SOUTH ASIA CONFERENCE ON CHILDREN

INDIA SITUATION ANALYSIS

JULY 1986

SOUTH ASIAN CONFERENCE

ON CHILDREN

INDIA SITUATION ANALYSIS

(JULY 1986)

THE ECONOMIC BASE

1. Any appraisal of the economy, in relation to its support for the development of all children, necessarily involves value judgements, social priorities and policy objectives. For present purposes, the performance of the economy and its implications for children may be seen with reference to the aims and criteria set by the government itself.

2. Shift in strategy

2.1 Over the first half of the period of the six five year plans completed, the main emphasis was on the aggregate growth of the economy. Like in many other developing countries it was thought that growth would in turn advance the cause of the poor and the objective of equity and regional balance. The actual experience in this era was that growth itself was slower than targeted and its percolation effect was also doubtful. An alternative strategy of development, linking growth with equity, became politically necessary. In time for the fifth plan, 1975-79, a direct attack on poverty and unemployment was begun and has continued since. Complementing the creation of employment opportunities for the poor have been increased plan outlays on sectoral programmes of health, nutrition, education, sanitation and environmental protection, focused attention on specific groups like backward classes and tribes, landless labourers, marginal farmers and, among these and similar groups, the more vulnerable, namely, children. The accent on children in the context of national development strengthens the nexus between growth and equity. They are a source of growth and growth is mean for them.

3. Rates of growth

3.1 A common indicator of material wellbeing, the gross domestic product grew at an annual compound rate of 3.6 percent during 1950-51 to 1984-85. However during the decade 1974-75 to 1984-85, the growth rate was distinctly higher at 4.6 percent. Both the fifth and sixth plans exceeded the target rates -- 5.2 percent, against 4.4 percent, in the fifth plan and an estimated 5.4, percent against 5.2 percent, in the sixth plan. Thus the economy has moved on to a higher growth path, a process that seems to have accelerated in the 1980s.

3.2 In per capita terms, a substantial portion of the growth was neutralized by the increase in population. During the 35 years 1950-85 it rose only by 1.6 percent per year, which is substantially less than the rate of population growth of around 2.2 percent during this period. However, the per capita growth rate improved to 2.8 percent per year in the fifth plan and to 3.2 percent in the sixth plan. This encouraging rate does not in itself imply a reduction of inequalities.

3.3 The momentum to the economy has been provided over the past decade and more by a surge in domestic savings. A high point of India's growth record is that the country has been saving and investing close to a quarter of its gross domestic product, a level usually associated with middle or high income countries.

3.4 The high level of domestic savings coupled with a diversified industrial and technological base explains the degree of self-reliance achieved in financing most of the investment needs through domestic resources. The country is self-reliant in foodgrains production which has tripled since 1950-51 to a peak harvest of 152.4 million tonnes in 1983-84. In spite of widespread drought in 1985-86 the output is estimated at 147.5 million tonnes with government stocks reaching a record 30 million tonnes in 1986.

Rate of Saving and Capital Formation
(at current prices)

Percentage

	1970-71	1978-79	1981-82	1982-83	1983-84	1984-85
Gross rate of saving	16.8	24.7	23.0	22.6	22.1	22.1
Gross rate of capital formation	17.8	24.6	24.8	24.2	23.4	23.4
Net external capital inflow as a %age of GDP (at current prices)	1.0	0.1	1.8	1.6	1.6	1.3

4. Agriculture

4.1 Agriculture contributes 35 percent of the gross domestic product (1984-85) and provides livelihood to about 70 percent of the population. Industry depends on agriculture for much of its raw materials. Agriculture-related exports contributed to more than 30 percent of export earnings in 1983-84.

4.2 A basic weakness of Indian agriculture is that the output is subject to large fluctuations, mainly because 70 percent of the effort continues to depend on rainfall. The breakthrough in agriculture is confined to only certain crops, like wheat. This has aggravated the regional imbalance. Low productivity affects the income level of about 66 million rice farming families in the six eastern states. The production of coarse grains, pulses and oilseeds is stagnant, with serious effects on small and marginal farmers engaged in their cultivation mostly on dry land. This is the perspective in which the seventh plan focuses on development in the eastern region and dry land farming. The success of the strategy will depend on the management of its diverse operational aspects. The weakest link in the country's agricultural development is the subdued production of oilseeds and pulses which provide the main source for people's requirements of fats and proteins.

5. Industry

5.1 The share of mining, manufacturing, construction and infrastructure in the sectoral composition of the economy has increased from about 19 percent in 1950-51 to one third at present, the change being more rapid during the first three plans than thereafter. The share of the traditional manufacturing sectors like food and textiles in industrial production has declined in favour of new industries like chemicals and engineering. There has been a spectacular progress in oil exploration and production, from about 11.8 million tonnes of crude oil in 1979-80 to 29 million tonnes in 1984-85. It may not be possible to maintain this pace, though demand continues to grow rapidly, pointing to the need for a drastic reorientation of energy policy.

5.2 Most of the requirements in heavy machinery and equipment as well as engineering and technical skills are being met from indigenous sources. However the economy is partially dependent on external sources in critical areas such as energy needs, fertilizers and their raw materials, and edible oils as well as of technology and equipment in frontier areas. Two positive features of the overall situation are that the dependence on foreign resources is declining and even in critical areas self-reliance is growing. The economy has had enough resilience to absorb the shocks of the world energy crisis in the late 1970s and the global recession of the 1980s, as well as the recurring droughts within the country.

6. Managing the economy

6.1 The tempo of growth and investment in the sixth plan could be maintained without effecting serious cutbacks in imports. Current account deficits steadily decline and remain manageable at about 1.2 percent of the gross domestic product in 1984-85.

6.2 The management of balance of payments in the seventh plan may be difficult on account of the declining imports, discouraging prospects for concessional aid and for workers remittances from abroad and increase in the cost of external borrowings. Of late the savings rate has shown a tendency to flatten out, at 22.1 percent in 1984-85 compared to the peak of 24.6 percent achieved in 1978-79, which is about the level projected in the seventh plan.

7. Public enterprises

7.1 The success of the seventh plan hinges heavily on the performance of the public sector. Not counting the electricity boards and transport undertakings which are not seen as sources of surplus, the Central government enterprises are expected to contribute nearly a third of the seventh plan outlay of Rs.1800 billion. These enterprises have a total investment of Rs.428,000 million as of 1984-85, with a net profit of Rs.9290 million. The financial constraint on the current plan is evident.

8. Productivity

8.1 That brings into focus the imperative to increase the rate of return on investment by reducing time and cost over-runs and increasing capacity utilization. The capital output ratio has shown a trend value of 5.5 and is expected to be around 5 during the seventh plan. Capital intensive new technology, rising cost of modernization, high cost of irrigation and power projects, all tend to push up the ratio. The efficiency in managing public enterprises thus becomes critical to the success of the development plan. Though transport facilities including the railways have expanded significantly, the inadequacy of the transport infrastructure, particularly the railways, still remains a major constraint on production and distribution.

8.2 The efficiency of management of national resources like land, water, forests and energy is even more critical to the development process. As explained in the Chapter on Environment the general trends are more disturbing than promising, which suggests the need for policy review from the point of view of equitable as well as efficient use of the national assets, particularly the non-renewable sources of support to life. Operational efficiency has in fact to be increased across the production sectors. For example 80 percent of the pumpsets in the farm sector are reported to work on an efficiency of not more than 30 percent. The transmission and distribution losses in the power system of the country exceeds 20 percent. In the coal sector, some 8 million tonnes are wasted each year through wrong practices in storage, handling, preparation and combustion.

9. Science and technology

9.1 The progress made by India in science and technology holds the promise for modernising the economy. The fields of achievement range from agriculture on the one hand to industry, nuclear energy, space and ocean technology on the other.

10. Resources

10.1 Foreign trade is not a large proportion of the gross domestic product (imports around 7 percent and exports 5 percent of GDP). The trade deficit is offset by remittances by non-resident Indians, currently averaging US $3 billion a year and a combination of aid and commercial borrowings. The share of total external aid in plan finance has reduced from 33 percent in the third plan to around 10 percent in the sixth plan. Aid is also becoming less in external financing terms, net aid financing about 9 percent of imports in 1984-85 as against 40 percent in the late 1960s.

10.2 Of the total seventh plan investment (public and private sectors) of 3224 billion, 94 percent is financed from domestic resources; and, incidentally, 52 percent from the private sector -- private investment exceeding public investment for the first time in any plan. All the foreign loans and grants of around 1.5 billion utilized in 1984-85, less than 5 percent would have gone in support of social factors of development, including health, family planning, urban development, water supply and sewerage.

11. Inflation and unaccounted money

11.1 Two aspects of the Indian economy, extremely relevant to the standard of living of the majoring are the increasing prices of essential commodities and the social economic consequences of the parallel "black economy".

11.2 The wholesale price index has registered a decline in inflationary rate which has been limited to a single digit in the past three years. This has been possible by effective supply and demand management through import of mass consumption items like sugar and edible oil and their controlled distribution. On the demand side, the money supply was regulated and non-plan expenditure kept under some control. Even so the fact remains that the wholesale price index rose by 56 percent between 1979-80 and 1984-85, the prices of food articles rose by 49 percent.

11.3 The consumer price index provides a better measure of the purchasing power of the average family. According to it, the prices of food articles rose by 56 percent, while the cost of living index rose by 62 percent in the past 5 years. These rates do not reflect the full impact of changes for price level on the living conditions of low-income

groups. Also, prices used for the computation may not actually be those paid by the people (such as prices fixed for the public distribution system), thereby underestimating the cost of living. Also the present consumer price index has a distant base year, 1960-61. Unless a disaggregated analysis for commodity prices is made with reference to different income groups, a true picture of the relationship between prices and cost of living cannot be had.

11.4 The extent of the parallel economy in India has been variously estimated between 10 percent and 48 percent of the gross national product. A 1985 estimate by the National Institute of Public Finance and Policy places the magnitude of black income generation in 1983-84, rather conservatively between 18 and 21 percent of the gross domestic product, that is some Rs.370 billion out of a total GDP at a cost of Rs.17,342 billion.

11.5 The sizeable presence of black income distorts and destabilizes the economy as well as corrupts the social-political system. A reasonably correct estimate of the level of economic activity and growth in national income consequently becomes difficult. The percentage rate of savings is likely to be over- estimated. On account of the leakages, the level of public investment and its impact are likely to be exaggeraged, including anti-poverty programmes and social support measures. The distribution of incomes and consumption is also likely to be distorted. Apart from the loss of revenue through tax evasion, effectiveness of fiscal, monetary and credit policies is weakened by unaccounted incomes.

12. Duality

12.1 In a social perspective perhaps the most striking aspect of the Indian economy is its entrenched duality reflected not only in the parallel economy: the overall national self-sufficiency in foodgrains is yet to make a serious difference to the lives of nearly two-fifths who live below the poverty line. High-yield agriculture coexists with rain-dependent subsistence farming. A high savings and investment ratio and sophisticated indigenous technology exist side by side with a high capital output ratio. A growing public sector on which nearly 30 percent of the gross domestic product is spent (current plus investment expenditure), is virtually stagnant in the value added. And an impressive aggregate rate of economic growth, coexists with an estimated 20-25 percent unemployment in a labour force of around 300 million. The fairly successful macro-economic management does not alter the fact of structural imbalances due to the persistent presence of poverty-related factors of development.

Socio-Economic Indicators

	1984-85	1989-90	1999-2000
1. Life Expectancy (Years)			
Male	56.1	58.6	63.3
Female	57.0	59.7	64.7
2. Infant Mortality Rate (per thousand births)	106	90	60
3. Death rate (per '000)	11.9	10.4	8.2
4. Birth rate (per '000)	32.6	29.1	23.1
5. Fertility rate (per '000)	152	132	99
6. Urbanisation (per cent)	24.70	26.85	32.20
7. Per capita GDP (1984-85 prices) (Rs)	2616	3027	4163
8. Per capita consumption exp.(Rs)	1979	2271	3124
9. Per capita consumption of foodgrains (Kg)	178	193	215
10. Per capita consumption of cloth (metres)	16.16	17.78	22.36
11. Per capita generation of electricity (KWH)	226	362	578-621
12. Savings - GDP Ratio (%)	23.3	24.5	25.8
13. Investments GDP Ratio (%)	24.5	25.9	26.4
14. Foreign savings - investment ratio (%)	4.9	5.5	2.4
15. Percentage of people below poverty line	37	26	5
16. Labour force (million in the age group 15 +)	288	327	408
17. Employment (million standard person years)	187	227	318

13. Demographic transition

13.1 As of March 1985 the total population was estimated at 761 million. On this basis the number by the end of the century would be 972 million. The country is undergoing a slow demographic transition, with the proportion of people below 15 years of age likely to come down from about 40 percent in 1980 to 36 percent in 1990. However this transition seems to be presently confined to some states such as those of the south.

