Population And Economic Development Of India
Overpopulation is a growing problem throughout the world at this stage of time. Currently, the world population has crossed over the six billion mark and is on an exponential path upwards. Economist are torn between two theories; one that states population increase and growth help a nation's economy by stimulating economic growth and development and another that bases its theory on Robert Malthus findings\(^1\). Malthus states that population increase is detrimental to a nation's economy due to a variety of problems caused by the growth. For example, overpopulation and population growth places a tremendous amount of pressure on natural resources. Which result in a chain reaction of problems as the nation grows. On the more macroeconomic level, it is more believable to argue that population does undermine a nation's economy because an increase in the number of people leads to an increase of the number of mouths to feed. The increase in demand for food leads to a decrease in natural resources, which are needed for a nation to survive. Other negative effects of population growth and specifically, overpopulation include poverty.

caused by low income per capita, famine and disease. India is a prime example of Thomas Malthus theory of population growth and its effect on the economy. India is a country plagued by poverty primarily caused by overpopulation. Inhabited by over nine hundred billion people, India has a population of three hundred million under the poverty line. A majority of the poor population is unemployed, starving and is being faced to beg on the streets to make two ends meet. Yet, the government isn't showing any apparent sign of reform to decrease poverty among its citizens, through welfare programs or fiscal spending.

Rapid population growth complicated the task of providing and maintaining, the infrastructure, education and health care needed by modern economies. Economist advocating the positive side of population growth, say that the growth creates new problems that in the short run constitute to a number of problems, including famine, poverty and even unemployment.

Yet, they also state that in the long run, it leads to new developments, through advancement in technology, that leave countries better off than if the problems never occurred. On the other hand, theoretical element suggest that more population retard the growth output per worker. The overwhelming element in theory is

[187]
Malthusian diminishing return to labour, as the stock of capital does not increase in the same proportion as does labour.

On the positive side, one can see a chain reaction of events caused by a population growth. According to the neo-classical growth model, population is beneficial to an economy due to the fact that population growth is correlated to technological advancement. Rising population promotes the need for some sort of technological change in order to meet the rising demand for certain goods and services. With the increased populace, economies are blessed with a large labour force, making it cheaper as well, due to its immense availability. An increase in labour availability and a low cost for labour result in a huge rise in employment as business establishments are more inclined to the cheap labour. Low labour costs results in a shift of money usage from wages into advancement through technology.

According to Julian Simon, a prestigious economist at the university of Maryland, the long run benefits of population growth that link to economic development of poor countries are on the positive balance, contrary to conventional wisdom. An increase in the number of consumers and an increase of income, expand the demand for raw materials as well as finished products. Naturally this would lead to a shortage in goods and services caused by the high demand for product [188]
and services, forcing up prices for the natural resources. The increased prices will trigger a search for new ways to satisfy the increasing demands in order to meet expectations. Sooner or later new sources and innovative substitute will be found. The new discoveries lead to cheaper natural resources than existed before the increase in population and the demand for goods and services begin. In turn, it leaves a nation better off that if the shortages had never appeared, meaning the nation has gone through a process of economic growth and development.

Normally, through conventional wisdom, economists might argue that population growth and overpopulation hinders the growth output per worker\(^2\), the important factor to this theory is Malthusian diminishing return to labour, as the stock of capital, including land, does not increase in the same proportion as does labour. Another important factor, that contradicts Simon's theory, is the dependency effect, which suggests that saving is more difficult for house hold when there are more children and that higher fertility causes social investment funds to be diverted away from high-productivity uses. These factor seem to suggest that high fertility, and, more importantly, increasing population growth create a negative effect on output per

worker and on the broader aspect, it creates negative economic growth.

Who is right, in asserting the positive or negative relation between population growth and economic growth? In the case of India, one of the world's most prosperous developing nations, one can try to place India in the positive economic growth theory or the negative economic growth theory (Malthus' theory).

India is considered a developing country although it is one of the most affluent developing countries in the world due to recent economic growth. Government reforms over the past six years brought about an unprecedented strong economic performance. It grew at a rate of over 5 percent in 1992-93 and 6 percent in 1993-94 and 7 percent in 1997. While the GDP growth rate increase, India ranking over other nation's GDP keeps climbing, behind countries like the U.S. Japan, China, Germany and other wealthy developed nations. Yet at a time of economic growth, India seems to be going through an enormous population growth. Currently India has a population of over 900 million and just about to reach the 1 billion mark. Although it may seem that India is overpopulated, statistics show that the population growth rates have fallen over the years and reduced the rate of growth.

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Fig. 5a: Growth rate of population, GDP, per capita GDP
India 1901 - 2001
Table - 5.1: Population and Economic Change in India (1901 - 2001)\(^4\)

