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Population in India's Development

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Historical Perspective, Future Options

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Abstract

The present paper presents a historical overview of population growth trends and patterns in India in the context of social and economic development. The paper analyses how population related factors have been addressed in India within the development context. The paper also discusses the future strategic and policy options for India to address population related issues given the fact that massive growth in India's the population at least in the first half of the current century is almost inevitable. Finally, the paper attempts to present salient features of government policies and programmes to modify the population stock in the country.

Key Words

India, population, population policy, population and development

Background

India is the largest democracy and second most populous country of the world. The huge population of the country has been a matter of concern to development policy makers and development planners right since Independence. The general thinking at the time of Independence was that the massive population of the country and its unchecked growth was detrimental to accelerated social and economic progress and, therefore, efforts should be made to check population growth through curtailing fertility. This wisdom was instrumental in adopting an official population policy and launching the National Family Planning Programme for birth limitation through the promotion of family planning way in 1952. Since then population control or population stabilisation has always been an integral component of the social and economic development agenda of the country. The government highlights the success of official efforts to reduce fertility and check population growth while critiques point to many of its failings and numerous missed opportunities. The fact remains that India's population grew at an average annual rate of more than 1.95 per cent per year during the 1990s, adding more than 183 million people in a period of 10 years between 1991 and 2001. Although, fertility is decreasing, yet the net addition to the population during the 1990s suggests that population growth in India continues to be quite rapid and has important implications to social and economic development processes and improvements in the quality of life. Projections prepared by the United Nations Population Division suggest that very close to 572 million people are likely to be added to India's population during the first half of the current century (United Nations 2008). With such a massive population growth in the years to come, India is poised to become the most populous country of the world, surpassing China by the year 2040.

In this paper, we analyse changes in the population stock in India since Independence in the context of social and economic development and improvements in the quality of life. The key question that the paper attempts to answer is how population related factors have been addressed in India within the development context. The paper also discusses the future strategic and policy options for India to address population related issues given the fact that massive growth in India's the population at least in the first half of the current century is almost inevitable. Finally, the paper attempts to present salient features of government policies and programmes to modify the population stock in the country.

Population Growth and Distribution

At the time of Independence, India was the abode of an estimated 345 million people. This number almost tripled to 1029 million at the 2001 population census (Table 1). It is projected that, by 1 March 2010, India's population would have been swelled close to 1177 million - an increase of approximately 832 million since Independence. By all accounts, the growth in Indian population has been

rapid since Independence. It had important implications for social and economic development and quality of life of the people.

It is well known that a population growing at a rate of 2 per cent per year doubles itself in a period of about 35 years. This has actually happened in India as the average annual population growth rate in the country over the fifty-year period between 1951 and 2001 has been slightly more than 2 per cent per year (Table 2). There are only five states in India - Andhra Pradesh, Tamil Nadu, Orissa, Kerala and Punjab - where the average annual population growth rate during the period 1951-2001 has been less than 2 per cent per year with slowest growth of population recorded in Tamil Nadu. By contrast, the average annual population growth rate has been very close to 3 per cent per year in the smaller states and Union Territories of the country. Among the bigger states, population growth during the 50 years between 1951 and 2001 has been the most rapid in Haryana followed by Rajasthan. For India as a whole, population more than doubled from 361 million in 1951 to 763 million in 1986. During the decade 1951-61, around 78 million people were added to the population of the country. This number increased to almost 183 million between 1991 and 2001 despite a marginal slow down in population growth rate. It is projected that India's population will increase to somewhere between 325 million to 485 million in the first quarter of the present century depending upon the intensity of population stabilisation efforts and speed of fertility decline.

Most of the concerns about India's population growth since Independence have been confined to four central Indian states - Bihar (including Jharkhand), Madhya Pradesh (including Chhattisgarh), Rajasthan and Uttar Pradesh (including Uttarakhand). These four states accounted for more than 41 per cent of country's population at the 2001 population census and in all these states average annual population growth rate over the period of 50 years has been more than 2 per cent per year. During the period 1991-2001, Madhya Pradesh (including Chhattisgarh) is the only state where the average annual population growth rate decreased compared to the period 1981-91. In Bihar (including Jharkhand), it increased whereas in Rajasthan and Uttar Pradesh (including Uttarakhand), it remained unchanged.

One useful feature of population growth is that it is logically closed. This means that the change in population size in a given time period can be exactly determined from the population size at the beginning of the time period and the demographic events that occur during the time period. If the effects of migration are ignored than population growth is determined by the initial population size and birth rate and death rate which, in turn, are determined by the levels of fertility and mortality and age structure effects on the birth rate and the death rate.

The net addition to India's population was around 78 million during 1951-61. This number increased to 183 million during 1991-2001. During the same period, decrease in the birth rate resulted in a decrease of around 112 million in the population but it was almost compensated by an increase of 102 million in the population as the result of the decrease in the death rate. Finally, increase in the size of the population accounted for an increase of 114 million.

