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AN EMPIRICAL STUDY ON DEMOGRAPHIC TRANSITION IN INDIA

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ABSTRACT

The population and economic development are closely related, as the latter depends on the former. Abnormal size and increase in population lead to the problem of food scarcity and equitable supply of food to the millions. It reduces the growth of national income and per capita income retarding the economic growth of the nation. Rising population leads to various types of unemployment problem and the burden of unproductive consumers has to borne in the economy. The problem of increasing births demands higher expenditure by the Government for medical care, education, housing, clothing etc. All these factors urge the necessity of reducing the birth rate in India. A large population by itself may not be a big problem for the economy to tackle, provided the number is maintained at the same level for a fairly long period. But the problem is aggravated and worsened by the rate at which the population increases every year –an alarming increase of 10 million every year. In India, a baby is born every 1.5 seconds, causing a baby born and demanding an extra supply of 12.80 million quintals of food every year, 25 lakhs of houses, 200 million meters of cloth, 1.2 lakhs schools and 3 lakh of teachers.

KEYWORDS: Mortality, Fertility and Growth Rate.

INTRODUCTION

The twentieth century has been witness to remarkable changes in India's society, polity and economy. The country became independent of foreign rule, there was economic development and the society changed in many ways. The demographic transition also began and reached a level; near completion during the century. While secular mortality decline began during the first quarter of the century, fertility decline followed with a lag, as normally happens, and the end of century the transition was at an advanced stage. The change from moderately high fertility, nearly unregulated within marriage, to fairly regulated low to moderate fertility has been impressive and has implications for the society, the economy, and broadly, livelihood of the people of India. But the passage of the transition has not been smooth. Soon after the middle of the twentieth century, there was concern about India's rapid population growth and that of the developing world as a whole, since substantial mortality decline and occurred, but fertility continued to be at a fairly high level, thereby causing high population growth. India experienced annual growth rates exceeding two per cent for quite some time. Soon after independence, a population programme was introduced by the government primarily aimed at reducing fertility. But initially hardly any change in fertility was seen. In public debates, rapid population growth on account of high fertility was frequently cited as the principal hindrance to improving levels of living and overall development. There were apprehensions of food shortage and starvation, and India did suffer from such shortages from time to time, with the 1965-67 drought being the most damaging. This created a strong neo-Malthusian atmosphere and the family planning programme was strengthened. But high fertility was blamed on lack of development and apprehensions were expressed about the success of population programmed in then socio-economic setting. Forecasts of doom were commonly made in the 1960s and 70s. Drastic steps, such as compulsory sterilization, were called for to curb fertility and come out of the vicious cycle of low development is causing high fertility, and in the opposite direction, high fertility and population growth impeding development.

Causes of the Demographic Transition

The demographic transition have some causes, the important causes are:

Mortality

The large decreases in mortality over the last 300 years and argues that they have mainly been due to advances in health knowledge that led to the prevention and treatment of infectious disease. Even the poorest less developed countries today have seen rapid improvements in health over the last 50 years. The mortality transition first started in richer countries

and spread to poorer countries over time. It is also the case that the implementation of basic public health measures requires both that public health measures requires both that at least rudimentary infra- structure is in place for the delivery of public health services.

Fertility

Fertility is influenced by government policy, contraceptive availability, education, ideation and culture, the central underlying cause of the fertility transition is the fact that fertility decline always follows the decline in mortality. It is difficult to decide between these theories using household-level data. The impact of replacement births as a direct response to child deaths is fairly low. The more important issue is the size of the effect on fertility of the perceived prospective risk of child mortality. Similarly the issue for returns from education is the expectations of earnings over the child's future lifetime.

In many countries fertility transition occurred after mortality decline but before substantial gains in income per head; for example, both India and China saw large fertility declines before their surges in economic growth. However, the continuing decline in fertility to replacement level and below usually occurs in conjunction with rapid growth, making it difficult to establish causality.