<table>
<thead>
<tr>
<th>Census year</th>
<th>Annual percentage growth rate of population</th>
<th>Growth rate of GDP (%)</th>
<th>Growth rate of per capita GDP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>0.30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1911</td>
<td>0.56</td>
<td>2.1</td>
<td>1.5</td>
</tr>
<tr>
<td>1921</td>
<td>0.03</td>
<td>-0.8</td>
<td>-0.9</td>
</tr>
<tr>
<td>1931</td>
<td>1.06</td>
<td>2.3</td>
<td>1.3</td>
</tr>
<tr>
<td>1941</td>
<td>1.34</td>
<td>0.8</td>
<td>-0.6</td>
</tr>
<tr>
<td>1951</td>
<td>1.26</td>
<td>-0.5</td>
<td>-1.7</td>
</tr>
<tr>
<td>1961</td>
<td>1.98</td>
<td>3.7</td>
<td>1.8</td>
</tr>
<tr>
<td>1971</td>
<td>2.20</td>
<td>3.3</td>
<td>1.0</td>
</tr>
<tr>
<td>1981</td>
<td>2.22</td>
<td>3.5</td>
<td>1.2</td>
</tr>
<tr>
<td>1991</td>
<td>2.14</td>
<td>5.4</td>
<td>3.1</td>
</tr>
<tr>
<td>2001</td>
<td>1.93</td>
<td>6.2</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Still, overpopulation is a problem in India and has been addressed by many organizations: UNFPA and the population summit, and more, according to United Nations, India's population has gone from 348 million in 1950 to 850 million in 1990 to 950 million in 1998. According to this data India's population is increasing at an average rate of 2% a year, and is gradually slowing down. The problem addressed by the United Nation, that accompany high populations, are poverty and famine. In a population of 900 million almost 300 million are under the poverty line, plagued by malnutrition, illiteracy and social inequalities.

\(^4\) Population change in India by Deepak Lal, 2005.
India seems to sustain economic growth and stability, through growth in a variety of sectors, agriculture, industrial and the financial structure. India is still attaining its high rates of economic growth despite the rise in population. This is due to the low unemployment rates that itself to India's economy. India has an increasing rates of employment that averages about 1.2% annually. Like its Asian neighbours India has a large skilled work force, which unlike other Asian nation, is protected by politically powerful unions, India has also an abundance of white collar worker to further advance the industrial and agriculture sector.

Is India benefiting from their massive population and rising population growth? Yes, India's economy no doubt is achieving positive balance of result from their population growth. Although one cannot say that India's population has a 100% positive effect on economic growth, but one may say that India is certainly profiting from as enormous population.

A variety of factors play into the models that depict India's growing economy. Due to the rising population a large labour force is thus created. Yet the labour force never arrived from thin air. Through Indian fiscal policies, India was able to spend money on education to instruct the youth and adults, in order to help them play a productive
role in India's economy. Due to the rise in the education among citizen's, India was able to generate a high employment field. The high rate meant that India's economic sectors mainly agriculture and industry, began increasing their productivity.

Increase in productivity thus meant an increase in the output of goods and services. This meant that the nation could now meet demands of the rising population without having to raise prices, making necessities affordable to the poor. The Indian Government acknowledged the high population growth of their nation, initiated fiscal policy on education and thus expanded their frontier through a rise in productivity.

The increase output that the Indian economy achieved created a rise in micro and macro profits which would in turn lead to a rise in GDP. Though everything, India seemed to defy many economists theories that rising population growth, in essence, is detrimental to a nation. India, in fact embraced the theories of Julian Simon, and used their disadvantage, or even advantage to further expand their possibilities. Yet there still is a rising problem in India concerning poverty and malnutrition. But, through the theory that population growth has a positive effect on economic growth, India will prosper in the long run.
In the end, India has become one of the world's fastest growing economies. Primarily due to the rise in population growth creating a positive effect on its long run economic growth. India is now ranked one of the top producers in agriculture and is a top nation in terms of GDP in a developing country. In many cases, economists are saying that population growth has a positive effect on economic growth of a nation. In reality, economists might say, "If it weren't for its high populations India would still be a suffering developing nation".

Population is very closely linked to the economic development of a human. The quality, quantity, structure, distribution and movement of a population can help or hinder the rate of economic development.

The developed country with low population density and a low percentage of employable people needs an increase in population in order to keep up with economic development. On the other hand, for an underdeveloped country with high population density and a high percentage of employable people, any increase in population will be detrimental to its economy.

Man is a producer as well as consumer, and in order to balance the rate of production and the rate of consumption, a certain population level must be maintained. The status of the economy determine the appropriate level. Population policy must be developed according to
the following guidelines:

(1) It must be based on the society's economic development.

(2) Since economy and population are closely related, they must both be worked on at the same time.

(3) Both the quality and quantity of life of the population must also be worked on at the same time.

Dealing with the relationship between population and the economic development of a society properly can bring about rapid improvement in the economic development and standard of living of that society.

**ECONOMIC CHANGES**

Since independence in 1947 India has made enormous strides towards the progress of the nation. The concerted and coordinated efforts of the national government through various five year plan, starting from 1951 have changed the economic scenario of the country considerably. Agriculture production has risen steadily and progress of industrietization has increasingly played a role in India's economic development. During 1950-51 agriculture's contribution was about 50% of the country's gross domestic product. In terms of its overall economic structure, India remains a primarily rural and agricultural

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6 Populaction growth and Economic Development in low-income countries. By Ansley Coale and Hoover.

[195]
country. There are indeed many areas of economic development, well
developed areas of industrial production and social development in
which India's achievement have been creditable.

