A Geogaraphical Anilasis on Covide 19 Pandimic in Maharashtra

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Abstract:

The covid-19 pandemic, also known as the coronavirus pandemic, is an ongoing pandemic of coronavirus disease 2019 (COVID-19) caused by Severe acute respiratory Syndrome coronavirus 2 (SARS-CoV).It was first identified in December 2019 in Wuhan, China. The world Health organization declared the outbreak a public health Emergency of International Concern in January 2020 and a pandemic in March 2020.As of 4 February 2021 more the 2.26 Million deaths attributed to Covid-19.

KEYWORD: COVID-19 Modelling, COVID-19 in Maharashtra, Disease spreading, Migration, Transport, COVID-19 Hotspots, Network Science, Coronavirus

Introduction:

COVID-19 pandemic is a global concern, due to its high spreading and alarming fatality rate. Mathematical models can play a decisive role in mitigating the spread and predicting the growth of the epidemic. India is a large country, with a highly variable inter-state mobility, and dynamically varying infection cases in different locations; thus, the existing models, based solely on the aspects of growth rates, or generalized network concepts, may not provide desired predictions. The internal mobility of a country must be considered, for accurate prediction.Herein,we propose a framework for predicting the geographical spread of COVID-19, using reported COVID-19 cases, census migration data, and monthly airline data of passengers. We discover that spreading depends on the spatial distribution of existing cases, human mobility patterns, and administrative decisions. In India, the mobility towards professional sites can surge incoming cases at Maharashtra and Karnataka, while migration towards the native places can risk Uttar Pradesh and Bihar. We anticipate that the state Kerala, with one of the highest cases of COVID-19, may not receive significant incoming cases, while Karnataka and Haryana may receive the challenge of high incoming cases, with medium cases so far. Using airline passenger's data, we also estimate the number of potential incoming cases at various airports. The study predicts that the airports located in the region of north India are vulnerable, whereas in northeast India and in some south India are relatively safe. The detailed analysis in this direction will guide policymakers for prior planning of transport, and minimize the spread of COVID-19.

Objective:

The Research Paper Mainly Focuses on the Important On Covide 19 Pandimic In Maharashtra This Is Paper in Mainly Based on Following Objective.

1) Maharashtra state corona patients are increasing every day.
2) Maharashtra State corona Patients in each district are Surveyed.

Methodology:

The Secondary data have been used for the research paper. The Statistical Method has been used for Calculation. The Cartographic technique has been also used to represent data.

Study Area:

Maharashtra is a state in the western peninsular region of India occupying a Substantial

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portion of the Deccan plateau Maharashtra is the Second most populous state in India as well as the second most populous country subdivision.in was formed on 1 may 1960 by splitting the bilingual Bombay state which had existed since 1956.

Secondary Data:

Secondary data which is necessary is collected From, Magazines, newspaper and other related books are also referred to get secondary in formation.

Hypothesis:

in this Corona period, every person in the Society has lost their economic, Social and mental balance.

Analysis & Discussion:

Covied Symptoms:

COVID -19 affects different people in different way. Most infected people will develop to moderate illness and recover without hospitalization.

Most Common Symptoms
Fever, Dry Cough, Tiredness, Less

Common Symptoms:

Aches and pains, Sore throat, Diarrhoea, Conjunctivitis, Headache, Loss of taste or Smell, A rash on Skin, or discolouration of fingers or toes.

Prevention:
Protect yourself and others around

You by knowing the facts and taking the right precautions. Follow the advice provided by your local health authority.

To Prevent The Spread Of COVID-19:

Clean your hands frequently. Use soap and water or an alcohol-based hand rub. Keep a safe distance from anyone who coughs or sneezes. Wear a mask if physical distance is not possible. Do not touch your eyes, nose or mouth. If you cough or sneeze, cover your nose and mouth with your folded corner or tissue. Stay home if you feel uncomfortable. Seek medical advice if you have a fever, cough and difficulty breathing. Calling in advance allows your healthcare provider to instantly direct you to the appropriate healthcare facility. This protects you and prevents the spread of viruses and other infections. Masks can help prevent the spread of the virus from others wearing masks. The mask alone does not protect against COVID-19 and should be combined with physical distance and clean hands. Follow the advice provided by your local health authority.
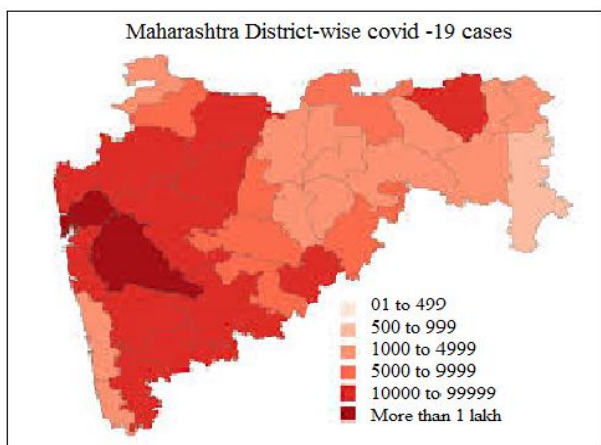
Treatments:

Take care of yourself if you feel sick, you should rest, drink plenty, and eat a nutritious diet. Stay in a separate room without living with other family members and use a separate bathroom if possible. Clean and disinfect frequently touched surfaces. Everyone should have a healthy lifestyle at home. Eat a nutritious diet, get the sleep you need, stay active, and keep in touch with loved ones by phone or the Internet. Children need extra love and attention from adults during difficult times. Stay in a regular routine and schedule as much as possible. It is normal to feel sad, stressed, or confused during a crisis. Talking to faithful friends and family members can help. If you feel unwell, talk to a health worker or counsellor.

