

# Recent Trends in the Condition of Children in India: A Statistical Profile

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**Summary.** – Global recession has not affected the status of Indian children directly, thanks to the basic insularity of the country's economy, but it has constrained the government's ability to maintain/expand child-related programmes in real terms. This paper analyses recent trends in a large set of quality of life indicators for children in India. While labour market data and nutrition statistics appear ambiguous, other measures such as anthropometric measures, e.g. infant mortality, life expectancy and literacy rates, do not show generalized deterioration and occasionally provide evidence of improvements. The latter, however, show important inter-state variations, with conditions actually deteriorating in some states. Moreover, the improvements observed have been registered under very low absolute conditions of living.

## 1. INTRODUCTION

At last count (Census 1981), India's population was 685 million and growing at an average rate of about 2.5% per annum. Of this, approximately 260 million were children under age 15.<sup>1</sup> Roughly 70% of this total population depends on agriculture. Hence, the bulk of the population, both children and adults, are exposed directly to world recession only to the extent that India's agriculture depends on external markets. As exports account for only about 3% of the value-added in agriculture, the agriculture-dependent population is even less susceptible to the recessionary impulses of world trade than would appear from the overall export/GNP ratio of 6% in recent years (Government of India, 1983).

There are, however, other less direct but nevertheless real mechanisms through which the recession may significantly affect the status of children in India. World recession – more specifically the oil shock which probably set it off – has pushed India into a serious balance-of-payments problem. The low level of exports, which appears to be an advantage in insulating India from the recession's direct impact, turns out to be a major problem when compared to the higher level of imports. India's trade deficit of around Rs. 10 billion in 1977–78 had grown to a deficit of nearly Rs. 60 billion by 1980–81. This is reflected in the current account deficit which had reached a level of well over Rs. 20 billion by the early 1980s. After taking account

of capital transactions, the total deficit which had to be met through external assistance in 1980–81 was over Rs. 31 billion, including drawings from the IMF of over Rs. 8 billion.

This deteriorating balance-of-payments situation must be seen along with an equally serious problem of deficits in the government's own budget. A growing gap exists between the government's total outlay and the sum of its current revenue and capital receipts. This gap, which has to be met through either external assistance or domestic deficit finance, had grown to over Rs. 50 billion by 1980–81 from Rs. 13 billion in 1978–79 and Rs. 35 billion in 1979–80 (Government of India, 1983). Final estimates for the last two financial years are not yet available, but in all probability this gap has grown even larger. External assistance has increased from Rs. 7 billion in 1978–79 to Rs. 8.9 billion in 1979–80 and Rs. 16.7 billion in 1980, with the overall deficit for those periods growing from Rs. 6.3 billion to Rs. 26.6 billion to Rs. 34.6 billion. In view of India's serious balance-of-payments problem, the government obviously cannot resort to indefinitely growing volumes of external assistance or deficit finance to meet the increasing gap between its total outlays and total receipts on current and capital account.

Under these conditions, there has been strong pressure on the government to curtail various

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\* The views expressed in this paper are those of the author and not necessarily those of UNICEF.

development programmes, welfare schemes and subsidies, including those relating specifically to children. Even if outlays in money terms are not actually cut, the scope of these programmes may be reduced in real terms or their rate of expansion at least brought down. The effectiveness of such programmes is studied in the last section of this paper, following an examination of available data on recent trends in the quality of life for Indian children.

## 2. CHILDREN IN THE WORK FORCE

Although there are a number of micro-studies which document the pitiable working conditions, long hours and shockingly low wages for children in urban areas (ICCW, 1977; NIPCCD, 1978; George, 1977; Seal, 1980; etc.), child labour in India is essentially an agrarian problem. Data on the sectoral distribution of child labour from the 1981 Census is not yet available, but the 1971 Census and the 1978 Survey of Infant and Child Mortality, both conducted by the Registrar General of India,<sup>2</sup> revealed that around 80% or more of all child labourers as well as male and female child labourers taken separately, were engaged in agriculture and allied activities.