13.2 Population increase at the rate of 2.25 percent a year during 1971-81, compared to 2.22 percent the previous decade. The labour force is projected to grow at an annual rate of 2.56 percent during 1985-90, resulting in addition of 39 million. The urban population, now 23 percent of the total is likely to be 32 percent by the end of this century. Urban labour is likely to grow by 3 to 4 million per year in the coming years.

14. Employment

14.1 It is estimated that the sixth plan created some 37 million jobs against an addition of 34 million to the labour force in that period. The seventh plan has an employment potential of some 40 million additional jobs, the added labour force during the period being nearly that many. The backlog remains. Several million children below 15 years are also employed, mostly in the unorganized sector at exploitative wages and working conditions that hamper their development.

Expenditure on Social Services
(Rs. in million at current prices)

	Sixth Plan 1980-85		Seventh Plan 1985-90
	Allocation	Actual (estimated)	Allocation
Total Public Sector plan outlay	975,000 (100)	1,099,501 (100)	1,800,000 (100)
Total Social Services	140,350 (14.4)	156,961 (14.3)	293,504 (16.3)
Education	25,240 (2.6)	28,354 (2.6)	63,826 (3.5)
Health and Family Welfare	28,310 (2.9)	34,539 (3.1)	66,491 (3.7)
Housing and Urban Development	24,884 (2.6)	28,308 (2.6)	42,595 (2.4)
Water and Sanitation	39,220 (2.8)	39,775 (2.5)	65,224 (3.6)
Other Social Services	22,701 (1.6)	25,985 (1.6)	55,368 (3.1)

Figures in brackets are percentage to total plan outlay.

Source: Government of India, Seventh Five Year Plan (Planning Commission) and Economic Survey 1984-85 (Ministry of Finance)

15. Tackling poverty

15.1 Lately, the concept of human resources development has been figuring, more explicitly than before, in economic planning not only in terms of demographic terms and manpower requirements but also in qualitative terms through programmes in education, nutrition, health and sanitation. In this context social equity, and therefore anti-poverty programmes, have acquired an added import. The government as well as private research organizations like the National Council of Applied Economic Research (NCAER) have been assessing the extent of poverty from year to year. The poverty line is defined by the Planning Commission as representing a per capita monthly expenditure of Rs.107 in rural areas and Rs.122 in urban areas at 1984-85 prices -- for providing 2100 calories in urban areas and 2400 in rural areas respectively. According to NCAER poverty in rural areas decreased from 56.90 percent in 1970-71 to 48.54 percent in 1981-82. While the extent of reduction depends on the manner of computation and reliability of data, there seems to be a trend of reduction in poverty. It must be the result of the compound impact of employment programmes and social support measures.

15.2 Various deficiencies have been noticed in the poverty alleviation programmes, including leakages in schemes like Integrated Rural Development (IRDP), National Rural Employment (NREP) and Rural Landless Employment Guarantee (RLEG). There are socio-economic programmes for specific population groups like women, children, and backward castes and tribes as well as for backward areas like hill and desert tracks. The minimum needs programme seeks to meet the basic needs of the people such as elementary education, adult education, health, water supply, roads, electrification, housing, environmental improvement and nutrition. Started in the fifth plan it has continued and reinforced during the seventh plan. Of similar relevance is the price subsidies provided by the public exchequer. Food, imported edible oils and controlled cloth involve substantial subsidies. Fertilizers supplied to farmers are subsidized though these do not represent a transfer of incomes to the weaker sections but it helps to keep food prices down.

Impact on Poverty

Sl No.	Year	Poverty Ratio (Per cent) Rural	Urban	Total	Number of poor (million) Rural	Urban	Total
1.	1977-78*	51.2	38.2	48.3	253.1	53.7	306.8
2.	1984-85**	39.9	27.7	36.9	222.2	50.5	272.1
3.	1989-90	28.2	19.3	25.8	168.6	42.2	210.8

* Estimated on the basis of NSS 32nd Round Consumer Expenditure Distribution (1977-78)

** On the basis of NSS Consumer Expenditure Distribution 38th Round (Provisional), 1983.

15.3 Land reforms is a vital element of the anti-poverty strategy but its implementation has shown chronic ineffectiveness. The core of poverty in India consists of the scheduled castes and tribes, nearly a fourth of the total population. In their case, as in that of others, there is a problem of preventing those raised above the poverty line from sliding back to below it. A number of special programmes have been launched in support of women in rural areas and among the weaker sections. These concentrate on literacy and income generation, health and child care. According to the 1981 census, only 14 percent of the total female population were workers. The unpaid economic activity of women and their contribution through work in the domestic sector remained unreckoned. According to an ILO study, the value of unpaid household work constitutes 25-30 percent of GNP in developing countries.

Measure of Inequality

	1977-78 (revised)		1983-84	
	Rural	Urban	Rural	Urban
Per capita consumption Expenditure (Rs. per month) at current prices	69.10	100.00	112.68	170.46
Share of top 30%	53.84	54.86	50.84	53.27
Share of bottom 30%	14.31	13.53	15.24	13.90

15.4 There appears to be a declining trend in the wage employment of women. Some of the new technologies have displaced them from traditional activities. A new phenomenon in the rural areas is that women have to run the household with the large scale migration of men to urban areas. The priority for women in planning is increasing as part of a social movement to enhance their status and role.

15.5 A critical criterion for the success of anti-poverty programmes is the invovement of people to assure local initiative and control over development programmes for the community. However, local self-government institutions, like the panchayati raj, cooperatives and similar forms of democratic decentralization either do not exist in many parts of the country or have not been properly involved in the development process. While decentralized planning and development seems to be accepted policy, the basis for such a design of development seems to be lacking. In fact a plethora of administrative mechanisms and development programmes have centrally evolved leading to a multiplicity of functionaries and an overlapping of programmes -- which is not the most effective way to respond to local needs by making the best use of local resources.

II. NUTRITION

1. The nutritional status of the population can be measured in terms of one or more of the following: intake of calories, proteins and other nutrients; growth and development of children; and manifestations of nutritional deficiencies. In analysing the recognized situation of massive malnutrition in India, several factors are relevant, like purchasing power, availability and price, quality, composition and amount of food consumed, capacity to digest and absorb and a basic knowledge of the nutritive values of locally available items of food as well as of the bearing of health and hygiene on nutrition.

2. Food intake

2.1 According to an estimate by the Food and Agricultural Organization (FAO), the number of malnourished people in India would be around 200 million, almost half the world's total. Available indications point to a conjunction of various factors usually associated with malnutrition. If the intake of calories, proteins and other nutrients is taken as the measure, the situation is mixed. Though foodgrain production increased from 50 tonnes in 1950 to 154 tonnes in 1983-1984, the per capita food grain availability, currently at 460 gm per day, has not significantly increased beyond what it was in the early 1960s. The availability of pulses, which is the main source of protein for most people, has been declining and is around 40 gms per person. However, averages such as these conceal wide disparities in a situation where around nearly half the rural population live in poverty assessed in terms of calorie consumption. The picture becomes more dismal in areas of drought which are not uncommon. For example during 1986 acute water scarcity and distress to life affected 106 districts, a fifth of the total number, affected some 75 million people, mostly the poor, and a comparable number of cattle.

2.2 Some changes in the pattern of calorie consumption might be occurring, as suggested by results of annual surveys conducted by the National Nutrition Monitoring Bureau (NNMB) in the rural areas of 10 of India's 22 states over the period 1975-1981. Consumption of rice, which forms a staple food, has been increasing, with a consequent improvement in calorie consumption from 2296 kcal in 1975, almost steadily, to 2408 kcal in 1981. However, in 1982 the figure fell to 2243 kcal, presumably because of drought. There has been a decline, or no perceptible change, in the consumption of wheat, millets like bajra, jowar, ragi and maize and pulses. Consumption of vegetables increased over the five years only to drop substantially the next year. Milk, the only source of animal protein in vegetarian households, and edible oils showed no consistent trend. The protein intake appeared above the recommended level of 55 gms per person per day but there was no clear trend of improvement. The same was the case with iron and vitamin A intake levels.

2.3 Separate investigations conducted by the Department of Food show that of all the 18 states covered by one time surveys between 1973 and 1982, only five in the north had an average calorie intake above the recommended level of 2400 kcal. The lowest, at 1892 kcal was reported in Orissa. However, the protein intake was satisfactory in 11 of the states.

Changes in output of selected crops
1949-50 to 1983-84

Crop	Average Annual Output (Million tonnes)		Increase in output	Percentage increase
	1949-50 to 1951-52	1981-82 to 1983-84		
Rice	21.81	53.58	31.57	145
Wheat	5.35	41.80	35.45	558
Other cereals	16.10	30.94	14.84	92
Total cereals	44.25	126.11	81.86	185
Pulses	8.33	12.01	3.68	44
Total foodgrains	52.58	138.12	85.54	163
Edible oilseeds	4.65	10.85	6.20	133
Sugarcane	56.30	184.30	128.00	227
Potatoe	1.64	10.71	9.07	553
Sweet potatoe	0.93	1.59	0.66	71
Tapioca	1.28	5.48	4.20	328

Source: Department of Agriculture

2.4 The NNMB data (for 10 states) also suggest that the gap in calorie consumption between the highest and the lowest income categories reduced from 1173 kcal in 1975 to 526 kcal in 1982. Apparently this has been the result of increased consumption by the lowest income group. The factors which might explain this welcome trend are still to be studied.

Statewise Dietary Intake of Nutrients
(Calories and Proteins)

State/Union Territory	Year of Survey	Calories (kcal)	Protein (grams)
Haryana	1974-76	2750	88.0
Himachal Pradesh	1974-75	2811	88.0
Jammu and Kashmir	1978-79	2259	64.3
Rajasthan	1978	2115	71.0
Uttar Pradesh	1974-77	2584	80.0
Punjab	1973-74	2760	85.0
Delhi	1982	2158	69.0
Madhya Pradesh	1973-78	2239	67.0
Dadra and Nagar Haveli	1981	2060	51.5
Goa, Daman and Diu	1980	2129	63.2
Orissa	1979-80	1892	43.1
Sikkim	1978	2051	54.0
Tripura	1979	1967	45.1
Bihar	1981-83	2055	55.5
Andaman and Nicobar	1982	2133	64.5
West Bengal	1979-80	2242	54.5
Kerala	1977-80	1944	45.4
Pondicherry	1982	2000	46.9

Source: Food and Nutrition Survey by the Department of Food

2.5 An analysis of NNMB data for 1975-1979 shows that the intake of calories as well as proteins by pregnant and lactating women was much below the recommended level in all the 10 states. The gap was over 1000 calories and 15-25 gms in protein. In the case of children, the inadequacy was mostly in the younger age group. The percentage of children below five years suffering from severe malnutrition (assessed by weight-for-age) was 8.1 in 1975-79, 4.7 in 1981 and 6.1 the following year. The proportion of moderately malnourished children did not come down significantly. As of 1982, Kerala had, among the 10 states, the highest percentage of children of normal nutritional status (31.8). Also over 83 per cent of children below five years in these states suffered from various grades of malnutrition.

CALORIE INTAKE (kcal/person/day) BY INCOME

Per Capita Income Rs./day	Year of Survey						
	1975	1976	1977	1978	1979	1980	1981
< 1	1770	2047	2063	2123	2130	2217	2328
1-2	2370	2324	2251	2284	2415	2368	2353
2-3	2644	2646	2451	2649	2480	2583	2458
3-5	2847	2727	2598	2630	2749	2689	2515
> 5	2943	2714	2463	2775	2752	2792	2854

Source: National Nutrition Monitoring Bureau

2.6 Interesting inferences flow from the NNMB data. Though Kerala has shown a low protein calorie intake among children below five years, their nutritional status showed a high percentage of "normal" and "mildly" malnourished categories. While the number of "moderate" to "severe" malnourishment among this age group has drastically come down in the state, protein calorie intake has not shown much improvement between 1975 and 1980. The enhanced nutritional status is probably because of better health facilities and higher female literacy than in the other states. The linkage between nutrition and health is again highlighted by a reverse phenomenon noticed in Gujarat. Here, the protein calorie intake for children below five years increased impressively between 1975 and 1980 while the extent of "severe" and "moderate" malnutrition among them went far above the national average. This suggests that higher intakes of food may not improve nutritional status without supportive health services.

