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Indian Population Problem : Emerging Perspective After the 1991 Census

THE 1991 Census of India, the fifth since Independence and 13th in the series of decennial censuses, has done well in publishing three detoiled 'papers', based on provisional population data, before the end of the calendar year. The data include the count of people, by sex, rural-urban residence, literacy status, main and marginal work participation status, and the broad four-category classification of workers, so classified in terms of their 'main' activity. The published tables have provided the relevant information for rural and urban areas of all the districts in different slates and union territories of the country. In addition, several tables and charts highlight the inter-district differentials during the intercensal decade 1981-1991 or the broad trends in selected characteristics of the population such as the rate of growth, sex ratio, literacy rate, etc. This paper reviews some of the key facets of the data to evaluate the emerging perspective on the Indian population problem after the 1991 Census.

Population Growth During the 1980s

In a democratic country, people form the focus of all planning for social and economic development. Developmental activities must necessarily be for the people and effectively by the people. The total population counted by the census naturally indicates both the number of consumers and the actual as well as potential number of workers or producers who can extract output from land and capital or provide non-tangible services to different groups in the society.

The 1991 Census enumerated the second largest population of the world, provisionally estimated at 843.9 million as on March 1,1991. The subsequent official press releases had expressed some mild satisfaction at the fact that the decennial growth during the 1980s had been 23.5 percent, 1.2 percentage point lower than during 1971 -81. As a result, the average annual (exponential) growth rate has declined slightly from 2.2 percent during the previous decade to 2.1 percent during the 1980s. (A stability in the growth rate around 2.2 percent was widely expected before the census results were released.)

Given the continuing population growth, even with a slight decline in the rate of growth, the absolute annual increment to our numbers has increased from about 15 million in 1981

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to almost 18 million in 1990. The increase during 1981-91 has added up to 160.6 million, more than the population of all but three other countries (China: 1171 million; USA: 250 million and Indonesia: 187 million)[1]. (Russia, the largest state within the former USSR in terms of both area and population had a population of 147 million in 1989 when the last census was conducted.) While India continues to be the second most populous country of the world, the lower rate of population growth in China (1.4 percent) than in India is gradually but certainly leading us towards the first rank in terms of the number of people some time around 2050 A.D.

As in 1981, the final population figures will probably exceed the provisional by about 1.5 million. The partially revised provisional figure of the population as of August 1991 was 844.3 million. A further revision of this figure to about 845.5 million will not significantly affect the estimated growth rate of population. Secondly, Assam state, where a census could not be conducted in 1981, has had a census in 1991. On the other hand, census could not be conducted in Jammu and Kashmir (J & K) and only the projected figure of population of J & K has been included in the provisional numbers. The projection for Jammu and Kashmir has benefited from a mid-decade census of the state conducted during 1986-87. Assam's enumerated population in 1991 being lower than the projected value, estimate of its population in 1981 has been adjusted downwards. As a result, the adjusted all-India figure for 1981 now stands at 683.3 million (instead of 685.2 million being used earlier) .

We can take little comfort from the small decline in the decennial percentage increase in population growth during the 1980s relative to the previous decade or the drop in the average annual growth rate from 2.2 to 2.1 percent. It is understandably criticised as an illustration of 'decimal point demography' . However, it would be a mistake to interpret the data as reflecting a certain 'demographic inertia'. The rate of growth is a net result of underlying trends in fertility, mortality, migration and also the completeness of coverage of the successive censuses. All the four factors merit attention; it is best to discuss them in reverse order.

Completeness of Count

As after every census, there have been widespread complaints of omission of entire households or groups of houses from the count, particularly in cities. While there is also a problem of duplication when the same person is counted at more than one place, particularly in cases of mobility, the most census counts do suffer from a net omission of the population. The census authorities themselves conduct a sample survey called the post-enumeration check (PEC) to estimate the extent of omission of houses, households and individuals and sometimes also the reliability (or consistency) of the reported information. The PECs

1 Figures have been estimated for March 1, 1991 on the basis of the United Nations World Population Chart, 1990.

2. A recognition of this adjustment is essential to reconcile the reported absolute population growth with the provisional figure of population in 1991.

3. In all fairness, figures after decimal point are not unimportant. However, it is only in India that two figures are shown afterdecimal point in estimated percentages. A probable underlying reason might be the fact that changes are generally so small that they are often detected only if we look at the second figure after decimal point.

conducted after the Indian censuses of 1961,1971 and 1981 had indicated a net undercount of the order of 0.7, 1.7 and 1.8 percent of the population[4]

The values of net undercount in 1971 and 1981 are similar and many sceptics wonder how or why Indian censuses have such a low undercount. The answers are presumed to lie in the *relatively* low percentage of urban population (only 25.7 percent even in 1991) and only a moderate degree of mobility. Of course, the general decline in the standards of administrative efficiency has probably affected the census activity as well. The senior census administrators at the Centre and the states have made an admirable countervailing effort to mitigate the effect of lack of interest among several of the nearly 1.6 million enumerators and supervisors entrusted with the task. It would not, however, be surprising if the 1991 PEC shows an increase in the net undercount.

Many scholars remain unconvinced by the results of the PECs because they are conducted by the census organisation itself. Unfortunately, few other organisations can mobilise the manpower and the momentum to complete the PEC with requisite speed throughout the country. (In 1961, the National Sample Survey had planned to conduct the post-enumeration check. However, the-then Registrar General did not support the effort and it was abandoned.) There is a good case also for taking account of the net undercount for calculating or projecting the requirements of various consumer goods and services at the national level; but estimates of undercount at the state and sub-state level are not considered good enough to work out the disaggregated figures corresponding to a national total adjusted for net undercount.

International Migration

India has an open border with Nepal and Bhutan. The rate of intercensal population growth in districts of Bihar that share a border with Nepal is said to be a little higher than the average for the state but the differences are small. There are also continuing reports of immigration from Bangladesh into West Bengal, Assam, and other northeastern states. It is not easy for the census enumerators to identify the nationality of such immigrants and the higher than average rates of population growth in border districts are generally taken as indicative of illicit immigration.

Pending a detailed analysis of the district level growth rates, one can only compare the intercensal growth rate (21.3 per 1000 population) with the average rate of natural increase reported by the Sample Registration System 1981-90 (21.1 per 1000 population). Assuming both the estimates to be 'correct', the data suggest a net emigration rate of 2 per 10,000 population, which would add up to about 1.5 million persons (excluding the children born to the emigrants). Prima facie, a *net* emigration of this order appears quite plausible. The number of emigrants was certainly higher; but the outflows have partly been offset by inflows from Bangladesh and Nepal (mainly the former). A review of these magnitudes would be feasible when census data on migration become available (although the absence

4. *The* post-enumeration check conducted *m* 1981 was really the best and confirmed that net undercount tends to be more (a) in urban than in rural areas, (b) among females than among males, (c) among young children below age five and age 10-29 and 60+ rather than in other ages, (d) among the widowed and divorced than among the married or unmarried, and (e) among non-nuclear households than among nuclear households.

of a census in Assam in 1981 will remain a major handicap). Despite the important role of international migration in economic and political terms and its high visibility, its influence on the rate of population growth continues to be insignificant.

Natural Increase

The main determinant of Indian population growth continues to be natural increase or difference between birth and death rates. As already noted, the SRS estimate of national rate of natural increase during 1981-90 has been very close to the intercensal growth rate and inspires some confidence in the former. Further reassurance is provided by the fact that for 15 major states of India, the correlation between the SRS rate of natural increase during 1981-89 and the intercensal growth rate is quite high (+0.83) and statistically significant. Before turning to the interstate differences in population dynamics, a few comments on the underlying birth and death rates are in order to dispel the myth of demographic inertia.