From the rural labour enquiries conducted in 1964–65 and again in 1974–75, three features in the condition of child labour stand out most sharply: (a) the extremely rapid growth of child labourers (an increase of 64% for all India from 1964–65 to 1974–75) as well as of total labourers (a 51% increase over the same period); (b) the miserably low wages of both child and adult male labourers; and (c) the predominant fact of a decline in real wage rates in both cases (children's wages decreased by 7% from 1964–65 to 1974–75 while male labourers' wages went down by 10%). A question now arises regarding the possible relationship between the rapid growth of child labour and the low and declining real wage rate. Both child and adult agricultural labour increased while real wages declined, apparently representing a perverse phenomenon of larger numbers of children and adults being forced to enter the rural labour market despite declining wages. This increase in child labour might therefore be interpreted as reflecting general deterioration in the condition of rural children.

However, no clear relationship emerges between the fall in real wage rates and the growth of child labour across the 14 states surveyed: Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab and Haryana,

Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal.<sup>3</sup> For example, child labour increased by 75% in Punjab–Haryana, while real wages rose by 36%. In Rajasthan, child labour did not increase at all, whereas real wages increased by 8%. In Kerala, male wage rates declined by 29% and child labour remained the same. In 10 states where real wages declined along with increases in child labour, there is no clear inverse correlation between the proportionate increase in child labour and the proportionate decrease in real wage rates. Furthermore, in nine cases, the growth of child labour was higher than that of all labour including adult male labour. However, in only four of these nine states do we find a greater fall in the real wage rates of child labour as compared to the fall in male real wage rates. We cannot therefore offer any simple explanation that child labour was being forced into the labour market by impoverishment consequent upon a fall in real wages any more than we can attribute falling real wages to the growth of child labour.<sup>4</sup>

To interpret the rapid growth of child labour, we must therefore examine it in relation to the total child population growth. The data on labour force participation rates of children reveals that the aggregate participation for all children appears to have declined from about 8% in 1961 to just under 5% in 1971. This decline is borne out by the 1978 survey (Office of Registrar General, 1980), both the 1961 and 1971 Censuses and a completely independent set of participation rate estimates, based on the 16th round (1960–61) and 27th round (1972–73) of the National Sample Survey.<sup>5</sup> Finally, a brief reference to literacy trends serves as a useful cross check against our inference regarding participation rates. We would normally expect child work force participation rates to decline as child literacy rates rise. As discussed in Section 6, child literacy rates were indeed rising during the 1960s and 1970s for both boys and girls in both rural and urban areas. The combined evidence establishes that participation of children in the work force is actually declining over time. The rise in the absolute number of child labourers reflects the increase in the child population from 180 million in 1961 to 230 million in 1971 and further to around 260 million in 1981.

Although the absolute number of child labourers has grown phenomenally and their real wages have fallen, we have seen why these may not be good indicators of the changing status of children, particularly in view of the declining *incidence* of child labour. Furthermore, real wage rates are by no means a good

indicator of trends in the level of living, even among agricultural labour households. Studies have shown that at the same time as real wage rates or annual wage incomes per labourer are falling, the real per capita income in agricultural labour households may be rising because of increasing non-wage income, rising earning strength of the family and other similar factors (see Mundle, 1982a,b). We must therefore move beyond labour market statistics to more direct indicators of the physical quality of life, starting with estimates of poverty and nutrition.

### 3. POVERTY AND NUTRITION

It is now increasingly believed that because food is not equitably distributed within the poor family, poverty–nutrition trends for the aggregate population may conceal trends specific to the child population (Sen, 1982).

Accordingly, we present here data from the National Institute of Nutrition which shows the age-specific nutritional status of children belonging to age groups 1–4 years and 5–10 years in 10 states: Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal. The estimates are based on surveys conducted by the National Nutrition Monitoring Board (NNMB) which cumulatively sampled 28,055 households (19,632 rural and 8423 urban) in the 10 states, examining a total of 162,837 individuals up to December 1979. Estimates for the year January–December 1979, during which a total of 4809 households were surveyed (31,566 individuals examined), are compared with estimates based on the pooled data for the period 1975–79. Children of both age groups have been classified into four nutritional status groups: Protein Inadequate–Calorie Inadequate (p c), Protein Inadequate–Calorie Adequate (p C), Protein Adequate–Calorie Inadequate (P c) and Protein Adequate–Calorie Adequate (P C). The minimal concept of Mean-2 Standard Deviation of the recommended daily allowance is treated as the criterion of adequacy.

The data show that the category of children with adequate calorie intake but inadequate protein intake is practically a null set in all states for both age groups during the period 1975–79 as well as the year 1979. In other words, whenever calorie intake is adequate, protein intake is also adequate, such that the latter can be ignored as a separate nutrient requirement in the present case. Except in a few extreme cases, children with adequate intake of both calorie and protein accounted

for about 30–50% of all children in both age groups. The proportion of children deficient in calorie intake but having adequate protein intake again ranges from between 30 to 50% in most states although it is higher in a couple of extreme cases.

