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IMPACT OF POPULATION ON ENVIRONMENT IN MAHARASHTRA

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Abstract:-The size of population is concerned India ranks second in the world next only to China. The population of India at 121.02 crore in 2011 is almost equal to the combined population of USA, Indonesia, Brazil, Pakistan, Bangladesh and Japan put together which is 121.43 crore. India's landscape is just 2.4 per cent of the total world area, whereas its population is nearly 17.5 per cent of the world population.

Keywords: Environment , Research Methodology , Analysis And Discussion , poverty.

INTRODUCTION:

The pressure of population on the land in India is very high. India's population according to the census of 2011 is 121.02 crore. According to the census of 1901, the population of the country was 23.83 crore. Since then in a period of 110 years; the population of the country has increased by more than 97 crore. As a result of increase the rate of growth of population, there arises some problems in country like unemployment, poverty and the problem of environmental degradation.

OBJECTIVES OF THE STUDY:-

- 1.To study the growth rate of population in India and Maharashtra.
- 2.To analyze the impact of population on environment in Maharashtra.
- 3.To suggest the measures to environment protection.

RESEARCH METHODOLOGY OF THE STUDY:-

The present study based on secondary data collected from the various publications like Economic surveys, Research Papers, Articles and various books related to this subject.

ANALYSIS AND DISCUSSION :-

Growth Trends of India's Population :

India's population according to the census of 2011 is 121.02 crore. According to the census of 1901, the population of the country was 23.83 crore. Since than in a period of 110 years the population of the country has increased by more than 97 crore. The growth trends of India's population shown in table no.1.

**Table No. 1
Growth of India's Population**

Census Year	Population in crore	Decadal Growth (Per cent)	Average Annual Growth Rate (Per cent)	Density of Population (Per Sq. KM)
1951	36.11	13.31	1.25	117
1961	43.92	21.64	1.96	142
1971	54.82	24.80	2.20	177
1981	68.33	24.66	2.22	216
1991	84.64	23.87	2.16	267
2001	102.87	21.54	1.97	325
2011	121.02	17.64	1.64	382

Source : Government of India, Census of India.

Table no.1. shows that there was increase in population of India from 36.11 crore to 121.02 crore from 1951 to 2011. According to the census of 2001, the rate of population growth remained as high as 1.97 per cent per annum during the 1990s. This has come down to 1.64 per cent per annum during the decade, 2001 to 2011. India continues to remain in the second stage of Demographic Transition.

POPULATION OF MAHARASHTRA:

Maharashtra is the second largest state in terms of size population after Uttar Pradesh. The population of the state was 11.24 crore. Which was 9.3 per cent of the total population of India in 2011. The growth trends of population of Maharashtra shows in table no.2.

**Table No. 2.
Population of Maharashtra**

Year	Total Population (Crore)	Decennial Percentage Increase	Literacy Percentage
1961	3.96	23.60	35.1
1971	5.04	27.45	45.8
1981	6.28	24.54	57.2
1991	7.89	25.73	64.9
2001	9.69	22.73	76.9
2011	11.24	15.99	82.9

Source : Economic Survey of Maharashtra – 2012-13.

Table no.2. shows that, Maharashtra has a population of 11.24 crore as per the census of 2011. The population has been growing by 25 per cent every decade till 1991. The growth rate has come down slightly during the recent decade.

Rural and Urban Population in Maharashtra :

This is shown in table no.3.

Table No. 3
Rural and Urban Population in Maharashtra

Year	Population in Crores						Sex Ratio			
	Rural	Urban	Total	Male	Female	Percentage of Urban Population to Total Population	Total	Rural	Urban	Density per Sq. Km.
1961	2.84	1.12	3.96	2.04	1.91	28.22	936	995	801	129
1971	3.47	1.57	5.04	2.61	2.43	31.17	930	985	820	164
1981	4.08	2.20	6.28	3.24	3.04	35.03	937	967	850	204
1991	4.84	3.05	7.89	4.08	3.81	38.69	934	972	875	257
2001	5.58	4.11	9.69	5.04	4.65	42.43	922	960	873	315
2011	6.15	5.09	11.24	5.84	5.40	45.23	925	948	899	365

Source : Economic Survey of Maharashtra – 2012-13.

Table no.3 gives information on some salient features of population in Maharashtra. There was increase in rural population from 2.84 crore to 6.15 crore from 1961 to 2011. and the urban population increase from 1.12 crore to 5.09 crore during the same period. The highest increase in urban population than rural population from 1961 to 2011 due to the migration from rural to urban area. Another serious issue is relating to the decline the sex-ratio particularly among the child population.