Since late 1970's, the governments policies were directed towards
liberalization of trade, with flexible exchange rates to encourage the
growth of exports. However during the period 1979 to 1990, the gap
between the domestic rate of saving was reflected by the greater total
value of imports compared to export, and the deficit was financed
through foreign borrowing. Traditionally India exported spices, tea,
cotton, coffee and tobacco in large quantities. During the last 20 years. A
number of manufactured and processed food products have been
added to this list. For example fresh, frozen and processed fish and
fisheries product. The major imports to India are oilseeds, wool, pulses,
rice, wheat and sugar. The country is not endowed with great mineral
wealth and mining accounts only for 2% of GNP. However, reserves of
iron are estimated to be among the world's largest. India also purchases
some bauxite, copper, manganese, chromite and gold. India produces
nearly 90% of its own energy requirements of which almost half come
from solid fuel, mainly coal\(^7\). India's manufacturing sector produces
basic industrial inputs such as steel, cement and chemicals as well as

\(^7\) Population Growth and Economic Development in Low Income Countries. By
Ansley Coale and Hoover.

[196]
fairly sophisticated machinery. The Indian economy had to face many difficulties especially after the Gulf crisis. Inspite of the economic constraints, growth has been registered in both agricultural output and industrial production. The average annual growth rate of GDP rose to 4.3% during 1992-93 and 1993-94.

India's population had grown to 593 million by 1974, 900 million by 1992 and it has crossed the one billion mark now. But a large proportion of the population continues to struggle and is still short of minimum basic needs. The average per capita income for the year 1991-92 stood as low as Rs. 5-529 per annum. The unprecedented population increase is an ongoing threat to India's economic development. The faster movement of the population growth compared to economic growth never allows India to come out of the vicious circle of per capita contributions.

At the same time, the enormous size of the country, its cultural, ethnic and religious traditions social backwardness, its pacucity of communication and variety of climate, geographical and socio-economic activities, make nation-wide solution incomparably difficult to devise and implement. One of the most important aspect of India's development progress is its remarkable regional disparity in eliminating basic deprivations.
The economy suffers from large and incessant inequalities. The majority of the poor people live in rural areas and belong to the category of landless labourers and the land continues to be highly inequitably distributed. On the other hand under employment and unemployment are standard feature of urban life. The rural population below the poverty line in some of the relatively economically developed states, is about 12 percent, while in some of the other states, more than 65 percent. The rural population is below the poverty line in terms of social development this contrast is even sharper. For example - female literacy of the major Indian States varies from 20 percent to 86 percent. Other indicators relating to health, nutrition etc. also registered significant internal diversities.

Various factors, such as the level of literacy, female education, nutritional standards, infant mortality, employment, income distribution, public distribution, political commitments etc. and their corresponding interaction, contribute to these striking variation's among states in the livelihood of common people.

It may be mentioned that broad state level comparison may not be able to capture fully the extent of diversities among various indicators characterizing several factors of development. Nevertheless, state level indicators are of prime importance as the state is a crucial
and political unit. A wide range of relevant fields of actions including health and education are constitutionally defined as "State Subjects: to be handled by the individual states rather than the central governments". This provides strong motivation for studying the variability of inter-state development and thereby identifying the indicator responsible for existing diversity in the development. In this context, any state level policy action on the choice of the issues relating to human livelihood necessarily depend on the proper measurement of development, process and the suitability of the choice of the indicator affecting development.

SOCIO-ECONOMIC DEVELOPMENT IN INDIA

A Regional Analysis

Development is the multi-dimensional phenomenon. Some of the major dimensions include: the level of economic growth, level of education, level of health services, degree of modernization, status of women, level of nutrition, quality of housing, distribution of health and services and access to communication. In India, the progress of socio-economic development among major states is not uniform. This study examines the existing variability of inter-state development and thereby identifying the indicators responsible for the diversity in development.


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Instead by studying the variability of a particular variable across the state, a competitive index based on several indicators has been developed using principle component analysis and states are arranged according to the indices derived using four broadly accepted components:

(a) economic production and economic condition or in other words level of economic development.

(b) common minimum needs.

(c) health and health related services and

(d) communication

The findings of the analysis supports the general perception about the states. The states in India are marked with wide disparity in socio-economic development. The factor which are found to be more important for the overall development process, relate to basic needs like education availability of food, minimum purchasing power and facilities like safe drinking water, health care infrastructure etc. It is also found that enrollment ratio cannot be raised unless minimum needs of the common people are satisfied. The true development requires government action to improve elementary education, safe drinking water facilities and health care and to remove barriers against social
minorities, especially women. The role of social development such as literacy and particularly of female literacy in promoting basic capabilities emerges as the perquisite to overall development.

There results clearly emphasize the role of well functioning public actions in improving the overall living condition of the people. Although economic growth in the sense of expanding gross national product and other related variables is one of the most fundamental input to the overall development process, the basic objective of development should focus on the expansion of human capabilities which has been neglected for long in India.

The planning commission in 1979 defined the poverty line on the basis of per capita monthly expenditure Rs. 49.09 in rural areas and Rs. 58.64 in urban areas at this prices corresponding to per capita daily calorie requirement of 2400 in rural areas and 2100 in urban areas. For subsequent years, the poverty line has been adjusted because of price changes, using the price indices which are implicit in the private consumption expenditure series reported by National Account Statistics. The corresponding levels at 1987 - 88 price level are Rs. 131.80 in rural and Rs. 132.13 in urban areas.

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10 Population and Planning by A. Ghosh
Thus, per capita consumption expenditure of states can be taken as a proxy index of state income standard too. The NSSO (National Sample Survey Organization) published, in their 43rd round survey, the state level per capita consumption expenditure for 30 days. Those figures have been used here. Several planning strategies are being implemented to meet the challenges to eradicate poverty.