Thus the general nutritional status of children in India is extremely depressing, with between 50% to over 70% of all children across different states suffering from inadequate calorie intake and around 10–20% of children suffering from protein deficiency as well. However, the picture regarding changes over time is ambiguous. In the case of 1–4-year-olds, the share of best category (P C) has declined in only three states (Karnataka, Kerala and West Bengal). The share of the worst category (p c), although accounting for less than 20% of all children in most states, has increased in seven states: Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal. In the case of 5–13-year-olds, the share of the best category (P C) has declined in these same seven states while the share of the worst category has increased in four: Kerala, Madhya Pradesh, Uttar Pradesh and West Bengal.

### 4. ANTHROPOMETRIC MEASURES

Gopalan (1983) has recently emphasized the difficulty of getting accurate estimates of child nutrition from diet surveys using the household as the basic unit of observation, even though data may be collected separately for different age–sex groups within the household. He has also pointed out that the minimal adequacy criterion employed by the NNMB, i.e. Mean-2 Standard Deviation applied to the recommended daily allowance, may seriously underestimate malnutrition from a biological view. Children surviving at this minimum level of calorie intake would most probably suffer from other nutrient deficiencies as well (although not protein, as we have seen), and would in the long run experience the development of various biological deficiencies/ailments not reflected in the diet surveys. Gopalan has suggested the use of nutrition surveys along with data on morbidity, clinical symptoms of undernutrition, biochemical counts and anthropometric measures such as the distribution of heights, weights, arm circumference, fat fold at triceps, etc. We therefore examine here two standard anthropometric measures: the height and weight of children, based on the NNMB survey data discussed earlier.

Data available from the National Institute of

Nutrition compares, separately for boys and girls, the average heights recorded during 1979 with the average for the period 1974–79 at different ages in the 10 states covered by the NNMB survey. The 1979 height turns out to be neither uniformly higher nor uniformly lower than the 1974–79 average height at ages 2, 5 and 9 in most of the states. However, the comparison at age 13 is more meaningful as it represents the cumulative result of childhood growth. At age 13, the average height recorded for boys in 1979 is lower than the average for 1974–79 in only one state: Karnataka. For girls at this age, the average height recorded in 1979 turns out to be lower than the 1974–79 average in four states: Andhra Pradesh, Gujarat, Madhya Pradesh and Uttar Pradesh. In all other states, the 1979 average was greater than or equal to the 1974–79 average. In general, therefore, the heights of children in 1979 appear an improvement compared to the average for the late 1970s as a whole. This conclusion must be treated cautiously since the differences between the 1979 and 1974–79 averages are quite small – much less, for instance, than one standard deviation. However, this is not unexpected since average heights of children are not expected to change dramatically from year to year and the available data restricts comparison to a period of only five years.

The data on the distribution of children according to weights yields a much sharper picture of anthropometric changes during the 1970s. Data available from the National Institute of Nutrition compares the percentage share of each category in the Gomez classification (per cent of standard weight) in 1979 with the average share of that category during the period 1975–78 for pre-school children (age 1–5 years) in the 10 states surveyed by the NNMB. Barring extreme cases, the proportion of children severely underweight (less than 60% of standard weight) has generally ranged between 5 to 10% of pre-school children in most states. At the other end, children of normal weight (90% of standard) have accounted for between 10 to 20% of the total. The large majority of pre-school children in most states belong to the middle categories of mildly underweight children (75–90% of standard), who generally account for 35 to 50% of the total, and moderately underweight children (60–75% of standard), who account for about 30–40% of the total.

The comparison over time shows that the proportion of normal weight or mildly underweight children declined in only three states – Tamil Nadu, Madhya Pradesh and Orissa – which accordingly were the only states where the

proportion of children severely or moderately underweight increased. The proportion of severely underweight children increased only in Madhya Pradesh and Orissa. The share of normal weight children increased in six states, remained unchanged in Orissa and West Bengal and declined only in Tamil Nadu and Karnataka. Whichever way we look at the statistics, therefore, the disaggregated state-level picture confirms that the weight status of children in India has shown distinct improvement in recent years. This positive trend is reinforced by data from UNICEF New Delhi which suggests a substantial improvement by the end of the 1970s in the physical status of children aged 1–5 years as measured by the Gomez classification. We must, however, remember that there are a number of states in which the situation is either not improving or actually deteriorating and that the absolute level of living at which the improvements have been registered remains abysmal.