The SRS data for the 1980s may be affected to some extent by the gradual replacement (over two or three years) and enlargement of the sample areas being surveyed up to 1981. However, they suggest a decline of three points in the birth rate from 33,8 during 1980-1982 to 30.6 during 1988-90; the decline was partly neutralised by a fall in the death rate from 12.3 to 10.3. As a result, the rate of natural increase has declined from 2.2 to 2.0 percent during the 1980s.

Further, the agricultural year 1987-88 was affected by a severe drought; but the large-scale scarcity relief works (with some of them partially paying wages in the form of cereals) and public distribution of foodgrains helped to maintain the purchasing power of the people. In fact, it was quite an achievement that the crude death rate and the infant mortality rate did not really rise during the period (although the rate of decline had certainly slowed down). There are indications that beginning 1989, both infant mortality and death rate have resumed their decline and during 1990 the death rate has dropped below 10 and the infant mortality rate to 80 per 1000 live births (as compared to 110 during 1980-1982).

The virtual stability of the rate of natural increase during 1981-90 has been a result of the fall in the death rate compensating for the fall in the birth rate. It is not an outcome of demographic inertia but of a particular juxtaposition of two concomitant or simultaneous processes of change. Our only consolation can be that, unlike what has happened in several countries such as Kenya, Mexico, or even Pakistan, the rate of population growth in India over the past 30 years has not really risen above 2.2 percent per year. However, before elaborating this point, a few remarks on the inter-state differentials are appropriate.

Interstate Dynamics of the Intercensal Growth Rates

In a large country such as India, a disaggregated analysis is certainly necessary and can be expected to provide some useful insights. For this purpose, Table 1 below shows the decennial rates of population growth for our major states. Table 2 ranks the major states of India according to (a) whether the average annual intercensal growth rate has risen or declined, and also (b) whether change exceeds one-tenth of one percent or one per 1000 population (when only one figure after the decimal point is read, with appropriate rounding).

The two tables cover *IS* states (including Delhi, a union territory, and Goa) which account for 98 percent of the enumerated population of the country. Of the 18 states, Assam should really be excluded from analysis because the stability of the rate of growth for Assam is really the result of an assumption. Orissa illustrates the point about changes being seen only in the second place after decimal point; its growth rate of population was 1.85 percent during 1971-81 and 1.78 percent during 1981-91; the two values become identical when they are rounded.

TABLE 1 : THE DECENNIAL GROWTH IN THE POPULATION OF MAJOR STATES OF INDIA, 1971-81 AND 1981-91

India/State	*Decadal growth (%)*		*Absolute change in growth rate*	*Average annual growth rate (%)*	
	1971-81	*1981-91*		*1971-81*	*1981-91*
India	24.7	23.5	-1.2	2.2	2.1
Andhra Pradesh	23.1	23.8	+0.7	2.1	2.1
Assam	23.4	23.6	+0.2	2.1	2.1
Bihar	24.1	23.5	-0.6	2.2	2.1
Gujarat	27.7	20.8	-6.9	2.5	1.9
Haryana	28.8	26.3	2.5	2.6	2.3
Jammu & Kashmir	29.7	28.9	-0.8	2.6	2.6
Karnataka	26.6	20.7	-6.1	2.4	1.9
Kerala	19.2	14.0	-5.3	1.8	1.3
Madhya Pradesh	25.3	26.8	+1.5	2.3	2.4
Maharashtra	24.5	25.4	+0.8	2.2	2.3
Orissa	20.7	19.5	-0.7	1.8	1.8
Punjab	23.9	20.3	-3.6	2.2	1.8
Kaj'asthan	33.0	28.1	-4.9	2.9	2.5
Tamil Nadu	17.5	14.9	-2.6	1.6	1.4
Uttar Pradesh	25.5	25.2	-0.3	2.3	2.2
West Bengal	23.2	24.5	1.4	2.1	2.2
Delhi	53.0	50.6	-2.4	4.0	3.9
Goa	26.7	16.0	-10.7	2.4	1.5

Overall, about 53 percent of our population is resident in five states where the growth rate has shown a rise or a fall of only one-tenth of one percent (which really implies stability or virtually no change in the annual growth rate). Another 14 percent of the population is in three states where the growth rate has shown no change (These three states include Assam). On the other hand, ten states with about 32 percent of the total population of the country have shown a decline in the growth rate of more than one-tenth of one percent. In nine out of 10 of them, the fall in the annual growth rate exceeds two tenths of one percent (or 2 per 1000); and the factors underlying this welcome change merit careful studies.

TABLE 2 : DISTRIBUTION OF MAJOR STATES ACCORDING TO THE DIRECTION OF CHANGEINAVERAGEANNUALGROWTHRATEBETWEEN1971-81 AND 1981-91 AND THE MAGNITUDE OF CHANGE

Direction of change in the average annual rale	*Magnitude of change*							
	Change up to one-lenlh of one percent				*Change of more than one-tenth of one percent*			
	State	*1971-1981*	*1981-1991*	*Pop. Mill 1991*	*State*	*1971-1981*	*1981-1991*	*Pop. Mill 1991*
(i) Rise	Madhya Pradesh	2.3	2.4	66.2				
	Maharashtra	2.2	2.3	78.7				
	W. Bengal	2.1	2.2	68.0				
	Total			212.9				
(ii) Decline	Bihar	2.2	2.1	86.4	Goa	2.4	1.5	1.2
	U.P.	2.3	2.2	138.8	Kerala	1.8	1.3	29.0
	Total			225.2	Gujarat	2.5 2.4	1.9	41.2 44.8
					Kamataka		1.9	
					HP.	2.2	1.8	5.3
					Punjab	2.2	1.8	20.2
					Rajaslhan	2.9	2.5	43.9
					T.Nadu	1.6	1.4	55.6
					Mary ana	2.6	2.3	16.3
					Delhi	4.3	4.1	9.3
					Total			267.7
(iii) No Change	Assam	2.1	2.1	22.3				
	A. P.	2.1	2.1	66.3				
	Orissa	1.8	1.8	31.5				
	Total			120.1				

As noted for the country as a whole, even a stable annual growth rate may be the result of a balance between a fall in the birth rate and the decline in the death rate. Therefore, trends in birth and death rates need to be examined at the state level.

Unfortunately, the state level estimates of birth and death rates for 1971-81, based on SRS, are not dependable enough to give a clear indication of the trend. Some tentative

inferences can be drawn from the changes during 1981-88 on the basis of the average birth and death rates for 1980-82 and 1987-89.

Except Karnataka, all the major states show a decline in the average birth and death rates between 1980-82 and 1987-89. In Karnataka, the birth rates for the two triennia (27.9 and 28.5) imply no change when rounded and a slight rise without any rounding. Quite likely, the estimates of birth rate for Karnataka during the 1970s and early 1980s were under-estimates. Elsewhere, birth rates have declined by between four to six points (per 1000, population) in Kerala, Gujarat, Tamil Nadu, Rajasthan, West Bengal and Andhra Pradesh. These declines in birth rates are large enough to lead to a fall in the rate of natural increase despite their partial neutralisation by a fall in the death rate. In Table 2, we observe a noteworthy decline in the rate of population growth in only four of the six states (Kerala, Gujarat, Rajasthan and Tamil Nadu).