Nutritional Status of children (1-5 years) by weight-for-age

Year	Number of states	Number of population	MALNOURISHMENT			
			Normal	Mild	Moderate	Severe
1975-79	10	15169	13.0	41.9	36.9	8.1
1979	10	3713	14.2	43.2	34.7	7.9
1980	8	4008	14.8	47.9	32.6	4.7
1981	7	1340	15.3	45.5	34.5	4.7
1982	8	2523	16.7	42.4	34.8	6.1

Source: National Nutrition Monitoring Bureau

Nutrtional status of children (1-5 years) by weight-for-age (Percentage)

State	MALNOURISHMENT							
	Normal		Mild		Moderate		Severe	
	1975-79	1982	1975-79	1982	1975-79	1982	1975-79	1982
Kerala	16.4	31.8	45.3	49.3	33.5	17.4	4.8	1.5
Tamil Nadu	14.6	16.1	43.6	44.1	35.3	34.6	6.5	5.2
Karnataka	9.9	13.8	43.0	43.4	39.4	37.2	7.7	5.6
Andhra Pradesh	13.3	12.6	42.2	43.0	36.7	38.5	7.8	5.9
Maharashtra	9.3	13.6	37.4	38.8	42.0	40.7	11.3	6.9
Gujarat	9.8	11.7	37.8	28.7	43.0	44.4	9.4	15.2
Madhya Pradesh	12.0	-	36.3	-	40.2	-	11.5	-
Orissa	15.3	13.0	42.1	35.8	33.3	42.3	9.3	8.9
West Bengal	10.6	21.3	43.0	55.7	39.8	23.0	6.6	0.0
Uttar Pradesh	18.8	-	48.3	-	26.8	-	6.1	-

Source: National Nutrition Monitoring Bureau

Per Capita net availability of foodgrains and edible oils 1967 to 1984

	Cereals grams/day	Pulses kg/year	Edible Oils kg/year
1967	361.7	39.7	3.4
1968	404.1	56.0	4.2
1969	397.9	47.3	3.5
1970	403.1	51.9	3.9
1971	417.6	51.2	4.5
1972	419.1	47.0	4.1
1973	380.5	41.1	3.4
1974	410.4	40.8	4.2
1975	365.8	39.7	3.9
1976	373.8	50.5	4.3
1977	386.4	43.3	4.1
1978	422.5	45.5	4.7
1979	431.8	44.7	4.8
1980	379.5	30.9	4.7
1981	416.2	37.2	5.0
1982	414.5	39.2	5.9
1983	395.9	39.5	5.3
1984	442.1	41.0	6.4

Source: Department of Agriculture

3. Vitamin A

3.1 The manifestation of serious deficiencies in various micro-nutrients like vitamin A, iron and iodine, and possibly others, are being recognized as so widespread as to limit efficacy of health and nutrition interventions in other directions. The studies by NNMB as well as the Department of Food confirm the gross inadequacy of vitamin A in an average Indian diet. Over the years 1975-82, the intake has improved by about 100 mg of retinol, but the level attained was still about half the norm. Many of the northern and eastern states are relatively better off in this respect. Only West Bengal had an intake higher than the recommended level.

Average Intake of Vitamin A and Iron in Rural Areas of 10 states (per/person/day)

Year of survey	Vitamin A (ug)	Iron (mg)
1975	263	31.8
1976	292	31.4
1977	262	29.3
1978	307	31.1
1979	270	30.3
1980	313	29.6
1981	373	31.7
1982	366	30.4
ICMR Recommended level:	700	30.00

Source: National Nutrition Monitoring Bureau

3.2 It is seen that the dietary intake of vitamin A has been low among pregnant women, leaving poor stores of vitamin in infants born to them. Also the poor vitamin A status in the diet of lactating women leads to its low concentration in the breast milk. As a result the incidence of vitamin A deficiency among children continues to be high, with an estimated 40,000 children going blind each year for this reason. Recent research suggests that vitamin A deficiency has a bearing on the general health and survival of children. Fortification of milk with vitamin A was started in 1980 in Delhi. By 1985 over one million litres per day were being fortified in Delhi and Calcutta. The target for 1990 is 4.5 million litres a day.

Vitamin A Deficiency among children
(Percentage)

States	1 - 5 years		
	1980	1981	1982
Kerala	-	-	-
Tamil Nadu	1.6	1.9	7.0
Karnataka	7.2	1.7	3.2
Andhra Pradesh	8.6	6.6	3.5
Maharashtra	-	13.1	3.4
Gujarat	2.1	7.5	1.8
Madhya Pradesh	-	-	-
Orissa	7.2	20.0	10.6
West Bengal	2.9	4.8	9.8
Uttar Pradesh	2.7	1.3	-

Source: National Nutrition Monitoring Bureau

4. Iron

4.1 Iron deficiency anaemia is a major public health problem in India, mainly because of poor absorption of iron from a predominantly cereal based diet. That is to say, even though the average intake of iron approximates the recommended levels in several states, as seen from NNMB surveys during 1975-81, only a minor fraction of the iron derived from the cereal intake is actually absorbed into by the body.

4.2 Most of the wheat-eating states like Punjab, Uttar Pradesh, Haryana and Himachal Pradesh have a higher intake of iron compared to the rice eating populations in Kerala, Orissa and Tripura. But even in states where the average iron intake is not low, the intake by pregnant women, young children and lactating women is severely inadequate. This is so particularly in Maharashtra, Madhya Pradesh and Uttar Pradesh. In the other states too, these vulnerable segments of the population are exposed to this deficiency. Children born to mothers with a low iron status have a low haemoglobin level at birth and low iron stores in the body. This burden at the beginning of life is made worse by low intake of iron in the first few years, until anaemia sets in.

4.3 Studies conducted by the National Institute of Nutrition show that 65 per cent of India's children below 3 years and 45 per cent between 3-5 years suffer from anaemia. A survey in the district of Bidar in Karnataka estimated that 90 per cent of children of pre-school age had anaemia, nearly 14 per cent to a severe degree.

4.4 Besides low intake and poor absorption, a third reason for high incidence of anaemia is infestation by worms. This suggests that iron supplementation, if not combined with deworming, cannot lead to higher haemoglobin levels. In the absence of definite data, it is difficult to infer whether the problem of iron deficiency in India, evidently widespread, is increasing or not. The need for a massive intervention countrywide is in no doubt, particularly when the high economic and social benefits of doing so at moderate costs have been established. Intervention is feasible, on a social scale, against iron deficiency anaemia. The case for it is straight-forward because anaemia restricts the capacity of the blood to carry oxygen to the cells, limits the body's ability to produce energy and meet other functional needs, increase susceptibility to infection and impairs performance at school or work place.

4.5 While better sources of iron in the daily food is the long-term answer, fortifying edible items, like common salt, with iron is within technical and financial reach. A beginning is being made with the proposal to set up capacity for annual production of 45,000 tonnes of iron fortified salt by 1990.

5. Iodine

5.1 Prevention and control of iodine deficiency disorders is yet another public health priority, the seriousness of which has been unfolded only recently. About 170 million people are estimated as at risk, a third of them, including at least 16 million children, already suffering.

5.2 The endemic belt for iodine deficiency disorder stretches over the entire sub-Himalayan region. The disease has also been identified in several states elsewhere. Iodine deficiency during pregnancy decreases the synthesis of thyroxine, an essential hormone produced by the thyroid gland. This prevents the normal development of the baby's brain and body, a condition which at birth is known as neonatal hypo-thyroidism. The foetal brain damage is irreversible and limits intellectual growth in later years. Iodine deficiency has therefore to be considered, and countered, in terms broader than the common symptom of goitre. The social consequences are more than even the relatively rare manifestation of cretinism, for iodine deficiency interferes in the educability of large numbers through successive generations. It perpetuates social-economic deprivation and lays waste the already scarce national resources invested in childhood education.

5.3 Of all public health problems iodine deficiency is perhaps the easiest to prevent. One needs only to supplement the daily diet with minute quantities of iodine, just three grams during an individual's lifetime. In India, it can be controlled by a two pronged strategy - universal iodination of salt, by 1990, and in the interim, by administering iodized oil to the population severely at risk. The policy aim is to ensure the availability of a minimum of 150 mg of iron per person per day to all the people with priority to women and children.

6. Responding to poverty

6.1 The root cause of malnutrition, nutritional disorders and allied diseases in India is lack of purchasing power of the malnourished masses. While this was recognized by the first three five year plans, nutrition as such was identified as a focus for specific action only during the fourth plan, 1969-74. More food specifically for the under-nourished was recognized as the first necessary step. The applied nutrition programme was introduced in 1959 to spread the concept of a balanced diet, production and consumption of protective foods and propagation of proper techniques of preparing foods. A special nutrition programme, including supplementary feeding, production processing and supply, health based nutrition activity and nutrition education and extension was started in 1970. The mid-day meal programme in schools, centrally sponsored since 1962, continued till the sixth plan. In the fifth plan, the feeding programmes were brought under a minimum needs programme. Finally, the integrated child development services (ICDS), conceptually the most ambitious programme as yet for children upto five years and mothers, was launched in 1975 and is slated for steady, if careful, expansion.

6.2 ICDS is however much more than a nutrition programme as it provides for children from poor families, access to basic health care and pre-school learning opportunities. It also caters to the nutritional and health needs of pregnant and nursing mothers. Presently about 1.5 million of them are covered by the nutrition component of ICDS, besides some 6.5 million children below 6 years. Studies show that indicators like infant mortality rate, child mortality rate and malnutrition (assessed by weight-for-age) have significantly been reduced in the ICDS project populations, compared to the national averages.

6.3 Mutually reinforcing the feeding and learning processes, the school meals programme continues on a large scale in several states, particularly in the south, and has reached a coverage of 16 million school children, against a target of 87 million. The applied nutrition programme has, however, tapered off mainly because of unsatisfactory results traceable to weaknesses in management. Meanwhile the special nutrition programme continues with a coverage of 8 million children of pre-school age, with another 3 million to be covered by 1990.

6.4 There are numerous other nutrition programmes across the country for small groups of vulnerable children and mothers, organised mostly by voluntary agencies with or without assistance from outside the community or country. Many of them have a strong education-communication component, as also simple interventions for health care and linkages with safe water and sanitation.

6.5 The problem of malnutrition, arising mainly from poverty, cannot, of course be countered solely or even mainly by government sponsored nutrition programmes, in a context such as of the country's economic pattern. The fifth plan, for example, recognized that employment was the best and easiest way of enhancing the nutritional status of families. The 1985-90 plan pursues this path by coordinating nutrition concerns with employment, public distribution of essential commodities, safe drinking water, immunization against childhood diseases, expansion of health care, awareness about personal hygiene and control of diarrhoeal diseases and intestinal infestations.

6.6 Accordingly several schemes are being currently promoted at varying levels of efficiency and mutuality. The Food for Work programme was introduced in 1977 to create additional employment as well as community assets. Wages are paid partially in food. The Intensive Rural Development Programme (IRDP) was launched in the sixth plan, mainly to promote self-employment in a variety of fields. The Rural Landless Employment Guarantee Programme (RLEGP) was started in 1983 with focus on the rural landless. These poverty alleviation programmes are being strengthened by removing the weaknesses that have been brought out, mostly managerial, and by increased financial allocations in the current plan. Together with programmes of concurrent thrust like the minimum needs programme, the tribal sub-plan, drought prone area projects and the public distribution system, a steady reduction in the levels of poverty and malnutrition is expected, more so with support from social services, basic education, sanitation and health on the one hand and on the other by improving agriculture through expanded irrigation and better inputs.

7. Public Distribution

7.1 In this context, the public distribution system for essential commodities, particularly foodgrains, becomes relevant for reaching the economically and nutritionally vulnerable sections of the people. The number of fair price shops has steadily increased to 320,000 in 1985. Some 250,000 of them are in the rural areas. The off-take of food commodities through the system has also steadily increased to nearly 25 million tonnes in 1984. However, a closer look at their functioning suggests that except in a few states like Kerala, Tamil Nadu, Andhra Pradesh and West Bengal, the bulk of the distribution is actually confined to the urban areas, raising serious issues in policy planning and management.

8. Multiple factors

8.1 As discussed, improvement in nutritional status, is not a matter of food alone. Levels of education and practices in health and sanitation count equally. This is illustrated by states like Kerala which have a low average intake of many nutrients, also have a comparatively low incidence of deficiency symptoms - apparently because of better access to health and education. In a similar paradox, Gujarat has a relatively high level of vitamin A intake but also a relatively high level of vitamin A deficiency among children - presumably because of the poor absorption of the nutrients due to unsafe water, diarrhoeal diseases, worms and inadequate health services. This squares with the phenomenon, noted earlier, of Gujarat showing a protein calorie adequacy for the younger children alongside a high incidence of protein energy malnutrition among them.

8.2 The inter-relationship between nutrition and a variety of other factors becomes crucial. A mention must be made here of distribution of food within the family, personal hygiene, environmental sanitation and safe drinking water, control of gastro-intestinal disorders caused by germs, viruses and parasites, disposal of human, animal, industrial and agricultural wastes, superstitions and taboos related to eating habits including infant feeding practices, response of the health system to people's needs and planned limitation of family size.

8.3 Improvement in nutritional states calls for a multi-sectoral inter-disciplinary approach, embracing conventional and innovative methods as well as short-term interventions and long-term programmes. These include higher productivity of crops and animals, research in evolving new varieties of food crops yielding not only higher yields but also higher nutritive value in balanced proportion. A coordinated approach and corresponding managerial, executive and evaluative mechanisms, from the policy level all the way to the village are called for.