#### 5. INFANT MORTALITY AND LIFE EXPECTANCY

Can the inferences made so far as to the changing status of children in India be tested on the basis of some independent source of data? The trends in real income or standards of child care and nutrition, which are reflected in anthropometric measures, should also be reflected in demographic indicators of the physical quality of life such as infant mortality, age-specific child death rates or life expectancy. This section examines trends in such demographic variables starting with estimates of infant mortality rates reproduced in Table IX.1. Actuarial reports based on the decennial censuses show that the infant mortality rate during the 1960s, while still high in absolute terms, had distinctly improved compared to that of the 1950s, which in turn was significantly lower than the rates prevailing during the first half of the century (barring the estimate for 1946–50 which appears to be exceptionally low and needs to be examined more carefully).

It is not possible to judge on the basis of any comparable set of estimates whether this declining trend of infant mortality was maintained during the 1970s until the actuarial report for 1971–81 based on the 1981 Census becomes available.<sup>6</sup> However, an independent set of annual estimates for the 1970s (based on the Sample Registration Scheme and the 1979 Survey of Infant and Child Mortality, Office of Registrar General, 1980), shows that the infant mortality rates, after rising around the middle

Table IX.1. *Infant mortality rates, 1911-78*

Period	Deaths per 1000 live births	Period	Deaths per 1000 live births
1911-15	204*	1970	129†
1916-20	219*	1971	129†
1921-25	174*	1972	139†
1926-30	178*	1973	134†
1931-35	174*	1974	126†
1936-40	161*	1975	140†
1941-45	161*	1976	129†
1946-50	134*	1977	129‡
1951-61	146§	1978	125‡
1961-71	129§		

Source: Office of Registrar General (1980).

\*Five year average.

†Sample Registration Scheme.

‡Survey.

§Actuarial Report.

of the 1970s, declined toward the end of that decade to a level lower than that observed at the beginning of the decade. The 3-year moving average of deaths per 1000 live births rose from 132 in 1971 to 133 in 1974 and then declined to 128 in 1977. For the decade as a whole, therefore, the decline in infant mortality rates observed for the 1960s appears to have been maintained.

A closely related demographic variable is the life expectancy at birth, which is estimated on the basis of life tables computed from infant mortality rates along with age-specific death rates. Trends in life expectancy at birth estimated from different sources (Table IX.2) confirm the inferences tentatively suggested so far, i.e. that the living standard of the broad mass of India's child population was improving during the 1970s but that the improvement was registered at absolute levels of living which continued to be abysmally low.

Table IX.3 presents age-specific death rates in 1972 and 1978 for children of three different

age groups, differentiating between males and females in rural and urban areas. While both male and female death rates decline between 1972 and 1978, the decline was faster in the case of females in both rural and urban areas, thus reducing the difference between male and female death rates. In the two older groups the male-female difference has virtually disappeared. But against this positive change there has been no narrowing of the rural-urban differential in death rates. This applies to all children and across age groups, but is especially disturbing in the youngest age group, 0-4 years, which shows an extremely high death rate compared to the two other groups. These inter-age group differences in child mortality have not narrowed and the youngest children continue to be the most vulnerable.

A sharper focus on this vulnerability of the youngest children is necessary in order to better judge the remedial action required. Table IX.4 summarizes the relevant information on the sources of infant and child mortality. Note that

Table IX.2. *Life expectancy at birth*

Source (0)	Period (1)	Male (2)	Female (3)
Census life tables	1951-61	41.9	40.6
Census life tables	1961-71	46.4	44.7
Expert Committee on Population Projection	1971-76	50.1	48.8
	1976-78	52.6	51.6
SRS life tables	1970-75	50.5	49.0
SRS life tables	1976-77	50.8	50.0

Source: Sample Registration Bulletin, various issues.