The decrease in the birth rate in India has been slower than the decrease in the total fertility rate because of the young age structure of the Indian population. The decrease in the total fertility rate result a decrease of more than 143 million in the net addition to the population during the fifty years under reference but the age structure effects on the birth rate accounted for an increase of 31 million (Chaurasia and Gulati, 2008).

Development Context of Population

Implications of the massive increase in India's population may be termed as serious to both social and economic development and environmental sustainability. Between 1950-51 and 2008-09, the gross national product of the country is estimated to have increased by almost 15 times at fixed (1990-2000) prices from around Rs 2248 billion in 1950-51 to almost Rs 33393 billion in 2008-09 (Government of India). By contrast, the gross national product per capita increased by only about 4.39 times from Rs 6237 per person per year during 1950-51 to Rs 27371 per person per year during 2008-09. The growth of India's economy has been very rapid after the introduction of economic reforms during 1990-91 but a very substantial proportion of the increase in the gross national product appears to have been spent in meeting the basic needs of the rapidly increasing population and, therefore, contributed little to improving the quality of life the people in real terms.

The impact of population growth in India on environmental sustainability are also revealing. Between 1990 and 2002, total energy use in India increased from 366 million tonnes to 538 million tonnes of oil equivalent while the carbon dioxide emissions increased from 680 million tonnes to 1118 million tonnes between 1990 and 2000 as the result of both increase in per capita consumption of energy and increase in population. In fact, the growth in population accounted for more than 56 per cent of this increase in energy consumption and 36 per cent of the increase in carbon dioxide emissions putting considerable pressure on the environment. Population growth since Independence appears to have seriously constrained the availability of resources necessary for social and economic progress and improvements in the quality of life. Similarly, increase in population, in combination with the increase in per capita energy use, has put serious pressure on the sustainability of the environment.. It is obvious that for sustainable development, a balance has to be arrived between the size and growth of the population and the levels and patterns of per capita consumption or use of resources.

For many years, India's population has remained quasi-stable characterised by constant fertility and declining mortality and nearly static population age-structure (Mukherjee, 1976). Fertility transition in India appears have started in 1970 and resulted in a transition in the population age structure. The proportion of population below 15 years of age decreased from more than 42 per cent in 1971 to around 35 per cent in 2001 whereas the proportion of working age population increased from 52 per cent to 57 per cent (Table 3). It is estimated that the increase in the proportion of working age population between 1991 and 2001 had

accounted for around 7 per cent of the growth of the gross domestic product per capita (Chaurasia and Gulati, 2008) which suggests that demographic dividend in India during the 1990s has, at best, been marginal. The reason is that the decrease in fertility has not been rapid enough to induce substantial changes in the population age structure which could have a telling impact on economic growth.

Population Policy

Efforts to curb population growth in India have primarily been guided by the population policies formulated by the government of India. Evolution of these policies has however followed an ad-hoc approach with little institutionalisation. Right since 1952, population policy in India has focussed on reducing the natural growth of the population by bringing down levels of fertility and mortality through the promotion of family planning. As a result, both fertility and mortality are declining all over the country which has led to the transition in the population age structure. However, the demographic transition in India has, at best, been slow. More than 35 per cent of the population in India was below 15 years of age at the 2001 population census.

The impact of the population policy in India can be explored in terms of the realisation of the birth rate targets set at different points in time (Table 4). In the First Five-year Development Plan, a birth rate target of 25 live births per 1000 population was set to be realised by the year 1972. This birth rate target could be realised only after a gap of 30 years. Similarly, the National Population Policy 2000 has set the target of replacement fertility to be achieved by the year 2010. There is, however, little possibility of realising this target before the year 2021. Among different States of the country, Uttar Pradesh (including Uttarakhand) is expected to achieve the replacement fertility only after 2025.

Family Planning

The official family planning programme has been the mainstay of population stabilisation efforts in India since Independence. The delivery of family planning services has however been tagged with the delivery of public health services. As the result, family planning in India has evolved as a techno-medical intervention rather than a social, cultural and behavioural imperative. Even today, it is largely a bureaucratic activity funded almost entirely by the government of India. It has failed to become a people's programme as oft-repeated in almost all policy statements right since Independence and has very limited constituency amongst the masses. This is so when it is well known that family planning can become more effective in reducing fertility and infant and child mortality when integrated with broader social and economic development programmes and activities. The development orientation of population stabilisation efforts in India is still missing to a large extent.

Performance of family planning programme depends upon the realised efficiency which is determined by the goal effectiveness which, in turn, is influenced by needs effectiveness and capacity efficiency. The available evidence

suggests that the needs effectiveness of family planning appears to have increased in most of the states of the country (Table 4). However, little is known about the capacity efficiency (Chaurasia and Gulati, 2008). There is a pressing need of assessing the capacity of the official family planning programme in the context of the felt reproductive and child health needs of the people.