8.4 Prevention of food adulteration, which appears to be common and increasing, is a priority. Absorption of food to derive its full value for the body is another important consideration in support of which traditional and modern methods have to be used. Insofar as the focus is on those with insufficient purchasing power, the price factor is not less important than any other. A cushion against price inflation, discussed in the chapter on the Economic Base, has to be built into the nutrition policy and programme. Under-pinning a credible trans-sectoral approach is the process of communication and education relevant to the lives of those presently in illiteracy, isolation and under-nutrition.

9. Infant feeding practices

9.1 Two examples of improving the nutritional status, practically at no cost, through an educational process are the promotion of breastfeeding and the practice of timely and proper weaning. While breastfeeding is prolonged in rural areas, food supplementation is generally delayed and

the child's needs to meet the body's demand are met only partially leading to a state of under-nutrition. Where the child is weaned too early from the breast and the supplement started, the immune system fails to develop fully, because the main source of immune factors is breast milk. Enteric infections are rare in breast fed infants, unlike in those artificially fed.

9.2 It has been found that the quantity of breast milk is apparently inadequate to sustain adequate nutrition in a number of cases. At the same time infants on supplements, especially of commercial baby foods, fare no better-indicating that in the prevailing social-economic-environmental situation, early supplementation of breast milk (with the increased risk of infection that it involves) is not the answer.

9.3 There is thus a situation in which a number of infants in poor families are undernourished even in early infancy when they are solely breastfed. They are even more undernourished with supplements to breastmilk during early infancy. A straight inference would be that attempts must first be directed to improve the lactation of the mother through nutritional supplementation and counselling. If the promotion of breastfeeding is to be (as it must be) the most important plank in the policy for promoting infant and child nutrition, especially in poor communities, then we have to understand and overcome the factors responsible for relatively poor lactation in a number of mothers. This perhaps is the greatest challenge in the field of child nutrition today.

9.4 Unethical promotional effort by commercial baby food manufacturers is prohibited by a code of conduct prescribed by government, but it does not have the force of law. While regulatory measures are essential, the best protection comes from the educated judgement of the people, particularly mothers.

10. Maternal malnutrition

10.1 How disease and death impinge harshly on the lives of mothers and children is described in the chapter on 'Health'. A basic factor beneath this situation is maternal malnutrition and consequent ill-health. The nutritional status of a child at birth is influenced considerably by the nutritional and health status of the mother. The high incidence of pre-maturity, neo-natal mortality (within first 29 days of life) and low birth weight can be attributed mainly to the deprivation of the mother. It is known that around 30 per cent of child births in India have low birth weight, that is, less than 2500 gms. This means that seven to eight million infants born in the country each year are low in birth weight. This situation does not seem to have changed over the past two to three decades.

10.2 A recent study by the Indian Council of Medical Research (ICMR), points to the correlation between low birth weight and a fairly high rate of still births (over 29 per 1000 deliveries). This gives a figure of nearly 700,000 still births a year. The policy implications of the findings of this study relate not only to medical technologies but also to nutritional policy, education and human behaviour. If the trend is to be reversed, the first pregnancy should not be below 20 years of age, the inter-pregancy interval should be more than two years, and even more important, every mother should be helped to go to term with not less than 8 gm per cent of haemoglobin and 40 kgs of body weight. The key to child survival and health is clearly nutrition of the mother.

11. Managing Nutrition

11.1 It is a widely held view that the support of the system of public administration in the country, cast in a mould suited to times past, to the field of nutrition, (as indeed to the other social service sectors) is weak in many aspects. These relate, among other things, to social development management capability including the planning, formulation, coordination, implementation and evaluation of projects and programmes, from the national level to the local community.

5888A/ka

III. HEALTH

1. Mother and child

1.1 Central to the health and development of the people is the health and nutrition of the mother and her child. As an organic unit, the mother and child constitute the core of the family and the biological continuity which exists between them during pregnancy is followed by a social continuity thereafter. This is the logic behind the plea that maternal and child health must be seen as a holistic aim and as the vanguard of the primary health movement.

1.2 It is on this understanding that India began to establish, as long ago as in 1952, primary health centres and subcentres, mainly to provide health support to mothers and children. In actual fact, the health infrastructure has expanded impressively but the status of maternal and child health, including family planning has not improved commensurately as seen from health related indicators. Understanding this reality becomes the main concern of analysing the health situation.

1.3 As a policy, the country is wedded to the primary health care approach, which implies intersectoral action for health, integrating curative, preventive, promotive and rehabilitative services and increasingly involving the people in policy formulation, planning, programming, and implementing health services. A serious impediment to the progress of primary health care seems to be the very poverty of the mass of the people for whom the concept is most relevant. The situation, as analysed below, supports the view that health can be promoted only in conjunction with nutritional, environmental and educational improvement.

2. Progress made

2.1 Since 1947 when India achieved independence, health related progress has been made in several directions for the population as a whole. For example, mortality rate per thousand population has reduced from over 27 to about 12 during this period, life expectancy at birth has increased from over 32 to more than 54. Smallpox has been eliminated. Mortality from cholera and related diseases has decreased. Control over malaria has considerably improved.

2.2 At another level, the health system has expanded rapidly, the main contribution coming from the government and in the rural areas. Maternal and child health is a distinct element in the total health care services. There are some 89,000 subcentres, 11,500 primary health centres, over 350,000 (voluntary) health guides, 240,000 (government) multi-purpose health workers, and 375,000 (private) trained birth attendants. The total number of medical practitioners is around 600,000, over half of them following the allopathic system. In addition, there are some 150,000 nurses and as many midwives, most of them in the public health system.

2.3 Maternal and child health services are integrated with family welfare services and are also provided through rural-urban family welfare centres, post-partum and maternal and child health centres — in addition to the primary and subcentres. Progress is being made towards community health centres for every 100,000 population with a 30-bed rural hospital which will have, among its four clinical specialists, a gynecologist and a paediatrician. Some 650 community health centres have been established by 1985 and another 1500 are planned by 1990.

2.4 Apart from the governmental institutions, municipalities and private groups run a large number of dispensaries, health centres and hospitals. It is estimated that about half the total number of patients attending all hospitals and clinics, public or private, are children below the age of 15 years.

3. Concerns

3.1 In spite of such progress as has been made in the health sector, the demographic picture as well as the health status of the country remains a matter for concern. The high rate of population growth continues to be a drag on health and human development. The mortality rates for mothers and children are still distressly high over two-fifths of the total deaths in the country occur among children below the age of five years. Infant mortality rate at an estimated 105 for every thousand live births is high even by standards of developing countries. The nutritional status of the people, and among them that of the vulnerable sections like women and children, is unsatisfactory, as outlined in the chapter Nutrition. Some 44 per cent of the rural population do not have access to safe drinking water. Over 99 per cent of them are without basic sanitary facilities.

3.2 Communicable and other diseases are extensively prevalent though it is not easy to arrive at an overall and reasonably uptodate assessment of the nature and extent of the disease burden on the country as a whole. Hospital statistics are incomplete in themselves and they relate mostly to serious cases and in any case only to those who have access to medical facilities. The pattern of drug consumption, irrational as it is, is again not the best guide. Most assessments seem to suggest a heavy incidence of communicable diseases like malaria, tuberculosis, gastroenteritis and tetanus, which together account for a large share of all deaths in India. Apart from these and increasing load of degenerative diseases like rheumatic heart disease, coronary artery disease, hypertension, diabetes and cancer (on which there are no recent reliable estimates), there are a number of widespread deficient diseases related to lack of nutrients like iron, iodine and vitamin A. (See chapter on Nutrition)

3.3 The damage inflicted by vaccine-preventable childhood diseases as well as by other diseases that affect children, among others, is heavy. For example, in 1981 nearly a quarter million infants died of

tetanus in the first month of life. The estimated mortality rate from this infection is over 13 per thousand live births in rural areas and over three in the urban areas. The reported incidence of diptheria is around an average 25,000 cases a year during 1975-81. This figure could be an underestimate. Around 300,000 cases of pertussis are reported annually; the actual might be higher. Estimates of incidence of poliomyelitis is around 1.5 to 1.8 per thousand children, 0-4 years. The estimated number of cases of measles is around a million a year, the fatality rate is upto three per cent. There are about 10 million tuberculosis patients in India, a quarter of them infectious. Some 500,000 deaths occur annually from it, most of them of children below 15 years. Some 300,000 typhoid cases are reported annually, the majority among school children. The number of unreported cases would be large. The number of malaria cases reported is 75 million in 1952. The figure came down to 100,000 in 1965 but rose to six million in 1976 and 1.6 million in 1983. About 40 million persons are estimated to have filariasis, a larger number are micro-filaria carriers. Some 12 million people in over 18 districts in eight states are affected by guineaworm infestation. Some 200 million people in India could be suffering from hookworm. Over 17 per cent of infant deaths are on account of acute respiratory infections, the proportion being next only to mortality related to low birth weight and prematurity. About 10 per cent of infant deaths are on account of diarrhoea, which is estimated to take the lives of 1.5 million children under five years of age.

4. Priorities

4.1 There are atleast four immediate reasons why child and maternal health should have primacy in health priority. First, health for all by the turn of the century would be impossible unless children today, all of them, are on the road to health. Second, some 40 per cent of the total population consists of children and the sheer proportion underlines their decisive importance. Third, childhood is the most sensitive and vulnerable period in the life span and it needs to be specially protected against an adverse environment, familiar in India as in most developing countries. Fourth, the early years of life account for the maximum growth and development of a human being and any deceleration of this process can have long term, often irreversible effects on health. This is the rationale for the accepted policy of priority for child health and development. In spite of it, the health status of child remains unsatisfactory.

5. Infant mortality

5.1 The infant mortality rate is a faithful indicator of the effectiveness, among other conditions, of health care services available in the community, particularly ante-natal, natal and post natal care. Even though the infant mortality rate has declined from around 150 at the time of independence to an estimated 105 today, it is unacceptably high.

5.2 There are wide variations in the infant mortality rate between states, Kerala (30) to Bihar (112), Orissa (132), Madhya Pradesh (134) and Uttar Pradesh (147). It will be seen, from the chapter on Education that there is a close correspondence between the infant mortality rate and female adult literacy.

5.3 There is a similar significant variation in infant mortality between the rural and urban areas. The national average of the rural rate of 114 is almost double the urban rate of 65. Studies have shown that variations in infant mortality in India depends significantly on the sex of the child, the educational level of the mother, the mother's age at marriage and her occupation, the nutritional status of the mother and that of the child and the birth interval over and above the geographical and rural-urban differentials.

5.4 It is also observed that the most critical period for the infant's life is the neo-natal period (the first 29 days). For example, of the infant mortality rate of 110 in 1981, it can be said that of 1000 babies born, 20 die on the first day, 35 in the first week, 60 in the first month and another 50 between 1-12 months. This pattern broadly holds in the rural as well as urban areas. Most of the causes of neo-natal deaths can be attributed to maternal factors while those of the post neo-natal infant deaths are mostly related to the ill-effects of the environment.

Percentages of infant deaths to total deaths	States
10-15	Kerala
15-20	Karnataka
20-25	Andhra Pradesh, Himachal Pradesh Jammu & Kashmir, Maharashtra and Tamil Nadu
25-30	Assam, Bihar, Punjab and West Bengal
30-35	Gujarat, Madhya Pradesh, Orissa and Rajasthan
35-40	Haryana and Uttar Pradesh

Source: Sample Registration System, 1982

Estimated infant death rates by rural/ urban, India and major states, 1982

INDIA	114	65	105
Andhra Pradesh	86	50	79
Assam	103	72	102
Bihar	116	60	112
Gujarat	120	89	111
Haryana	100	62	93
Himachal Pradesh	70	42	68
Jammu & Kashmir	74	43	68
Karnataka	71	47	65
Kerala	32	24	30
Madhya Pradesh	145	79	134
Maharashtra	77	55	70
Orissa	139	64	132
Punjab	82	53	75
Rajasthan	105	60	97
Tamil Nadu	97	51	83
Uttar Pradesh	156	99	147
West Bengal	93	52	86

Source: Sample Registration System, 1982

6. Child mortality

6.1 A critical study by the Registrar General, of the death rates for the age group 0–4 years for the different states in 1977, brought out certain facts which could not have changed drastically since then. For example, 47 per cent of deaths were among children below five years of age, the percentage in the rural areas being 48.6 and that for female children in rural areas over 50. The variation by state was wider than that for infant mortality. The 0–4 year child death rate was 12.6 in Kerala as against 64.9 per thousand population in Uttar Pradesh. Uttar Pradesh, Rajasthan, Madhya Pradesh, Orissa and Assam had the highest child death rates. Excessive mortality in infancy was, of course, partly responsible for the high rates for this age. Child mortality responds to better health care much more than infant mortality does. As such, it is a useful measure of the impact of programmes like immunization, oral rehydration therapy and nutrition. The foremost common causes of childhood mortality in India are respiratory infections, diarrhoeal diseases, tetanus, low birth weight and prematurity. The estimated rates per 100,000 population of deaths from these causes are: respiratory infections (2707), tetanus (1980), diarrhoeal diseases (1289) and low birth weight and/or prematurity (1248). Underlying the respiratory tract infections are pneumonia, whooping cough, tuberculosis, measles. Some studies indicate that tetanus and measles together account for 26 per cent of infant deaths.