Table IX.3. *Age-specific death rates*

Control group	0-4 years		5-9 years		10-14 years	
	1972	1978	1972	1978	1972	1978
<i>Rural</i>						
Male	58.5	48.9	5.6	4.2	2.1	2.1
Female	67.2	57.9	6.2	5.5	2.9	2.2
All persons	62.7	53.2	5.9	4.8	2.5	2.2
<i>Urban</i>						
Male	29.1	25.5	2.5	1.5	1.0	0.9
Female	35.7	27.2	2.7	1.5	1.4	1.1
All persons	32.2	26.3	2.6	1.5	1.2	1.0
<i>Combined</i>						
Male	53.2	44.7	5.0	3.7	1.9	2.0
Female	61.7	52.1	5.6	4.7	2.6	2.0
All persons	57.3	48.3	5.3	4.2	2.2	2.0

Source: Sample Registration Bulletin, various issues.

Table IX.4. *Sources of infant and child mortality*

(0)	Rural				Urban			
	Infant mortality	Neonatal	Postnatal	Death rate 0-4 years	Infant mortality	Neonatal	Postnatal	Death rate 0-4 years
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1970	136	80	56	58.1	90	49	41	32.3
1971	138	85	53	56.2	82	47	35	32.3
1976	139	83	56	55.2	80	49	31	29.7
1978	136	76	60	53.2	70	42	28	26.3

Source: Office of Registrar General (1980).

in both rural and urban areas the mortality rate for infants (age 0-1 year) is more than double the average death rate for children age 0-4 years. This implies that the special vulnerability of children below 4 years is really concentrated among infants less than 1 year old. Furthermore, the neonatal mortality (that occurring in the period immediately following birth) is much higher than the postnatal mortality.

This evidence suggests that the special vulnerability of infants has much to do with the condition of birth itself, the condition of the mother during pregnancy and the nourishment available to mother and child during the neonatal period. This is confirmed by 1981 data from UNICEF New Delhi which shows that respiratory disorders, fevers, digestive disorders and other clear symptoms account for about 80% of deaths among children age 1-4 years. They are also important causes of death among infants,

but account for only 35% of infant deaths as compared to about 60% of infant deaths attributed to factors peculiar to infancy such as childbirth, condition of pregnant mothers and neonatal nutrition status of nursing mothers and babies. Infant mortality, we have seen, is a key element in the status of children. It is now clear that childbirth facilities, the condition of expectant and nursing mothers and neonatal or postnatal child care will play a key role in reducing infant mortality rates.

The second important feature about infant and child mortality to be emphasized is the persistent difference between rural and urban rates, as already noted in the context of age-specific death rates of children (Table IX.3) and sources of infant and child mortality (Table IX.4). The glaring difference between rural and urban infant mortality rates is highlighted in Table IX.5. Especially disturbing is the fact

Table IX.5. *Infant mortality by sex in rural and urban areas*

1970 (0)	Rural			Urban		
	Males (1)	Females (2)	Total (3)	Males (4)	Females (5)	Total (6)
1970	—	—	136	—	—	90
1971	—	—	138	—	—	82
1972	141	161	150	85	85	85
1973	141	144	143	88	90	89
1974	—	—	136	—	—	74
1975	—	—	151	—	—	84
1976	133	146	139	78	82	80
1977	134	149	142	69	65	67
1978	130	142	136	69	71	70

Source: Office of Registrar General (1980).

that not only are the rural rates much higher, they did not decline during the 1970s, as did the urban rates. Thus, by 1978 the rural infant mortality rate was nearly double the urban.

Using infant mortality as a key indicator of the status of children, we now begin to have the broad features of a hypothesis as to the causes of higher or lower mortality rates. One aspect is the complex of factors involving the access of mothers to trained personnel and other facilities for child delivery, the nutritional status of pregnant and nursing mothers and the quality of health care and nourishment which babies receive. The other aspect, indicated by rural-urban differentials, is the possible importance of human settlement patterns in relation to the availability of health-care and related facilities such as potable water, excreta disposal systems, etc. Thus, in a spatial sense it is much easier and cheaper to make health and other basic services available to a community when it is densely settled rather than widely dispersed.

It is possible to argue, however, that both these sets of factors are closely related to a third one, namely, income levels. Poorer mothers and babies have less access to health-care facilities and nourishment than those who are better off; urban communities are on average much better off than rural communities. That economic conditions play a crucial role in determining the status of both mother and child is beyond dispute. But the question really is whether this is the only decisive factor or whether factors such as the availability of medical facilities, health care programmes and nutritional programmes have an independent role. If so, then the settlement patterns which affect service delivery to the mother and child target groups become a relevant consideration.

These are clearly issues of some importance for policy and programme planning.

