में स्त्री-पुरुष समानता अन्तर्निहित है, जो महिलाओं के लोकतान्त्रिक अधिकारों को संरक्षित करती है। 73 वें एवं 74 वें संशोधनों के बाद महिलाओं के लिए स्थानीय निकायों में 33.3 प्रतिशत आरक्षण के बाद महिला अधिकारों की स्थिति में गुणात्मक परिवर्तन की शुरुआत देखी जा सकती है, जो अवश्य ही महत्वपूर्ण है। अब यह आरक्षण 50 प्रतिशत किया गया है।

उपर्युक्त संवैधानिक प्रावधानों के अतिरिक्त संविधानप्रदत्त विधियों द्वारा भी महिला अधिकारों को संरक्षण प्रदान किया गया है। अनैतिक व्यापार निवारण अधिनियम 1956, आपराधिक विधि (संशोधन) अधिनियम 1983, दहेज प्रतिशेध अधिनियम 1961/1984, सती निवारण अधिनियम 1934, विशेष विवाह अधिनियम 1956, हिन्दू उत्तराधिकार अधिनियम 1956, विशाल विवाह अधिनियम 1964, द मेडिकल टर्मिनेशन ऑफ प्रेग्नेन्सी ऐक्ट 1972, कुटुम्ब न्यायालय अधिनियम 1984, स्त्री और बालक संस्था (अनुज्ञापन) अधिनियम 1956, मुस्लिम स्त्री (विवाह विच्छेद पर अधिकार संरक्षण) अधिनियम 1986 आदि। निश्चय ही उपर्युक्त अधिनियमों के क्रियान्वयन से महिलाओं की वैधानिक स्थिति अपेक्षाकृत मजबूत हुई है। यद्यपि कानून ने महिलाओं को अनेक प्रकार की सुरक्षात्मक व्यवस्थाएँ दी हैं किन्तु महिलाएं इन अधिकारों का उपयोग नहीं कर पा रही हैं और वे सामाजिक रूप से अनुनयपूर्ण निर्योग्यताओं का तथा निम्न स्तर का जीवन व्यतीत कर रही हैं। सामान्यतः वे अपने इन अधिकारों का उपभोग करने में अपनी अज्ञानतावश असफल हैं। यही कारण कानूनी रूप से पुरुषों के साथ समानता के उद्देश्य की प्राप्ति में असफल हैं। दूसरा अन्य कारक जो कि महिलाओं को उनके अधिकारों के प्रयोग में बाधक है वह है सामाजिक संरचना जो कि ग्रामीण क्षेत्रों में मानव के व्यवहार को नियन्त्रित करती है। सामाजिक आदर्श एवं सामाजिक मूल्य जो कि स्त्रियों के द्वारा अपने अधिकारों के प्रयोग के पक्ष में नहीं है और इस प्रकार के सामाजिक विधानों के व्यवहारिक रूप से लागू होने में बाधक सिद्ध होते हैं। इनका उद्देश्य महिलाओं की स्थिति को ऊपर उठते देखना नहीं है।

भारत में महिलाओं की स्थिति सम्बन्धी समिति के प्रतिवेदन प्रस्तुत किये जाने के बाद से महिलाओं संबंधी कानून के क्षेत्र में मिश्रित कार्यवाही की गयी। जहाँ तक महिलाओं के सिविल अधिकारों का सम्बन्ध है, अभी भी परम्पराओं और प्रथाओं की विविधता ने जड़े जमा रखी हैं। विधान की दृष्टि से, दृढीकरण के पुराने सिद्धान्त से ऊपर समानता की अवधारणा की दिशा में कोई विशेष प्रगति नहीं हुई है। तुलनात्मक दृष्टि से सामाजिक कानूनों के संदर्भ में भारत की महिलाएँ अन्य देशों की महिलाओं से कहीं आगे हैं। लेकिन महिलाओं के अधिकारों की रक्षा करने वाले और उन्हें बढ़ावा

देने वाले कानूनों का कार्यान्वयन केवल धीमा, असन्तुलित और लापरवाहीपूर्ण ही नहीं रहा है और केवल यही नहीं कि महिलाओं को सामाजिक, आर्थिक और राजनीतिक दृष्टि से पुरुषों से अत्याधिक पीछे रखा जाता है, बल्कि यह भी कि कानूनों का प्रवर्तन अत्यन्त असन्तोषपूर्ण रहा है।

भारतीय समाज में जाति, वर्ग और लिंग के आधार पर विविध प्रकार के भेदभाव करने की सुदृढ़ सांस्कृतिक विरासत रही है। परम्परागत रूप से मजबूत पितृसत्तात्मक मानदंड महिलाओं को दासता और आज्ञाकारिता की सीमा में रहने का निर्देश देता है। यद्यपि यह सत्य है कि महिलाओं का स्थान लगभग सभी समाजों में एक समस्या है और मानव विकास में आज यह एक मुलभूत समाज की विभिन्न सामाजिक, आर्थिक और सांस्कृतिक असमानताओं से अलग नहीं किया जा सकता। जाति, समुदाय और वर्ग पर आधारित हमारे परम्परागत सामाजिक ढाँचे में निहित असमानताएँ विभिन्न क्षेत्रों में महिलाओं की स्थिति पर विशेष प्रभाव डालती है। महिलाओं के समाज द्वारा स्वीकृत अधिकार और उनकी सम्भावित भूमिका, उनके व्यवहार और उनके प्रति दूसरों के व्यवहार के मानक विभिन्न वर्गों और क्षेत्रों में विभिन्न हैं। ये विकास की अवस्था और प्रणाली तथा सामाजिक सोपान में उनकी स्थिति से बहुत प्रभावित होते हैं। इससे महिलाओं की स्थिति के सम्बन्ध में व्यापक और सामान्य बातें अवास्तविक बन जाती हैं। अतः यह आवश्यक है कि समाज के विभिन्न स्तरों में महिलाओं की स्थिति और उनके कार्य की वास्तविकता को समझा जाए।

उन सभी जटिल प्रक्रियाओं ने, जिन्हें आधुनिकीकरण, प्रजातन्त्रीकरण, नागरीकरण, औद्योगिकरण, विकास आदि सामान्य शब्दावली द्वारा व्यक्त किया जाता है, विभिन्न रूपों में, महिलाओं की स्थिति को प्रभावित किया है। परन्तु इसके प्रभाव का कोई समान प्रतिमान ढूँढना सम्भव नहीं है, क्योंकि इन प्रक्रियाओं ने सभी वर्गों की महिलाओं को समान रूप से प्रभावित नहीं किया है परन्तु सामान्य रूप से यह स्वीकार किया जाता है कि महिलाओं की स्थिति में परिवर्तन सामाजिक परिवर्तनों के प्रतिमानों और दिशा का सूचक है। यदि इस परिवर्तन की दिशा संविधानिक निर्देशों के अनुरूप पुरुषों एवं महिलाओं के कार्यों के समतावादी वितरण की ओर है, तो परिवर्तन हितकर है, परन्तु यदि आधुनिकीकरण में संलग्न विभिन्न शक्तियों का परिणाम असमानताओं की वृद्धि में होता है, तो यह संविधान की भावनाओं के विपरीत होगा।

शोध परियोजना के उद्देश्य

किसी भी शोध अध्ययन के माध्यम से कुछ न कुछ उद्देश्य निर्धारित किये जाते हैं। बिना किसी उद्देश्य के शोध कार्य संभव नहीं है। अतः शोध की दिशा एवं दशा को स्पष्ट करने के लिए उद्देश्यों की आवश्यकता होती है। अतः शोध परियोजना के प्रमुख उद्देश्य निम्नलिखित हैं:-

- 1- भारतीय सामाजिक परिवेश, संविधान और महिला अधिकार से सम्बन्धित घटनाओं का अध्ययन किया गया,

- 2- महिला अधिकार से सम्बंधित घोंाणाओं का व्यावहारिक समीक्षा किया गया,
- 3- भारतीय सामाजिक परिवेश, संविधान और महिला अधिकार अध्ययन अध्यापन कर प्रस्तुत किया गया है।

विधितंत्र (Methodology)