Among these four states, two southern states of Kerala and Tamil Nadu (with a combined population of 85 million or 10 percent of the national total) had already reached the replacement level of fertility by 1988. According to the data provided by the Sample Registration System, the total fertility rate (or the average number of children born to a woman by the end of her reproductive period) in Kerala and Tamil Nadu during 1986-88 was 2.0 and 2.5 respectively. The infant mortality rate in the two states during 1990 was 17 and 67, respectively. The gross reproduction rate or the number of daughters replacing a mother at the end of her child-bearing ages was less than one in Kerala and 1.2 in Tamil Nadu. The relatively high infant and child mortality in Tamil Nadu meant that it had also attained a below-replacement level of fertility. However, a rapid fall in infant and child mortality in Tamil Nadu could well raise its fertility to above the replacement level (even without a rise in fertility *per se)*. Under the circumstances, the process of demographic transition has a longer distance to cover in Tamil Nadu than in Kerala.

The two states of West Bengal and Andhra Pradesh show only negligible or no change, presumably because of in-migration and/ or immigration from across the border. The decline in the growth rate in the small state of Goa is a result of the sharp decline in its birth rate, to a level lower than Kerala's. The lower growth rates in Karnataka, Himachal Pradesh, Punjab, Haryana and Delhi are attributable presumably to both the changes in vital rates of 1980s relative to the 1970s and the direction and/or the pace of migration. The stability of the growth rate in Maharashtra is also probably because of in-migration from other parts of the country having offset the decline in the rate of natural increase.

Our discussion so far has presumed the successive census counts of the population to be comparable or equally good. This presumption may require region or district level scrutiny although the post-enumeration check is not likely to help us in such an effort. Within Gujarat state, the Saurashtra region (having six districts with a total population of 11.2 million in 1991) has shown a sharp decline in its decennial growth from 28 percent during 1971-81 to only 17 percent during 1981-91. It is generally argued that the successive droughts of 1985-88 have led to an out-migration from Saurashtra to the rest of Gujarat and/or Bombay. However, the quantum of such migration must really have been very high to have a sharp impact on the decennial growth rates. Special efforts are necessary to ascertain reasons for such a sharp decline in Saurashtra and in other districts showing a similar situation elsewhere in the country. Data on other characteristics of the population may suggest different leads for exploration. One such characteristic is the sex ratio of the population.

Deficit of Females

The fall in the number of females per 1000 males from 934 in 1981 to 929 in 1991 has evoked widespread concern about the underlying trend in sex-differentials in mortality and the possible contribution of allegedly widespread female foeticide following amniocentesis (or the sex-determination tests). My earlier analytical work on the subject has provided convincing evidence that sex differentials in mortality, adverse to females, (or excess female mortality) is the primary factor underlying the deficit of women in India. However, estimates of life expectancy during 1970-85, based on the SRS data indicate a decline in excess female mortality and a somewhat higher expectation of life at birth for the girl babies than for the male babies (see Table 3). In urban India, where the female foeticides tend to be concentrated, the life expectancy of females at birth was nearly 2.5 years higher than that of males during 1981-85. Likewise, the deficit of females in the urban population of the country has continued to decline during 1981-91 as well (see Table 4). Those who suspect a major impact of foeticides on the sex ratio of the population would have to argue that in the absence of these unfortunate events, the improvement in the sex composition of the urban population would have been greater than observed. While the possibility cannot be ruled out, the importance of female foeticides in urban India as a whole is quite probably overstated.

TABLE3: EXPECTATION OF LIFE AT BIRTH BY SEX AND BY RESIDENCE, INDIA, 1970-75, 1976-80 AND 1981-85

Residence	*Period*	*Male*	*Female*	*Persons*
Rural	1970-75	48.9	47.1	48.0
	1976-80	51.0	50.3	50.6
	1981-85	54.0	53.6	53.7
Urban	1970-75	58.8	59.2	58.9
	1976-80	59.6	60.8	60.1
	1981-85	61.6	64.1	62.8
Combined	1970-75	50.5	49.0	49.7
	1976-80	52.5	52.1	52.3
	1981-85	55.4	55.7	55.4

Source : India, Office of the Registrar General, 1989. Occasional Paper No. *1, SRS Based Abridged Life Tables 1981-85*, New Delhi.

TABLE 4: SEX RATIO (FEMALES PER 1000 MALES) IN INDIA BY RURAL-URBAN RESIDENCE, 1981-1991

Area	7977 *Census*	*19S1 Census*	7997 *Census*
Rural India	949	951	941
Urban India	858	878	893
All India	930	934	929

The increase in the deficit of females is, therefore, puzzling. However, one can interpret the data of the last three censuses as showing a stable sex ratio of 93 females per 100 males. Further, the figures for Punjab and Haryana states, with the highestlevel of deficitof females, show continued improvement during 1971-1991. However, Bihar, with a 10 percent of the total population of the country, shows a sharp decline in the sex ratio from 946 in 1981 to 912 in 1991. (Bihar would have about 1.5 million more women if its sex ratio in 1991 had been the same as in 1981. It would have meant a sex ratio of 932, instead of 929, for India as a whole.) The Office of the Registrar General needs to re-examine the data for Bihar.

Another possible explanation of the excess of males in the population is the sex ratio at birth (SRB). According to pooled data on the sex composition of births registered by the 'civil registration system' and pooled for several states, the sex ratio at birth had risen from 112 males per 100 females in 1981 to almost 115 in 1986. The sex ratio of births registered under the Sample Registration System has also shown some increase from 107-108 during 1981 and 1982 to 110 during 1987 and 1988. However, quite likely, the evident rise in the SRB is spurious or a result of either somewhat higher omissions of births of daughters or some misclassification of stillbirths as livebirths. (Still births tend to be more frequent among male foetuses than among female foetuses.) Similar increases in sex ratios of registered births had been evident during the 1930's relative to the previous decade(s) in several 'provinces' of British India. Since the genetic composition of the population does not change within a few decades, the rise in the sex ratios was clearly a result of the deterioration in the coverage of registration. Relatively small differences in the coverage of male and female births can produce the observed rise in the sex ratios of births.

Some friends refer to the rise in recent years in the masculinity ratio of births in China. However, careful research has shown that the impression of a rise in the ratio of boys to girls was a result of the one-child policy. The persistent son-preference induces the Chinese parents of daughters to get them adopted by fellow-villagers or friends. Such adopted daughters are excluded from the reported children by the biological parents as well as parents who have adopted the daughter. It would be a mistake, therefore, to consider the alleged rise in the masculinity ratio of registered live births in India as real on the ground of its similarity with the trend elsewhere in Asia.

I certainly share the view that the country must make a determined effort to eliminate the widespread son-preference and the discrimination against females. However, one must not read too much in the small changes in the sex ratio reported by a massive exercise such as the census.

Literacy Rates

The 1991 Census has modified the practice of the preceding censuses to estimate literacy rates for the total population (of course, by sex) and has worked out ratios for the population aged seven and over. The rationale for this change lies in the fact that children are not really expected to begin their schooling below the age of seven. Further, the inclusion of illiterate children in the denominator unnecessarily depresses the Indian literacy rate and presents an unduly unfavourable image of our progress on this front.

There is some merit in these points. It can be argued also that leaving aside some precocious children, most children below the age of 10 do not always understand much of

what they might read. Literacy rates should, therefore, be estimated for the population aged 10 and over. (The Chinese censuses estimate the proportions of illiterates and semi-literates only for population aged 12 and over.)

The basic message of the 1991 census data is unlikely to be affected by the exact procedure used. Despite the persistence of the fact of higher male literacy rates, the female literacy rates have generally risen faster since 1981 than the male rates throughout the country and in every state. This is a welcome trend. Also, despite the faster increase in rural literacy rates (than in urban), the rural female literacy remains significantly lower than the urban and, therefore, below the state averages. However, in several states of the country, particularly Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh, the literacy rates of the female population aged seven and over remain below 30 percent. There is no doubt whatsoever that we still have a long way to go.