A comparison of infant mortality rates for different maternal control groups taken from a recent survey (Office of Registrar General, 1980) shows there is a strong inverse relationship between infant mortality and the level of education of mothers as well as their age of marriage. The infant mortality rate for the illiterate rural maternal control group was 132 in 1980, more than double the rate of 64 for rural mothers with primary schooling and above. In urban areas, the figures were 81 and 49 for these respective groups. The maternal control group of rural mothers younger than age 18 showed an infant mortality rate of 141. The figure for rural mothers aged 18-20 was 112 and dropped to 85 for those 21 years and over. For the urban control groups, the infant mortality rate was 78 for mothers below 18 years, 66 for those 18-20 years and 46 for those 21 years and over. Age of marriage and literacy are associated since marriages may be delayed for mothers who enjoy a longer education. Thus, the relevant consideration here is really the level of education and experience of women when they get married or bear children. But once again the question arises, are these independent factors making for lower infant mortality or are they themselves purely a function of the economic status of households?

A partial answer is provided by a comparison of rural and urban infant mortality rates for children of mothers belonging to more or less the same economic groups, again based on data from the same survey. This shows that even when the economic group is controlled, infant mortality rates are much higher within the rural group. There seems a clear case for arguing that economic conditions

apart, access to various mother and child-care facilities in a purely spatial sense and the availability of basic services such as water and sanitation do play an important role in determining the physical quality of life for children. However, these questions are far too important to be easily resolved through such simple control group comparisons and we shall return to this question after reviewing literacy trends.

## 6. TRENDS IN LITERACY

We have seen that literacy of mothers may be one of the crucial factors affecting infant mortality. In addition, increasing literacy is in itself a desirable goal which is relevant in judging trends in the physical quality of life for children. Aggregate literacy rates for the past 80 years as estimated from the decennial censuses show that improvements during the 1950s and 1960s were maintained in the 1970s. However, the absolute level of literacy, at barely 36% in 1981 (47% for males and 25% for females), remains extremely low. Female literacy rates are still well below those for males yet have improved at a faster rate, greatly narrowing the male–female literacy gap. At the beginning of this century, only one in every 15 literate persons was a woman. By 1961, every fourth literate person was a woman. In 1981, one out of every three literate persons was a woman.

Literacy rates as they specifically apply to school-age children (5–14 years) bear out the same trends observed in the aggregate. Literacy rates for this group continued to improve during the 1970s with female literacy rates rising more rapidly, although remaining well below male rates in rural areas. In 1978, rural literacy rates for the 5–14 year group were 59 for males compared to 39 for females, a rise from the 1971 rate of 37 and 21 respectively. In urban areas, the male–female difference is quite small: 79 for males and 72 for females in 1978. As expected, the literacy rate specific to school-age children is higher than the average literacy rate, but in 1978 was still barely 50% in rural areas compared to nearly 80% in urban areas.

The proportion of children attending school in various school-age groups, as estimated in the 1979 Infant and Child Mortality Survey, show the rural proportions to be as usual, much lower than the urban and the female proportions lower than the male. In the 5–9 year age group, for example, 52% of boys and 37% of girls in rural areas attended school, compared to 76% of boys and 71% of girls in urban areas. The

male–female difference is now relatively narrow in urban areas. It is, however, important to point out that the relative stability of the enrolment ratio across age groups, as revealed by the 1979 survey, contrasts sharply with the figures for 1980–81 recently released by the Department of Education (1982). The survey estimates an enrolment ratio of 50% for the 5–9 age group which *rises* to 56% for the 10–14 age group. Against this, the Department of Education figures show an extremely high enrolment ratio of 83% for children in the 6–11 age group which declines to a mere 40% for the 11–14 age group. It is not possible to reconcile these wide differences in estimates and school enrolment statistics must be treated with caution. However, the Department of Education statistics are consistent with prevailing notions about the rapid drop-out rate of rural children as soon as they are old enough to do some useful work.

A pattern of inter-state variations in general literacy rates, female literacy rates and the rates of change in literacy can be derived from the 1971 and 1981 censuses. A ranking of states by female literacy closely resembles their ranking by overall literacy. Also, as noted in the all-India statistics, female literacy has grown faster than male (hence overall) literacy rates in all states. A further heartening feature is that the literacy rate and the rate of change of literacy seem to be inversely related such that inter-regional disparities have narrowed. But it must be remembered once again that all these positive changes are registered under conditions where the absolute level of literacy remains low, registering only 69% overall and 64% for females in 1981 for the highest-ranked state: Kerala.