In order to ensure that official family planning efforts are able to meet the family planning and reproductive and child health needs of the people, the programme requires comprehensive reinvigoration. Because of its bureaucratic orientation, the programme, until recently, had followed a numerical targets based, top down approach, which had little room to take into consideration the local context of reproductive behaviour. Preoccupation with achieving numerical targets in terms of new acceptors of different family planning methods resulted in overlooking the social, psychological, cultural and family factors of reproduction with the result that the impact of the programme on the reproductive behaviour of the people has at best been limited.

Since 1996, the target-based approach of programme implementation has been replaced by the community needs assessment approach. However, the institutional mechanism required for the effective implementation of the new approach largely remains elusive. The proportion of couples effectively protected through the official family planning programme appears to have stagnated since 1995-96 which confirms insufficient administrative capacity and organisational efficiency of the official family planning programme to implement the community needs assessment approach.

Successful implementation of the community needs assessment approach requires considerable capacity building at the local level, especially in terms of planning for family planning service delivery and community based monitoring and evaluation. This is a major challenge as decentralisation of the service delivery system and local level planning for service delivery involving the people and their representatives are contrary to fundamental ethos of the public administration system in India. Fortunately, the 73rd and 74th amendments in the Constitution provide a framework for building local capacity for planning, implementation and monitoring and evaluation of family planning services in particular and population stabilisation services in general.

Reproductive and Child Health

One of the persistent contributing factors towards persistent high fertility in many parts of the country is the unacceptably high levels of infant, child and maternal mortality. Although, levels of maternal, infant and child mortality are declining, yet the decrease remains slower than expected. Even today, around 300 mothers die because of the complications of pregnancy and delivery for every 100 thousand live births every year and one in every 100 women face life time risk of maternal death. It is estimated that there were more than 92 thousand maternal deaths in India in the year 2001 and nearly 93 per cent of these deaths occurred in the rural areas compared to just around 7 per cent in the urban areas. It is also estimated that nearly 70 per cent of the maternal deaths are concentrated in Bihar

(including Jharkhand),. Uttar Pradesh (including Uttarakhand), Madhya Pradesh (including Chhattisgarh), Rajasthan and Orissa.

Nearly half of the maternal deaths in India are because of just two causes - haemorrhage and sepsis. Reduction in fertility and an efficient yet effective reproductive health care delivery system are necessary for preventing these deaths. The current approach of the government to prevent maternal deaths is to promote institutional deliveries. This approach may not be effective for two counts. First, most of the deliveries in India occur in out of the hospital settings, especially in the rural areas. Second, huge investments in terms of infrastructure and human resources will be required to ensure availability of institutional delivery facilities of an acceptable standard of quality to all.

Like the maternal mortality, the under-five mortality is also decreasing in the country (5). However, most of the decrease in the under-five mortality is confined to life beyond the first year. Moreover, despite reduction, rural-urban and regional differentials in the under-five mortality continue to persist. It is estimated that nearly 60 per cent of the under-five deaths in the country can be prevented through universal coverage of basic public health and nutrition interventions (Table 6).

Population and Development Integration

Although population issues have always been considered to be integral to the development discourse in India, yet population related variables have never been endogenised in the main macro-economic development planning model. Rather, population projections worked out independently have been used in sub-models like consumption model and sectoral allocations. Similarly, population stabilisation efforts in India have generally been conceptualised, implemented, monitored and evaluated independently of the broader social and economic development progresses despite the fact that there is a close link between the processes of social and economic development and population parameters.

Basic feature of population and development integration in India has been health orientation to population stabilisation efforts, especially family planning. In fact, family planning was conceived as an intervention to address the health related issues of women and children in the First Five-year Plan. Other aspects of population stabilisation and the changes in the population stock have either been ignored or given only a residual attention in the development planning process. On the other hand, at the state level, there has been only a passing reference to the population issues and concerns in development planning because of very weak integrated population and development planning capacity.

Integration of population factors in the social and economic development planning process may be one way of giving a development orientation to population stabilisation efforts in India. Such integration may be most effective at the grass roots level - the interface with the community. Population and development integration at the local level has the added advantage of capturing the local context of population and social and economic development. The 73rd and 74th amendments in the Indian Constitution provides the legal and constitutional basis for such integration.

There is a need to evolve and institutionalised a lens and mirror mechanism for successful and sustained population and development integration. All development efforts and activities need to be viewed through a population lense in terms of their impact on the population stock - size and structure of the population as well as its movement. This means that a population impact assessment exercise must be an integral part of all development activities or programmes. Similarly, population stabilisation efforts must have their reflection in terms of improvements in the quality of life. The challenge is to define the population lens and to characterise the development mirror. Because of the wide social and economic diversity that is so pervasive in India, it is obvious that the definition of the population lens and the characterisation of the development mirror varies from place to place.