किसी भी शोध कार्य को पूर्ण करने के लिए विधितंत्र की आवश्यकता होती है। विधितंत्र के द्वारा शोध कार्य संयमित, क्रमबद्ध, विश्लेषणात्मक और वैज्ञानिक स्वरूप दिया जा सकता है। इस शोध कार्य को पूर्ण करने के लिए द्वितीयक आँकड़ों का सहारा लिया गया है।

बदलता परिदृश्य

सामाजिक-सांस्कृतिक प्रभावों से उत्पन्न महिलाओं की निर्योग्यताओं तथा दबावों से यह पता चलता है कि अभी भी अधिकांश महिलाओं के लिए संविधान द्वारा प्रदत्त अधिकारों और अवसरों का उपयोग करना बहुत ही दूर की बात है। समाज अभी भी ऐसे मानदंड तथा प्रथाएं स्थापित करने में सफल नहीं हुआ है जिससे महिलाएं उन बहुमुखी भूमिकाओं को निभा सकें जिनको पूरा करने में वर्तमान संदर्भ में उनसे आशा की जाती है। महिलाओं के साथ आर्थिक, सामाजिक, राजनैतिक, स्वास्थ्य, शिक्षा, चिकित्सा, पोषण और कानूनी सभी क्षेत्रों में भेदभाव का व्यवहार किया जाता है, इस कारण से महिलाओं के सशक्तिकरण की आवश्यकता महसूस की गई।

महिलाएँ विश्व-समाज की आधी जनसंख्या हैं, किन्तु आज भी वे जीवन के हर क्षेत्र में पुरुषों से पीछे हैं। यह सही है कि बीसवीं शताब्दी के अंतिम दशक में महिलाओं की स्थिति में थोड़ा बहुत सुधार आया, उनमें जागरूकता भी उत्पन्न हुई, किन्तु स्थिति अभी उतनी परिवर्तित नहीं हुई है, जिस पर संतोश किया जा सके। केवल इतना हुआ कि महिलाएँ, विशेष रूप से शहरी क्षेत्र में रहने वाली महिलाएँ, शिक्षा के क्षेत्र में कुछ आगे आई हैं। वे सीमित संख्या में आत्मनिर्भर हुई हैं, रोजगार में लगी हैं। सीमित दायरे में वे सामाजिक क्षेत्रों में आगे बढ़ी हैं। वे कार्यालयों, औद्योगिक इकाइयों, विद्यालयों, राजनीतिक एवं सांस्कृतिक मंचों पर भी दिखाई दे रही हैं। किन्तु ऐसी महिलाओं की संख्या उंगलियों पर गिने जाने तक सीमित है, साथ ही इन महिलाओं में भी अधिकांश पुरुषों के अन्यायपूर्ण व्यवहार एवं अत्याचार से मुक्त नहीं हैं।

आज महिलाएँ हर क्षेत्र में अपनी तरक्की का परचम लहरा रही हैं। महिलाएँ वायु सेना में भर्ती होकर देश की रक्षा सेवा का भार संभाल रही हैं। रक्षा सेवाओं में महिलाओं की भागीदारी निःसंदेह गौरव की बात है, क्योंकि अभी तक महिलाएँ सभी क्षेत्रों में पुरुषों के साथ कंधे से कंधा मिलाकर सहयोग कर रही थीं, किन्तु कठिन सेवाओं में उनकी संख्या अल्प थी। पर अब कोई भी क्षेत्र महिलाओं की सेवा से अछुता नहीं रहा है। आज की महिला दहेज के विरुद्ध अपनी आवाज बुलंद करती है। दहेज के विरुद्ध शादी के मंडप में फेरों से इन्कार करने के मामले प्रकाश में आ रहे हैं, एवं

बाल-विवाह के विरोध में भी लड़कियाँ खुलकर सामने आ रही हैं। सरकार द्वारा किये गये प्रयासों की सार्थकता भी दिखाई दे रही है। घरेलू हिंसा अधिनियम 2005 के अन्तर्गत घरेलू हिंसा का स्पष्टीकरण किया गया है। 'सर्व शिक्षा अभियान' ग्रामीण महिलाओं की शिक्षा को प्रोत्साहन करके शिक्षा के स्तर में सुधार दर्शाएगा। अतः हर तरह से महिलाओं को सशक्त किये जाने के प्रयास जारी हैं। किन्तु 21 वीं सदी में उन्हें उनके नैसर्गिक अधिकार दिलाना शेष है। अतः इस नयी सदी में यह आशा अवश्य की जानी चाहिए कि हर क्षेत्र में महिलाओं को उनका जायज हक मिले, एवं उनका शोषण समाप्त हो।

भारत का संविधान लिंग, जाति, रंग, आस्था आदि का भेद मिटा सबको अधिकार देने को कटिबद्ध है। किन्तु आजादी के 67 वर्ष गुजर जाने के बाद भी महिला पुरुष में असमानता जारी है। महिलाओं ने हर क्षेत्र में अपनी प्रतिभा का लोहा मनवाया है। वह किसी की क्षेत्र में पुरुषों से पीछे नहीं रही हैं तथापि महिलाओं पर शोषण एवं अत्याचार जारी है। आज महिलाएँ अपने ही घर में सुरक्षित नहीं हैं और अपनों के द्वारा ही शोषण, अत्याचार की शिकार हैं। गृह मंत्रालय के अपराध रिकार्ड ब्यूरो की रिपोर्ट के अनुसार 44 मिनट में अपहरण और 47 मिनट में एक बलात्कार होता है। प्रतिदिन लगभग 22 हत्याएँ दहेज हेतु होती हैं। इस रिपोर्ट के अनुसार भारत के दिल्ली (16%), हैद्राबाद (8.1%), बंगलोर (6.5%), अहमदाबाद (6.4%) और मुंबई (5.8%) इन पांच बड़े शहरों में महिलाओं के खिलाफ अधिक अपराध होते हैं। इसमें दिल्ली का प्रथम क्रमांक है। बलात्कार एवं छेड़छाड़ जैसी घटनाओं को उदारीकरण से बढ़ी कुप्रवृत्तियों ने और अधिक बढ़ावा दिया है। सूचना परिदृश्य में भी यही प्रवृत्ति देखी जा रही है। सूचना का प्रसार हुआ है, पर उसके रूप और गुण पर सामंती प्रवृत्तियों की ही जकड़ है। टी.वी. विज्ञापन उपभोक्तावादी समाज को जिंदा रखने का सफल टॉनिक बन रहा है। इन विज्ञापनों में महिलाओं को अत्यन्त सक्रिय और सुंदर-सुघड़ रूप के साथ पेश किया जाता है। इससे महिलाओं पर एक किस्म का सामाजिक दबाव बनता है, कि वे अपनी पहचान विज्ञापन में दिखाई जाने वाली उसी वस्तुरूपी महिला से करें। अतः यह महिला की जिस छवि को पेश करता है वह अलोकतांत्रिक और पितृसत्तावादी मूल्यों पर आधारित हैं, जिसमें या तो वह नायक के जीवन की सजावटी वस्तु की तरह होती है या फिर उसकी सार्थकता उसके मिटने में ही दिखाई जाती है - भले ही वह शारीरिक या मानसिक स्तर पर हो। इस तरह महिला के प्रति वर्तमान समय और समाज की जीवनदृष्टि में कोई बुनियादी फर्क नहीं आया है। एक ओर तो उससे अपेक्षाएँ बदली नहीं हैं और दूसरी ओर आर्थिक जीवन पर पड़ने वाले निरन्तर दबावों और बढ़ती हुई भौतिकता की मांग यह है कि महिलाएँ भी अनिवार्यतः उत्पादक व्यवस्था का अंग ही बनें।

मानव अधिकारों के संरक्षण का जो अभिनव और विधि-सम्मत आंदोलन विश्व में प्रारंभ हुआ, वह निश्चय ही मानवता के संरक्षण और विकास का एक उज्ज्वल सोपान और महत्वपूर्ण अध्याय है। भारत सहित संसार के अधिकांश देशों में इस अभियान ने महिलाओं के प्रति समानता, वैचारिक सहृदयता और उत्तरदायित्व बोध का सूत्र सामने रखा है। लगातार मानसिक और बौद्धिक प्रेरणा