## 7. PUBLIC PROGRAMMES AND THE QUALITY OF LIFE FOR CHILDREN

Our fairly detailed review of recent trends in a large set of indicators has indicated that the quality of life for children in India has improved in recent years. These improvements, however, have been registered in the context of absolute levels of living which remain abysmally low. Furthermore, these general trends show important inter-state variations with conditions actually deteriorating in a number of states. The important question now arises concerning the impact of public programmes on the status of children. If some of the programmes undertaken by the government, along with international agencies, have played a significant role in bringing about such improvements as have



been recorded, then the ability of the government and these agencies to maintain and expand these programmes becomes a crucial factor.

The relevance of public programmes for the status of children has already been partly addressed in Section 5 which examined the various factors affecting infant mortality. The main issue which emerged was whether factors which obviously played an important role in reducing child mortality, such as female literacy, access to childbirth facilities and the nutritional status of expectant or nursing mothers and infants, could be treated as basically a function of economic conditions or not. Apart from economic conditions, were these variables also affected by factors such as access to the relevant government programmes and the settlement patterns influencing delivery of services?

The question is examined here with reference to the observed inter-state variations in infant mortality rates — which we are using as the basic indicator of the quality of life for children.<sup>7</sup> In Table IX.6, 15 major states for which Sample Registration Survey infant mortality estimates are available have been arranged in ascending order of infant mortality. The first group of six states are those with relatively low (below 110) and declining infant mortality rates. The next four states have a medium range of infant mortality rates (110–130) which are also rising over time except in Assam.<sup>8</sup> Finally, we have

five states ranged at the bottom which have high infant mortality rates (over 140) which are also rising over time. It is interesting to note a regional pattern in the distribution of these states. The best states in terms of child status arranged at the top are mainly states from the northern and southern regions. The worst states at the bottom comprise a central belt stretching from Gujarat in the West to Orissa in the East. Bihar and West Bengal are two major states in the region which are excluded since Sample Registration Survey data is not available for them.

Along with infant mortality rates for these three sets of states, Table IX.6 also gives data on female literacy rates, the hospital bed : population ratio, the doctor : population ratio, the proportion of large villages (over 5000 population) to all villages in the state, and the per capita State Domestic Product. While the picture for the middle category of states is somewhat ambiguous, a comparison of the values of these different variables between the six top states and the five lowest states reveals some interesting associations. The states with relatively high per capita State Domestic Product are clearly bunched in the top category, whereas those with low per capita State Domestic Product are bunched in the lowest category. There is therefore a clear inverse relationship between this variable and the infant mortality rate. As

Table IX.6. *Inter-state variations in infant mortality and related variables*

States	Average IMR 1975–77	1981 Female literacy	Hospital beds per 1000 pop.	Doctors per 1000 pop.	Villages over 5000 pop. (%)	SDP per capita (Rs.)*
Kerala	52	64	0.90	0.38	97.3	1000
Jammu and Kashmir	66	—	1.58	0.27	1.6	825
Karnataka	81	28	0.81	0.21	7.9	1038
Maharashtra	94	35	0.74	0.56	12.2	1455
Punjab	104	34	0.60	0.49	4.9	1688
Tamil Nadu	108	34	0.55	0.29	26.6	997
Haryana	113	22	0.54	0.17	12.7	1514
Himachal Pradesh	114	31	0.95	0.14	0.3	1165
Andhra Pradesh	123	21	0.65	0.36	16.1	897
Assam	128	—	0.47	0.40	1.3	848
Orissa	141	21	0.41	0.27	0.8	834
Gujarat	146	32	0.56	0.38	9.5	1236
Rajasthan	146	11	0.53	0.23	5.6	973
Madhya Pradesh	146	16	0.33	0.15	1.9	790
Uttar Pradesh	181	14	0.40	0.20	5.5	727

Sources: (i) Sample Registration Bulletin, various issues; (ii) Census of India (1981); (iii) Pocket Book of Health Statistics; (iv) Census of India (1971); and (v) UNICEF, New Delhi (1980).

\*Current 1975–76 prices.

we would expect, the quality of life for children is better in the states where the average household is economically better off.