It is necessary, however, to draw attention to the fact that the census-based estimates of literacy seem to be lower than those of the NS S. Table 5 presents the crude rates for different states and the country as a whole, by rural-urban residence. The 43rd Round of the NSS has reported, for January 1,1988, a higher literacy rate than the 1991 Census, taken three years later. Of course, the problem could be with the NSS and the illiterates might be under-represented in its sample. It is argued also that the decision of the Census to estimate literacy rates for the population aged seven years and over excludes from the numerator some literate children in ages 5 and 6. Prima facie, this explanation does not seem adequate. In any case, the explanation certainly does not lie in the sampling errors. The 47th Round of the NSS, conducted during July-December 1991, has included among its major concerns a survey and evaluation of the reported literacy. Some interesting evidence on the subject will, therefore, become available by the end of 1992.

The likely contribution of rising female literacy to facilitating a lowering of the birth rate and eventually the rate of natural increase is well-known. However, the complexity of the processes at work is illustrated by Goa, Kerala and Tamil Nadu, which had female literacy rates of 68,87 and 52 percent in 1991 and crude birth rates of 17,21 and 23 during 1987-89, both respectively. (As noted above, all the three states had a below replacement level of fertility.)

Urbanisation

Census paper 2 of 1991 has shown the rural-urban distribution of the population. The analysis preceding the tables is most useful and merits careful study.

India defines towns and urban areas primarily in terms of the form of local self-government. All places with a Municipality, Corporation, Cantonment Board, or Notified Area Committee etc. are considered towns. Other places to be considered urban ordinarily satisfy the three criteria of (a) a minimum population of 5,000; (b) at least 75 per cent of the male working population being engaged in non-agricultural activities; and (c) a density of population of at least 400 persons per sq km. In addition, some places not satisfying these three criteria are also classified as urban, if they have distinct urban characteristics. The marginal cases include major project colonies, areas of intensive industrial development, railway colonies, important tourist centres etc.

TABLE 5: INDIA : CRUDE LITERACY RATES ACCORDING TO THE 1981 AND 1991 CENSUSES AND THE 38TH AND 43RD ROUND (1983 AND 1987-88 RESPECTIVELY) OF THE NSS

Major	*Modes*				*Females*				*Both Sexes*			
	1981	*1983*	*1987-88*	*1991*	*1981*	*1983*	*1987-88*	*1991*	*1981*	*1983*	*1987-88*	*1991*
Rural Areas												
All India	40.8	45.0	48.4	47.4	18.0	22.0	25.9	25.4	29.7	33.7	37.4	36.7
Andhra Pradesh	32.2	36.7	41.0	40.1	14.1	17.0	20.8	20.8	23.2	26.9	30.9	30.5
Assam	N.A	57.0	61.1	47.5	N.A	38.8	44.9	31.9	N.A	48.5	53.3	40.0
Bihar	34.4	36.2	38.8	38.7	10.2	11.4	14.3	14.6	22.5	23.9	26.7	27.2
Gujarat	47.9	49.3	54.7	56.2	24.1	28.1	31.2	32.8	36.2	39.0	43.1	44.8
Haryana	43.4	49.0	53.7	51.8	15.4	17.3	26.8	27.1	30.3	34.2	41.1	40.2
Himachal Pradesh	51.4	55.6	59.5	60.9	29.4	36.1	38.3	41.9	39.7	45.5	48.8	51.4
Jammu & Kashmir	31.6	37.7	45.1	N.A	10.5	16.3	23.5	N.A	21.6	27.4	34.8	N.A
Kamataka	42.1	42.6	48.6	50.0	19.8	22.0	28.6	29.0	31.0	32.3	38.7	39.6
Kerala	74.1	77.2	80.8	80.0	64.3	69.2	73.0	74.2	69.1	73.0	76.8	77.0
Madhya Pradesh	33.0	38.9	41.6	40.6	9.0	13.4	15.6	15.7	21.2	26.4	28.9	28.5
Maharashtra	51.3	53.7	57.5	57.7	24.9	27.4	32.7	33.8	38.2	40.5	45.2	45.9
Orissa	44.5	46.5	50.7	49.6	18.5	22.3	26.9	25.8	31.5	34.4	38.9	37.8
Punjab	41.9	45.6	52.0	50.5	27.6	32.4	38.1	36.9	35.2	39.4	45.4	44.1
Rajasthan	29.7	34.5	39.0	38.0	5.5	8.0	9.8	9.2	18.0	21.7	24.8	24.2
Tamjlnadu	51.2	55.4	58.8	58.2	25.8	31.0	37.0	36.7	38.6	43.0	48.0	47.6
Uttar Pradesh	35.2	39.6	43.8	41.8	9.5	13.8	17.2	16.0	23.1	27.3	31.2	29.7
West Bengal	43.6	50.6	49.9	50.4	22.1	28.0	30.8	31.4	33.1	39.5	40.6	41.2
Urban Areas												
All India	65.8	69.5	72.3	69.3	47.8	51.6	55.9	54.5	57.4	61.0	64.6	62.3
Andhra Pradesh	61.9	66.3	69.4	64.9	41.5	46.6	50.5	48.3	52.0	56.6	60.1	56.8
Assam	N.A	78.8	81.0	74.2	N.A	72.0	68.1	63.3	N.A	75.7	75.3	69.2
Bihar	62.5	60.7	64.5	66.1	39.8	36.3	40.6	46.4	52.2	49.2	53.5	57.0
Gujarat	68.6	71.0	74.2	71.4	51.1	54.5	60.4	57.6	60.3	63.3	67.6	64.8
Haryana	64.9	65.9	74.4	68.7	47.3	47.1	57.6	53.5	56.9	57.1	66.6	61.6
Himachal Pradesh	73.3	81.5	82.0	78.4	60.0	65.0	67.5	68.1	67.4	74.3	75.4	73.7
Jammu & Kashmir	53.5	61.7	62.4	N.A	36.4	42.9	46.6	N.A	45.6	52.9	55.0	N.A
Kamataka	65.0	68.4	69.8	70.5	47.8	53.3	56.6	56.3	56.7	61.0	63.4	63.6
Kerala	80.1	83.3	85.7	83.6	72.2	76.2	79.6	78.7	76.1	79.6	82.6	81.1
Madhya Pradesh	64.4	68.5	72.8	67.8	42.2	46.9	54.0	48.7	54.0	58.4	63.9	58.8
Maharashtra	71.8	76.0	78.1	74.9	54.6	59.1	62.7	60.4	63.9	68.1	71.0	68.1
Orissa	65.1	69.6	72.6	69.9	42.7	47.1	53.5	52.0	54.8	58.8	63.7	61.6
Punjab	60.7	65.0	72.1	65.9	49.7	52.4	60.1	56.8	55.6	59.3	66.5	61.6
Rajasthan	60.6	59.7	67.7	64.7	34.4	32.7	40.9	42.0	8.4	46.8	55.1	54.1
Tamilnadu	72.5	74.3	77.9	75.0	54.0	56.4	62.5	60.9	63.4	65.4	70.4	68.1
Uttar Pradesh	54.7	59.8	60.3	58.0	35.4	40.2	42.7	41.8	45.9	50.6	52.1	50.5
West Bengal	69.1	76.6	76.9	72.0	54.8	64.5	61.9	60.0	62.7	71.0	70.1	66.5

(see p. 284 for 'Sources'

SOURCES:

1. Census of India 1991, Series 1, India, Paper 2, *Provisional Population Totals, pp.* 93-94.
2. Census of India 1981, Series 1, India, Part II-B(i), *Primary Census Abstract, General Population, pp.* 5-17.
3. National Sample Survey Organisation, Results of the Fourth Quinquennial Survey on Employment and Unemployment (All India) 43rd Round, *Sarvekskana*, September 1990, pp. 55-58.
4. National Sample Survey Organisation, Thirty Eighth Round, (January - December 1983) Report Nos. 341/1 to 341/17.