विकृतियों के शमन का माध्यम बनती है। सामाजिकता में पुरुष और महिला सम्बन्धी भावनात्मक असंतुलन और विकृति धीरे-धीरे शताब्दियों में जमती गयी। उसके शर्मनाक रूपों को तथ्यों, तर्कों, विचारों, कानूनों और परम्पराओं के द्वारा परास्त करने में भी लम्बा समय लगेगा। विधिवेता कितने ही कानून एवं दण्ड का प्रावधान करें, समाजशास्त्री कितने ही समाज सुधारक प्रयास करें, जब तक व्यक्ति की सोच में विशेषतः भूमंडलीकरण के दौर में उपजी कुमनोवृत्तियों के शमन हेतु मुलभूत परिवर्तन नहीं आता, तब तक महिला उत्पीड़न एवं शोषण से मुक्ति नहीं पा सकती।

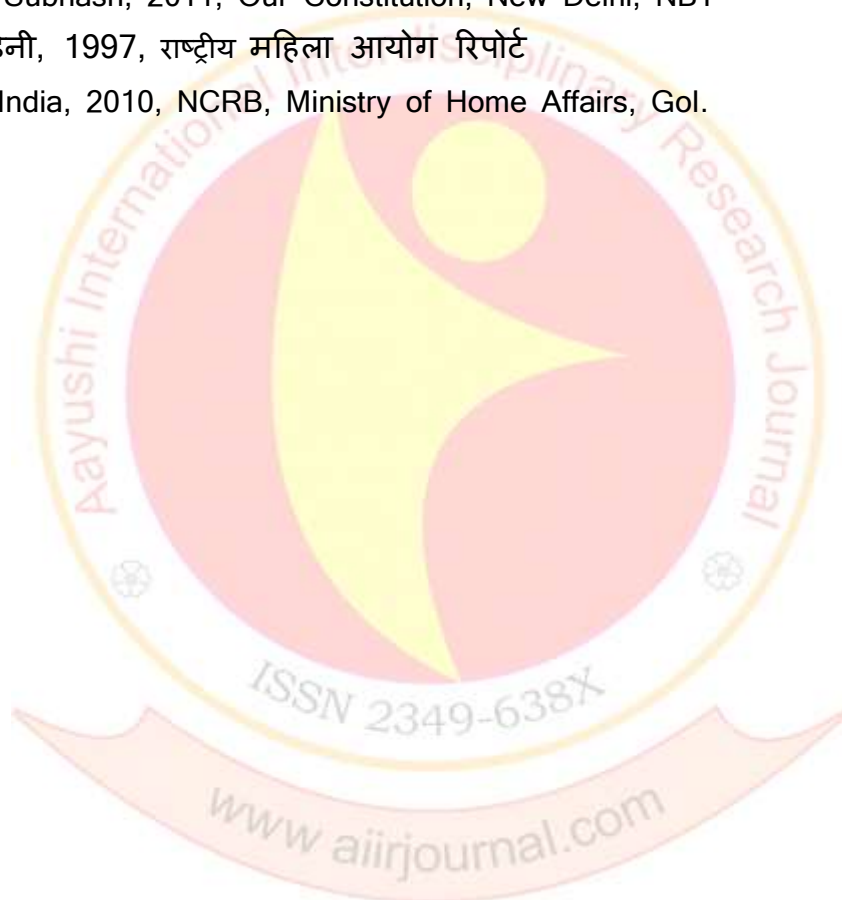
निष्कर्ष :-

वर्तमान संदर्भ में महिलाओं की असंतोषजनक परिस्थितियों के प्रति समाज और सरकार जागरूक हो रहे हैं, महिला आंदोलन मजबूत हो रहे हैं, और महिलाओं की समस्याओं को राष्ट्र की सामाजिक, आर्थिक, राजनीतिक कार्यसूचियों में रखने का सतत संघर्ष चल रहा है। तथापि महिलाओं के शोषण, उत्पीड़न में लगातार इजाफा हुआ है। अतः महिला अधिकारों को लेकर सुलझे हुए चिन्तन और ठोस काम किये जाने की आवश्यकता है। असंगत भूमंडलीकरण की कोशिशों के मददेनजर स्थानीय अस्मिता के सवाल को और मजबूती से उठाया जाना चाहिए। महिला अधिकार का सीधा संबंध जीने के अधिकार, एवं उनकी 'अस्मिता' से है, अतः मानव-अधिकारों में महिलाओं हेतु विशेष प्रावधान किये जाने की आवश्यकता है। नाइंसाफी से सुरक्षा के लिए महिलाओं को एक अलग वर्ग के रूप में माना जाना चाहिए तथा नीति-निर्माण एवं नियोजन के अन्तर्गत इसका ध्यान दिया जाना चाहिए। महिलाओं की समस्याएँ मुख्य रूप से सामाजिक पूर्वाग्रह और परम्परागत एवं पारम्परिक दृष्टिकोणों के सामाजिक व्यवस्था में घुले मिले होने के कारण हैं। इसमें सुधार केवल व्यवस्था परिवर्तन और सही आम राय विकसित करके ही किया जा सकता है। इसके लिए दो बातों पर ध्यान रखना आवश्यक है। पहली महिलाओं पर थोपी गयी अयोग्यता और असमानता को सम्पूर्ण समाज के शोषणवादी व्यवस्था के दबाव के कारण पीडित रहते हैं। दूसरे, यह महिलाओं पर निर्भर करता है कि वे अपने को कहां तक स्वतन्त्र कर पाती है। यद्यपि बाहरी सहायता उपयोगी हो सकती है लेकिन अपने को स्वतन्त्र करने का वास्तविक संघर्ष तो शोषित व्यक्ति या वर्ग को स्वयं ही करना होगा। इसमें सबसे बड़ी बात यह है कि आज की आधुनिकता के संदर्भ में नग्नता, नशाखोरी इत्यादि को महिला स्वतन्त्रता का नाम देकर महिलाओं के व्यापार तथा शोषण के जो नए तरीके अपनाए जा रहे हैं उनके प्रति महिलाओं को जागरूक होना होगा। अन्य संदर्भ में अंतर्राष्ट्रीय एवं राष्ट्रीय स्तरों पर एक गैर-सरकारी महिला आयोग बने, जो निगरानी एवं दबाव-समूह का काम करे। यद्यपि राष्ट्रीय स्तर पर महिला आयोग कि व्यवस्था है, परंतु यह महिलाओं का शोषण, उत्पीड़न के विरुद्ध न्याय दिलाने में अक्षम रहा है। यह वर्ग विशेष तक ही सीमित है। जहाँ उच्च वर्ग से संबंधित कोई मामला सामने आता है, वहाँ आयोग पर राजनीतिक प्रभाव काम करने लगता है। अतः इसे और अधिक अधिकार दिये जाने चाहिए। ताकि आयोग न्याय प्रक्रिया में सीधा हस्तक्षेप कर सके। इसके साथ ही राजनीतिक

एवं आर्थिक फैसलों की प्रक्रिया में महिलाओं की भागीदारी को सुनिश्चित किया जाना बहुत जरूरी है तथा विभिन्न सामाजिक कुप्रथाओं के विरुद्ध एवं महिलाओं के कानूनी अधिकारों के बारे में उन्हें जानकारी हेतु सुचना के प्रसार को तेज किया जाना चाहिए। यह एक संयुक्त जिम्मेदारी है जिसमें सामुदायिक संगठनों, विधि प्रवर्तन तंत्र एजेंसियों, शिक्षकों, न्यायपालिका एवं मास मीडिया के सतत सहयोग की आवश्यकता है।

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आधुनिक कुक्कुटपालन व्यवसायाचा अभ्यास

डॉ. शकुंतला माने.