After the second world war the study of economic development of the economically backward countries grew very rapidly with the issue of economic needs and deprivation of the common people. Studies in this respect and subsequently in the area of human development and physical quality of life, especially in the context of India, are voluminous. Several authors used the methodology given by INDP to construct the composite index of development. Irrespective of the arguments and debate regarding the methods to pursue the policy, there remains the question of how to measure the progress of development. As the major focus of this paper is to study the socio-economic differential and related behaviour in a development perspective, the macro-level country characteristics and individual state level variable affecting quality of life, directly or indirectly, through developmental process have to be identified. The Indian subcontinent with its large size, wide structure and eco-social disparities is better
understood and better interpreted when studied at the regional level. Analysis of data in disaggregated form narrows down the variability and enables better identification of special characteristics. Accordingly the country is divided into five different regions of 16 major states, which account for over 95 percent of the total population. The Northern Region is comprised of four states: Punjab, Harayana, Himanchal Pradesh and Rajasthan. Western region is comprised of two states; Maharastra and Gujarat; eastern region is comprised of four states, West Bengal, Assam, Orissa and Bihar; and the Central region is comprised of two states; Uttar Pradesh and Madhya Pradesh and finally Southern region is comprised of four states; Andhra Pradesh, Kerala, Tamil Nadu and Karnataka.

In general development can be viewed as a multidimensional phenomenon: some of its major dimensions include level of economic development, level of education, level of health services, degree of modernization, status of women, level of nutrition, quality of housing, distribution of goods and services and access to communication. Again, it is not possible to study one particular factor mentioned above in isolation. The movement of the indicators specifying various level of socio-economic development among states are not uniform. Thus, instead of studying the variability of a particular variable across states,
a composite index based on several indicators is being developed and then the states are arranged according to the indices derived. Though this method of composite index for ranking of the regions is widely popular in development economics, there are few attempt made in the field of demography. None of these studies, however, has received the general endorsement of the international community and none of the studies include range of available modernization measure. Here a composite index of development is derived by using four broadly accepted components: (a) economic production and economic condition or in other words level of economic development. (b) common minimum needs (CMN) which in general, the states are supposed to provide: however many of these categories are problematic to measure and there is no internationally accepted rule to measure such categories.

Indicators Relating to Economic Development

The selected variables for level of economic development are as follows:

(i) GDP per capita at constant price (1980-81 = 100)
(ii) Per capita consumption expenditure for 30 days
(iii) Percentage of people above poverty line (Above)

(iv) Employment Rate

Of the many choices available for measuring economic production, state level GDP per capita is the most widely accepted and commonly available indicator.

The State level GDP state domestic production SDP figures are available from the directorate of economic and statistics of respective state governments. One important aspect of economic health of the people in the nations is the capacity of their expenditures towards consumable goods to the extent possible. It is universally accepted that income and consumption vary in the same direction. Thus per capita consumption expenditure for 30 days.

Those figure have been used here several planning strategies are being implemented to meet the challenges to eradicate poverty. It is perceived that the foremost priority in eradication of poverty is to meet the common basic needs of the people.

Poverty has to be identified with deficiency in total level of livings. And total level of living includes not only energy requirements but also balanced diet needed for health, and the other components of basic needs essential for human existence at a tolerable level. The percentage of people below the poverty line of the states that level of
output; income and distribution of necessary goods and services irrespective of the of determining the poverty line. Enough there is no general agreement about a normal calorie intake, we have taken the state level data on percentage of people above poverty line from CMIE (centre for monitoring Indian Economy) publication on social sectors.

Another important indicator for economic development is the employment rate. It is indicator of the ability of the economy to create and cater jobs. This particular variable is not only an index of the overall economic development but also serve as a crucial link between social and demographic determinants. Employment data for individual states has also been taken from CMIE (Centre for Monitoring Indian Economy) publication on social sectors.

**Indicators Relating to Common Minimum Needs (CMN)**

Selected variables for this group are as follows:

1. Literacy (Enrollment Ratio) (ENROL)
2. Percentage of households having safe drinking water (WATER)
3. Percentage of houses having electric facility (ELEC)
4. Percentage of households living in pucca house (HOUSE)

Education is one of the principal attributes of the quality of a population. It plays an important link between social and economic development processes. For the education component of the
developmental process two types of indicators are generally used. One is cumulative and measures the proportion of the population with certain characteristics relating to educational attainment, such as the percentage of the population literate or the percentage with primary schooling completed. The other type of measure is current and measures the proportion of the student age population currently enrolled in school.

The Indian economy has shown remarkable progress since reforms, averaging 6% GDP growth in the past decade. Today, India is one of the fastest growing economies in the world. India's low-cost, skilled labour force has been an important driver in its economic growth. India today has the largest population in the world. In the 1960's India's population was 548 million, with an annual growth rate of 2.2%. Population growth rate peaked at 2.22% in the 1970s. The growth rate began to fall in the 1980s with the introduction of family planning policies. The growth rate slowed to 1.8% in the 1990 and has slowed down further to 1.5% since 200012.

J.L. Nehru believed that India's large population was an important asset and "the key to the economic future of our nation". Development models link human assets to economic growth. The micro

12 Globalization and Economic Policy by Manoj Kumar Agarwal.
[207]
economic development model pioneered by A.J. Coale and E.M. Hower indicates that, the rate of economic growth in a developing country is primarily determined by two factors:

- the growth in labour force
- the amount of capital available per labour

Today 36% of India's one billion population is below the age of 15 years\(^{13}\). This means that by 2020, 325 million people in India will reach working age. India will have the largest working population in the world. This expected rise in India's working population comes at a time when the developed world is faced with large ageing populations.