Urbanization

Before demographic transition, high mortality in cities tends to give them an excess of deaths over births and their populations are sustained only by rural to urban migration. As mortality declines, the death rates in cities fall below the death rate in rural areas. The urban population becomes self-sustaining through urban population becomes self-sustaining through urbanization, meaning that the increasing proportion of people in urban areas requires continuing rural to urban migration

The rise in rural population that follows mortality decline means more workers per acre of land and lower agricultural wages owing to diminishing returns- the classical Malthusian argument. Production in the manufacturing and service sector in cities does not have a fixed factor and does not suffer from decreasing returns; in fact, we see higher productivity in larger and denser cities.

The Quality of People

A remarkable feature of the modern era is the increase in the quality as well as quantity of people .In economics, the quality of people or human capital has been taken to be synonymous with education. The economic and social effects of these quality changes have been fundamental in promoting economic growth. One reason for a higher return to education is the increase in healthy lifespan people now expect, with an attendant increase in the time horizon for the returns to education.

OBJECTIVES OF THE STUDY

The following are the important objectives of the present study.

1. To study the size and growth of population in India from 1901-2011.
2. To analyze the density of population in India.
3. To measure the literacy rate in India.

METHODOLOGY OF THE STUDY

This study is based on the secondary data. The secondary data has been collected from various census reports, published and unpublished records of the Census of India; and from various journal articles, books, reports and webs.

REVIEW OF LITERATURE

Satvika Chalasani and Shea Rutstein (2014) in their study entitled “Household wealth and child health in India” used data from the Indian National Family Health Surveys (1992-1993,1998-1999,2005-2006). This study examined how the relationship between household wealth and child health evolved during a time of significant economic change in India. The relationship between wealth and child mortality stayed strong for girls. The relationship between household wealth and malnutrition become stronger over time for boys and particularly for girls, in urban and especially rural areas.

Samir Mazidbhai Vohra (2015) in his study entitled on “Population growth- India’s problem” describe that, in India’s rapid population growth has thus hampered economic growth and this prevented any substantial reduction in poverty of the masses.

Population explosion aggravates the poverty worsens the unemployment situation, reduces per capita income and increases proportion of unproductive people, hampers capital formation and makes the people inefficient.

Rajesh Raushan, et al (2016) in their study on “Declining child sex ratio and missing girls in India” highlighted that on march 2011 India’s Population stood at 1210.56 million, with 18.3 per cent decadal growth of families and continuous decline in child sex ratio (0-6 years) now threatens to create future demographic imbalance. India’s child sex ratio declined 8 per cent during 2001-2011 periods it reached to 919 female per 1000 male children. It is the lowest sex ratio since independence. The continuous decline in child sex ratio has propelled rising missing girls can be attributed to the trailing preference for male child which may provoke for destruction of female fetuses as well as infanticide happening in the country, prominently in states of north India.

DEMOGRAPHIC TRANSITION AND INDIAN ECONOMY

The first objective of the present study is to find out the size and growth of population in India from 1901-2011. In biology, population growth is the increase in the number of individuals in a population. Rapid growing population puts greater pressure on basic human needs such as education, health facilities, water supply, nutrition and housing. The size and growth of population in India is presented in table below:

Table 1.1

Size and Growth of Population in India, 1901-2011 (in crores)

Census Year	Male	Female	Total
1901	12.07	11.73	23.84
1911	12.83	12.37	25.20
1921	12.85	12.27	25.13
1931	14.29	13.57	27.89
1941	16.36	15.46	31.86
1951	18.55	17.55	36.10
1961	22.62	21.29	43.92
1971	28.40	26.41	54.81
1981	35.33	32.99	68.33
1991	43.93	40.70	84.64
2001	53.21	49.64	102.86
2011	62.37	58.64	121.02

Source: Census of India 1901-2011, www.censusindia.gov.in

Table 1.1 reveals that India’s population has grown steadily from 1901,except for a decrease in 1921. The total population of the country increased from 23.84 crores in 1901 to 25.20 crores in 1911 and 25.13 crores in 1921. The very slow increase in population between 1901 and 1921 was due to the occurrence of epidemics like plague and cholera and of famines and like influenza epidemics. It increased

fastly after 1931. During 1931 the total population of India was 27.89 crores; it increased to 36.10 crores in 1951 and further increased to 121.02 crores in 2011, the population is increasing fastly after 1991. In 1991-2001 period population increases about 18.2 crores to total population. In the last census shows that 18.1 crore increased in 2001-2011 period. Approximately same increase in male and female population we can

see in every census. In every census the population is increasing in India.