The 1991 Census has identified a total of 2996 statutory towns and 1693 non-statutory or census towns (an increase of 238 or 9 per cent and 422 or 33 per cent, respectively, relative to the 1981 census). The statutory towns generally tend to be larger and they accounted for an estimated 85 per cent of the urban population enumerated by the 1991 census. In many states of the country, the statutory towns are under the jurisdiction of the urban development department whereas the non-statutory towns are dealt with by the department of local self-government and/or Panchayats.

Table 6 below summarizes the key statistics on urbanization in India. The proportion of urban population in India has increased from about 11 per cent in 1901 to 18 per cent in 1951 (a few years after Independence) and to a modest 26 per cent in 1991. The total urban population in India (including Jammu and Kashmir where the 1991 census was not conducted) was about 217 million. Had it formed a separate country, it would have been the fourth most populous country of the world (after China, India and USA).

Table 6 highlights the fact that the differential between the rate of growth of rural and urban population had steadily widened during 1951-81 but has narrowed during 1981-91. While the annual rate of population growth for the country as a whole has remained stable between 2.0 - 2.2 per cent during 1951-91, that of urban population had increased from 2.4 to 3.2 and 3.8 per cent, during 1951-61,1971-81 and 1981-91 respectively, but has declined to 3.1 per cent during 1981 -91.

Urbanisation can result from (a) rural-urban differentials in the rate of natural increase, (b) net migration from rural to urban areas and (c) reclassification of villages as towns as a result of changes in the nature of economic activities, availability of infrastructure or urban characteristics and/or the spill over of urban population growth beyond designated boundaries (which usually leads to an extension of the boundaries of towns and cities).

To examine the contribution of natural increase, Table 7 summarises the average birth and death rates in rural and urban India during 1971-80 and 1981-90 according to the SRS. Both birth and death rates tend to be lower in urban areas than in villages. But the differences largely offset each other and the urban rate of natural increase was only a little lower than the rural. Interestingly, the rate of natural increase in rural India seems to have risen a little during 1981-90 (relative to 1971-80), while that in urban India has remained stable. The underlying factor is the larger decline in the rural death rate than in the rural birth rate, while in urban areas the decline in the birth rate has offset the fall in the death rate during the 1980s. The rise in the rate of natural increase in rural India is likely to have contributed to the slower urbanization during the 1980s than during the 1970s

The process of reclassification of localities from rural to urban has also slowed down. The 1981 Census had added 1043 new towns and with a declassification of 87 former towns, the net addition to the number of towns was 956. These towns had a population of 7.4 million. The 1991 census has added 856 new towns and declassified 93 towns, with a net addition of 763 towns having a population of 5.3 million. The reclassification of localities had accounted for almost 15 percent of the urban growth during 1971-81 but its share declined to 9.5 per cent during 1981-91.

TABLE6: KEY STATISTICS ON URBANIZATION IN INDIA, 1901-1991

Census Year	*Number of towns/urban ares*	*Urban Population*	*Pupulation in towns above 20000*	*Level of urbanization* (percent)	*Intercensal Annual Growth Rate* (percent)		
million				*Urban population*		*Rural population*	*Difference between urban and rural growth rates*
1901	1917	25.8	13.0	10.8	_	_	-
1911	1909	25.9	13.5	10.3	0.04	0.62	-0.58
1921	2047	28.1	15.1	11.2	0.82	-0.13	0.95
1931	2219	33.4	18.9	12.0	1.73	0.96	0.77
1941	2424	44.1	27.8	13.8	2.78	1.12	1.66
1951	3059	62.4	42.5	17.3	3.47	0.84	2.63
1961	2699	78.9	60.4	18.0	2.35	1.87	0.48
1971	3126	109.1	88.0	19.9	3.21	1.96	1.23
	(3047)a	(107.8)a	(87.3)a	(20.2)a			
1981	3303	157.7	135.8	23.7	3.83	1.78	2.07
1991	3696	215.3	192.0	25.7	3.09	1.80	1.29
	3768b						

(a) Figures in parentheses exclude Assam but include Mizoram.

(b) The figure includes 72 towns/urban areas in Jammu and Kashmir, where the 1991 Census was not conducted.

Notes:

1. In Jammu and Kashmir no census could be conducted in 1951. The towns which had continued between 1941 and 1961 are considered to have been there in 1951. Their population in 1951 is assumed to be the arithmetic mean of the 1941 and the 1961 figures.

2. Upto 1971, the constituents of town groups or urban agglomerations are considered distinct units. However, the 'out growths' are not considered separately. SOURCES:

Census of India, 1971, Series 1India, Part HA(i), *General Population Tables;* Census of India, 1981, Series-1, India, Part B(i), *Primary Census Abstract: General Population;* Census of India, 1981, Series-1, Paper-1 of 1982, *Final Population Totals;* Census of India 1991, Series 1, Paper 2 of 1991, *Provisional Population Totals: Rural Urban Distribution.*

On the basis of these data about the rate of natural increase in urban areas and the net effect of reclassification we have attempted to make some preliminary estimates of the different components of urban growth during 1981-91. The results are summarised in Table 8. To estimate net rural-urban migration, it is assumed that the flow of migration was more

or less even throughout the decade and that the rate of natural increase among the migrants was the same as among non-migrants. The effect of possible refinement of these assumptions on the results would probably be small.

TABLE 7: INDIA : BIRTH AND DEATH RATES AND RATES OF NATURAL INCREASE BY RURAL-URBAN RESIDENCE, 1971-80 AND 1981-90

Years	*Birth rate*	*Death rate*	*Rate of Natural Increase*
1971-80			
Rural Urban	35.8 28.5	15.8 9.2	20.0 19.3
1981-90			
Rural Urban	33.9 27.0	12.6 7.7	21.3 19.3

SOURCE: Sample Registration System, Census of India, paper 2 of 1991, *Provisional Population Totals: Rural Urban Distribution,* New Delhi, 1991, p. 52.

Note: We have taken account also of the provisional SRS estimates for 1990.

It is evident from Table 8 that the tempo of net rural-urban migration has accelerated during the 1980s. The contribution of migration to urban growth has increased from 20 percent during the 1970s to 29 percent during the 1980s. The contribution of natural increase to the urban growth also seems to have risen but not too much can perhaps be read in this finding because the estimates for 1971-81 had attributed nearly 16 percent of the urban growth to residual factors.

Our discussion of urbanisation has presumed that the 1991 census count has not been more flawed than the 1981 count. Some analysts seem to be sceptical on this issue and argue that the growing differences of ensuring a complete count of population in a census tend to be particularly acute in urban areas and especially in metropolitan cities. Results of the post-enumeration check (PEC) conducted after the 1991 Census might shed some light on this point.