National Population Policy

The National Population Policy was announced in 2000 (Government of India, 2000). The ultimate goal of the Policy is to achieve stable population by the year 2045. In order to achieve this goal, the policy envisages achieving replacement fertility (total fertility rate of 2.1 live births per woman) by the year 2010 while the immediate goal is to address the unmet need of the people in terms of contraception, health care infrastructure and health personnel.

Chaurasia and Gulati (2008) have made an attempt to measures the progress of states towards National Population Policy goals by estimating the index of progress in terms of eight indicators, four of which are impact indicators and four are programme indicators. The impact indicators used are total fertility rate, infant mortality rate, maternal mortality ratio, and proportion of females married before 18 years of age whereas the programme indicators are met demand of contraception, proportion of children fully immunised, proportion of safe deliveries, and completeness of birth registration. For the country as a whole, the index of progress was 23 per cent in case of total fertility rate, 29 per cent in case of infant mortality rate, 31 per cent in case of maternal mortality rate and 11 per cent in case of the proportion of females married before 18 years of age around the year 2005 (Table 7). Since the year 2005 was the middle year of the period 2000-2010, the index of progress in terms of any indicator should have been around 50 per cent. Clearly, progress of the country and its constituent states towards the National Population Policy goals is far from satisfactory. It is also clear that, with the existing efforts, there is little probability of achieving the goal of population stabilisation by the year 2045.

Among different states of the country, progress towards population policy goals has varied widely. For the sake of comparison, the states can be grouped in five categories. There is virtually no progress in six states - Arunachal Pradesh, Assam, Jharkhand, Tripura, Uttarakhand, West Bengal. In these states, there is little hope of achieving population policy goals by the year 2010. In eight other states - Bihar, Chhattisgarh, Madhya Pradesh, Mizoram, Nagaland, Orissa, Rajasthan and Uttar Pradesh - the progress is precarious. These states also have a remote probability of achieving population policy goals by the year 2010. In Gujarat,

Haryana, Jammu and Kashmir, Manipur and Meghalaya, on the other hand, there is a probability that with additional efforts, national population policy goals can be achieved. Finally, there are seven states - Andhra Pradesh, Delhi, Himachal Pradesh, Karnataka, Maharashtra, Punjab and Sikkim - which are on way to the realisation of the national population policy goals. Finally, in Kerala, Tamil Nadu and Goa, the National Population Policy goals have already been achieved in three of the four indicators.

A similar scenario emerges when the progress is measured in terms of programme indicators (Table 8). In 15 states of the country, the progress is poor to very poor. It is somewhat satisfactory in only three states - Goa, Tamil Nadu and Kerala. Moreover, the progress is not uniform in all the eight impact and programme indicators. The progress is very poor in terms of the proportion of females married before 18 years of age and in terms of the proportion of fully immunised children in all states of the country. It appears that the health and family welfare services delivery system is still not oriented towards achieving the population policy goals. The National Population Policy calls for the convergence in the implementation of population and health interventions with the social sector programmes and activities. There is however little progress in this direction.

Strategic Options

The starting point for exploring strategic options for population stabilisation may be the prevailing level of fertility. Estimates of the total fertility rate available through the National Family Health Survey 2005-06 suggest that constituent states of India can be divided into the following three broad categories:

I States where the replacement fertility has already been achieved. These states are Andhra Pradesh, Goa, Himachal Pradesh, Karnataka, Kerala, Punjab, Sikkim and Tamil Nadu. These states accounted for almost one fourth of the country's population at the 2001 population census.

II States which are at the threshold of achieving the replacement fertility. These states are Assam, Chhattisgarh, Gujarat, Haryana, Jammu and Kashmir, Orissa, Tripura, Uttarakhand, West Bengal , Maharashtra, Delhi and Assam. In these states, the total fertility rate varies between 2.1-2.7 live births per woman. These states accounted for about 36 per cent of the population of the country at the 2001 population census.

III States where fertility continues to be well above the replacement level. These states are Arunachal Pradesh, Bihar, Jharkhand, Madhya Pradesh, Manipur, Mizoram, Meghalaya, Nagaland, Rajasthan and Uttar Pradesh. Total fertility rate, in these states, ranges between 2.7-4.0 live births per woman. They constituted around 39 per cent of the population of the country at the 2001 population census.