Population can be fuel for faster economic growth is a demographic window of opportunity for the country. It is estimated that one-third of the economic growth in East Asia between 1950 and 1990 came from the demographic window in these countries. A report by Goldman sacks predicts that of the four big emerging economics, Brazil, Russia, India and China - India alone, equipped with the advantage of a large, vibrant workforce, will grow at more than 5% a year until 2050. However, economic growth and prosperity is not ensured by an expanding population, but by what economists call 'good human capital': a population equipped with the skills and resources to

\(^{13}\text{Population and Economic Development in India by N.R. Narayana Murthy. 16 April 2005.}\)
participate in the economy. Good human capital contributes to high levels of labour productivity and capital contributes to high level of labour productivity and entrepreneurship, which in turn drive growth in the economy. The key to creating good human capital on the Human Development, supported by the right policy environment, critical policy areas include education, public health, family planning and economic policies such as labour market flexibility. However, key indicators show how India has fallen behind in its efforts in human development.

We rank 127th among 177 countries on the human development index. Adult illiteracy in India is 39%, compared to 9% in China. In absolute terms, over 300 million people in India are illiterate. India, according to Amartya Sen, "is in danger of becoming one of the most illiterate parts of the world", 25 million children in India are out of school - accounting for one-quarter of the world's 104 million children. Malnourishment strikes 64% of children in India. China pulls one percent of its population out of agriculture every year and puts them into constructions and manufacturing units. Such big-scale job creation. India has failed to generate due to labour market inflexibility and curbs on investment. The poverty count in India is still over 260 million people – 193 million in rural and 67 million in urban India.

With limited progress in human development, India's large
population can become a liability rather than an advantage. India's present rate of population growth translates into 16 million more Indians every year, rising to almost 18 million a year by 2016. India's population of around 1.5 billion. A failure to stabilize India's population will have significant implication on the future of India's economy. A comparison of India and China's GDP growth versus purchasing power indicates the impact of population growth on per-capita income.

Measured by purchasing power per person, China and India were at the same level at the end of the year 1980. In the 1990s, both economies saw spurts of growth. India's real GDP grew by 5.8% a year from 1991 to 2003. China's GDP grew by 9.7% between 1991 and 2003. However, GDP per person diverged faster than economic growth. China's GDP per person grew by an average of 8.5% between 1990 and 2003. As a result, adjusted for GDP per person, China has grown to be 70% richer than India between 1990 and 200314. China's national income per head in 2003 was $1100 compared with $530 in India: a considerable gap achieved in one decade. At the current rate of population growth India must average an annual 9% GDP growth rate till 2016, to achieve Indonesia's 2004 per capita income level of $980.

Today, high population densities have led to overloading of

\[14\] Planning Commission, Draft Fifth Five Year Plan, Delhi.

[210]
system and infrastructure in urban area; 27% of India's urban population today lives without sanitation 24% lives without access to tap water. The population of India's major cities is expected to increase by an average of 25% by 2015. Mumbai, for example one of the world's most densely populated cities, is expected to grow from 18 million people today to 26 million people by 2015. India's population will be 72% urbanized by 2030. It is estimated that India will need to construct 3.6 million housing units in urban area every year, to address additional population requirements.

The annual growth in India's population alone is estimated to require the opening of 66,000 new primary schools and 3,000 new health centres every year. To provide for the food requirements of the additional population, India will have to consistently increase food production by 3% every year. Population growth today will have a key impact on India's future demographics. In 2003, less than 8% of India's population was over the age of sixty. However by 2050 over 26% of the population will reach retirement. India's ratio of working population to dependents will fall to 0.9 consequently, the burden of the ageing population on India's economy will increase significantly. The population impact on India's resources has been severe. According to the World Bank, resource degradation costs the Indian economy 4.5% of
GDP annually. Common property such as grassland has declined by 2.5%, through encroachments and over cultivation. The water level in India is falling by an average of six feet every year. It is predicted that India will cross into water scarcity by 2025. An estimated half of India's 329 million hectares of soil is degraded. India will lose all its productive land to desertification within 20 years, if the present annual loss of land continues.

The implication of future consumption of India's resources are significant. Today, the per-capita consumption level in India is one-twentieth that of Europe. However, with economic growth, approximately 30 million people are entering India's middle class every year. India's household consumption spend is expected to double to $510 billion by 2008. India is undergoing what the economist Stuarthart calls the transition from a 'survival economy' towards a 'consumption economy'. The demand of India's population on resources will as a result, increase significantly. China's consumption demands for example have soared with economic growth.

China saw 11,000 new cars enter its roads everyday last year. In 2004, China accounted for 20% of world consumption of aluminum, 35% of global demand for steel and coal, and 45% of worldwide purchase of cement. In fact, according to the economist, Chinese
demand was primarily responsible for the 50% rise in the magazine's commodity-price index over the past three years. The future energy demands of India's and China's populations will put significant constraints on world resources. China's present demand of one million barrels of oil a day is estimated to have been a key factor contributing to the rise in oil prices in 2004.