NATURAL GROWTH RATE IN INDIA

Natural growth rate means the difference between crude birth rate and crude death rate. Usually developing countries have a positive or high natural increase rate. The natural growth rate of population is analyzed with the help of figures given in table 1.2.

Table 1.2
Natural Growth Rate in India, 1911-2011(in per cent)

Year	Natural Growth rate (Birth rate-Death rate)
1911	6.6
1921	0.9
1931	10.1
1941	14.3
1951	12.5
1961	18.9
1971	22.2
1981	22.2
1991	19.7
2001	17.3
2011	14.8

Source: Census report 1901-2011, The Registrar general of India

Table 1.2 shows that the natural growth rate which is slightly from 14.3 per cent in 1941 to 12.5 per cent in 1951. It rose steeply to 22.2 per cent in 1971 and remained at the same level in 1981 also(As a result, the rate of natural increase in population has been accelerating from years to years).The most important factor contributing to the very high growth rate of Indian population in recent years has been the sudden and phenomenal fall in the death rate. After this period the natural growth rate tends decreasing tendency. The present (2011) Natural growth rate is 14.8 per cent. This growth rate was due to the accelerated developmental activities and further improvement in health facilities. The living conditions

of the people improved enormously. Death rates declined much faster than the birth rates. This situation resulted in high natural increase. Thus it was fertility induced growth.

The second objective of the study is to analyze the density of population in India from 1901-2011. It is a measurement of population per unit area or unit volume. It is a quantity of type number density. It is frequently applied to living organisms and most of the time to humans. It is defined as the number of persons per square kilometer. The density of population in India is analyzed with the help of the Table 1.3.

Table 1.3
Density of Population in India, 1901-2011

Census Year	Density of Population (per Sq km)	Decadal growth in density of population
1901	77	...
1911	82	5
1921	81	1
1931	90	9
1941	103	13
1951	117	14
1961	142	25
1971	177	35
1981	216	39
1991	267	51
2001	325	58
2011	382	57

Source: Census of India 1901-2011, www.censusindia.gov.in.

Table 1.3 shows that, the beginning of the twentieth century, that is, the decadal growth in density of population was in 1911, it declined to one in 1921. In the year 1931 the decadal growth was 9. It increased to 14 in 1951 and 58 at 2001. It is increasing to note that in 2011, it declined to 57. 1901 population density of India was as low as 77 persons per square kilometer. It steadily increased in each decade to reach 382 persons per square kilometer in 2011. With a population density of 382 persons per square kilometer, India ranks 31th among the most densely populated countries in the world.

The third objective of the study is to measure the literacy rate in India from 1901-2011. Literacy is a

reasonably good indicator of development in a society. Literacy is traditionally understood as the ability to read, write and use arithmetic. The modern terms meaning has been expanded to include the ability to use languages, numbers, images, computers, and other basic means to understand, communicate gain useful knowledge and use the dominant symbol systems of a culture. The concept of literacy is expanding in Organizations for Economic Cooperation and Development (OECD) countries to include skills to access knowledge through technology and ability to assess complex contexts. The literacy rate in India is analyzed with the help of figures given in Table 1.4.

Table 1.4
Literacy Rate in India, 1901-2011(in per cent)

Year	Male	Female	Total
1901	9.83	0.7	5.35
1911	10.56	1.05	5.92
1921	12.21	1.81	7.16
1931	15.59	2.93	9.50
1941	24.90	7.30	16.10
1951	27.16	8.86	18.33
1961	40.40	15.35	28.30
1971	45.96	21.97	34.45
1981	56.38	29.76	43.57
1991	64.13	39.29	52.21
2001	75.26	53.67	64.83
2011	82.14	65.46	74.04

Source: Census of India 1901-2011, www.censusindia.gov.in.