Neo-natal and post-natal mortality rates 1982

	Neo-natal mortality	Post-natal mortality
Rural	72.9	40.8
Urban	38.8	26.4
Total	66.7	38.1

Source: Sample Registration System, 1982

Percent distribution of births, by type of attention at birth, 1982

	Institutional media	Trained attendants	Untrained attendants
Rural	11.1	15.7	73.2
Urban	41.5	27.2	31.3
Total	16.6	17.7	65.7

Source: Health Statistics of India, 1985

Perinatal mortality rate and stillbirth rate, 1982

	Peri-natal mortality rate	Still birth rate
Rural	57.7	9.8
Urban	33.1	5.2
Total	53.2	8.9

Source: Sample Registration System, 1982

Death rates for children aged 0-4 years, India, 1982

	Male	Female	Person
Rural	42.2	45.7	43.9
Urban	21.2	20.5	20.9
Total	37.9	40.5	39.1

Source: Sample Registration System, 1982.

7. Birth weight

7.1 Prematurity and low birth weight as major causes of infant and child mortality is related directly to health of the mother. It is estimated that about 25-30 per cent of all babies born are premature. The proportion of low birth weight among all babies born is similar, if not more.

7.2 Low birth weight is in all population group the single most important determinant of the chances of the new born to survive and to grow. Low birth weight babies are three times more likely to die in infancy than the others. Many states in India show that perinatal deaths (within the first seven days of life) are five times common among low birth weight babies than in those with normal birth weight. Also, nearly three-fourths of the neonatal deaths are babies with low birth weight. Of the 24 million children born in India each year, some 6-7 million children have low birth weight, the major causes being malnutrition of the mother and short birth interval between children.

8. Maternal mortality

8.1 Maternal mortality rate is a sensitive index of the health of the mother. It is estimated that in India the maternal mortality rate is 3-5 per thousand live births. It would take a strenuous effort in and outside the health sector if this is to be brought below two per thousand live births by the end of the century.

9. Family size

9.1 There are no shortcuts either to maternal and child health or to birth regulation. Contemporary history shows that the two belong together, that if there are fewer deaths in the womb, at birth and during early childhood, there will be fewer births. This demonstrated relationship has been reinforced by recent research. For example, birth spacing has a positive impact on the duration of breastfeeding and degree of maternal attention. The rates of infection are likely to be lower among children more widely spaced. In a short birth interval, both the older child and the one born after, face serious health problems. The former is taken off the breast earlier, mostly due to the new pregnancy. Mortality is found to be much higher among those weaned ahead of normal time. A child born before an interval of less than two years is more likely to be malnourished than the child who was two or more more years old before the next child was born, more so in poor families. The child born after an inadequate interval is also not spared. Maternal depletion on account of short spacing probably explains the diminishing birth weight generally associated with higher order births beyond four or five. Intelligence scores, too, seem significantly lower in short birth interval groups.

9.2 All this is in keeping with the experience that in communities where child health has improved and infant deaths have reduced, it has been easier to have birth spacing accepted. Birth spacing provides the breathing space for a couple to move voluntarily towards the small family norm. This is the time when public service and community support can demonstrate the meaning of the familiar message that the health of both child and mother will be better with fewer and well spaced births. A change in the parental perception is the key to birth regulation.

9.3 These considerations are increasingly being reflected in the family welfare programmes in the Seventh Plan built around the following five elements:

-- increasing contraceptive practices
-- enhancing child survival
-- raising the status of women
-- respecting the dignity of the individual, and
-- active community involvement

10. The health system

10.1 A number of studies reveal that the massive growth of infrastructure, personnel and expenditure has had less than optimal impact on the health status of the people. Some of the reasons for the gap between effort and effect are obvious, like the weaknesses in areas like nutrition, education, safe water supply and sanitation. Certain other reasons relate to the functional weaknesses within the health sector. Some of these are briefly discussed below:

-- A sizeable proportion of the sanctioned number of staff positions under various categories in the public health system remain unfilled at any given time.

-- The system of primary health centres, though well conceived and endowed with resources, lacks leadership and managerial skills.

-- The present training of doctors is examination-oriented: didactic, clinical and curative in emphasis. While social aspects of diseases are recognized, students are not given experience in community interaction nor a role of responsible leadership of a health team, nor managerial competency.

-- Medical colleges have often interpreted community health services as their own outreach operation, rather than as supportive of the responsibility for the health of a defined population group.

10.2 The scheme of community health workers (now called village health guides) has been conceived as an essential element of the primary health care approach. It has expanded impressively to a total strength of about 350,000. Critical appraisals of the working of the scheme have shed some light on the following problem areas:

-- The community has an apathetic attitude towards environmental sanitation, in contrast with quick allopathic cure preferably through injections.

-- The role of the community tended to be that of a passive recipient of curative services from the community health worker.

-- The community health worker appeared to confine himself to treatment of minor ailments and first aid -- without being able to enlist people's cooperation for deeper health-related issues like environmental sanitation or personal hygiene.

-- The training of community health workers was inadequate for imparting health education or preventive care.

-- A majority in the medical profession, particularly private practitioners, was against or unenthusiastic about the community health workers scheme.

-- A provider approach rather than a participatory spirit characterised the community health workers scheme.

-- There was some role conflict between the multipurpose worker and the community health worker.

-- The one aspect that people appreciated was the availability of an immediate resource for health care, particularly drugs free of cost.

10.3 Another study reveals other sets of problems, from the viewpoint of both the health personnel and the people.

-- The health personnel found the following typical hurdles in their way: illiteracy of the people and their traditional beliefs; too large an area to be covered; lack of transportation; and lack of medicines or their irregular supply.

-- In the perception of the people, the factors inhibiting utilization of health services were; non-availability of medicines; too long a distance to the primary health centre; lack of transportation; illiteracy and pre-existing beliefs.

10.4 Some other reasons for low utilization of the established facilities at the primary health centres have been mentioned: better attention by private doctors and better medicines outside, and easier access to them; the tendency of some primary health centre doctors to ask for payment for better treatment; long wait and non-availability of doctors; and improper behaviour of health staff. The point favourable to government health centres and hospitals was that the treatment was free.

11. Community health projects

11.1 Apart from the government health system, there is a large number of privately organized hospitals, health centres and dispensaries. Some of them extend concessional medical care to the economically weaker sections. Even more significant are a number of community health projects -- organized by committed health workers in various parts of India. They cater to population groups ranging in strength from 1,000 to 40,000 or more. Some of them are hospital centred while the others are community based. Some are run on the cooperative principle using people's contributions while others are organized as health insurance schemes. These projects vary in range and scope. So too the emphasis, which may fall on nutrition, mother and child care, family planning and control of communicable diseases. The source and magnitude of funding may also differ. But all these projects have a basic orientation towards the primary health care approach.

11.2 Among the initiatives taken by some of these community health projects are:

-- Training and equipping traditional health attendants.

-- Training of community health workers to identify "high risk" mothers and infants for intensive care.

-- Greater attention by communities to environmental sanitation.

-- Training of health workers in home management of diarrhoea.

-- Training of health workers in ante-natal and infant care, especially in immunization, and

-- Education in health and nutrition.

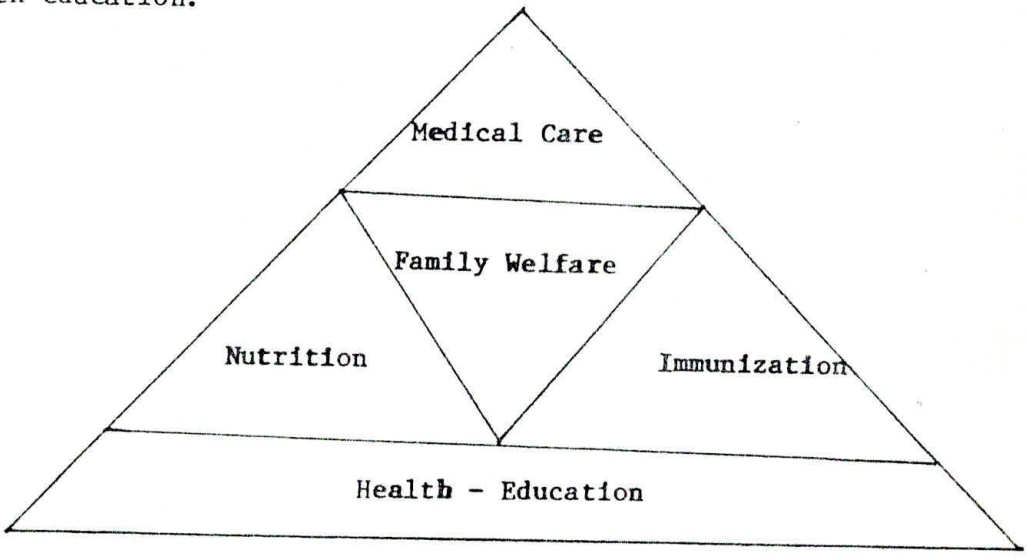
12. **Aims for 1990**

12.1 The important targets set for child health in the seventh plan, 1985-90 are the following:

	1985	1990
Effective couple protection rate (per cent)	32	42
Crude birth rate/1000 population	32.6	29.1
Crude death rate/1000 population	11.9	10.4
Infant mortality rate/1000 live births	106	90
Maternal mortality rate/1000 live births	3-4	2-3
Birth weight below 2500 gms (per cent)	30-25	18
Immunization (per cent)	below 50	Universal
Ante-natal care (per cent)	below 50	75

13. Strategy

13.1 To achieve these aims a synergistic combination of five major types of services are being organized during this plan period: medical care, immunization and oral rehydration, nutrition, family welfare and health education.



13.2 Medical care: Medical care facilities for children are being made available in all the urban and rural institutions. The health professional in his under graduate training is being trained in paediatrics. Child health is being emphasized in the medical curricula and examinations, including the post graduate level. A proportion of hospital beds are earmarked for childhood illness care (40,000 beds out of over 500,000) as at present the number of medical specialists in child care in the country fall far short of the number required (barely 5000 out of total 300,000 allopaths, as against the current requirement of 20,000).

13.3 Immunization: The Expanded Programme on Immunization (EPI) was started in India in 1978. Till 1985 the diseases being covered under the programme were diptheria, pertussis, tetanus, poliomyelitis, tuberculosis and typhoid. Measles was introduced from that year. The effective coverage achieved by then would be 30 per cent of the eligible population, on a rough estimate. Beginning with the first year of the Seventh Plan, 1985-86, 30 districts and the practice areas of 50 medical colleges have been covered to achieve near-universal immunization for children upto the age of one year and pregnant women. During 1986-87, 60 more districts and the practice areas of the remaining 60 medical colleges is being taken up for similar coverage. All the vaccines except measles and polio are produced indigenously and self-sufficiency in them is expected by 1990.

13.4 Dehydration from diarrhoeal diseases is among the most common causes of infant and child deaths. There are about 100 million children below five years and each child has 2-3 bouts of diarrhoeal infections each year; that is, a total of over 200 million diarrhoeal episodes. 90 per cent of these episodes can be managed in home by the mother with home-made solutions. Another nine per cent would be mild to moderate cases requiring the pre-packed solution and about one per cent would be severe requiring medical attention. A major effort has been launched in the Seventh Plan to promote Oral Rehydration Therapy, the main thrust of which is to transfer the knowledge, skills and confidence for the simple technology from the medical scientist and health professional to the family and in particular to the mother.

13.5 Nutrition, which is a basic pre-requisite to health, is discussed in another chapter but mention may be made here of the demonstrated result of concurrent multi-sectoral basic services for children, as provided by the Integrated Child Development Services (ICDS).

Impact of ICDS

	1976	1983	
	non-ICDS	non-ICDS	ICDS
Malnutrition grade III & IV (percentage of children below 6 years)	19.1	11.4	7.8

	1981 national average	1982-83 ICDS
Infant mortality (0-1 year)	110	88.2
Child mortality (0-4 years)	48.4	20.5

14. Education for Health

14.1 Health related education of the people, including the illiterate-two-thirds of the population, is basic to health promotion particularly for mothers and children. Currently the accent is put on the following aspects:

-- The role of parents in enhancing the health of children
-- The role of teachers in improving the health of children
-- Immunization
-- Oral Rehydration Therapy
-- Breastfeeding
-- Nutrition and growth surveillance
-- Early diagnosis and treatment of diseases

14.2 This effort implies a massive and complementary use of the family educational channels, all available communication media and interpersonal exchange of information and ideas. The inter-connected aspects of this aim are briefly discussed in the chapters on Education and Communication.