It would be revealing to analyse how future population growth in the three categories of states will contribute to the future population growth of the country. The state-specific population projections prepared by the National Population Commission (Government of India, 2006) suggest that future population growth in the category III states will account for more than 48 per cent of the net addition to

the population of the country between 2001 and 2026 (table 9). By contrast, population growth in the category I states will account for only about 16 per cent of the net addition to the country's population while population growth in category II states will account for about 36 per cent of the net addition to country's population. Thus, more than 50 per cent of the net addition to the population of the country between 2001 and 2026 will be in those states where total fertility rate is either below the replacement level or very close to it. Hastening the pace of population stabilisation should therefore address population growth in all the three category of states. In category III states, fertility in excess to the replacement level will be the primary contributor to future population growth while in category I and category II states, primary source of future population growth will be the population momentum.

Fertility in excess to the replacement level in category II and category III states can be divided into two parts - wanted fertility in excess to the replacement fertility and unwanted fertility. Wanted fertility in excess to the replacement fertility may be measured in terms of the difference between the wanted total fertility rate and the replacement fertility - the targeted total fertility rate according to the National Population Policy 2000.

Estimates of wanted total fertility rate for India and states are available through the National Family Health Survey, 2005-06 (International Institute for Population Sciences and Macro International, 2007). These estimates suggest that in the category II states, all fertility in excess to the replacement fertility is the unwanted fertility. On the other hand, in all but two of the category III states, fertility in excess to replacement fertility is due to both wanted fertility in excess to replacement fertility and the unwanted fertility. The two states where the wanted total fertility rate has been estimated to be equal to the replacement fertility are Jharkhand and Madhya Pradesh (Table 10).

The above exercise suggests that strategic options for achieving national population policy goals and hastening the pace of population stabilisation in different states of the country are different. In category I states, the strategy towards hastening the pace of population stabilisation should focus on addressing population momentum as the current fertility in these states has already reached below the replacement level. In the category II states and in Jharkhand and Madhya Pradesh, on the other hand, strategic concerns should focus on reducing the unwanted fertility as the wanted fertility in these states is already below the replacement level. There is no wanted fertility in excess to the replacement fertility in these states. Couples, in these states, do not want more than two children, on average, and if the unwanted fertility is addressed effectively, replacement fertility can be achieved in these states in the near future.

Issues related to population stabilisation in India should therefore be discussed in terms of issues related to addressing population momentum, issues related to reducing wanted fertility in excess to replacement fertility and issues related to reducing and ultimately eliminating unwanted fertility. The current approach to population stabilisation in India focusses primarily on eliminating the unwanted fertility by meeting the unmet need for contraception as spelt out in the

national population policy 2000. This approach may not contribute significantly to hastening the pace of population stabilisation in the country as it addresses neither the growth of population due to population momentum in category I states nor the wanted fertility in excess to replacement fertility in category III states.

The current approach to population stabilisation may also not be very effective in category III states in view of the fact that the demand for contraception in these states is very low. According to the National Family Health Survey 2005-06, the total demand for contraception in the category III states never exceeds 70 per cent with the only exception of Mizoram. The empirical relationship between the total fertility rate and the contraceptive prevalence rate suggests that even if all the unmet need of contraception is met in these states, it will still not result in achieving the replacement fertility in 8 of the 10 states of this category.

Addressing population momentum, reducing and ultimately eliminating unwanted fertility and reducing wanted fertility to the replacement level are the three essential elements of any strategy to achieve population stabilisation in India. Since different states of the country are at different stages of demographic transition, relative importance of the three elements of the strategy varies from state to state. The scenario appears to be the most gloomy in the category III states where the wanted fertility is well above the replacement level, unwanted fertility is substantial and large momentum for growth is inbuilt in the age structure of the population.

Achieving the national population policy goals in India, therefore, requires two-pronged approach. One dimension of the strategy should focus on reducing and ultimately eliminating the unwanted fertility while the other should concentrate upon reducing the wanted excess fertility. Unwanted fertility may be reduced and ultimately eliminated primarily through improving the realised efficiency family planning services but requires a comprehensive reorientation of the these services towards birth planning rather than birth limitation. This reorientation will also contribute towards minimising the impact of population momentum in those states where fertility has already below the replacement level. Elimination of the unwanted fertility may also require modifications in other key proximate determinants of fertility - female age at marriage, termination of unwanted pregnancy, and promotion of breast feeding.

On the other hand reduction of wanted excess fertility requires investments in human beings. The wanted excess fertility cannot be removed just by promoting family planning either for birth limitation or for birth planning. It requires broader development efforts directed towards human capacity building in terms of investments especially in education, health and empowerment of women.

The two dimensions of population stabilisation, incidently, complement and reinforce each other. Reduction in wanted excess fertility through investments in human beings does not, by itself reduce fertility. Instead, it raises the demand for fertility regulation, which, when satisfied, leads to reduction in fertility. Conversely, reduction of unwanted fertility through family planning has been found to be more effective in societies with high levels of human development.