Goldman Sachs estimates that India's contribution to global oil demand growth will overtake China's within 15 years. The related environmental stress will be unprecedented. According to the International Energy Agency, China and India will produce about one-fourth of the world's emissions of carbon dioxide by 2010. The rapid growth in emerging economies cannot be sustained in the face of mounting environmental deterioration and resource depletion. The consumption model of the European and US economies would have an irreversible impact on resources and environment in India and China. Consequently, the challenge for India today is two pronged: to stabilize population growth; and combine economic growth with a 'sustainable economy'. To stabilize India's population by 2045 at 1.5 billion people, India needs to achieve the replacement level of growth—a fertility rate of 2.1 versus the present 3.3—by 2010. I believe this can be done. To

quote Martin Luther King, "The plague of overpopulation is soluble by means we have discovered, and with resources we already possess". Efforts to bring down India's population growth rate must implement a combination of short and long term goals: drastically reducing birth rate in the short-term; and implementing long term policies to bring down fertility rates. India's family planning policy has only been partly successful in controlling birth rate. There has been failure at the state-level in implementing family planning programmes. The unmet need of contraception, for example, is nearly 20% in Uttar Pradesh. There has been little analysis of the effectiveness of India's family planning programmes. Haryana, for instance has implemented incentive based population programmes: but the state continue to have fertility rates higher than the national average.

Local government bodies and NGOs must be consulted for better implementation, and to create more effective programmes. Localization of family planning programmes will also help address specific needs of the local population, and create greater accountability. The government must focus on creating a network of information management programme to educate families on various contraceptive methods. Involvement and education of women in family planning is critical to increasing the use of contraceptives in families. Short-term, State level
performance targets are required, to assess real progress.

Family planning policy must also focus on long-term goals. In the long term, a focus on human development - improvement in literacy rates and women's and children's health - brings down fertility rates and population growth. For example, it is India's poorest and most illiterate states - the states of U.P., Bihar, Rajasthan and M.P. - that have the highest average fertility rate of 4.3. A decrease in population growth, however, has been marked in the southern states of Kerala, Tamil Nadu, Karnataka and Andhra Pradesh. Today, these have fertility rates equal to or slightly higher than the replacement level of 2.1. Governments here focused on human development, opened up local economies and improved social services faster than in the north. Rising female literacy in these states also contributed to family planning. The economist, Wattenberg, has shown that worldwide, the correlation between falling illiteracy and falling female fertility is nearly exact. A focus on women's and children's health also contributed to population control. A decline in maternal and infant mortality rates led to a fall in fertility rates. In Kerala today, the maternal mortality rate is 30; in Madhya Pradesh it is 200. Clearly, human development goes hand in hand with lower population growth. To maximize human capital, we must empower people by creating access to key resources. In
the words of George Eliot, "The strongest principle of growth lies in human choice", people should be given the skills and resources to make employment choices. This means creating access to health and education resources, improved access to infrastructure, and job creation. India cannot afford to ignore the implications of unsustainable economic and population growth. Today we need strong, effective leaders, who will seriously strive for a quick change in situation. The first step towards change is awareness, leader must encourage public dialogue on the implications of India's population growth; the success and failures of our population policy, and the need for sustainability.

Leaders and policy makers must encourage research aimed at evolving solutions to stabilize population, and achieve sustainability. India's focus on sustainability must change from piecemeal project aimed at controlling population to long-term solution with a broad focus on population prevention, conservation of resources and innovation for clean technology. The environmentalists, Paul Elhrick and Barry, Commoner, observed that the environmental and resource burden of a population is a function of three factors: consumption, population size and technology. Consequently, when population size and consumption level are high, the key to reducing the resource

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16 Population Growth and Economic Development by Subremanlan Swami. [216]
burden and creating sustainability is innovation in technology.

India has the opportunity to leapfrog old, inefficient technology and focus on new, sustainable solution, more efficient transportation and sanitation system, clean-fuel vehicles, better product and process technologies in manufacturing and bioengineering of crops rather than the use of fertilizers. The government must focus on conservation friendly policies. For example, subsidies on conventional fuel which make it difficult for renewable energy to complete and flat rate electricity pricing which results in over-pumping of ground water, should be removed. The governments can play a key role as a regulator in making Indian industry environmentally responsible.

India's current economic growth is soon, likely to push it into the position as the 5th biggest economy in the world. Already in terms of purchasing power the Indian economy is ranked as the third largest\textsuperscript{17}. Economic growth is currently averaging 5-6% and there are sings that this is likely to continue in the future.

**Reasons for Success of Indian Economy**

Reasons for economic growth include a raft of supply side policies that have helped to increase competitiveness and productivity. For example stringent rules governing financial markets have been

\textsuperscript{17} Economic Survey 2006-07, New Delhi : Ministry of finance Govt. of India.

[217]
comfortably relaxed allowing more flexible loans. These have helped in increasing investment which has led to increased capacity and competitiveness. There has also been increased focus put on training and education of at least part of the population. Despite the rapid economic growth so far the Indian economy has managed to maintain relatively stable prices, with inflationary pressures remaining subdued except for the lost few months.

The success of the Indian economy shares several parallels with the Chinese economy. Like China the Indian economy has a plentiful supply of cheap labour. This has enabled low labour costs for firms which have made them particularly competitive in labour intensive industries. This has often been at the expense of Western manufacturing sectors. For example recently Dyson's announced that they would switch production of vacuum cleaners from U.K. to India where labour costs are cheaper.