14.3 The educational and training effort has to focus mainly on the family, the parents, especially the mother. But it has to go beyond to train up birth attendants, considering that almost 70 per cent of the births are being attended today by untrained persons. Their initial training needs to be followed up by continuous educational reinforcement for involving them more and more in maternal and child health programmes at the community level. The school health programme, presently active in a few states like Karnataka, Kerala, Tamil Nadu and Maharashtra, has to be built around the school teacher and expanded countrywide. This is of specific relevance to the control of environmental and behavioural factors directly or indirectly undermining child health, as outlined in the chapter on Environment.

14.4 The educational process, aiming at a change in the culture prevailing the health system, has to permeate health workers at all levels, including the professionals, who are involved in supporting primary health care for all of the people. The present grossly inadequate system of reporting, recording and retrieving information on aspects of human health need to be revamped.

15. Drugs

15.1 It would be sometime before the burden of disease on the country is demonstrably reduced a rational policy for providing essential drugs at a cost the community can afford and through channels that reach them, is overdue. While the number of pharmaceutical production units has grown by 300 per cent between 1952 and 1983, the question remains whether the production pattern conforms to the health needs of the people. Developing countries like Bangladesh have shown, as recently in 1982,

that a large number of irrational drugs can usefully make way to a few essential drugs. In addition to regulating drug production by law, it would be worthwhile to market essential drugs at control prices through the public distribution system. It is estimated that among lower income groups, more than a tenth of the total family income is spent on purchasing medicines, mostly unwanted and expensive.

16. **Resources**

Five fold increase in the financial outlay on mother and child health in the Seventh Plan is welcomed against a background of relatively low priority in the preceding years, yet it would not be adequate to achieve the targeted tasks ahead. Including family planning, the plan outlay for health at Rs 64,492 mn is 3.7 per cent of the total. This is an improvement on the Sixth Plan expenditure of Rs 34,477 mn (3.1 per cent of the total), yet inadequate to support the aim of access to health for all by the year 2000. It is therefore all the more important that a professional management system is quickly introduced in health administration. The apparent paucity of resources can also be overcome by systematic encouragement to voluntary organizations, including Mahila Mandals, Youth Clubs and Village Health Committees, dedicated to the principles of primary health care. Another hopeful feature is the lively presence of several health care projects across the country which illustrate that so much can be done with so little, provided the contributory potential of the people is liberated.

INFANT AND CHILD MORTALITY TRENDS

Three-year moving average 1971-84, India

Period	Birth Rate	Death Rate	Infant Mortality Rate	Age specific Death rate (0-4)	% Population (0-4) to total population
1971-73	36.3	15.9	134	53.8	14.66
1972-74	35.3	15.7	133	53.2	14.55
1973-75	34.8	15.3	133	52.4	14.21
1974-76	34.4	15.0	132	52.0	13.84
1975-77	34.2	15.2	133	52.3	13.65
1976-78	33.3	14.5	129	50.1	13.36
1977-79	33.1	13.9	126	48.3	13.28
1978-80	33.3	13.1	120	45.3	13.19
1979-81					
1980-82					
1981-83					
1982-84					

SOURCE: Sample Registration System

Decades, 1901 - 1984

Death rate overall		Infant mortality rate	
1901-10	42.6	1911-15	204
1911-20	47.2	1921-25	174
1921-30	36.3	1931-35	174
1931-40	31.2	1941-45	161
1941-50	27.4	1951-61	146
1951-60	22.8	1961-71	129
1971	14.9	1980	114
1980	12.4	1981	
1981		1982	
1982		1983	
1983		1984	
1984			

Source: Census actuarial report till 1960 SRS - thereafter

Source: Census actuarial report till 1961 SRS thereafter.

Yearly rates 1971 - 1984

	Infant mortality rate	Death rate (0-4 years)
1971	129	51.9
1973	134	52.3
1976	129	51.0
1978	126	50.1
1979	120	45.7
1980	114	41.8
1981	110	-
1982		
1983		
1984		

Source: Sample Registraition System

IV. EDUCATION

1. The nature and size of the tasks of development on democratic lines, facing India, are closely reflected in the field of education. Since people can develop only by their own effort, the educational process is a precondition for development to take root in their consciousness before it proceeds on the ground in a durable or endogenous manner.

2. Present position

2.1 It is in this perspective that free and compulsory elementary education for all children upto the age of 14 years became a goal included in the Indian Constitution for achievement by 1961. The eradication of adult illiteracy has been a complementary national aim for much the same reason. The situation today is that 60 per cent or more of the people cannot read or write. And, even more disturbing, a similar proportion of children are out of school at any given time, notwithstanding a fairly high proportion of children getting enrolled in the first year of the primary grade. As a result, India has nearly half the illiterate adults in the world.

2.2 A reviewed effort in the coming years is imperative if this situation is to change. Irrespective of political pursuasion or social system, the industrialized countries of today had accorded, despite initial resistance, priority to universal primary education as a matter of state policy, largely for social reasons including the need to foster national unity and a spirit of community. Many developing countries are currently investing a sizeable proportion of the national income in education, including literacy. An integral view of human development which pays balanced attention to primary education, primary health and basic nutrition - as sources of social support to life - seems to be gaining acceptance in India as well.

3. Returns on education

3.1 A number of studies have shown a close relationship between educational status and a propensity to adopt improved nutritional and hygienic practices, better production methods, the small family norm and a positive attitude towards the purpose of life. Economists have computed the higher returns of primary education than of investments in steel or electricity or other industries. Literate farmers are seen to be doing better than their illiterate counterparts. The inverse relationship between maternal literacy and infant mortality is established. The success of water supply and sanitation projects seems to be related to the level of literacy in the community. Equal access to educational opportunities, starting with a chance to break the illiteracy barrier appears central to the country's effort to promote human development and social change. In the current context of reshaping the national policy on education, there has been a revival of discussion which has thrown helpful light on the many issues affecting the system, process and content of education.

4. Adult literacy

4.1 Universal education will require changed attitudes among parents, even if policies and practices make education available for all. There is evidence that parents who attended schools are more likely to send their own children to school and help them complete their formal education. If, however, drop out rates are high, it will be decades before this kind of parental support can be effective. There are other equally important reasons in support of mass literacy through non-formal methods on a sustained basis. The Indian experience reveals the need for investment, of an unprecedented order, in financial and organizational terms for maintaining extensive and adult education programmes complemented by a wide availability of written materals and messages through various media.

4.2 Literacy Rates
(percentage, 1981)

	Rural	Urban	Total
Male	40.79	65.83	46.89
Female	17.96	47.82	24.82
Total	29.65	57.40	36.25

4.3 Wide variations in literacy levels are seen between states, from 70 per cent in Kerala to 20 per cent in Arunachal Pradesh. The variation between males and females, rural and urban areas, scheduled castes/tribes and others are also pronounced. For example in 1981, the female literacy percentage in rural areas was less than 20 in 13 states.

4.4 Literacy Rates among Scheduled Castes and Schedules Tribes - 1981

	India	Scheduled Castes	Scheduled Tribes
All Areas			
Male	46.89	31.12	24.52
Female	24.82	10.93	8.04
Total	36.20	21.38	16.35
Rural Areas			
Male	40.79	27.91	22.94
Female	17.96	8.45	6.81
Total	29.63	18.48	14.92
Urban Areas			
Male	65.83	47.54	47.60

4.5 The magnitude of illiteracy in absolute numbers has grown, despite the spread of the school system and the steady improvement in the percentage of literacy. In 1971, the number of illiterates, excluding Assam and Jammu and Kashmir was 372 million; in 1981 the number grew to 446 million. This underlines the need to ensure that children once enrolled remain at school till they attain "permanent literacy". While enrolment rates have increased, the drop out rates have remained unchanged. With the majority of the children dropping out of the primary school between grades I and III, the contribution of primary education to reduce illiteracy has not been commensurate with the investments made.

4.6 The sixth plan (1980-85) gave high priority to adult education, including it as an essential component of the minimum needs programme. The scheme had three dimensions: literacy, functionality and awareness. The strategy focussed on districts with low literacy rates, rural women, scheduled castes and tribes and migrant labour and other economically weaker sections. It encouraged participation of students, assistance to voluntary organizations and literacy follow up using both folk and modern media. During this period the number of adult education centres and learners increased from 92,000 to 186,510 and from 2.59 million to 5.53 million respectively. These learners included 2.85 million families, 1.5 million scheduled castes and 88,000 scheduled tribes.

4.7 The seventh five year plan, reinforced by the new national policy on education, seeks to build on these foundations towards achieving literacy for all adults in the age group 15-35 years, by 1990. The challenge of this task will be clear from the fact that some 90 million will be the size of this group by that year.

5. Education of children

5.1 The constitutional obligation to provide universal education to children upto the age of 14 yearsdoes not specify a lower age for commencing childhood education. It was generally assumed that the process started with the first grade of the primary school. At any rate, not much attention has been paid to early childhood learning opportunities. Although some government effort has been made in organising the training of teachers, development of materials and research in methods, pre-school learning has remained confined largely to cities and towns, mostly as the preserve of the private sector for the benefit of the non-poor segments of society. Almost all these institutions immitate Western models. Even in respect of balwadis, a study showed that they were used more by the privileged children of the community and that the activities were too structured for flexibility or imaginative play.

5.2 The appreciation of the value of early childhood learning has been growing, although slowly. The new national policy on education includes this emphasis. It has been shown that pre-school learners are at an advantage in both language and intellectual development. A welcome development in recent years has been the spread of the integrated child development services (ICDS), which is expected to cover half the country's children in need by 1990. The ICDS anganwadis provide an opportunity to children below six years to play and learn together. Conceptually the local community is expected to be fully involved and normal methods and introduction of reading, writing and arithmetic are to be discouraged during this phase. The recognition of the holistic nature of child development (nutrition, health and social, mental, physical, moral and emotional development) is a welcome feature of this trend.

5.3 The effort to make elementary education universal through expanded facilities, increased enrolment and retention has met with mixed success. With steady expansion, facilities for primary education are now available for some 93 per cent of the population within a distance of one kilometre. The number of primary and middle schools increased from 224,000 in 1951 to more than 620,000 in 1983. The location of schools is however not always based on rational criteria so that many habitations, where the population justified a school, had none. This sparseners of population was another reason why some habitations did not have the facility.

5.4 In the provision of educational facilities, there are wide disparities within states. Thus primary schooling facility within the habitation was available for over 98 per cent in Nagaland but only for 28 per cent in Himachal Pradesh, as of 1978. Seven states had a coverage of 90 per cent or more, nine between 80-90 per cent, eight between 70-80 per cent, four between 50 and 60 per cent and three below 50 per cent. Similar variations existed as between disadvantaged segments of the population and others.

5.5

Primary schooling facility	Percentage of population covered			
	All habitations		Habitations predominantly populated by	
			Scheduled castes	Scheduled tribes
			(with population of 300 or more)	
i) within the habitation	77.31	55.94	77.78	
ii) within a distance of 1 km		93.05	90.65	90.48
Middle schooling (with population of 500 or more)				
i) within the habitation	33.47	13.47	21.41	
ii) within 3 kms.	78.42	75.27	64.11	

5.6 The progress in enrolment in grade I-VIII during the past 34 years has been impressive:

Enrolment at Elementary Stage

	Enrolment in grades (in million)		Proportion to the population in the age group	
1951	I-V	VI-VIII	6-11	11-14
Boys	13.77	2.59	60.8	20.8
Girls	5.39	0.53	24.9	4.3
Total	19.16	3.12	42.6	12.9
1985 (Target)				
Boys	48.46	16.63	108.1	68.1
Girls	34.18	9.21	81.5	36.8
Total	82.64	25.54	95.2	50.3

5.7 All the same the proportion of children out of school continues to be large because of several reasons: the rapid increase in population with which the expansion of primary education, even without provision for quality, could not keep pace; and the drop out rate continued to be high.
5.8 Including those enrolled in non-formal education centres, the total enrolment of children in the age group 6-14 is estimated to be 116 million in 1985. With a population in this age group of 140 million, the number of children not yet enrolled would be 24 million. If the target of universal enrolment is to be achieved by 1990, nearly 64 million children would need to be enrolled in the five years from 1985. As in the case of establishing schools, disparities prevail in the enrolment of children as between states and within states. In 1980, for instance, the enrolment ratios in the age group 6-11 ranged from over 100 per cent in Nagaland (the percentage is higher than 100 since grades I-V may have children below the age of 6 or above the age of 11) to about 60 per cent in Rajasthan. For girls the variation between these two states was over 100 per cent and 30 per cent. Even states with a high enrolment ratio have districts at a serious disadvantage.