सावित्रीबाई फुले पुणे विद्यापीठ,
मामासाहेब मोहोळ महाविद्यालय,
पुणे,

प्रस्तावना:

कुक्कुटपालन व्यवसाय पूर्ण भारतातच नव्हे तर संपूर्ण जगात एक महत्वाचा व्यवसाय व जोडधंदा म्हणून वाढू लागला आहे. या व्यवसायात कोंबड्यांचे रोग येऊन तोटे उद्भवतात. कुक्कुटपालन व्यवसायामुळे अनेक लोकांना रोजगार संधी उपलब्ध झाल्या आहेत. उत्कृष्ट जातीच्या कोंबड्यांची पैदास होत आहे. लेगहोर्न, व्हीड आयलंड रेड, असिल, वेलसमर, बुरसा, साफ मानी, काळी पंजाबी, लेमोनस, मोर कोंबडी इ. प्रकारच्या कोंबड्यांच्या जाती आहेत. या व्यवसायाचे महत्व अनेक दृष्टीने आहे. प्राणिज प्रथिने, अधिक प्रोटीन, कमी चरबी, ड जीवनसत्व, थेट रोजगार, उत्पन्नाचे साधन, शाश्वत बाजारपेठ, शेतीसाठी उत्कृष्ट खत अशा विविध बाजूने हा व्यवसाय फायदेशीर आहे. पक्षांची वाढ झपाट्याने होते. २.५ ते २.८ किलो खाद्यापासून एक किलो मांस मिळते. ३५ ते ४० दिवसात १.५ किलो ग्राम वजन वाढ होते. एक कोंबडी वर्षाला २४० अंडी देते. सरासरीने २४० ते ३०० अंडी देते. बाजारपेठेत ब्रोयलर चिकनसाठी ५६.१ दशलक्ष मागणी आहे. अंड्यासाठी ७१४.६ दशलक्ष मागणी आहे. २,५०० पेक्षा जास्त पोल्ट्री फार्म भारतात आहेत. १६ अब्ज गुंतवणूक पोल्ट्री फार्ममध्ये केली आहे.

अभ्यास विषयाची उद्दिष्टे :

- कुक्कुटपालन व्यवसायाच्या व्यवस्थापनाचा अभ्यास करणे.
- कुक्कुटपालन व्यवसायात मिळणारी किंमत आणि फायदा तोट्याचा अभ्यास करणे.
- कोंबड्यांचे आजारांचा अभ्यास करणे.

कुक्कुटपालन व्यवसायाचे व्यवस्थापन

कुक्कुटपालन व्यवसायाचे यश मुख्यतः व्यवस्थापन कौशल्यावर अवलंबून असते. यासाठी व्यवस्थापन प्रगत तंत्रज्ञान, बाजारपेठ यांचा अभ्यास करून योग्य नियोजन करणे आवश्यक असते. शिशु पिल्लांचे व्यवस्थापन, किशोर पक्ष्यांचे व्यवस्थापन, मोठ्या पक्ष्यांचे व्यवस्थापन, उन्हाळा, पावसाळा, हिवाळा पक्ष्यांचे व्यवस्थापन, गादी पक्ष्याचे व्यवस्थापन

पिल्लांचे व्यवस्थापन:

उबवणी केंद्रावरून पिल्ले घेऊन येण्याआधी पक्षिगृह निर्जंतुक केलेले असावे.

किशोर पक्ष्याचे व्यवस्थापन :

वातावरण तापमान ६५ ते ७५ अंशापर्यंत ठेवावे.पक्षीगृह रोज साफ करावे.गोवर मश सकाळ-संध्याकाळ दिवसातून दोनदा योग्य प्रमाणात द्यावा.गादी नेहमी कोरडी ठेवावी.शंख भुक्तीचे एक भांडे ठेवावे.पाणी स्वच्छ असावे.पक्षीगृह रोज साफ ठेवावे.

मोठ्या पक्ष्याचे व्यवस्थापन

कोंबड्याकडून अंडी उत्पादन त्यांच्या वयाच्या १८ ते २० व्या आठवड्यात सुरु होते. १६व्या आठवड्यात स्थलांतर केल्याने तोपर्यंत पक्षि नव्या वातावरणाशी समरस होतात. पिंजरा पद्धतीत पक्षि किशोर वयातच आल्याने हा प्रश्न येत नाही पण आकारात वाढ झाल्याने दाटी होऊ नये.

गादी पक्ष्याचे व्यवस्थापन:

पक्ष्यांसाठी सुकलेले गवत, तांदळाची साले भुईमुगाची टरपलेयांचा वापर करून गादी केली मृत्यूचे प्रमाण कमी झाले. या अनुभवाने संशोधन करता आले असे लक्षात आले की गादीत पक्ष्यांची विष्ठा मिसळते त्यामुळे गादीच्या खालच्या थरात उष्णता निर्माण होते. त्यामुळे गादी व विष्ठा यांच्या मिश्रणातील रासायनिक क्रियेने जीवनसत्त्व ब तयार होते ते पुनः पक्ष्यांच्या खाण्यात येऊन त्यांची वाढ चांगली होते.

उन्हाळा, पावसाळा, हिवाळा पक्ष्याचे व्यवस्थापन

पिल्लांसाठी ९५ ते ८० अंश Fh किशोर पक्ष्यांसाठी ७० ते ८० Fh. व वरून ६५ ते ४७Fh. असे उष्ण तापमान आवश्यक असते. उष्माघाताने पक्षी पटापट मरतात म्हणून पक्षी गृहात थंडावा येण्यासाठी आतून बाहेरून पांढरा रंग द्यावा. छतावर आच्छादन टाकून ते ओले ठेवावे. स्प्रिंकलर्सनी छतावर पाणी मारावे. पक्षी गृहात सतत पंखे फिरत ठेवावेत.खादय पहाटे व रात्री द्यावे.दिवसातून चार-पाच वेळा थंड पाणी द्यावे.कोरड्या हवेत कुलर्स वापरावा.प्रथम दिला जाणारा आहार समतोल असल्याची खात्री करून घ्यावी.

सर्वसाधारण व्यवस्था :

फिनाईलचे पाण्यात व नंतर चुन्याचे फक्कीत पाय बुडवून यावे. खाद्याची भांडीही पहावीत खाद्य जरा हलवून स्वच्छ करावे. आजारी तसेच मेलेले पक्षी कळपापासून बाजूला करावेत. पाण्याची भांडी स्वच्छ विसळून घ्यावीत. पक्षी जसे खाद्य खातील तसे खाद्य घालावे. पाणी व खाद्य पक्षांचे समोर सतत राहिल याची खबरदारी घ्यावी. दिवसातून ४-५ वेळा अंडी गोळा करावीत. त्यामुळे अंडी खराब होणार नाहीत. जास्त काळ टिकतील गोळा केलेली अंडी थंड व कोरड्या ठिकाणी ठेवावी. अंडी जंतुनाशक द्रव्याचे पाण्यात कापसाचा बोळा बुडवून साफ करावीत.

पिलांचे अंड्यावर येईपर्यंत पहावयाचे व्यवस्थापन:

पिले खरेदी करताना त्यांचा दर्जा पहावा. २० आठवड्यांनी पक्षी उत्पादनास सुरुवात करतात. या काळात थंडीची बाधा, खाद्यात कमतरता, गर्दी, रक्ति हगवन सारखे रोग आल्यास याचा परिणाम पक्ष्यांच्या उत्पादनावर होतो यामुळे पिलांची जोपासना उत्तम प्रकारे डोळ्यात तेल घालून केली पाहिजे.

अंड्यावरील पक्षांचे व्यवस्थापन :

तलंगाना लस, चोच कापणे. पक्षास २ चौ.फूट (१०८ चौ.सें.मी.)जागा द्यावी. घरे हवेशीर व प्रकाशही भरपूर खेळला पाहिजे. उपकरणे योग्य प्रकारची व योग्य प्रमाणात असावीत. खाद्य वाया जाणार नाही तसेच त्यात सारखा बदल होणार नाही याची काळजी घ्यावी. पक्षांना अंडी उत्पादनासाठी कलशियम क्षांराची आवश्यकता असते. २-४ भांड्यात भरडलेला शिंपला (आइस्टर शेळ मिट) ठेवावा. कीटकनाशक फवारा अधून मधून मारणे जरूर आहे. त्यामुळे उवा, पिसवा, गोचिडे यापासून पक्षी मुक्त राहतील.

स्वच्छता व व्यवस्था

कोंबड्या निरोगी न ठेवता आल्यामुळे व त्यांची निरोगी पैदास न करता आल्यामुळे हा धंदा सोडावा लागतो. तेव्हा कोंबड्याचे संगोपन आरोग्याच्या विशिष्ट तत्वा नुसार केले तर निरनिराळ्या रोगापासून त्यांचा यशस्वी रीत्या बचाव होईल. ही तत्वे खालीलप्रमाणे आहेत.

ज्या कोंबड्याची पैदास निरोगी व सुदृढ असल्याबद्दल खात्री देता येईल त्यांचीच पिले पाळण्यासाठी आणून धंद्यास सुरुवात करावी. राहण्यासाठी जागा स्वच्छ धुवून काढून जंतूरहित करावी. पिलांना हवेशीर जागेत ठेवावे. कोंबड्यांना पिण्यासाठी नेहमी ताजे व स्वच्छ पाणी द्यावे.