Pending the PEC results, we can examine the interstate differences in the proportions of urban population reported by the 1991 Census with the earlier projections. Table 9 presents these data and also the projections for 2001 prepared prior to the last Census, for the 16 major states. The projected proportions of urban population corresponded to the estimates of the 1991 Census only in Gujarat and Jammu and Kashmir. The latter is a result of an assumption by the Office of the Registrar General, whereas the case of Gujarat seems to be a coincidence. Among other states, only Kerala has reported a higher percentage of urban population than was projected. All other states have reported a lower actual percentage of urban population than was projected. The special case of Kerala seems to be a result of reclassification or the addition of 92 towns to the list. Quite likely, similar extensive reclassification of localities or large villages as towns will become necessary during the 1990s in other states as well and it would be a mistake to presume that urbanization would

continue to be slow during the 1990s and beyond. The process of migration and extension of slums in our large cities need a careful study and analysis.

TABLE 8: INDIA : COMPONENTS OF URBAN GROWTH, 1961-71, 1971-81 AND 1981-91 (Number in millions)

Component	*1961-71*		*1971-81*		*1981-91®*	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*
1. Absolute increase	30.2	100.0	49.9	100.0	57.7	100.0
2. Net reclassification of localities rural to urban	4.5	14.9	6.7	13.4	5.3	9.2
3. Net rural-urban migration	6.3	20.9	9.8	19.6	16.6	28.8
4. Natural increase :						
(i) Of intial urban population	18.8	62.3	24.5	46.1	34.0	58.9
(ii) Of intercensal migrants (net figure)	0.7	2.3	1.1	2.2	1.8	3.1
5. Residual (including errors and changes in boundaries)	-0.1	-0.3	7.8	15.6	-	-

* : Excluding Assam

@ : Including Assam as well as Jammu & Kashmir

The slowing down of the rate of growth of urban population during 1981-91 relative to the previous decade and of rural-urban migration raises questions in the minds of some scholars about the level and pattern of Indian economic development. The explanation lies in the acute shortage of urban housing and the relatively inexpensive transport facilities, which make commutation advantageous. The policies to encourage the location of new industrial units outside the cities with a population of more than one million and other incentives to develop the backward areas also have a similar effect.

Worker Population Ratios

Prior to the 1991 Census, there was considerable concern among the Indian feminists about the undercount of female workers by the 1971 and the 1981 censuses. The Technical Advisory Committee for the 1991 Census, set up by the Registrar General, had recommended that the question relating to work during the previous year, on the individual slip, should explicitly note and remind the enumerators that the workers should include 'unpaid family helpers on the family farm or in the family enterprise'. The census was also preceded by a campaign on the television that the economic activities of women should not be overlooked at the time of the visit of the enumerator. Of course, these efforts could not overcome the main weakness of the census that the enumeration work has to be conducted through more than a million enumerators on the basis of only a token honorarium (which, in urban areas, barely covers the additional travel and incidental costs). Yet, the outcome of the special efforts is best evaluated by comparing the worker-population ratios reported by

the 1991 Census with the results of the 1981 Census and the surveys conducted by the National Sample Survey.

TABLE 9: LEVEL OF URBANIZATION IN DIFFERENT STATES OF INDIA, 1961-1981 AND PROJECTED VALUES FOR 1991-2001

India/State Union Territory	*Percentage of urban population to total population*					
	1961	*1971*	*1981*	*1991*		*2001*
				P	*R*	
India	18.2	20.2	23.7	27.5	.25.7	33.1
States						
Andhra Pradesh	17.4	19.3	23.3	27.9	26.8	32.9
Bihar	8.4	10.0	12.5	15.6	13.2	19.9
Gujarat	25.8	28.1	31.1	34.4	34.4	38.3
Haryana Himachal Pradesh	17.2 6.3	17.7 7.0	21.9 7.6	27.8 8.3	24.8 8.7	37.4 8.9
Jammu & Kashmir	16.7	18.6	21.0	23.8	23.8	27.1
Karnataka	22.3	24.3	28.9	34.6	30.9	42.3
Kerala	15.1	16.2	18.7	21.9	26.4	26.2
Madhya Pradesh	14.3	16.3	20.3	25.4	23.2	32.6
Maharashtra	28.2	31.2	35.0	39.3	38.7	44.1
Orissa	6.3	8.4	11.8	16.5	13.4	23.2
Punjab	23.1	23.7	27.7	32.8	29.7	40.5
Rajasthan	16.3	17.6	21.0	25.4	22.7	31.7
Tamil Nadu	26.7	30.3	32.9	35.8	34.2	38.7
Uttar Pradesh	12.8	14.0	17.9	23.5	19.9	32.1
West Bengal	24.4	24.7	26.5	28.6	27.4	31.6
Union Teritories						
Delhi	88.7	89.7	92.7	95.2	89.9	97.3

* Excluding Assam P: Projected; R: Reported by the 1991 Census

SOURCE : Census of India, 1981.

Like the 1971 and the 1981 Censuses, the 1991 Census has continued the[1] effort to distinguish between the 'main' and 'marginal' workers (in 1971, the term was secondary workers).[5] The census estimates relating to the 'main' workers can be compared with the 'principal' workers enumerated by the NSS.

5. The proposal to distinguish between 'main' and 'secondary' workers in the 1971 Census was mooted at the meeting held in the Planning Commission in May 1969, after the initial pre-tests had been conducted. The Census Commissioner could not resist this suggestion, although he was advised that such a distinction prior to the collection of details about the nature and characteristics of work could lead to an underestimation of the work force. (Such underestimation of the work force has been notfced in the past; it is believed to be an understandable outcome of the effort of the enumerators to complete their assignment quickly. It occurs primarily in the case of women because they undertake multiple activities and economic activities of many of them are 'secondary' to their responsibilities of managing the household and rearing of children). Unfortunately, the caveats of the sceptical scholars came true. The recording of secondary (economic) activities of persons whose main activity was other than work was overlooked by the enumerat ors. The resulting non-comparability of the census data on the economic activities of women has created considerable confusion among the users of census data.

Table 10 shows the census estimates of percentages of main workers and the NSS estimates of principal workers by sex and rural-urban residence for the period 1977-78 to 1991. The census estimates of main worker-population ratios for males appear very close to the NSS-based principal worker-population ratios. For females, the 1991 Census has reported higher estimates of the proportions of main workers than the 1981 Census. However, even the 1991 Census estimates are substantially below^heNSS estimates for the 1980s. The same pattern is observed in both rural and urban areas.

The second category of marginal or subsidiary workers has been observed to be more important among females than among males. Therefore, Table 11 shows the estimates for all females in India, by rural-urban residence. Evidently the estimates of subsidiary or marginal workers by the NSS or the censuses have been quite similar for rural areas; but for urban areas, the corresponding estimates show a large relative difference. Both the 1981 and the 1991 Censuses have enumerated about one percent of urban women as marginal workers whereas the NSS has generally estimated about three percent of them as subsidiary workers. However, the absolute difference between three and one percentage points is small enough to be attributable to chance factors, although scholars are generally inclined to expect that the census-based estimates would be close to the true value. The real problem, however, is one of non-sampling errors or biases which cannot be removed, particularly in a massive operation such as the census.

TABLE 10: WORKER POPULATION RATIOS FOR RURAL AND URBAN INDIA BY SEX, CONSIDERING ONLY THE PRINCIPAL WORKERS ENUMERATED IN THE NSS AND THE MAIN WORKERS IN THE 1981 AND THE 1991 CENSUSES

(Percent)

Area/Sex	7977-78	*1981*	*1983*	*1987-88*	*1991*
Rural India					
Males	53.7	52.6	52.8	51.7	51.3
Females	24.8	16.0	24.8	24.5	19.1
Both Sexes	39.5	34.8	41.0	38.5	35.7
Urban India					
Males	49.7	48.5	50.0	49.6	48.4
Females	12.3	7.3	12.0	11.8	8.6
Both Sexes	31.9	29.2	34.5	31.5	29.6

Overall, given the broad similarity of the NSS-based estimates of worker-population ratios relating to female principal workers, conclusion is inevitable that both the 1981 and the 1991 Censuses have under-estimated the proportions of 'main workers' among females. The extent of underestimation seems to have declined in 1991 relative to 1981; the 1991 values for both rural and urban areas are about 18 to 19 percent higher than those for 1981. Despite this welcome improvement, which differs between states or regions, the female worker-population ratios, including both main and marginal workers enumerated by the 1991 Census remain significantly lower than those based on principal and subsidiary workers surveyed by the NSS in its large quinquennial surveys of Employment and Unemployment since 1977-78.