The Indian economy has also benefited from the process of globalization and improved technology. A good example of this is in call centres which benefited from the low labour costs. Due to internet and telephones call rates being cheaper many Western companies have found it profitable to switch their call centres to place in India where costs are significantly lower. India is at a particular advantage for this
growing market because compared to other developing countries English is spoken to a reasonable standard by a high share of the population. The Indian economy has been able to diversify from its primarily agricultural roots. Mumbai has emerged as one of the leading financial centres in Asia. India is also increasingly benefiting from foreign investment into a variety of industries.

**Problem Facing Indian Economy**

Maintaining growth rate of 6% prevent inflation and unemployment rising in the future are various issues the Indian economy needs to address.

**Quality of Infrastructure** : Many areas in India are not well serviced with poor transport links and under developed communication channels. The lack of energy supplies have also led to power shortage in certain areas. These problems are likely to exacerbate with both a growing population and growing economy.\(^\text{18}\)

**Environmental Costs of Growth**

The high economic growth has led to a burgeoning middle class who have benefited in terms of being able to buy more cars and consume more. However this has led to increased problem of pollution and congestion. This issue is magnified by the excessive crowding faced


[219]
in many Indian cities. Some economists are of the opinion India needs to control its growing population level to provide a more stable economic and social environment.

Remove More Barriers to Entry: The Indian economy is still highly regulated with costs and restrictions faced by business' wishing to enter certain markets. This continues to limit entrepreneurship and their removal is important to continue the flows of inward investment.

Unemployment: Unemployment could be a problem despite the growth of the economy. There is an increase in the number of people entering the Indian labour market, particularly young women. It may be difficult to provide sufficient jobs unless investment continues in manufacturing and the service sector.

Skill Shortage: Although the Indian economy has relatively good level of education, there still exist severe skills shortage in certain areas such as IT, there is also a growing gap between rich and poor in different areas of the country. There is need for a concerted effort to increase both academic and vocational skills to a broader section of the population. A large percentage of the India's agriculture is still dependent on the monsoon. E.g. in 2003-2004 agricultural growth fell from 9% to 1%\textsuperscript{19}. To overcome these fluctuations the agricultural sector needs increased investment in irrigation and water supplies.

Strengths of Indian Economy

After several decades of sluggish growth the Indian economy is now amongst the fastest growing economies in the world. Economic growth is currently 8-9%, second only to China\textsuperscript{20}.

Despite several problems facing the Indian economy many economists point to potential strengths of the Indian economy which could enable it to continue to benefit from high level of economic growth in the future.

Demographics of India are Favourable: India still has a positive birth rate meaning that the size of the workforce will continue to grow for the foreseeable future. A rising workforce helps to increase saving and investment it also enables increased productivity.

There is much Scope for Increase in Efficiency: India has one of the largest English speaking populations in the world. For labour intensive industries like call centres India is an oblivious target for outsourcing. This is an economic development likely to continue in the future.

Positive Growth Forecasts: A recent study by Goldman Sachs, forecasts India could grow at a sustainable rate of 8% till 2020.

Economics experts and various studies conducted across the

globe envisages India and China to rule the world in the 21st Century. For over a century the United States has been the largest economy in the world but major developments have taken place in the world economy since then, leading to the shift of focus from the US and the rich countries of Europe to the two Asian giants - India and China.

The rich countries of Europe have seen the greatest decline in global GDP share by 4.9 percentage points each. Within Asia, the rising share of China and India has more than made up for the decaling global share of Japan since 1990. During the seventies and the eighties, ASEAN countries South Korea, along with China and India, contributed to the rising share of Asia in world GDP. According to some experts, the share of the U.S. in world GDP is expected to fall (from 21 percent to 18 percent) and that of India GDP to rise from 6 percent to 11 percent in 2025, and hence the latter will emerge as the third pole in the global economy after the US and China.

Indian economy experienced a GDP growth of 9.0 percent during 2005-06 to 9.4 percent during 2006-07. By 2025 the Indian economy is projected to be about 60 percent the size of the US economy. The transformation into a tri-polar economy will be completed by 2035, with the Indian economy only a little smaller than the US economy but larger than that of Western Europe. By 2035, India is likely to be a larger
growth driver than the six largest countries in the EU, though its impact will be a little over half that of the US.

India, which is now the fourth largest economy in terms of purchasing power parity, will overtake Japan and become third major economic power within 10 years.

**Issues and Priorities for India**

As India prepares herself for becoming an economic super power, it must expedite socio-economic reform and take steps for overcoming institutional and infrastructure bottlenecks inherent in the system. Availability of both physical and social infrastructure is essential for sustainable economic growth.

Since independence Indian economy has thrived hard for improving its pace of development. Notably in the past few years the cities in India have undergone tremendous infrastructure upgradation but situation is not similar in most part of rural India. Similarly in the realm of health and education and other human development indicators India's performance has been far from satisfactory, showing a wide range of regional inequalities with urban areas getting most of the benefits. In order to attain the status that currently only a few countries in the world enjoy and to provide a more egalitarian society to its mounting population, appropriate measures need to be taken.
Currently Indian economy is facing these challenges:

- Sustaining the growth momentum and achieving an annual average growth of 7-8% in the next five years.

- Simplifying producers and relaxing entry barriers for business activities.

- Checking the growth of population; India is the second highest populated country in the world after China. However, in terms of density, India exceeds China as India's land area is almost half of China's total land. Due to high population growth, GNI per capita remain very poor. It was only $2880 in 2003 (World Bank figures).