स्वच्छ व कोरड्या जागी कोंबड्यांना ठेवावे. तीन वर्षांनी जागा बदलावी.

रोगापासून संरक्षण

कोंबड्यांना लस टोचून त्यांचे काही रोगांपासून संरक्षण करता येते.

निरोगी कोंबड्या

चांगल्या कोंबड्या पाळणे केव्हाही अधिक हिताचे असते. कोंबडीस सुमारे ४ चौरस फूट जागा ठेवावी. कोंबड्या अंडी घालतात त्या जागेवर कोरडे व स्वच्छ गवत घालावे.

रोगापासून बचाव

मोठ्या कोंबड्यांना लहान पिलांमध्ये मिसळू देऊ नये.

तपासणी

कोंबड्यांना रोगांचा संसर्ग झालेला आहे किंवा कसे हे पाहण्यासाठी त्यांची अधूनमधून बारकाईने तपासणी करावी.

गावठी कोंबडीच्या अंड्याचे वजन ३५ ते ३८ gram असते तर सुधारित कोंबडीच्या अंड्याचे वजन ५० ते ६० gram असते. जातीनुसार कवचाचा रंग पांढरा किंवा तपकिरी असतो. सफल अंडी उबवली जातात व त्या अंड्यात पिलाची पूर्ण वाढ व्हायला २१ दिवस लागतात.

अंडी संकलनासाठी प्लास्टीकचे ट्रे वापरावेत त्यामुळे अंडी कमी फुटतात प्रवासात २ते३% उन्हाळ्यात अंडी फुटणे हे नैसर्गिक मानले जाते. उन्हाळ्यात अंडी जास्त टिकत नाहीत. नासलेले अंडे खाल्यास शरीरास हमखास बाधते. अंड्याच्या विश्लेषणात एका अंड्यात ७४% पाणी, १२.४%, प्रथिने चरबी ११.७% ०.३ gram कलशिअम, १.६ मिलिग्रॅम, लोह तर ६०० ई.मु.अ ही जीवनसत्त्वे आणि ५० इ.हे जीवनसत्त्व असते. म्हणून शास्त्रज्ञांच्या मते बालके, आजारी व वृद्ध व्यक्तीसाठी अंडे हा उत्तम आहार आहे. मात्र ते कच्चे खाऊ नये कारण त्यातील रसायनांमुळे पोटातले पाचक रस स्त्रवणाऱ्या क्रियेत बाधा निर्माण होते. अंडे उकडल्याने ही रसायने नाहीशी होऊन ते पचण्यास सुलभ होते. उकडलेले अंडे खाल्यानंतर १ते २ तासातच पचतात दोन अंडी खाल्यावर १५४ कलरीज उष्णता मिळते शरीराला आवश्यक असणारी ८८ जीवनसत्त्वे त्यातूनच मिळतात व ७० कलरीज असिड मिळते.

कुक्कुट विष्ठा : उत्कृष्ट खत :

१००० कोंबड्यापासून प्रतिदिन १२५ किलो कुक्कुट विष्ठा मिळते. हे एक उत्तम खत आहे इतर खतापेक्षा ६ पट नायट्रोजन ४ पट पालाश १० पट स्फुरद यातून जमिनीला मिळते.

कोंबड्याचे रोग आणि लस :

रोग होऊच नयेत म्हणून त्या रोगांवर लस निर्माण करण्यात आली. त्यामुळे पाश्चात्य राष्ट्रात आज या व्यवसायात फार मोठी प्रगती झालेली दिसून येते. रोगांचा संपूर्णतः प्रतिकार करून शाकाहारी पक्ष्यांची जातच निर्माण करण्याचे प्रयत्न चालू आहेत या प्रगत ज्ञानाचा उपयोग भारतीयांनाही करून घेतला आहे. त्यामुळेच पक्ष्यांतील मृत्यु प्रमाण ५%च्या आत ठेवणे अंडी उत्पादन ९० ते ९५ % घेणे असे उच्चांक गाठण्यात पुष्कळ भारतीय व्यवसायिक यशस्वी झाले आहेत.

जिवाणूमुळे होणाऱ्या रोगांवर गुणकारी औषध आहे. त्यामुळे कुक्कुटपालकांनी पशुवैद्याची मदत त्वरित घेऊन औषधोपचार केल्यास पक्षी पूर्ण बरा होतो. तथापि रोग होऊ नये म्हणून प्रतिबंधक औषधाचा वापर करणे अधिक फायद्याचे असते.

कोंबड्याचे प्रमुख आजार

रानीखेत, देवी, रक्ती हगवण, विषमज्वर, कोंबड्याचे कर्करोग, गोचीडज्वर, बुडर न्युमोनिया, मेरक्स, परोपजीवी किटाणू, गंबोरा रोग, बर्डफ्लू. मानमोडी इ सांसर्गिक रोग भयंकर आहेत.

प्रसार लक्षणे : कोंबड्यांना सपाटून ताप येतो. हिरवट, पिवळसर हगवण लागते.

प्रतिबंधात्मक उपाय : आजारी पक्षी बाजूला काढावेत. मेलेले पक्षी जाळून अथवा चुनखडीत पुरून टाकावेत. खाद्याची भांडी स्वच्छ ठेवावीत. मानमोडी रोग आल्याव नवीन पक्षि घेऊ न

लसीकरण पद्धती :

- १.डोळ्यात अथवा नाकात थेंब टाकणे.
- २.इंजेक्शन द्वारा लस टोचणे.
- ३.लसेटच्या सहाय्याने लस टोचणे.
- ४.पिण्याच्या पाण्यातून लस देणे.

लसीकरण कार्यक्रम :

- १.मरेक्स : पिल्लू जन्माला आल्यावर त्याच दिवशी ह्याची लस देतात.
- २.लासोटा : पिल्लू ३ ते ७ दिवसाचे असताना देतात मानमोडीच्या रोगावर ही लस आहे.
- ३.गंबोरो : पिल्लू ३ आठवड्याचे झाल्यावर देतात.
- ४.देवी : ६ आठवड्याचे झाल्यावर ही लस देतात.
- ५.पायपेशयझिम : पोट व आतड्यात होणाऱ्या जंतावर महिन्यातून एकदा पायपेशयझिम ४५% हे औषध पाण्यातून देतात.

संशोधन आराखडा

व्यवसाय सुरु करताना काही जणांना वित्त सहाय्याची आवश्यकता असते या क्षेत्रात तांत्रिक प्रगत ज्ञान असणाऱ्यांना या व्यवसायाकडून रोजगार उपलब्ध होतो. यासाठी सहकारी बँका, ग्रामीण विकास बँक खादी ग्रामउद्योग विकास मंडळ यांचे सहाय्य मिळते तारण - हमीपत्रावर बँक कर्जे देते. वित्त सस्थांकडून सहाय्य मिळण्यासाठी प्रकल्प -प्रस्ताव तयार करणे आवश्यक असतो. त्यात भांडवल खर्च, अस्थायी खर्च मिळणारे उत्पन्न उत्पादन विक्रीद्वारे मिळणारी एकूण रक्कम व अपेक्षित नफा याविषयी माहिती द्यावी लागते. त्याचप्रमाणे घेतलेले कर्जे व्याजासह कसे फेडले जाऊ शकते हेही स्पष्ट करावे लागते. या सर्व बाबीचा विचार करून अभ्यास पूर्ण प्रस्ताव तयार करावा.

कोंबड्याच्या विविध जाती -

- 1) व्हाइट लेग होर्न - रंग पांढरा वजन २.५ किलो जात इटली - लेगहोर्न वर्षाला २२० ते २५० अंडी देते.
- 2) ब्राऊन लेग होर्न - रंग तपकिरी, नराचे वजन २.५ किलो, मादीचे १.७ किलो, वर्षाला २८० ते ३०० अंडी देते.
- 3) ब्लेक लेग होर्न - आकाराने व वजनाने हलक्या, रंग व चोच काळी तुरा लाल व मोठा पाय काळे. वर्षाला १८० ते २१० अंडी देतात. अंड्याचा आकार मोठा असतो.
- 4) न्होड आर्यलॅंड रेड आर्यलॅंड - पक्षी आकाराने मोठे, वजनदार अंडी वर्षाला १७० ते १८० देतात.
- 5) अंकोना - लेग होर्न सारखी, रंग पांढरा, डोक्यावर तुरा वर्षाला २२० ते २५० अंडी देतात.
- 6) ब्लक अस्तोलेप - ही जात अंड्याप्रमाणे प्रमाणे मांसासाठी चांगली आहे. वर्षाला १७० ते २०० अंडी घालतात.