5.9 Enrolment in Grades I-V as proportion of population in the 6-11 age group (1978)

	Highest District		Lowest District	
	State Average	Girls	Total	Girls	Total
Andhra Pradesh	79.97	92.89	102.68	25.29	45.82
Assam	80.71	87.31	106.32	54.02	65.31
Bihar	70.53	61.18	91.18	20.02	43.92
Jammu and Kashmir	61.61	76.01	83.98	28.38	45.86
Madhya Pradesh	56.99	58.37	78.52	20.37	39.22
Orissa	85.04	101.78	121.34	41.78	69.55
Rajasthan	59.74	45.42	80.63	22.84	47.57
Uttar Pradesh	72.87	106.65	116.50	20.39	44.26
West Bengal	84.62	99.34	106.32	53.58	64.51

5.10 There is another dimension to disparities prevailing among different population groups in terms of occupation and income, often expressed as caste and class distributions. Reliable data on this is not available.

6. Dropping out

6.1 The problem of children dropping out of school is as serious as complex. Over the years, the drop out rates have remained basically unchanged at the primary stage. For instance, of over 100 children who entered class I in 1965, only 33 reached class IV in 1969. The corresponding percentage over the years 1976-80 was 40. The drop out rates are particularly alarming for scheduled castes and tribes. For the 1974 entrants to class I, the retention rate was only 36 for scheduled castes and 23 for scheduled tribes.

6.2 While the high drop out rates reflected the low efficiency of primary schooling, they tend to obscure the more serious problem of repetition of grades or stagnation, which in fact contributes to the dropping out. Those who drop out relapse into illiteracy with no foundations laid for self-learning. This situation raises a number of critical questions related to the holding power of the conventional school system, the process by which children become literate and the content of learning.

6.3 The current constraint of financial resources for equipping the school to provide a proper learning environment is real. But that by itself cannot explain all of the failure in primary education. The conventional view of the process whereby children become literate is that repeated attempts to recognize and copy the alphabet lead to ultimate mastery. From this viewpoint, the only asset a primary school class requires is a teacher who can make the children memorise the alphabet, recognise letters, sound them and copy them. Much the same process occurs in relation to lessons from the fixed text book, memorized and copied. Such a system can only work at a low rate of success. It succeeds in making some children capable of reading and writing but it also succeeds in alienating many more children from reading and writing. In fact the conventional system was never meant to achieve universal literacy. It worked well for a society where only a few were supposed to become literate for cultural or occupational reasons. A properly trained and reasonably contented teacher with a supportive meaningful learning environment is the minimum requirement for a primary school to serve its purpose. Studies have shown that stagnation and drop out are related to ill-equipped schools, over-crowded classrooms, heterogeneous age composition of children due to indiscriminate admissions, teachers ill-equipped to help the transition of the child from the informal home atmosphere to the formal school environment.

6.4 It is easier to reduce the incidence of stagnation than to tackle wastage due to socio-economic reasons. The latter is usually sought to be manipulated through compensation for parental loss of income, facilities for learning while earning and part-time education through non-formal channels.

7. Non-formal alternatives

7.1 The role and relevance of non-formal channels and methods of education arise from the basic reality that a majority of children remain out of school. As a strategy, part-time short duration learning opportunities for children was first emphasized in the fifth five year plan (1974-79). Two types of part-time courses were thought of: continuing classes for those who have completed the five years of primary schooling; and second, literacy classes for those who have never been to school or dropped out too early to attain literacy. This programme was sought to be sustained by central assistance to the states for setting up non-formal centres. As of 1983-84, there were over 100,000 of them with an enrolment of over 2 million. The number of centres established specifically for girls would be around 20,000.

7.2 Many voluntary agencies are active in reaching learning opportunities to deprived children, as well as adults, in non-formal ways. They are spread out across the country from the tribal interior of Madhya Pradesh to the street pavements of Calcutta.

7.3 Whatever the merits of the formal system of conventional education in relation to certain socio-economic goals, as of now, it cannot obviously answer the needs of large segments of the population in terms either of adult education or pre-school learning or, for that matter, elementary education. An important means of creating a genuine social demand for learning opportunities (which is a precondition for universal education) is to tune education to the lives and needs of the deprived. The inability to "sell" education to them is only partially due to their ignorance. It is even more due to the fact that the available education is not really "saleable". Based essentially on Western, middle class and urban concepts, it is removed from the values of a traditional, poor and rural society from which the "educated" community itself tends to be alienated.

8. Education for the poor

8.1 Poverty has been a handicap for the spread of education in India as elsewhere. But the problem of poverty is more intractable than that of ignorance. So, ways have to be found and techniques evolved whereby primary education can become universal in spite of poverty. Fortunately practical ideas and demonstrated successes are available in the country for others to follow, adapt and improve upon. Some of these ideas and experiences are recounted below:

- In the present system, work and education appear mutually incompatible, indeed come in each other's way. Children, and even adults, from poor families must be enabled to learn even as they work.

- One way to bring together the world of learning and the world of work is to provide for part-time education at convenient hours.

- Work experience in socially useful productive activities through the learning stage can only enhance the quality and value of education. Even children from well-to-do families would benefit from "learning by doing" rather than fulltime formal education.

- When proper teaching methods are employed, it has been found possible to bring up the attainments of part-time students almost to the same level as that of full-time students.

- The obstacle of poverty in the way of learning can be reduced by providing the needy with free books and equipment, free clothes and school meals.

- In addition to the socio-economic issues mentioned above there are a number of academic problems to be resolved to make non-formal programmes successful. For example, an elastic educational structure has to be created to reduce insistence of the formal system on a single point entry (in class I at about the age of five or six), sequential annual promotions, almost exclusive use of full-time professional teachers and absolute conformity with full-time attendance.

8.2 The non-formal sector has a special relevance to the education of out-of-school youth, adults, particularly women, and the potential leadership of community groups for work in social and economic development. An opportunity is provided for example, by the training programmes for health workers, agriculture and animal husbandry workers, and other village level cadres. Both the formal and non-formal channels for learning are expected to be vastly strengthened by a recent development: satellite communication using the radio and television networks. The immense potential provided by the electronic media to reach remote tribal and rural communities with educational programmes is discussed in the chapter on Communication.

8.3 The number of considerations are important in organising part-time non-formal alternatives in education:

- Wastage and stagnation need to be considered as separate phenomena. While drop out takes place due to social and economic reasons over which the educational system has but limited control, the incidence of stagnation can be substantially reduced through educational manipulation, as is being done presently by several states.

- The question of equating education received in non-formal centres with that of the formal system has to be fully settled. Otherwise what had happened to the case of basic education (Nai Talim) decades ago would overtake the current effort as well, with two parallel systems trying to co-exist on an unequal footing, one patronised by the better off and the other for the under-privileged.

- Part-time education will by necessity be limited to essentials. The curricula of non-formal centres is being condensed so that the first five years of education in the formal system can be imparted in two years. This may lead to serious gaps in the education of those at the non-formal centres which no amount of "educational enrichment" at a later stage can remove.

- The effective organization of non-formal centres---where the situation is unstructured, clientele heterogenous, attainments, motivation and basic tasks are ill-defined - will depend largely on teachers whose competence should be of a different order from that of teachers of the formal school. Entrusting education at these centres to existing teachers whose record of work in full time schools is uneven, would hardly help, particularly if they are expected to work on a paltry remuneration.

- The organization of non-formal systems constantly runs the risk of being subjected to considerations of economising expenditure. This could imperil the major strategy to promote education and bring about radical changes in the total education system.

9. Quality of education

9.1 The quality of education is conditioned by the character of the learning environment - physical and social. These, in turn, are related to the purpose and content of education. A 1978 All India Survey brought out the following facts which are unlikely to have changed substantially since.

- 40 per cent of the primary schools and 14 per cent of middle schools were running in open spaces, tents, thatched huts and mudplastered buildings; these percentages were 43 and 14 respectively for primary and middle schools in rural areas;

- Nearly 83 per cent of primary schools and 77 per cent of middle schools were short of one to four rooms;

- 40 per cent of primary schools and 20 per cent of middle schools reported shortage of black boards, the percentages for rural schools being 42 and 22 respectively;

- 34 per cent of primary schools and 23 per cent middle schools had no floor mats or furniture;

- In rural areas only 11 per cent primary schools and 30 per cent middle schools had urinals and lavatories;

- About 63 per cent primary schools and 34 per cent middle schools had no facility for drinking water on school premises; and

- Only 29.5 per cent of primary schools had a library and out of these 64 per cent had 100 or less books.

9.2 The Education Commission, 1964-66, had recommended an optimal size of a primary school at 4-5 teachers and an enrolment of 160 to 200 students. The 1978 survey revealed that less than 19 per cent of the primary schools satisfied these criteria. More than half of them had an average enrolment of 80 or less. Some 34 per cent of the primary schools were single teacher schools, 27 per cent had only two teachers and only 14 per cent had four or more. The disparities in the availability of educational facilities are concealed by national or even state-level averages. Many disadvantaged groups are deprived of essential facilities and the disadvantage tends to get magnified with time, because the better off groups and areas, already ahead in the race manage to increase their educational capability constantly.

10. Teaching

10.1 The general situation in respect of the academic and professional status of teachers, taken by itself, appears to have improved. In 1951 only 58 per cent of the teachers in elementary schools were trained. This has improved to 88 per cent in 1983. A large number of qualified teachers are available because there are more graduates, particularly women, looking for a job. This does not necessarily imply that the quality of teacher training has improved. This aspect depend on a number of variables, and is as decisive for educational results, as any other contributory factor. The teachers emoluments have increased, though barely in keeping with the price index.

10.2 Elementary School Teachers

Qualification	Percentage	
	1951	1978
Graduates and above	1.0	17.2
Completed secondary school and undergraduate education	14.4	60.1
Not completed secondary school education	84.6	22.7
	100.0	100.0

10.3 The increased resources for elementary education have not significantly led to the appointment of an adequate number of teachers. There are large variations among the states in the number of pupils per teacher. In 1981 it varied for primary schools from 17 in Manipur to 50 in Andhra Pradesh; for middle schools from 13 in Nagaland to 40 in Gujarat.

Year	Pupils per teacher	
	Primary schools	Middle schools
1951	34	24
1961	36	32
1981	38	33

11. Managing education

11.1 The administration of elementary education has still not outgrown its colonial bureaucratic mould, of which archaic policies of making financial allocations and obsolete procedures of accounting and auditing are but two aspects. For example a good children's library cannot be developed or run on the basis of centralized procedures of ordering and auditing. Similarly oppressive use of inspectorial powers, arbitrary transfer of teachers and irrational procedures of recruitment and promotion are inconsistent with a forward-looking learning system.

11.2 There is a need to critically appraise the content of learning. Although most of the children at school do not continue beyond five years, primary schools follow an instructional programme derived from a "universal perspective of what schooling should consist of". Such a determination of learning content is useful to the better off and to the socially mobile for whom each stage of education is a preparation for the next stage. It is not equally relevant to those who settle down in the area to which they belong; for them education should assist in developing a capacity to cope with the local environment. Instead of "prescribing" what children should know on the basis of irrelevant criteria, curricula should be built on the basis of what children are expected to perform in the social context to which they belong.

12. School and Social concerns

12.1 At a conceptual level, it is hard to imagine that the primary school can become a meaningful place in isolation. It has to become a nucleus of social action. Its curriculum must reflect the major concerns and goals of social action such as equality, conservation of nature, control over diseases and a human identity outgrowing sectarian loyalties. Education in relation to nutrition, health, sanitation and allied developmental priorities, discussed in the other chapters, should be founded in the learning content at the elementary stage.

12.2 A perceptible change that had occurred in primary education over the last five decades is its isolation from the general social and developmental concerns of the state and society. True, at no time was the primary school actually recognized as the nucleus of social action. Yet, its relationship with the rest of the society was a matter of great interest in the first decade of Indian independence when the philosophy of basic education had not been totally discouraged. The curricula reflected this relationship, not in exhibitionist terms, but rather by giving room to local symbols, crafts and languages. Local resources can flourish only when the teacher's role in curriculum is restored. Allied to it is the task of assuring essential basic materials such as text books, children's literature and play materials.

13. Investment in education

13.1 Much of the ineffectiveness of elementary education can be traced to inadequate financial allocation. Although the amounts provided for substantial increases over the years, the share of elementary education in the total expenditure on education (plan and non-plan) declined from 38.7 per cent in 1951 to 36.4 per cent in 1973. Since then it increased to about 46 per cent in 1978-79. The variation among states in this proportion ranged between 23 per cent to 63 per cent. The plan allocation for elementary education has shown a downward trend.

13.2 Plan outlays/Expenditures on Elementary Education

Plan	Outlay/Expenditure (Rs. in millions)		
	Total Education	Elementary Education	Percentage on Elementary Education
First (1951-56)	1530	850	55.6
Second (1956-61)	2730	950	34.8
Third (1961-66)	5890	1780	30.2
Annual Plans (1966-69)	3220	650	20.2
Fourth Plan (1969-74)	8230	2350	28.2
Fifth Plan (1974-79)			
Draft	17260	7430	43.6
Final	12850	4100	31.9
Sixth Plan (1980-85)			
Outlay	25240	9050	35.8
Seventh Plan (1985-90)	63826	-	-

The low priority given to elementary education is illustrated by the drastic cut in the draft fifth plan outlay while finalising it.