Evolving and institutionalising a development-centred approach towards population stabilisation is a tall order in the current administrative and bureaucratic

set up in India as family planning and population control has always been conceived, planned and implemented in a vertical manner with little linkages or integration with broader development efforts. The dominance of female and male sterilisation over other methods of family planning is one reflection of the techno-medical orientation of population stabilisation efforts. Of late, there has been attempts to change the basic orientation of the family planning services from a institution-based, service provider driven system to a system based on the felt needs of the people but there has been very limited success because of the lack of appropriate institutional framework. Population stabilisation efforts continue to be the part and parcel of the health care delivery system and continue to be driven by the service providers. The need to integrate population factors in the social and economic development processes is well recognised. However, there has been little effort to develop integration framework and building up capacity at different tiers of administration. Existing institutional arrangements for population stabilisation efforts as well as for social and economic development are basically vertical in terms of planning, implementation and monitoring and evaluation.

One approach to population and development integration is integrating population factors in the development planning process. It is argued that explicit integration of population factors into social and economic development programmes and activities will both speed up the pace of development and poverty alleviation and contribute to the achievement of population stabilisation goals including improved quality of life of the people (United Nations, 1995). Since, both the social and economic development programmes and population stabilisation efforts are directed towards improving the quality of life of the people, it is possible to integrate the two at the planning stage. The social and economic development strategy must realistically reflect the short, medium and long-term implications of population dynamics and human reproductive behaviour. At the same time, population stabilisation efforts must be oriented towards improving the quality of life of the people.

Conceptualising, institutionalising and practising population and development integration, however, is a very challenging proposition. The progress in this direction is not very encouraging and there are few examples of successful integration. Embedding population related concerns in social and economic development programmes and activities may generate resistence by development policy makers and development planners because of their limited understanding of demographic dynamics and human reproductive behaviour. On the other hand, family planning programme managers may fear that recognising the role of social and economic development in population stabilisation may weaken support to organised family planning activities. The traditional wisdom of both social and economic development and population stabilisation has been very narrow. Practising population and development integration requires a re-specification of social and economic development goals and population policy objectives, the one that takes into account various social, economic and demographic interactions that are critical to both social and economic progress as well as population stabilisation. It is important that population and development integration leads to people centred

social and economic development and development oriented population policies and programmes. If despite integration, social and economic development processes fail to address the welfare needs of the people or if population stabilisation efforts continue to be narrowly targeted to achieve demographic goals, the very purpose of integration is lost.

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Table 1: Population growth in India: 1947-2001.

Year	Population (million)	Increase		Average annual growth rate (%)
		Absolute (million)	Proportion (%)	
1951	361.088			
1961	439.235	78.147	21.64	1.976
1971	548.160	108.925	24.80	2.197
1981	682.329	134.169	24.48	2.223
1991	846.421	164.092	24.05	2.140
2001	1028.737	182.316	21.54	1.951
2010 (Projected)	1176.742	148.005	14.39	

Source: Registrar General and Census Commissioner, India

Table 2: Population size and population growth in India and States, 1951-2001.

Country/ State	Population (million)		Population growth 1951-2001		Average annual increase (percent)
	1951	2001	Absolute (million)	Percent	
India	361.09	1028.74	667.65	184.90	2.094
Uttar Pradesh	63.22	174.69	111.47	176.34	2.033
Bihar	38.79	109.94	71.16	183.46	2.084
Maharashtra	32.00	96.88	64.88	202.72	2.215
Madhya Pradesh	26.07	81.18	55.11	211.38	2.272
West Bengal	26.30	80.18	53.88	204.85	2.229
Andhra Pradesh	31.12	76.21	45.10	144.93	1.792
Tamil Nadu	30.12	62.41	32.29	107.20	1.457
Rajasthan	15.97	56.51	40.54	253.82	2.527
Karnataka	19.40	52.85	33.45	172.40	2.004
Gujarat	16.26	50.67	34.41	211.58	2.273
Orissa	14.65	36.81	22.16	151.30	1.843
Kerala	13.55	31.84	18.29	135.01	1.709
Assam	8.24	26.66	18.42	223.50	2.348
Punjab	9.16	24.36	15.20	165.90	1.956
Haryana	5.67	21.15	15.47	272.66	2.631
Small States and Union Territories	10.57	46.42	35.85	339.06	2.959

Remarks: Population of Bihar includes population of Jharkhand. Population of Madhya Pradesh includes population of Chhattisgarh. Population of Uttar Pradesh includes population of Uttarakhand.

Source: Registrar General of India and Census Commissioner.

Table 3: Levels and trends in selected indicators of the age structure of the population of India: 1951-2001.