Table 11: SUBSIDIARY/MARIGINAL WORKERS AMONG FEMALE IN RURAL AND URBAN INDIA,1977-78 TO 1991

Year	Rural India	Urban India
1977-78	8.3	3.3
1981	7.2	1.0
1983	9.2	3.1
1987-88	7.8	3.4
1991	8.0	1.1

Admittedly, the stability of NSS-based worker-population ratios is observed only at the all-India (and not in all states) and in the estimates based on reported usual activities (and not necessarily in estimates relating to the current weekly or daily activities). Therefore, it is necessary to examine also the state-level pattern of changes in the female worker-population ratios based on the 1981 and the 1991 Censuses and their comparability with the NSS-based ratios. Table 12 presents the necessary data for 16 major states.

Table 12: WORKER POPULATION RATIOS FOR FEMALES (INCLUDING MARGINAL OR SUBSIDIARY WORKERS) IN RURAL AND URBAN AREAS OF MAJOR STATES ACCORDING TO THE CENSUSES OF 1981 AND 1991 AND THE NSS ROUNDS OF 1983 AND 1987-88

(Percent)

Slates	*Rural Females*				*Urban Females*			
	1981	*1983*	*1987-88*	*1991*	*1981*	*1983*	*1987-88*	*1991*
India	23.2	34.0	32.3	27.1	8.3	15.1	15.2	9.7
Andhra Pradesh	40.0	47.0	47.0	4Z9	11.8	18.0	21.5	12.5
Assam	N.A.	12.6	16.2	22.8	N.A.	7.8	8.4	8.8
Bihar	14.7	24.8	19.3	17.1	4.8	10.5	7.9	5.9
Gujarat	26.9	41.1	38.1	36.5	6.5	13.2	11.2	8.8
Haryana	12.3	23.2	29.7	13.2	4.5	10.9	12.3	5.4
Himachal Pradesh	33.4	47.6	48.0	36.6	11.3	17.1	15.6	14.1
Jammu & Kashmir	37.1	28.4	34.7		9.4	10.1	14.5	_
Karnataka	30.7	38.6	37.7	36.3	11.8	19.6	19.6	13.1
Kerala	17.7	31.4	28.6	17.9	11.8	21.9	19.8	14.0
Madhya Pradesh	35.8	43.2	41.0	39.1	9.6	14.5	14.4	W.3
Maharashtra	40.9	47.3	46.2	45.8	10.1	15.1	15.9	11.6
Orissa	21.1	29.4	27.6	217	9.5	11.1	1Z5	8.3
Punjab	6.9	31.9	31.7	7.0	4.2	12.9	12.3	6.2
Rajasthan	25.0	46.6	45.0	32.8	5.9	19.5	19.1	7.1
Tamil Nadu	33.6	45.5	46.1	39.2	12.0	21.1	22.7	14.6
Uttar Pradesh	9.0	25.7	21.9	14.7	3.5	9.6	9.4	5.3
West Bengal	8.9	19.3	19.6	13.5	5.6	13.1	115	6.5

SOURCES: Census of India 1981, Part HB(i), Series I, *General Economic Tables*.
NSSO, *Sarvekshana* NSS 43rd Round (My 1987 - July 1988), Special Issue, State Series January 1992, Census of India, Paper3 of 1991.
NSSO, 38th Round (January-December 1983), Report Nos. 341/2 to 341/17.

It is evident that the 1991 census estimates of female worker- population ratios in rural areas have come close to those of the 43rd Round of the NSS in Bihar, Gujarat, Kamataka,

Madhya Pradesh and Maharashtra. The census estimates exceeded the 43rd Round estimates only in Assam. For the remaining states, the 1991 Census and the latest NSS survey differ markedly in their estimates of rural female worker-population ratios; the differences are particularly marked in Haryana, Himachal Pradesh, Kerala, Punjab, Rajasthan, Uttar Pradesh and West Bengal.

The 1991 Census estimates of urban female worker-population ratios are close to those of the NSS only in Assam and Himachal Pradesh. For all other states, the two sets of estimates differ substantially.

There is no real reason to expect very wide fluctuations in female worker-population ratios from year to year. Therefore, the users of the 1991 census data must evaluate the differences between them and the corresponding estimates provided by the National Sample Survey. The latter may, in fact, be used to calibrate or adjust the census-based estimates of workers in various areas. Such adjustments prove difficult, however, with respect to the industrial or sectoral distribution of workers because workers left out of the census count are not likely to be distributed at random over various industrial categories, divisions or groups.

Share of Agricultural Workers Among Main or Principal Workers

Without the possible adjustments noted above, the provisional 1991 Census data relating to the activities of 'main' workers can be compared with only the industrial distribution of 'principal' workers estimated by the NSS. The census has distinguished four categories of cultivators, agricultural labourers, workers in household industry and other workers. The NSS data do not identify a separate category of household industry or the self-employed and employee workers engaged in crop production. The total of cultivators and agricultural labourers can, however, be compared with the share of agricultural workers estimated by the NSS as workers in the two-digit industry group '00' or crop production. Table 13 provides the relevant details.

Interestingly, the NSS estimates of the percentages of workers engaged in crop production are lower than those of the census proportions of agricultural workers including cultivators and agricultural labourers. More importantly, surveys of 1977-78, 1983 and 1987-88 have indicated the beginning of a marked decline in the share of workers engaged in crop production among those classified as working in terms of their principal activity. The censuses of 1981 and 1991 suggest, however, that the corresponding decline in the share of agricultural workers among 'main' workers in rural areas was only 1.3 percentage point among males and less than half a percentage point in the case of females. The estimated change in the share of agricultural workers among urban workers enumerated by the censuses was also quite small but this is consistent with the NSS estimates. The marked difference in the magnitude of change reported by the two sources of data is seen for rural workers, who form a majority of the total work force. It is my hunch that a similar difference is likely to arise when one is able to examine the data relating to the total work force including both main and marginal workers, because the main workers account for a majority of all workers. However, this hypothesis can be evaluated only when the data relating to the industrial distribution of marginal workers enumerated by the 1991 Census are published.

In my judgement, the NSS surveys are unlikely to exaggerate the diversification of the economic activities of workers to the extent that has to be postulated to reconcile the results of the censuses and the national surveys. Quite likely, therefore, we will need to depend on a judicious study of the NSS data for assessing the level and pattern of changes in the structure of employment in the country.

Table 13 : PERCENTAGE SHARE OF AGRICULTURAL WORKERS (CULTIVATORS AND AGRICULTURAL LABOURERS OR THE TWO-DIGIT INDUSTRY GROUP '00') AMONG PRINCIPAL/MAIN WORKERS IN INDIA BY RURAL-URBAN RESIDENCE AND SEX, 1977-78 TO 1991

Rural India			*Urban India*	
	Males	*Females*	*Males*	*Females*
1977-78@	73.3	78.5	7.8	19.5
1981*	79.2	87.3	9.9	21.2
1983@	70.4	78.1	7.5	20.6
1987-88@	67.6	72.2	6.5	17.0
1991*	77.9	86.9	10.2	20.4

@ NSS estimates relate to principal workers engaged in crop production only. *
Census estimates relate to cultivators and agricultural workers together.