- Boosting agricultural growth through diversification and development of agro processing.

- Expanding industry fast, by at least 10% per year to integrate not only the surplus labour in agriculture but also the unprecedented number of women and teenagers joining the labour force every year.

- Developing world-class infrastructure for sustaining growth in the sectors of the economy.

- Allowing foreign investment in more areas.

- Effecting fiscal consolidation and eliminating the revenue [224]
Fig. 5c: India GDP growth rate
enhancement and expenditure management.

- Empowerment the population through universal education and health care. India needs to improve its HDI rank, as at 127 it is way below many other developing countries performance. The UPA government is committed to futureing economic reforms and developing basic infrastructure to improve lives of the rural poor and boost economic performance. Government had reduced its control on foreign trade and investment in some areas and has indicated more liberalization in civil aviation, telecom and insurance sector in the future.

A growth rate of above 8% was achieved by the Indian economy during the year 2003-04 and in the advanced estimates for 2004-05, Indian economy has been predicted to grow at a level of 6.9%. Growth in the Indian economy has steadily increased since 1979, averaging 5.7% per year in the 23-year growth record. In fact, the Indian economy has posted an excellent average GDP growth of 6.8% since 1994 (the period when India's external crisis was brought under control. However, in comparison to many East Asian economies, having growth rates above 7%, the Indian growth experience lags behind. The tenth five year plan aims at achieving a growth rate of 8% for the coming 2-3 years.
Though the growth rate for 2004-05 is less than that of 2003-04, it is still among the high growth rates seen in India since independence. Many factors are behind this robust performance of the Indian economy in 2004-05. High growth rates in industry and service sector and world economic environment provided a backdrop conducive to the Indian economy. Another positive feature was that the growth was accompanied by continued maintenance of relative stability of prices. However, agriculture fell sharply from its 2003-04 level of 9% to 1.1% in the current year primarily because of bad monsoon. Thus, there is a paramount need to move Indian agriculture beyond its centuries old dependency on monsoon. This can be achieved by bringing more area under irrigation and by better water management.

Because of weakening of the US dollar for the last two year, (caused mainly by widening US deficits) Indian rupee has steadily appreciated vis-a-vis dollar. Though this trend saw a brief reversal during May-August 2004. The latest Re / $ Exchange rate (March 2005) stood close to 44. Despite strengthening nominally against US $, rupee depreciated against other major non-dollar currencies. Thus, the real effective exchange rate of the rupee depreciated and this trend continue until and 2004.
Uttar Pradesh is the biggest state of India as it resides one sixth of the nation's population. This is one of the few states where population growth rate was still getting higher in 2001 census from the earlier peak of 1991. Other demographic features like birth rate death rate; IMR, literacy rate etc are not improving at desired pace. It appears that policy interventions are not up to mark as is reflected through various indicators. Incidentally, Uttar Pradesh is also one of the most backward state of India where more than 30 percent of the population lives in object poverty despite growing maximum quantity of food grain and making available the same to the deficient states. If can be brought out through the census 2001 that there is acute deficiency of housing, in-house, toilets, drinking water, electrification of such houses and drinking water in Uttar Pradesh. Somehow, it appears that growing population size in Uttar Pradesh is having its adverse effect on poverty removal, improving quality of life and overall economic development. In this regard, merely intervention through one particular programme might not be of much help. It requires a big-push strategy for population stabilization that also help in poverty removal and overall economic development. However, with the help of prudent policy

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21 Population Growth and Economic Development of India by Manoj Agarwal. [227]
initiatives at the state and national levels, the situation of demographic disadvantage of today in Uttar Pradesh might be converted effectively into demographic advantage in the long run considering the highly slowed down population growth rate in today's demographically advanced states who are also doing well economically.

Conclusion

The increase in population in India subcontinent is such that new mouths threaten to gobble up the margin of fresh savings which alone permits enough capital accumulation for sustained development to become possible. The dilemma is very real. The whole of our modern economy depends upon savings, not upon consuming. But if year after year the population goes on increasing, the number of new mouths coming in to consume can quickly eat up the fresh saving which have been available for the transformation of the economy.

India has the fifth largest economy in the world. India is battling a huge and growing population, water shortage, energy deficit and a decrepit infrastructure.

India is beset with factories, railway, electricity and water reticulation and drainage system that in some cases date back over a century. India has run an intensive birth control programme for several decades with some success but there is still an immense development deficit in basic services in both urban and rural areas.
India is compelled now to import food grain for the first time. This and the volatile cost of imported crude oil ensures India's continued development is under a shadow of precarious food water and energy security.

Economists insist upon more relaxed laws to attract additional foreign capital and better loan arrangements necessary for massive infrastructure investment. The national poverty level has been reduced by only about 1% in the last decade.

Overall the prospects of the Indian economy is positive. It is growing at the fastest rate since independence. This growth provides a much needed opportunity to deal with the wide spread poverty and destitution experienced in many areas of India. However the economy needs to be carefully managed to avoid supply bottleneck and prevent excessive environmental – damage. There is also no guarantee that economic growth will inevitably solve the problem of poverty.

As a country, we have significant social and economic challenges ahead of US. We face unique problem, which requires innovative solution. In the words of Albert – Einstein, "In the middle of difficulty, lies opportunity". We are a nation of great talent. I believe that we have the capability to face these challenges, and the opportunity to transform our nation in the process.