Population issues of any region cannot be separated from the development of the problems of the region. In fact they are an integral part of the problems of development as well as problem of environment Under Human Poverty Index the extent of deprivation in health, educational and economic dimension has been assessed. It should be noted that the deprivation in economic matters has been measured taking into account the proportion of population below poverty line, proportion population not receiving medical attention at birth, and proportion of population without access to basic amenities such as drinking water, sanitation and electricity. All these factors adversely affect on environment.

THE IMPACT OF POPULATION ON ENVIRONMENT IN MAHARASHTRA :-

Poverty and its Environmental Effects in Maharashtra :

Most of the poor people live in rural areas in Maharashtra and they are engaged in agriculture poverty reduction has been an important goal of development planning since the formation of the state. The planning commission estimates incidence of poverty on the basis of household consumption expenditure survey conducted by the National Sample Survey on quinquennial basis. The people below poverty line declined from 53.2 per cent to 24.5 per cent from 1973-74 to 2009-10. The number of persons below poverty line 270.8 lakh in 2009-10.

Poverty is to be both cause and effect of environment degradation. Poor people who cannot meet their subsistence needs through purchase, are forced to use common property resources such as forest for food and fuel, pastures for fodder and rivers for water. It also contributes to environmental degradation through over exploitation of natural resources like land, air and water. Urban population is also using rivers to dispose of untreated sewage and industrial effluent. The result is that health of those dependents on untreated water resources is increasing at risk. The poverty and rapid population growth are found to coexist and thus seems to reinforcing each others. The deterioration of natural resources and unsafe living conditions affects the environment and health of poor people.

Population and economic development are contribution to various environmental problems in Maharashtra. These are as follows –

1. Pressure on Land :-

Increase in Population of Maharashtra, there is a large rural population living in extreme poverty and destitution. This pressure of rural population has led to more and more conversion of land to agricultural uses. This extensive cultivation has encroached upon the forest lands as large areas have been cleared for carrying on agriculture. A change in land utilization pattern implies an increase or decrease in the proportion of area under different land uses at a point in two or more time periods.

The extent of agriculture intensification and extensification characterized by increase in cropping and irrigation intensity and higher use of chemical fertilizers, pesticides and insecticides. The process of agricultural extensification and intensification is leading to land degradation overexploitation of underground water resources, increased use of chemical fertilizers leadings to eutrophication and water pollution.

2. Soil Degradation: -

Increase in the pressure on agriculture land in Maharashtra due to increase in growth of population. Landhungry farmers have even resorted to cultivating unsuitable areas, hillsides, arid and semi-arid land. Not only this, more and more intensive use of the existing agricultural land is being undertaken to meet the requirements of the increasing rural population. In many cases, Farming has been intensified through shorter fallow periods rather than through the use of better inputs or techniques because of the poverty of the farmers. The shortening of fallow period lowers fertility as the soil does not get enough time to regenerate itself. It also leads to soil degradation. In those cases where the farmers have resorted to increased use of new agricultural techniques. However, there are limitations of this technique as, overexploitations of land and excessive use of fertilizers and pesticides leads to soil degradation and deterioration in the quality of land. Cumulative global productivity loss due to land degradation over three decades has been estimated at 12 per cent of total production from irrigated land, rainfed cropland and rangeland.

3. Air Pollution :-

Air pollution has three principal, man-made sources energy use, vehicular emissions and industrial production. The economic and industrial development is inevitably accompanied by changing patterns of consumptions. The number of registered motor vehicles in Maharashtra provides one useful indicator of expanding consumption and economic growth. The increasing vehicles in the state, producing more air pollution, fuel consumption, traffic jams and demand for road construction often at the cost of agricultural land. The total number of motor vehicles on road in the state has increased from 3,11,669 to 20,79,950 from 1971 to 2013. The number of two wheelers rose from 83,930 to 14,92,856 during 1971 to 2013. The number of Cars, Jeeps and Stations Wagons increases from 12,250 to 2,95,667 during the same period. The number of Trucks and Auto rickshaw increased from 5,678 to 1,13,578 and 3,049 to 6,60,856 respectively from 1971 to 2013. The major share is contributed by metropolitan cities in all vehicles in the state. An increase in vehicular pollution is associated with a number of environment problems i.e. air pollution and global warming.

4. Water Pollution :-

Increase in growth of population in Maharashtra then, there is increase in employment opportunity. i.e. increase number of industries and factories. The most widespread contaminations of water accrue from industrial waste. Where industries and factories are expanding, rivers become contaminated with toxic chemicals and with heavy metals. These pollutants are hard to remove from drinking water with standard purification facilities.