Indicator	1951	1961	1971	1981	1991	2001
Population						
0-14 years (per cent)	38.42	41.04	42.03	39.57	37.46	35.44
15-29 years (per cent)	25.78	25.02	23.97	25.90	26.71	26.65
30-59 years (per cent)	30.30	28.30	28.03	28.04	29.03	30.44
60 years and above (per cent)	5.50	5.63	5.97	6.49	6.80	7.47
Dependency Ratio						
Young (per 1000)	685	770	808	734	672	621
Old (per 1000)	98	106	115	120	122	131
Combined (per 1000)	783	875	923	854	794	752
Aging index (per cent)	14.31	13.72	14.20	16.41	18.15	21.07

Source: Author's calculations

Table 4: Goal effectiveness of family planning programme in India. (Targets and achievements in terms of birth rate)

Year	Birth rate target (0/00)	Actual birth rate (0/00)	Goal effectiveness (Percent)
1972	25.00	36.60	68.31
1978-79	23.00	33.20	69.28
1979-81	25.00	33.40	74.85
1982-83	30.00	33.70	89.02
1983-84	25.00	33.80	73.96
1984	25.00	33.90	73.75
1985	25.00	32.90	75.99
2000	21.00	25.80	81.40
2002	23.50	25.00	94.00

Source: Author's calculations.

Table 5: Estimates of child mortality in India: 1970-2003
(Per 1000 live births)

Period	Early neonatal mortality rate	Neonatal mortality rate	Infant mortality rate	Under-five mortality rate
1970-72	50	72	132	223
1980-82	39	69	110	175
1990-92	36	51	80	119
2000-02	29	41	66	87
2005-07	28	37	57	73
Decrease	22	35	75	150

Source: Sample Registration System

Table 6: Estimates of avoidable childhood deaths in India: 2000.

Disease or condition	Estimated under-five deaths (000)	Proportion of under-five deaths (Per cent)	Avoidable under-five deaths	
			Number (000)	Proportion (Per cent)
Diarrhoea	557	23.19	506	37.15
Pneumonia	544	22.65	360	26.43
Measles	14	0.58	1	0.07
Malaria	3	0.12	0	0.00
HIV/AIDS	20	0.83	1	0.07
Neonatal deaths	863	35.93	470	34.51
Birth asphyxia	250	10.41	97	7.12
Prematurity	207	8.62	119	8.74
Infections	216	8.99	205	15.05
Tetanus	60	2.50	49	3.60
Others	130	5.41	0	0.00
Others	388	16.15	0	0.00
Total	2402	100.00	1362	100.00

Source: Jones, Schultink, Babille (2006).

Table 7: Progress of the country and the states towards population policy goals in terms of impact indicators.

India/States	Index of progress in			
	Total fertility rate	Infant mortality rate	Maternal mortality ratio	Proportion of females married after 18 years of age
India	0.23	0.29	0.31	0.11
Jammu & Kashmir	0.54	0.57	0.63	0.37
Himachal Pradesh	1.00	0.00	0.18	0.00
Punjab	1.00	0.56	0.55	0.00
Uttarakhand	0.00	0.00	0.00	0.13
Haryana	0.24	0.56	0.55	0.04
Delhi	0.90	0.41	0.32	0.00
Rajasthan	0.34	0.30	0.34	0.16
Uttar Pradesh	0.12	0.27	0.31	0.18
Bihar	0.00	0.33	0.34	0.16
Sikkim	1.00	0.71	0.66	0.00
Arunachal Pradesh	0.00	0.06	0.07	0.00
Nagaland	0.02	0.33	0.05	0.08
Manipur	0.22	1.00	0.65	0.00
Mizoram	0.04	0.43	0.34	0.00
Tripura	0.00	0.00	0.00	0.00
Meghalaya	0.31	0.75	0.69	0.04
Assam	0.00	0.10	0.20	0.07
West Bengal	0.11	0.05	0.06	0.00
Jharkhand	0.00	0.00	0.00	0.05
Orissa	0.25	0.31	0.40	0.03
Chhattisgarh	0.25	0.20	0.31	0.15
Madhya Pradesh	0.23	0.31	0.35	0.18
Gujarat	0.48	0.39	0.47	0.18
Maharashtra	0.98	0.50	0.56	0.19
Andhra Pradesh	1.00	0.36	0.45	0.15
Karnataka	1.00	0.41	0.51	0.11
Goa	1.00	1.00	1.00	0.00
Kerala	1.00	1.00	1.00	0.09
Tamil Nadu	1.00	0.94	1.00	0.14

Source: Chaurasia and Gulati (2008)

Table 8: Progress of the country and the states towards population policy goals in terms of programme indicators.