We also find, as suggested earlier, that infant mortality is inversely related to the female literacy rate which is generally higher for states in the top category compared to those in the lowest. But the question persists: is higher female literacy itself due to the better economic condition of people in the better-off states or is it more a function of public policy? To resolve this we must go beyond the literacy variable to others such as the hospital bed:population ratio or doctor:population ratio which in India are clearly dependent on public programmes rather than on the level of individual income. Table IX.6 shows these variables also tend to attain higher values in the top category states as compared to the bottom category – the contrast in the case of hospital bed:population ratio being sharper than in that of doctor:population. The inverse relationship between these variables and the infant mortality rate clearly indicates that, economic factors apart, public sector intervention such as government health programmes have an important impact on the status of children.

To test the proposition that access to public programmes may depend partly on the settlement pattern of rural communities which account for the bulk of India's population, Table IX.6 includes a measure of the size distribution of villages in different states. In general, villages in most states are clustered in the range of between 500 to 5000 population. We have therefore taken the ratio of large villages with more than 5000 population to the total number of villages in a state. If Jammu and Kashmir and Punjab in the top category and Gujarat from the lowest category are set aside, the proportion of large villages tends to be higher in the top category states as compared to the lowest category. Interestingly, in Kerala, which is now widely known as a classic case where all components of the physical quality of

life index are exceptionally high in relation to the level of per capita income, over 97% of the villages happen to be such exceptionally large villages with over 5000 population per village.

Enough has been said to establish the relevance of public programmes of health, education and welfare – including nutrition, sanitation, drinking water delivery – in improving quality of life for children. We must now examine whether the government has been able to maintain and expand the scope of these programmes in recent years or whether the world recession – via balance-of-payments and budgetary constraints – has forced the Indian government to curtail such expansion in real terms. A comparison of the proportionate and absolute share of actual government expenditure on child-related programmes during the past 10–15 years, i.e. the period from the Fourth Five-Year Plan (1969–74) onwards, can be made from Economic Survey 1982–83 data which includes actual plan expenditure of the Central Government, State Governments and Union Territories. The programmes covered are education, health, family planning, water supply and sanitation, social welfare and other programmes, including nutrition. During the Fourth Plan period, child-related programmes accounted for an annual average of 15% of total plan expenditure. In the Fifth Plan (1974–79), this fell to 11.5% and further to 9.8% in 1979–80, the first two years of the Sixth Plan. This declining share notwithstanding, the absolute expenditure on these programmes has increased in both nominal terms and real terms since the overall size of the plans has also increased. The real expenditure on child-related programmes during the Fifth Plan period amounted to a massive increase of over 44% compared to the Fourth Plan. Subsequently the rate of real increase fell to only 4% in 1979–80. However, it appears to have picked up in the last two or three years, recording a real increase of 11% in 1980–81 and 22% in 1981–82.

#### NOTES

1. The exact age composition of the 1981 population is not yet available. However children of age less than 15 years accounted for 42% of total population in 1971, 42% in 1973, 41% in 1976 and 39% in 1978 (Office of Registrar General, 1980). It seems reasonable to assume therefore that they accounted for roughly 38% of the total population in 1981.

2. Note that the survey had a much smaller coverage than the census and that there are also differences in

definitions. Although the two sets of estimates are not fully comparable, the distribution of both observations are close enough to reveal general patterns.

3. Some of the recently formed states and union territories have been excluded since data is not available separately for these regions in the 1964–65 enquiry.

4. In addition, the decline in agricultural real wage rates cannot be easily related to the world recession.

Apart from the insularity of Indian agriculture discussed earlier, we must also remember that we are here discussing a decade which precedes the major onset of world recession. However, it should be noted that in India itself industrial recession set in from about the mid-1960s.

5. Participation rates for females of both age groups in both rural and urban areas have declined according to the NSS estimates. Since the NSS observations are exactly comparable, this estimate should be accepted in preference over the estimated rise in female child participation rates shown by the comparison between 1971 Census and the 1978 survey.

6. In particular, the reader should be warned against comparing the 1961–71 census actuarial report estimates with the annual figures or average for the 1970s based on estimates from the Sample Registration

Scheme and 1979 survey. The coverage and the methods employed in the SRS and the survey are different from those of the census, such that the two sets of estimates are not commensurate.

7. We have already seen above that trends in the status of children as reflected by this indicator are consistent with those reflected by other indicators, e.g. life expectancy, anthropometric measures, literacy rates etc. Infant mortality is therefore used as the proxy index for this whole set of indicators.

8. The demographic data for Assam must be treated cautiously since trends have been blurred by the high level of unrecorded immigration from across the border etc. The 1981 census could not be conducted in this state where demographic questions have become a sensitive political issue.

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