- 7) न्यू हेम्पशायर -आकाराने व वजनाने दणकट व मोठी आहे. नराचे वजन ३.५ ते ४ किलो, मादीचे वजन ३ ते ३.५ किलो कोंबडीची अंडी मोठी वर्षाला १८० ते २०० अंडी देतात.
- 8) पलाय माऊथ रॉक - दोन प्रकारच्या रंगात आढळतात. १) व्हाइट पलाय माऊथ रॉक रंगात २) ब्लेक पलाय माऊथ रॉक रंगात.
- 9) कडकनाथ मध्यप्रदेश, गुजराथ, राजस्थान या ठिकाणी आढळतात.या मांसासाठी उपयोगी, रुचकर व औषधी युक्त आहेत.रंग काळा, त्वचा, मांस काळ्या रंगाचे असते. अंड्याचा रंग काळा असतो.

खाद्यातील अन्नघटक :

खाद्य जाड भरडलेले असे द्यावे. मका पेंड, मासळी कुट, खाद्य पदार्थ, मुलभूत पोषक मूलद्रवे, असावीत, असणारे संतुलित कोंबडी आहारात, पिष्टमय पदार्थ प्रथिने, स्निग्ध पदार्थ स्वच्छ हलके पाणी असावे लागते. अ,ब२, ब६, ब१२, क, ड३, इ, के, रायबोफ्लोबिन, या जीवनसत्वाचा सहभाग असणारे खाद्य द्यावे. याशिवाय केलसीएम, अन्नघटक क्षार, व जीवनसत्वे,ही महत्वाची असतात.

१. पिष्टमय पदार्थ : - यामुळे शरीराची वाढ,ऊर्जा, निर्माण होते. मका, ज्वारी,बाजरी,गहू, गव्हाचा भुसा,तांदळाचा,कोंडा, यातून पिष्टमय पदार्थाची गरज पूर्ण होते.
२. प्रथिने : - शरीराची वाढ, ऊर्जा निर्मितीही मांस अंडी उत्पादनासाठी प्रथिनांची गरज असते. सोयाबीन, भुईमुग, शेंग पेंड, तिळ पेंड,सरकी पेंड सूर्यफूल, मोहरी,माशाचा भुगा यामध्ये प्रथिने असतात.
३. स्निग्ध पदार्थ अंडी मांस उत्पादनासाठी स्निग्ध पदार्थाची जास्त बिया व तेल सर्व प्रकारच्या तेल बिया, माशाचे तेल कोंबडी खाद्यात वापर केला जातो.
४. जीवनसत्वे : जीवनसत्वे जीवनदान देतात. कोंबडी आहारात जीवनसत्वाचे महत्व आहे. जीवनसत्वामुळे रोग प्रतिकार शक्ती वाढते. अ, ड३, रायबोफ्लोबिन जीवनसत्वाचा वापर कोंबडी खाद्यात केला जातो. बाजारात जीवनसत्वाची मिश्रणे द्रावण व पावडरी उपलब्ध आहे.
५. खनिज पदार्थ : - हाडे व अंड्यावरील कवच कठीण होण्यासाठी खनिज पदार्थ आवश्यक असतात. खनिज पदार्थाचा कोंबडी खाद्यात वापर केला जातो.

कोंबडी खाद्य :

कोंबडी खाद्य तयार करणाऱ्या अनेक कंपन्या आहेत गरजेनुसार घरच्या घरी खाद्य फायद्याचे असते. पशु वैद्काचा अथवा तज्ञाचा सल्ला घेऊन खाद्य तयार केले जावे.

एक हजार पक्षाना रोज लागणारे खाद्य

वय (आठवडे)	लागणारे खाद्य किलो	वय(आठवडे)	लागणारे खाद्य किलो
१	९.०९	९	५९

२	१८.१८	१०	६३.६०
३	२७.२७	१२	७५.००
४	३१. ८१	१४	८४.००
५	४०.९०	१६	९०.९०
६	४५.४५	१८	९३.१०
७	५०.००	२०	९५.४०
८	५४.५०	२२	९६.१०

निष्कर्ष:

कुक्कुटपालन व्यवसायामध्ये भांडवल व्यवस्थापन आणि साधनसंपत्तीचा पर्याप्त वापर करण्यासाठी प्रबोधन मार्गदर्शन आणि प्रशिक्षण देण घेणे आवश्यक आहे.कॉबड्यामधील रोगांचे लक्षनावरून त्वरित निदान करून औषध उपचार होणे आवश्यक आहे.पाणी, वीज, पशुखाद्य माफक दरात उपलब्ध व्हावीत.वित्त सहाय्य कमी व्याज दराने सुलभ हप्त्यांनी उपलब्ध झाले तर कॉबड्याचा थंडीपासून बचाव करणे, स्वच्छता ठेवणे, भौगोलिक परिस्थितीशी जुळवून घेणाऱ्या जातीची निवड करणे, अनेक रोगांवर लसी उपलब्ध आहे.आंतरराष्ट्रीय औषधे, उपकरणे, पाण्याची व खाद्याची भांडी, औजारे उपलब्ध आहेत.जलद बाजारपेठ, निर्जंतुकीकरण, माशांचा प्रतिरोध, स्वच्छता गरजेची आहे.

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5. रसाळे उद्धव ; आधुनिक कॉबडीपालन, निरज प्रकाशन
6. खोसे काकासाहेब ; आधुनिक कॉबडीपालन, गायत्री प्रकाशन

धम्मचक्र प्रवर्तनाचे बौद्धेतर समाजावर झालेला प्रभाव एक ऐतिहासिक आकलन

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प्रस्तावना :

डॉ. बाबासाहेब आंबेडकर हे बौद्ध धर्माचे थोर उपासक बौद्धधर्म प्रवर्तक व महान बोधीसत्त्व होते. तसेच ते बौद्ध धर्माचे तत्वज्ञ, लेखक व पुनरुत्थानक होते. एकेकाळी भारतातून लुप्त झालेला बौद्धधर्म डॉ. बाबासाहेब आंबेडकरांनी पुनर्जीवित केला. भारतीय बौद्धांपैकी चक्रवर्ती सम्राट अशोक यांच्यानंतर डॉ. बाबासाहेब आंबेडकरांनीच भारतीय बौद्ध धर्मासाठी सर्वाधिक कार्य केले. यामुळेच अनेक विचारवंत आधुनिक काळातील भगवान बुद्ध (मैत्रेय) आणि आधुनिक काळातील सम्राट अशोक असा करतात. भारतातील एकुण बौद्धांपैकी ९० टक्के बौद्ध हे डॉ. बाबासाहेब आंबेडकरांच्या नवयान (नव बौद्ध धर्म) बौद्ध धर्माचे अनुयायी आहेत.

डॉ. बाबासाहेब आंबेडकरांनी १४ ऑक्टोबर १९५६ ला धम्मचक्र प्रवर्तन केले. ही एक ऐतिहासिक आणि क्रांतिकारी घटना होती. एकाच वेळी ५ लाख लोकांनी धर्मांतर करणे ही जगातील एकमेव घटना होय. भारतीय जातीव्यवस्थेने ज्यांचे सामाजिक, धार्मिक, मानसिक, सांस्कृतिक व आर्थिक इत्यादी सर्वच प्रकारचे अमानवीय शोषण केले होते. त्या समाजात विचार आणि चळवळीच्या माध्यमातून डॉ. बाबासाहेब आंबेडकरांनी क्रांती घडवून आणली.

कोणत्याही परिवर्तनाचा प्रारंभ हा विचारातून होत असतो. धर्मांतराच्या ६० वर्षात बौद्धांनी जाणीवपूर्वक परिवर्तन आणले. या धम्मक्रांतीचा बौद्धांवर तर परिणाम झालाच; पण इतर अस्पृश्य, कुणबी, मराठा, तेली, माळी, भटक्या विमुक्त जमाती इत्यादी समाजावर परिणाम पडला. त्यांच्यात वैचारिक, सामाजिक सुद्धा प्रभाव पडला.