India/States	Index of progress in			
	Met demand for contraception	Immunisation of children	Safe deliveries	Registration of births
India	0.24	0.03	0.10	0.05
Jammu & Kashmir	0.24	0.23	0.31	0.00
Himachal Pradesh	0.18	0.00	0.17	1.00
Punjab	0.00	0.00	0.16	1.00
Uttarakhand	0.52	0.32	0.11	0.32
Haryana	0.00	0.07	0.21	0.28
Delhi	0.35	0.00	0.00	0.00
Rajasthan	0.20	0.11	0.12	0.34
Uttar Pradesh	0.31	0.03	0.09	0.03
Bihar	0.23	0.24	0.08	0.07
Sikkim	0.23	0.42	0.32	1.00
Arunachal Pradesh	0.28	0.10	0.02	0.78
Nagaland	0.06	0.08	0.00	1.00
Manipur	0.45	0.08	0.17	0.51
Mizoram	0.00	0.00	0.06	0.00
Tripura	0.42	0.15	0.05	1.00
Meghalaya	0.08	0.22	0.14	0.07
Assam	0.43	0.18	0.12	0.03
West Bengal	0.27	0.36	0.03	1.00
Jharkhand	0.07	0.28	0.14	0.12
Orissa	0.08	0.14	0.20	0.11
Chhattisgarh	0.30	0.34	0.18	0.00
Madhya Pradesh	0.39	0.23	0.12	0.18
Gujarat	0.38	0.00	0.24	0.62
Maharashtra	0.28	0.00	0.28	0.39
Andhra Pradesh	0.36	0.00	0.26	0.39
Karnataka	0.13	0.00	0.30	0.00
Goa	0.19	0.00	0.38	1.00
Kerala	0.25	0.00	0.95	1.00
Tamil Nadu	0.35	0.00	0.58	0.85

Source: Chaurasia and Gulati (2008)

Table 9: Future population growth in the three category of states, 2001-26.

Particulars	2001	2006	2011	2016	2021	2026
	Population (million)					
India	1028.587	1112.184	1192.506	1268.961	1339.741	1399.840
Category I states	255.634	269.952	283.011	294.639	304.426	312.021
Category II states	456.143	493.736	529.594	564.424	597.073	626.167
Category III states	314.167	345.322	375.878	405.065	432.37	455.196
Rest	2.643	3.174	4.023	4.833	5.872	6.456
	Net Addition to the population (000)					
India		83.597	80.322	76.455	70.78	60.099
Category I states		14.318	13.059	11.628	9.787	7.595
Category II states		37.593	35.858	34.830	32.649	29.094
Category III states		31.155	30.556	29.187	27.305	22.826
Rest		0.531	0.849	0.810	1.039	0.584
	Relative contribution (Per cent)					
India		100.00	100.00	100.00	100.00	100.00
Category I states		17.13	16.26	15.21	13.83	12.64
Category II states		44.97	44.64	45.56	46.13	48.41
Category III states		37.27	38.04	38.18	38.58	37.98
Rest		0.64	1.06	1.06	1.47	0.97

Source: Estimated from Government of India (2006)

Table 10: Fertility in excess to replacement fertility in India and states, 2005-06.

Country/ State	Current fertility TFR	Fertility in excess to replacement fertility ETFR	Wanted fertility in excess to replacement fertility EWTFR	Unwanted fertility EUWTFR
India	2.68	0.58	0.00	0.58
		Category I states		
Andhra Pradesh	1.79	0.00	0.00	0.00
Delhi		0.00	0.00	0.00
Goa	1.79	0.00	0.00	0.00
Himachal Pradesh	1.94	0.00	0.00	0.00
Karnataka	2.08	0.00	0.00	0.00
Kerala	1.93	0.00	0.00	0.00
Maharashtra		0.00	0.00	0.00
Punjab	1.99	0.00	0.00	0.00
Sikkim	2.02	0.00	0.00	0.00
Tamil Nadu	1.80	0.00	0.00	0.00
		Category II states		
Assam	2.42	0.32	0.00	0.32
Chhattisgarh	2.62	0.52	0.00	0.52
Delhi	2.13	0.03	0.00	0.03
Gujarat	2.42	0.32	0.00	0.32
Haryana	2.69	0.59	0.00	0.59
Jammu & Kashmir	2.38	0.28	0.00	0.28
Jharkhand	3.31	1.21	0.00	1.21
Madhya Pradesh	3.12	1.02	0.00	1.02
Maharashtra	2.11	0.01	0.00	0.01
Orissa	2.37	0.27	0.00	0.27
Tripura	2.22	0.12	0.00	0.12
Uttarakhand	2.55	0.45	0.00	0.45
West Bengal	2.27	0.17	0.00	0.17
		Category III states		
Arunachal Pradesh	3.03	0.93	0.18	0.75
Bihar	4.00	1.90	0.30	1.60
Manipur	2.83	0.73	0.20	0.53
Mizoram	2.86	0.76	0.60	0.16
Meghalaya	3.80	1.70	1.00	0.70
Nagaland	3.74	1.64	0.55	1.09
Rajasthan	3.21	1.11	0.10	1.01
Uttar Pradesh	3.82	1.72	0.20	1.52

Source: Estimates of the total fertility rate wanted total fertility rate are from National Family Health Survey, 2005-06.