Table 1.4 shows the literacy rate in India from 1901 to 2011. In India the literacy rate starting from 1901 onwards show consistent increase both for male and females. The literacy rate in 1901 started with a low level of 5.35 per cent and steadily increased to 5.92 per cent in 1911. It further improved sharply to 18.33 per cent in 1951. It increased from 28.3 per cent in 1961 to 52.21 per cent in 1991. As per the census of India 2011, the overall literacy rate of India is 74.04 per cent. The male literacy rate is 82.14 per cent and female literacy rate is 65.46 per cent. Thus the increase in literacy rate observed during 2001-2011 in respect of persons, have been the highest recorded in comparison to the earlier decades since 1901.

In 2011 census, however indicated a 2001-2011 decadal literacy growth of 9.2 which is slower than the growth seen during the previous decade. Literacy rate in 2011 were 82.14 percent for men and 65.46 percent for women. The low female literacy rate has had a dramatically negative impact on family planning and population stabilization effort in India.

The census provides a positive indication that growth in female literacy rate (11.8 per cent) was substantially faster than in male literacy rates (6.9 per

cent) in the 2001-2011 periods. Which means the gender gap appears to be narrowing.

FINDINGS OF THE STUDY

- This study states that India's population has grown steadily from 1901, except for a decrease in 1921. The total population of the country increased from 23.84 crores in 1901 to 25.20 crores in 1911 and 25.13 crores in 1921. The very slow increase in population between 1901 and 1921 was due to the occurrence of epidemics like plague and cholera and of famines and like influenza epidemics. It increased fastly after 1931. During 1931 the total population of India was 27.89 crores; it increased to 36.10 crores in 1951 and further increased to 121.02 crores in 2011, the population is increasing fastly after 1991. In 1991-2001 period population increases about 18.2 crores to total population. In the last census shows that 18.1 crore increased in 2001-2011 period. Approximately same increase in male and female population in every census. In every census the population is increasing in India.

- This study found that natural growth rate which is slightly from 14.3 per cent in 1941 to 12.5 per cent in 1951. It rose steeply to 22.2 per cent in 1971 and remained at the same level in 1981 also (As a result, the rate of natural increase in population has been accelerating from years to years). After this period the natural growth rate tends decreasing tendency. The present (2011) Natural growth rate is 14.8 per cent. This growth rate was due to the accelerated developmental activities and further improvement in health facilities. The living conditions of the people improved enormously. Death rates declined much faster than the birth rates. This situation resulted in high natural increase. Thus it was fertility induced growth.
- This study states that in 1901 population density of India was as low as 77 persons per square kilometer. It steadily increased in each decade to reach 382 persons per square kilometer in 2011. With a population density of 382 persons per square kilo meter, India ranks 31th among the most densely populated countries in the world.
- This study found that India has witnessed remarkable progress in spread of literacy. Compared to barely 18 per cent of India's population recorded as literate in the first census after independence. According to the 2011 census, the proportion has gone up to 74 per cent. The achievement among males has been from 27 to 82 per cent in 60 years, from less than one in 10 women counted as literate in 1951. Today two out of three women are enumerated as literate.

CONCLUSION

In India rapid population growth has thus hampered economic growth and this prevented any substantial reduction in poverty of the masses. To conclude, population explosion aggravates the poverty, worsens the unemployment situation, reduces per capita income and increases proportion of unproductive people, hampers capital formation and makes the people inefficient. Therefore, an all out effort has to be made to reduce birth rate through a comprehensive programmed of family planning so that sufficient resources are released for the economic development of the country. It is found that in India Poverty it is also the main cause of rapid population growth. Poverty prevents better education and better living standard. Thus, population explosion is both a cause and an effect of poverty.

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