Population Policy and the Family Planning Programme

The stability of the observed intercensal rate of population growth during the past three decades leads to some strong conclusions about the efforts of .the government to promote family planning by the people. The family planning programme is now 40 years old; and more than 130,000 workers, formerly known as auxiliary nurse-midwives and lady health visitors (LHVs) but now renamed female health workers (FHWs) and health assistants try to motivate women in their homes to plan their families. However, the programme is sometimes condemned as a dismal failure.

This is quite unfair. As noted above, but for the family planning programme, the rate of growth of India's population could have risen sharply, as has happened in several countries of Africa and South America. During 1985-1990, population of African countries such as Kenya, Tanzania, Uganda and Zambia was reported to be growing at an annual rate of between 3.6 and 3.8 percent. (As a result, their population would double in 18 to 19 years.) The population of our neighbours, Bangladesh and Pakistan, has also been growing at an annual rate of 2.7 to 3.4 percent (implying a doubling in 20 to 26 years). By comparison, India seems to have done better; and the rate of growth of its population seems rather moderate. Yet, given the large size of our population, the annual natural increase adds up to 17 million persons. A careful review of our family planning programme and population projections is imperative.

6. The Government of Pakistan has estimated the total population of the country in 1991 at 115 million with an annual growth rate of 3.1 percent. The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) estimates a population of 122 million and a growth rate of 3.3 percent. See: United Nations, ESCAP, *Population Headline*™, (Bangkok)No. 198, September 1991,p. 1.

The decline in the birth rate during the 1980s has been relatively modest despite a substantial increase in the estimated proportion of couples effectively practicing contraception from 23 percent at the end of March 1981 to about 43 percent at the end of March 1990. Unfortunately, there is reason also to doubt the veracity of the reported numbers of acceptors of temporary methods, that have accounted for a little over one quarter of the effective couple protection rate and over 75 percent of the annual acceptors during the 1980s. It is imperative that the State-level Departments of Family Welfare should abandon the extensive pressure on their functionaries to achieve numerical targets of acceptors of various methods, particularly the temporary or spacing methods. This pressure has been counter-productive. It has led to a widespread distortion of the service statistics even in the well-administered states and by generally well-motivated functionaries also. Given the diversity of situations faced by the functionaries working in over 570,000 villages, we must emphasize the final goal of lowering the birth rate and the rate of population growth rather than the achievement of method-specific targets. At least in some ten to fifteen districts in different states, we must experiment with a target-free programme with our sights set on the final outcome rather than the intermediate steps.

Secondly, the health workers recruited by the Indian family planning programme are grossly ill-equipped for the difficult task assigned to them. A careful review of their training is essential. Modern management methods can ensure a system of uninhibited feedback and interaction between the workers and their superiors to tackle the difficult situations. The working hours and methods can also be modified to ensure a less bureaucratic approach with a concern for the basic needs and dignity of the disadvantaged people.

Thirdly, the Indian population projections have been guided more by the goals set by the Department of Family Welfare than by a realistic assessment of the likely pace of social change in a predominantly rural society. To compare the census results with revised projections of October 1989 gives, an unwarranted sense of confidence in the latter. We must recognize that a net reproduction rate of one may not be achieved throughout India for as many as 25 to 35 years from now. The growth momentum built into the young age distribution of our population, is so high that population growth is likely to continue in India for the next 60 to 70 years even if fertility rates drop precipitately and every couple decides now onwards to have no more than two children. The ultimate population would be about 70 percent above our present size even with the sharp fertility decline postulated here. It would imply a population of 1,462 million.

Of course, it is unrealistic to suppose that except in Kerala, Tamil Nadu, and Goa where we have already reached the replacement level of fertility, the reproductive behaviour of the people would undergo a sudden change. Yet, an acceleration of the pace of decline in fertility would be an advantage in the sense that the 'ultimate' size of our population would be smaller than if the fertility decline is delayed.

An ability to think in the abstract about the consequences of alternative courses of behaviour is necessary for the people to alter their child-bearing behaviour at an early age. Even with a substantial rise in he levels of literacy and education, it would not be easy to force the pace of change.

Need for a System of Disincentives

Given this perspective, an effective system of 'incentive&and disincentives' for lowering the rate of growth of population can make a mosfvaluable contribution. Incentives and disincentives must encourage our youth to marry late and to delay and limit their child-bearing after marriage. Incentives are difficult to administer except in the organised sector of employment and given the fiscal crisis faced by the Indian state, their scope is likely to be limited. Therefore, we need to think more about disincentives. Obviously, we do not want to penalise children born to the 'improvident' parents; but we must create an environment in which the seriousness of our population problem is fully recognised by one and all.

We can enact a law that no one can apply for a job in the Government or the public sector if at the time of marriage, the groom was below 24 years old and the bride was below 21 years of age. Given the large number of aspirants for government and public sector jobs, the proposed law would have the salutary effect of raising the gge at marriage. We might also consider whether the right to contest an election and to hold public office can be denied to couples who decide to have more than two children. Such a restriction on the privileges enjoyed by our citizens would have a much wider impact than is usually realised.

The doyen of Indian industry, Mr. J.R.D. Tata, has often advocated sizeable monetary incentives by the State for the acceptance of sterilisation or a permanent method of family limitation. Such an incentive would be justified from the national perspective because the additional net cost to the society of raising one more citizen is quite high. However, our experience with even modest monetary incentives for the acceptance of sterilisation or IUD has highlighted the high risk of corruption and misuse. Even group incentives such as awards for states and districts reporting superior performance in the promotion of contraception have led to gross misreporting or tampering with the statistics relating to the performance of the family planning programme. As a result, the proposals for incentives to promote . contraception evoke strong negative reactions.

Fortunately, the difficulty of introducing large monetary incentives does not seem to be a major hurdle to promoting widespread use of contraception. In a survey of nearly 13000 households drawn from Bharuch, Kheda, Panchmahals and Rajkot districts of Gujarat, a large majority of nearly 5700 sterilised couples reported in 1989 that their decision had not been guided by the monetary incentive. Of course, 90 percent of them had actually received an incentive and between 40 to 50 percent of them would have preferred a larger amount. However, it is our impression that the money is used for the entire household, usually for food, and the amount offered to them would not have lasted long. A serious problem to be overcome while deciding to undergo sterilisation seems to be the difficulty of securing help for managing the household during the period when the woman recuperates from the surgery. However, almost 85 to 90 percent of the sterilised did not regret their decision and reported willingness to recommend the method to others. Between 3 to 15 percent of the sterilised did, however, regret their decision because of (a) post-sterilisation complications or (b) subsequent death of a child (or children) and/or (c) a reported desire for more children

7. The survey was undertaken by the Gujarat Institute of Area Planning and the Operations Research Group under an award by the Population Council, New York, as a part of a study of the district level estimates of contraceptive prevalence.

More importantly, despite the evident widespread acceptability of sterilisation in India, we need more innovative and inter-disciplinary explorations of the feasibility of promoting the use of reversible methods of family limitation. The captains of industry and entrepreneurs must recognise that the size of the population will decide not only the size of the market but also the number and quality of workers with whom they must collaborate in any enterprise. They would do well to examine the feasibility of experimenting with alternative incentive schemes to promote the use of reversible methods of family limitation. The public sector funds for such research are no longer adequate. The private sector must also provide generous financial support to multi-disciplinary social science research on various aspects of the determinants and consequences of population growth.