Medical Treatment

If you have mild symptoms and are otherwise healthy, isolate yourself and contact your medical provider or COVID-19 information line for advice. Seek medical attention if you have a fever, cough, or difficulty breathing. Call in advance.

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SR.NO	DISTRICT	CASES	CURED	ACTIVE	DEATHS
1	Pune	388519	366639	13872	7967
2	Mumbai	308975	290913	5796	11356
3	Thane	268728	255207	7697	5763
4	Nagpur	135884	128949	3535	3360
5	Nashik	121013	117838	1179	1995
6	Ahmednagar	71991	69746	1148	1096
7	Raigad	68653	66426	691	1529
8	Jalgaon	57414	55406	512	1476
9	Satara	56452	53860	765	1817
10	Solapur	56075	53430	797	1824
11	Sangli	50841	48446	611	1781
12	Aurangabad	49338	47649	430	1244
13	Kolhapur	49156	47263	219	1671
14	Palghar	48012	46606	469	920
15	Latur	24506	23210	602	690
16	Chandrapur	24147	23453	280	412
17	Nanded	22284	21192	409	678
18	Amravati	22157	21016	744	395
19	Beed	18163	17071	538	547
20	Osmanbad	17530	16592	379	556
21	Dhule	16090	15604	139	344
22	Yavatmal	15515	14554	531	426
23	Buldhana	14960	13941	771	242
24	jalna	13356	12760	233	362
25	Akola	11780	10998	415	362
26	Ratnagiri	11482	10965	124	391
27	Wardha	10691	10071	312	295
28	Nandurbar	9697	8946	549	201
29	Gadchiroli	8848	8666	79	97
30	parbhani	7930	7492	132	295
31	Washim	7323	6995	171	155
32	Sindhudurg	6418	5950	297	170
33	Hingoli	4429	4227	104	98
34	Other	150	0	64	84
	Maharashtra	2026399	1929005	45071	51082

Maharashtra District-wise covid -19 cases

01 to 499
500 to 999
1000 to 4999
5000 to 9999
10000 to 99999
More than 1 lakh

➢ COVID-19 is an actively spreading pandemic in the whole globe and is an unprecedented challenge for the healthcare, economy, and lifestyle of the community.

➢ Countries are striving hard to mitigate the spread of COVID-19 by various strategies: banning gathering, closing schools, stopping transports, locking down cities, imposing curfews, and sealing locations, and still not able to effectively contain it. The need of the hour is to get location by location risk assessment so that timely preventive measures can be taken. Researchers have systematically studied various aspects related to COVID-19, such as the role of isolation of cases and their contacts, impact of non-pharmaceutical interventions,

➢ Obtaining infected population from the death counts, and calculating optimum duration and effectiveness of lockdown period.

➢ The available research in this area is primarily on analysing growth in the number of infectious cases in the local community.

➢ These models mainly use non-linear fittings on time series of reported cases in a particular region to estimate the time evolution of epidemics in that region. Human mobility and transport also play critical roles in the spread of COVID-19, adding seeds of disease transmission.

➢ However, there is a limited effort in the literature to model the impact of human mobility on the spread of COVID-19, particularly within a country. Chintzy et al. and Wells et al. studied the importance of the travel ban of China and important border policies. Pastern et alluded a Long short-term memory (LSTM) based neural network to predict the risk category of a country. Pujari et al. attempted multicity model and assumed the fraction of population reaching a neighbour is inversely proportional to its degree connections.

➢ COVID-19 currently affects almost all developed and developing countries; India is one of the countries with significant COVID-19 cases. India is currently in stage 2 of

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epidemics, and strict plans and steps are required to prevent it from entering stage 3 or higher. India is a large country, with diverse cultures, languages, jobs, and educational opportunities, resulting into distinct and complex connection patterns between different locations.

➤ Thus, a generic mathematical network approach such as a small world and scale-free model cannot be employed for disease-spread analysing for India; important geographical aspects of human-mobility should also be incorporated in a model.

➤ To tackle it, herein, we propose a network-based framework for modelling COVID-19 risk at different geographical locations by using migration and airflow based real data.

➤ The model consists of dividing the space (say country) into various components, which can be states, districts or cities depending on the available data. Consider there are N components with the population of individual components P_i and infected numbers I_i. The probability, p_i of an infected person in the population P_i can be written as $p_i = I_i P_i$

➤ Model COVID-19 spread in India, here we use the states and union territories as components and their reported positive cases as the number of people infected. Mobility between two states relies on the intermixed community; migration may be a strong indicator of this. Thus, to analyse the potential inter-state mobility, interstate migration data is obtained from the census 2011.To obtain native to professional (work or education) place-based migration, only the data of male entries are considered to avoid significant marriage-related migration. Represents the migration map between different states with arrow-profile; here, the arrow width represents the migration number and the arrow direction is from native to the professional place. As seen from the arrow widths, the migration nature is unsymmetrical with high variability. The highest migration takes place between Pune

to home town, Mumbai to home town. In reference to COVID-19, different scenarios of mobility may arise: the mobility can be (a) towards the native site, (b) towards the professional place or (c) nearly equal in both the directions. As an example, few days before the declaration of lockdown, the migrants might prefer to move towards their native places; on the closing of the lockdown period, the migrants may flow back to their professional sites and It is made available.

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