Keywords : बौद्ध धर्म, सम्राट अशोक, मैत्रेय, नवयान, धर्मांतर, विमुक्त जमाती इत्यादी

संशोधनाचे अभ्यासक्षेत्र :

सदर संशोधन पेपरमध्ये डॉ. बाबासाहेब आंबेडकर यांच्या धम्मक्रांतीचा इतर बौद्धोत्तर समाजावर काय प्रभाव झाला याचा सांगोपांग अभ्यास करणे, हे निश्चित केले आहे. वैचारिक, धार्मिक, सामाजिक, सांस्कृतिक बदलाचा प्रभावाची चर्चा करणे इत्यादी.

संशोधनाची ध्येय व उद्दिष्टे :

- (१) धम्मक्रांतीचा बौद्धेतरन समाजावर पडलेल्या प्रभावांचा शोध घेणे.
- (२) महाराष्ट्रातील कुणबी, मराठा, माळी, तेली, धनगर इत्यादी लोकांच्या वैचारिक प्रवासाचा अभ्यास करणे.

- (३) धर्मातरांचा वैचारिक, सामाजिक, धार्मिक, सांस्कृतिक घटकांचा आढावा घेणे.
- (४) बौद्धेतर समाजावर धम्मक्रांतीचा सामाजिक, धार्मिक, सांस्कृतिक प्रभाव कितपत पडला त्यांचे मूल्यांकन करणे.

गृहितके :

- (१) प्रस्तुत संशोधनाद्वारे धम्मक्रांतीचा बौद्धेतर समाजावरील सकारात्मक प्रभाव अभिप्रेत आहे.
- (२) बौद्धांच्या प्रभावामुळे बौद्धेतर विशेषतः बहुजन समाजातील अभ्यासक, लेखक, विचारवंत आणि कार्यक्रमांमध्ये परिवर्तन घडून आल्याचे आढळून येते.
- (३) बहुजन समाजातील विचारवंत धर्माचे वस्तूनिष्ठपणे मूल्यांकन करू लागले.

साहित्य पुनरावलोकन :

बौद्ध धम्म म्हणजे मानव समाजातील एक सामाजिक वर्तनप्रणाली आहे. बौद्ध धम्मने सुरवातीपासून आदर्श समाजाचा नमूना घडविला आहे. परिणामी त्या आदर्शाचा प्रभाव इतर बहुजन समाजावर आहे. हे संशोधन पेपरमध्ये मांडले आहेत. त्यासाठी प्राथमिक, दुय्यम स्त्रोतांचा उपयोग करण्यात आला आहे. तसेच वर्तमानपत्रे, विविध मासिक, वार्षिकांकाचा अभ्यास केलेला आहे.

धम्मक्रांतीचा बहुजन समाजावर पडलेला प्रभाव :

संपूर्ण मानवी समाजासाठी, तो कोणत्याही देशांचा, वंशाचा अगर समुहाचा असो, सर्वांसाठी एकच नितिमूल्ये असली पाहिजेत असा बुद्धाचा आग्रह होता. कोणताही मानवी समूह असू द्या नैतिकता सारखीच असावी.

आधुनिक भारतात स्वातंत्र्यानंतर ज्या-ज्या क्रांत्या झाल्या उदा. संयुक्त महाराष्ट्र चळवळ (१९६०), गोवा मुक्ती (१९६०-६१), हरित क्रांती (१९६६-६७), पिवळी क्रांती (१९७०-७१) जेपीची संपूर्ण क्रांती (१९७५), खेत क्रांती (१९७०) यांचा अभ्यास केल्यास दिसून येईल की, डॉ. बाबासाहेब आंबेडकरांच्या धर्मातरास अनेक धार्मिक, सामाजिक, सांस्कृतिक कंगोरे आहेत.^१

धम्मचक्र प्रवर्तनाच्या ऐतिहासिक घटनेला आज ६०-६५ वर्षे झाली. बौद्ध धम्माची दीक्षा घेणा-या पूर्वाश्रमीच्या अस्पृश्य समाजात सुद्धा क्रांती घडून आली. त्याचा प्रभाव इतर बौद्धोतर लोकांवर पडू लागला. सुरवातीला हा प्रभाव नकारात्मक होता. त्यांच्या दृष्टीने हा नकारात्मक समूह होता. त्यामुळे बौद्ध धम्म सुद्धा नकारात्मक वाटला. परंतु बौद्ध धम्मात जेव्हा हळूहळू प्रगती झाली तेव्हा आपण त्या मार्गाने का जाऊ नये? असा विचार बहुजन समूह करू लागला. तो बौद्ध धम्माचा सकारात्मकरित्या विचार करू लागला. त्यामुळे त्यांच्यावर संथ गतीने का होईना परंतु परिणाम होऊ लागला.^२ आणि त्यांच्यात परिवर्तनाच्या प्रक्रियेला सुरवात झाली.

सामाजिक प्रभाव :

भारतीय समाजव्यवस्था ही विषमतेवर आधारित आहे. जाती-जातीमधील भेद विषमतेच्या आधारावर आहे. अतिशूद्राला जातिव्यवस्थेत खालचे मानले जात असे, परंतु त्यांनी बौद्ध धम्माचा

स्वीकार केल्यामुळे त्यांनी स्वतःला अस्पृश्य मानने बंद केले. त्यांनी अतिशय परिश्रम घेऊन आपल्या सामाजिक, आर्थिक आणि शैक्षणिक जीवनात परिवर्तन घडवून आणले. बुद्ध, फुले, आंबेडकर यांनी समतेचा विचार मांडला तो विचार वाचा असे अस्पृश्य लोक बहुजन समाजाला सांगू लागले.³ बहुजन समाजातील सुशिक्षित लोक पुस्तके वाचू लागले. त्यांना जाणीव झाली की, कुणबी, माळी, तेली, मराठा इत्यादी सर्वजातीचे लोक शूद्र आहेत.

पूर्वश्रमीचे अस्पृश्य लोक चांगले सामाजिक संबंध ठेवतात. एकमेकांना मदत करतात. असा संदेश त्यांच्यापर्यंत पोहचला. परिणामी सामाजिक परिवर्तनाची प्रक्रिया सुरू झाली. बौद्ध लोक गौतम बुद्ध आणि डॉ. आंबेडकर यांना मानतात. परंतु त्याचबरोबर शिवाजी महाराज, महात्मा फुले, कबीर, पेरियार, छत्रपती शाहु महाराज यांचे साहित्य वाचतात.⁴ ते वेगवेगळ्या जातीचे आहे, परंतु बौद्ध लोक सामाजिक समतेचा विचार मांडणा-या लोकांना मानतात. अशा सामाजिक जाणीवा बौद्धतेरामध्ये निर्माण झाल्या.

वैचारिक, शैक्षणिक व धार्मिक प्रभाव :

धर्मांतरानंतर बौद्ध लोकांनी आपले स्वतःचे सामाजिक, सांस्कृतिक आणि साहित्याचे विचारपीठ निर्माण केले. या कार्यक्रमास अनेक बौद्धोत्तर लोकांना वक्ते म्हणून बोलविल्या जाते. गौतम बुद्ध डॉ. बाबासाहेब आंबेडकर, महात्मा फुलेच्या विचारामुळे बौद्ध लोकांत वैचारिक परिवर्तन घडवून आले, परंतु आपल्या विचारात कोणताच बदल झाला नाही. कारण आपण परंपरागत धर्माला चिकटून आहे. ही जाणीव बौद्धेतर समाजाला होऊ लागली. डॉ. आ.ह. साळूखे, पुरुषोत्तम खेडेकर, नागेश चैधरी, जैमिनी कडू, मा.म. देशमुख, डॉ. रूपाताई कुलकर्णी, अॅड. एकनाथ साळवे, लक्ष्मण माने, किशोर काळे, डॉ. शिंदे⁵ यांनी आपल्या जीवनात बौद्ध धम्मामुळे वैचारिक परिवर्तन घडवून आणले.