There is 80 per cent of human mortality is water borne disease in the state. Children are worst affected especially in rural areas and urban slums. The state established Maharashtra Pollution Control Board Monitors 250 stations in the state of which 200 locations are for surface water and 50 locations are for ground water.

5. Global Warming and its impacts on climate:

The large population of Maharashtra as well as India and rapidly increasing energy use plays an important and growing role in global warming. Global warming can have environmental and socioeconomic consequences. The impacts of these are complex. There is change in climate due to changes in soil moisture, water availability and sea level rise. These would make an impact on agriculture forestry and natural eco-systems. Also with rising temperatures, heat stress and alternation in patterns of vector borne disease, the global population would be more vulnerable to health problems, causing, disruptions in settlement patterns and large scale migration. All these would have significant socio-economic consequences.

Steps taken by Government for Environmental Management, Prevention and Control of Pollution :

The state established Maharashtra Pollution Control Board for the environmental Maharashtra prevention and control of pollution and for the enforcement of some important act, these acts are as follows

1. Water (Prevention and Control of Pollution) Act 1974.
2. Water (Prevention and Control of Pollution) Act 1977.
3. Air (Prevention and Control of Pollution) Act 1981.
4. Environment (Protection) Act 1986.

1. To Prevent Water Pollution -

Water pollution is most important factor responsible for nearly 80 per cent of human mortality is water borne diseases. Children's are worst affected especially in rural and urban slums. Maharashtra Pollution Control Board is executing Global

Environment Monitoring System and Monitoring of Indian National Aquatic Resources Projects under National Water Quality Monitoring Programme. At present Maharashtra Pollution Control Board Monitors 250 stations in the for surface water and 50 locations are for ground water.

2. To Prevent Air Pollution :

Maharashtra Pollution Control Board with the help of various educational institute operating air quality monitoring system at 77 stations spread in 17 districts. Use of less sulphur content diesel, lead free petrol, CNG/LPG as an alternative fuel, making PUC mandatory banning 15 years old vehicles and converting eight year old vehicles to CNG/LPG are some of the important measures being taken to restrict air pollution. As on 2012 out of 47 lakh CNG/LPG convertible vehicles in the states number of vehicles fitted with LPG kit was 1.22 lakh and number of vehicles fitted with kit was 3.02 lakh.

3. Environment Clearance :-

Under the environment (Protection) Act 1986, the central Government constituted Maharashtra Coastal Zone Management Authority, State Level Environment Impact Assessment Authority and State Level Export Appraisal Committee in the state for environmental clearance. Considering the number of proposal received for environmental clearance, the state has constituted two State Level Expert Appraisal committees to speed up the processing of the proposals. From 2008 to 2011, in all 696 proposals were considered for environmental clearance out of which 466 were from construction, 114 from industry, 116 from other sectors.

4. National River Action Plan :-

The main aim of National River Action Plan is the to control of pollution of main rivers in the country. Under this plan, 70 per cent of funds are received from the central Government and 30 per cent from concerned state Government / Municipality. Under this scheme, the work of cleaning the rivers at Tryambakeshwar, Nashik, Nanded and Karad cities have been completed and the expenditure incurred was Rs. 78.70 crore, while the workers of cleaning the rivers at Sangli and Kolhapur are in progress with estimated cost of Rs. 93.80 crore.

5. State Lake Conservation Plan :

The State Government provides funds for conservation of degraded lakes. Under this scheme 16 lakes are covered and the work for Hanuman lake in Katol is completed. While the conservation works of Yamai Lake - Pandharpur, Charloatte Lake – Matheran, Jaysingrao Lake – Kagal, Ganesh Lake – Miraj, Aitwade-Khurd Lake – Walava, Sangli etc. are progress.

CONCLUSION :-

The outcomes of high population growth rates are increasing number of people below poverty line, an increasing population density, and pressure on natural resources. The study reveals that the population and poverty of Maharashtra are imposing an increasing pressure on the states limited natural resources. Population pressure on land contributes to the land degradation, thus affective the productive resource base of the economy. The environmental effects like air pollution, water pollution, global warming are of growing concern owing to increasing consumption levels. Environmental pollution have adverse effect on the sustainable development and health of peoples. There is increase the water pollution and it leads to various water borne diseases in the state. The growth of population is an important contributor to environmental degradation. The effect of population growth on the environment is clearer for forest loss and soil degradation than for population. So, there is an urgent need to control population and poverty, conserve and protect natural resources and environment for health human beings.

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