एका समाजाच्या प्रगतीचा, विचारांचा इतरांवर किती चांगला प्रभाव पडू शकतो. या संदर्भात बौद्ध समाजाचे उदाहरण अतिशय महत्वाचे आहे. 'पूर्वी शिकावे ते केवळ ब्राम्हणांनी' असे म्हटले जात होते, परंतु 'आता शिकावे ते केवळ बौद्धांनी' असे म्हटले जाते.

सुप्रसिद्ध साहित्यिक मा. लक्ष्मण माने यांनी महाराष्ट्रातील ४२ भटक्या-विमुक्त जमातीसमोर बौद्धांचा आदर्श ठेवला. 'बौद्ध लोक शिक्षणात पुढे गेलीत त्यांचा आदर्श पुढे ठेवून आपण पुढे गेले पाहिजे' असा विचार मा. माने यांनी भटक्या-विमुक्त जमातीमध्ये पेरला. इतकेच नाही तर आपण शैक्षणिक प्रगती करायची असेल तर सर्व जुन्या परंपरा देवधर्माचा त्याग करून डॉ. बाबासाहेब आंबेडकरांच्या विचारानुसार वाटचाल करावी लागेल असा संदेश भटक्या-विमुक्त जमातीपर्यंत पोहचविला. त्यामुळे भटक्या विमुक्त जमातीच्या लाखो लोकांनी बौद्ध धर्माची दीक्षा घेतली.⁶ अशा प्रकारे बौद्धांच्या शैक्षणिक प्रगतीचा बौद्धोत्तर लोकांवर प्रभाव पडला. त्यांच्यात शिक्षणाविषयी आवड निर्माण झाली.

बौद्ध धम्माच्या लोकांची विचारसरणी, त्यांच्यात झालेले परिवर्तन आणि त्यांची प्रगती, या सर्व गोष्टींचा बौद्धोत्तर लोकांवर फार मोठा प्रभाव पडला. त्यामुळे अनेकांनी बौद्ध धम्माचा अभ्यास केला. बौद्ध धम्म मानव समाजाच्या उत्थानासाठी आहे हे त्यांच्या लक्षात आले, म्हणून त्यांनी हिंदू धर्माचा त्याग करून बौद्ध धम्माचा स्वीकार केला. त्यात सुप्रसिद्ध महिला नेता आणि संस्कृत भाषेच्या अभ्यासिका डॉ. रूपा कुलकर्णी यांनी ४ ऑक्टोबर १९९२ ला नागपूर येथे हिंदू धर्माचा त्याग करून बौद्ध धम्माचा स्वीकार केला. धर्मांतरानंतर कुलकर्णी नाव बदलून बोधी केले. तसेच कुणबी समाजातील एक अभ्यास प्रा. प्रभाकर पावडे यांनी १ डिसेंबर १९९२ ला बौद्ध धम्म स्वीकारला.^७

चंद्रपूर येथील बहुजन समाजाचे नेते अॅड. एकनाथ साळवे यांनी १९९३ मध्ये बौद्ध धम्माचा स्वीकार केला. आपल्या मुलीचा विवाह कुणबी जातीत न करता बौद्ध मुलाशी लावून दिला. हा विवाह बौद्ध पद्धतीने करण्यात आला.^८

स्मृतीशेष डॉ. किशोर शांताबाई काळे यांनी बौद्ध धम्माची दीक्षा घेतली होती. त्यांचे 'कोल्हाट्याचे पोर' हे स्वकथन विशेष गाजले. फ्रान्स येथे २००९ मध्ये त्यांचा सत्कार करण्यात आला. तेव्हा तो सत्कार स्वीकारण्यासाठी ते श्रमणेर बनून काषाय वस्त्रात गेले होते.

सुप्रसिद्ध आंबेडकरी साहित्यिक आणि भटक्या जमातीचे नेते मा. लक्ष्मण माने, प्रा. सुषमा अंधारे (कोल्हाटी), अॅड. शिवराज कोळीकर (मातंग), अॅड. एकनाथ आव्हाड (मातंग), कांतीलाल घोडेराव, यलप्पा वैद्यू इत्यादी अनेक लोकांनी धम्मचक्र प्रवर्तनाच्या सुवर्ण महोत्सवीदिनी 'दीक्षाभूमी' येथे २ ऑक्टोबर २००६ ला हिंदू धर्माचा त्याग करून बौद्ध धम्माचा स्वीकार केला.^९ त्यामध्ये तेली, कुणबी, बंजारा, लोहार, कुंभार या जातीचे लोक होते. नाथपंथी डवरी समाजातील एक सुशिक्षित उच्चपदस्थ अधिकारी डॉ. एस.के. शिंदे यांनी डिसेंबर २००६ मध्ये बौद्ध धम्माचा स्वीकार केला. पारधी समाजातील एक सुशिक्षित तरुण आणि 'चोरटा' या स्वकथनाचे लेखक मा. संतोष पवार यांनी बौद्ध धम्म स्वीकारला. त्यानंतर त्यांनी वेगवेगळ्या ठिकाणी पारधी लोकांचे धर्मांतर घडवून आणले. बहुजन विश्व सेवा संघाचे अध्यक्ष अॅड. शिवराज कोळीकर यांनी देखील महाराष्ट्रात अनेक ठिकाणी मातंग समाजाच्या धर्मांतराचे कार्यक्रम घेतले.^{१०} अजूनही त्यांचे कार्य सुरू आहे.

संघर्ष आपटे, संबोधी देशपांडे, पल्लवी हर्षे या पुण्याच्या तीन ब्राम्हण विद्यार्थ्यांनी २१ डिसेंबर २००६ रोजी हिंदू धर्माचा त्याग करून बौद्ध धम्माची दीक्षा घेतली. २५ डिसेंबर २००६ रोजी यवतमाळ येथील तेली बांधवानी बौद्ध धम्माची दीक्षा घेतली. त्यामध्ये बाबाराव अंबादास जिरापुरे, रत्नाबाई बाबाराव जिरापुरे, सुनील, किरण, सविता जिरापुरे असा समावेश आहे.^{११}

पुणे येथे २१ जानेवारी २००७ रोजी १३ मराठा आणि ३ ख्रिश्चन बांधवानी बौद्ध धम्माचा स्वीकार केला. त्यामध्ये सुशिल देसाई, अलकाबाई देसाई, पंडित देसाई, नरेश चव्हाण, भाऊराव पडोळे ह्या मराठा बांधवानी सुशिलाबाई घोडके, दीपक घोडके, रोशन घोडके या ख्रिश्चन बांधवानी स्वीकार केला. मा. लक्ष्मण माने यांनी महाराष्ट्रातील ४२ भटक्या-विमुक्त जमातींच्या लोकांना संघटित केले.

त्यांच्यात जागृती घडवून आणली. संपूर्ण वर्षभर भटक्या जमातींच्या लोकांना बौद्ध धम्म समजावून सांगितला आणि २७ मे २००७ ला मुंबई येथे धर्मांतर कार्यक्रमाचे भव्य आयोजन केले. या प्रसंगी महाराष्ट्रातील १ लाख भटक्या विमुक्त जमातींच्या लोकांनी बौद्ध धम्माचा स्वीकार केला. आजही वेगवेगळ्या जाती-धर्माचे लोक बौद्ध धम्माचा स्वीकार करीत आहेत.^{१२}

अशाप्रकारे इतर अस्पृश्य जाती, भटक्या विमुक्त जाती, कुणबी, मराठी, तेली, माळी इत्यादी अनेक जातींच्या लोकांनी बौद्ध धम्माचा स्वीकार केला आणि आजही धर्मांतराची चळवळ सुरू आहे. हा सर्व १९५६ च्या धम्मक्रांतीचा परिणाम होय.

निष्कर्ष :

धम्मक्रांतीचा परिणाम बौद्धावर झाला आणि बौद्धांच्या आचार-विचारांचा परिणाम बौद्धेतर लोकांवर पडू लागला. बौद्धेतर लोकांत वैचारिक, सामाजिक, सांस्कृतिक बदल होऊ लागले. त्याचबरोबर साहित्य आणि कला क्षेत्रात परिवर्तन झाले. ही परिवर्तनाची प्रक्रिया न थांबनारी आहे आणि याच प्रक्रियेतून संपूर्ण देशात डॉ. बाबासाहेब आंबेडकरांना अपेक्षित असलेली क्रांती घडून येईल आणि पुन्हा एकदा भारत बौद्धमय बनण्याची शक्यता आहे.

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