13.3 An analysis of public expenditure on primary education could be seen from ahe data for 1978-79. After paying teacher's salaries, nothing much was left to provide for basic facilities crucial for effective teaching and learning.

Current expenditure	Rupees in million	Percentage to Total
Teachers' salaries	6218.14	95.3
Administration/supervision	121.31	1.9
Other expenditure	73.42	1.1
Capital expenditure	113.93	1.7
	6526.80	100

14. Integral development

14.1 The unfinished task of universal elementary education appears to be larger than what has been achieved over the past 35 years. The task is difficult because it concerns the quality of the effort and because the future effort would have to focus on areas and groups which have few material resources to fall back upon. This situation implies a change in planning processes and management structures. The present centralised global planning process will have to give way to the decentralized planning. The physical and qualitative targets should emerge from the needs of local areas and specific groups rather than be disaggregated downwards from central or state capitals. The perspective of local communities must prevail instead of community requirements as assessed by central planners. The community needs can be identified by adopting the administrative "block" as the planning unit and by developing it with suitable infrastructure for planning and monitoring educational activities. Without responsibility to formulate programmes and access to adequate resources to implement them, micro level planning would be no more than a slogan.

14.2 Community involvement in primary education has all along been emphasized primarily as a source of additional resources like labour, construction materials and maintenance of buildings. Some control over educational activity by the local community is not looked upon with similar enthusiasm, though commended by developmental wisdom. To the extent this has been tried, the teachers exerted a reverse pressure, putting a further distance between the community and the administration. Teacher absenteeism and contract employment are common and a matter for serious concern. Decentralized planning and community control go together and are essential for meeting the learning needs of differring environments.

14.3 Corresponding to changes of this nature at the local level, there has to be greater interaction between government departments in relation to the various aspects of development of children. For example, without nutritional supplement it is almost impossible to ensure regular attendance at school and performance by the child in accordance with his potential. Similarly adult education has to improve to ensure the child's participation in the educational system. The care of infants and mothers is important to ensure that every child attends the school. The school health programme is yet to take roots. A holistic approach to a child's needs for development presupposes bringing down the walls that divide the bureaucracy into compartments. The integrated child development services (ICDS) is a good example of a relevant model bringing together the three broad streams of services related to basic nutrition, primary health and early learning. However the effectiveness and sustainability of this scheme would depend on its acquiring progressively the attributes of decentralized planning and community involvement. Such a climate at the pre-school stage could foster the similar aim for primary education.

V. ENVIRONMENT

1. Life Support systems:

1.1 A major determinent of child development is the quality of the physical, as well as social, environment in which children are born and are expected to grow up. The current situation marks a revival of public awareness of the steady deterioration of the natural life support systems such as land, forests, air, water and sources of energy. Recognizing that the main causes of the degradation are man-made, there have been recent attempts, which are yet to attain dimensions of a social movement, to arrest and, if possible, reverse the disturbing trends. On the success of this effort would depend the quality of life particularly of new generations.

1.2 Land: The land to population ratio is steadily decreasing. Given a total land area of 328 million hectares, the per capita availability of land is coming down from 0.94 hectare in 1951 to a likely 0.33 h at the end of the century. The actual availability is even less if account is taken of inaccessible land (24 mh) and barren land (21 mh). The corresponding figures for the per capita availability of agricultural land are 0.33 h in 1951 and 0.18 h in 2000 AD. Of the total agricultural land of about 143 mh, some 40 mh were irrigated as of 1982.

1.3 Almost half the total land area suffers from degradation mainly due to water and wind erosion (150 mh) and partly from water logging (6 mh), soil salinity (7 mh) and other causes (9 mh). In effect, 760 mn Indians have between them around 100 mh. Soil fertility is being depleted by intensive agriculture without adequate supplementation of organic manures. The 1980-81 foodgrain output meant withdrawal of 18 million tonnes of plant nutrients from the soil, with farmers adding back only 11 million tonnes of them.

1.4 An estimated 13 mh of permanent grazing land is insufficient to meet the needs of over 237 million cattle (as of 1972). Grazing land is being increasingly converted into farmland, apart from the pressure of over-grazing.

1.5 The total desert area is about 35 mh, excluding an area about half this extent which is vulnerable to being turned into desert.

1.6 Forests: According to the 1952 National Forest Policy, a third of the total land area, or about 109 mh, were to be brought under forest cover. However, the annual rate of deforestation has been about 1.4 mh, bringing the total area under actual forest cover to about 36 mh. Allowing for an annual plantation rate of 0.4 mh the rate during 1980-85) as a result of tree planting drives on state initiative, 'social forestry' programmes and innovative community level schemes including

involvement of school children, there is still a loss of a million hectares of forest each year. At this rate, the forests of the Himalaya, for example, which form 25 per cent of the country's forest reserves, would be destroyed during the first half of the next century.

1.7 There have been enquiries into the factors responsible for deforestation. Among them are "development projects" which destroyed some 3.41 mh of forest during 1951-72, demand of raw materials for paper, packing and timber industries, tobacco curing, use of forests for non-forestry purposes and, last but not least, the demand for firewood which provides 70 per cent of the cooking energy in rural areas and 50 per cent of it in the urban areas.

1.8 Deforestation brings in its trail a number of disturbing consequences: interference with agricultural production due to change in pattern of rainfall; floods from reduced soil and water retention capacity particularly in hill areas; monoculture forestry encouraged by industrial demand and resulting in tribal and other village people being deprived of minor forest products vital for their livelihood; scarcity and rising cost of firewood and, latterly, the spread of viral diseases, such as in the Western Ghats of Karnataka, after the large scale cutting down of trees.

1.9 It has been estimated that over 80 per cent of forest dwellers in states like Orissa, Bihar, Madhya Pradesh and Himachal Pradesh depend on forests for upto half their requirements of food. The minor forest produce of which they depend include flowers like the mahua, seeds like the sal, leaves such as the sal and tendu, fruits like the mango and mahua, honey, resins, bamboo and lac, apart from wild animals and birds.

1.10 The preservation of forests and their access to the people have a direct bearing on the lives and future of over 20 million children of the tribal people and a good part of the remaining about 80 million children of families with incomes below the poverty line.

Forest area lost between 1951 and 1972

Lost to:	hectares:'000s
River valley projects	401
Agricultural purposes	2,433
Roads and communications	55
Establishment of industries	125
Others	388
Total loss	3,402

Source: Forest resources of tropical Asia, FAO, 1981.

1.11 **Air:** The daily pollution of the atmosphere comes from modern industrial as well as traditional sources. As of 1980, some 75 major thermal power stations, some 3.5 million motor vehicles, 67 large fertilizer plants, a number of textile mills, among a large and growing number of air polluting industries and, 90 per cent of households burning wood, cattle dung and crop residues add daily to the pollution of the air. The level of sulphur dioxide and suspended particles in some Indian cities has already exceeded permissible limits for health. In the large cities air pollution has become a major health hazard. 60 per cent of Calcutta's 10 million residents were reckoned to be suffering from respiratory diseases on account of it. In the rural areas, a study of women in Gujarat showed that they inhaled each day 40 times the volume of suspended particles considered to be unsafe by the World Health Organization. They inhaled in three hours, an amount of carcinogenic benzopyrene equalling 20 packets of cigarettes. And, this amount is more than what an industrial worker is exposed to in any industry in an eight hour shift. Exposure to wood smoke is particularly harmful to malnourished, anemic women as carbon monoxide, an important component of wood smoke, increases the effect of anemia by reducing the haemoglobin level in the blood.

1.12 The negative consequences of these unabated trends would be irreversible for the health and development of children.

1.13 **Water:** The rivers of India have traditionally sustained life in India. They still do. However, inefficient use of water, neglect of maintenance of irrigation works and short-sighted practices have resulted in huge waste, frequent flooding and recurrent scarcity.

1.14 Only a tenth of the total annual rainfall of some 393 million hectare metres is being actually used. Present policies and plans envisage a steady increase of this proportion.

1.15 Ground water resources amount to some 10 times the volume of the total annual rainfall. However, excessive exploitation of ground water for irrigation, without ensuring recharging, has resulted in a lowering of the water table in many areas. The average annual number of irrigation tube wells installed during 1970s is 170,000. If the present approach to the management of water resources remains unchanged, it is estimated that the country would face a major water famine after a couple of decades.

1.16 About 70 per cent of all available water is unsafe for drinking. This has a tremendous bearing on the health of children in the country, of whom nearly 1.5 million die annually due to water-borne diseases like diarrhoea, dysentery, cholera, typhoid and jaundice. Some 73 million work days are lost due to these diseases, an economic loss far higher than work time taken up by industrial disputes. In terms of medical treatment and loss of production, these diseases cause the nation an estimated Rs 4500 million each year.

1.17 Some 12.6 million people in seven states were found suffering from guinea worm in 1982. Fluorosis and schistosomiasis have remained major health problems in particular areas. A new manifestation of fluorosis, knock-knees, affecting mostly people below 25 years of age has appeared around major dams in Andhra Pradesh, Tamil Nadu and Karnataka. It is believed that elevation of subsoil water, due to large reservoirs, has caused changes in the fluoride, calcium and trace metal composition of the soil, in plant life and consequently in the human body.

1.18 A rapid rate of urban and industrial spread results in increasing pollution of the waters, of the major rivers across the country. Factory effluents, untreated sewage and other wastes regularly dumped into rivers with uncalculated damage to health. Recently an ambitious project was launched to clean the Ganga. In the seven kilometre curve of this river around Varanasi it receives 60 million litres of untreated sewage every day and 10,000 half burnt bodies and 60,000 carcasses each year. Lower down, near Mokamah bridge in Bihar some 2,500,000 litres of unprocessed industrial wastes are added to it every day. Further downstream, the Hooghly is choked by a similar discharge from the 150 or so major factories around Calcutta. The story is not very different for the other major rivers.

1.19 **Energy:** According to the Food and Agricultural Organization there would be a fall in fuelwood production by 40 per cent by the end of the century with serious consequences to the health and nutrition of the poor who will find it difficult to adequately cook such food as they might have. This prospect, whatever the marginal variation, could come true for India as well.

1.20 Non-commercial sources of energy provide nearly 90 per cent of the country's cooking requirements. And, cooking energy constitutes half the country's total energy consumption. Coal and kerosene together contribute to around 15 per cent of cooking energy. This underlines the heavy reliance on fuelwood. As against an estimated total requirement of 133 million tonnes of fuelwood for cooking, the supply is around 103 million tonnes, leaving a substantial unmet deficit.

1.21 The cattle in the country, some 237 million, yield around 575 million tonnes of dung a year. Properly used, this could produce 22,424 million cubic metres of biogas which would be sufficient to meet a third of the fuel needs for cooking. Until this happens, the poor have no option but to dry and burn dung to partly meet their fuel needs.

1.22 A sense of proportion has to inform the priorities for developing energy sources. For instance, the country's vast electricity network just about matches its 80 million work animals in energy generation: the animal labour force adds up to 40,000 hp, equivalent to 30,000 mw. However, the investment on work animals is a third of the Rs 300,000 million which have been invested in electrical power generation capacity. In nuclear energy, from an installed capacity of 1100 mw, the country now plans to reach 10,000 mw by the end of the century, instead by the end of 1970s as earlier intended.

2. Sanitation

2.1 As a development priority, the aims of sanitation do not seem to have socially advanced since Mahatma Gandhi wrote in 1941: "Divorce between intelligence and labour has resulted in criminal negligence of the villages. And so, instead of having graceful hamlets dotting the land, we have dung heaps. The approach to many villages is not a refreshing experience. Often one would like to shut one's eyes and stuff one's nose; such is the surrounding dirt and offending smell. A sense of national or social sanitation is not a virtue among us. We may take a kind of a bath, but we do not mind dirtying the well or the tank or the river by whose side or in which we perform ablutions. I regard this defect as a great vice which is responsible for the disgraceful state of our village and the sacred banks of the sacred rivers and for the diseases that spring from insanitation."

2.2 The situation has probably worsened these past decades, partly due to the rapid rate of population growth, but mainly due to widespread, continuing ignorance of, and apathy towards observing the simple laws of health and hygiene. Sanitation and safe water together are a major determinant of people's health. For example, if everyone had access to both, it is estimated that half the nearly five million deaths of children below five years of age in the country would not be dying.

2.3 **Progress**: The progress towards better sanitation, rural or urban, during the 1970s has been negligible or nil. Only 5.6 per cent of the country's population was served by reasonably adequate facilities at the beginning of that decade. The proportion improved to 6.4 per cent in 1981, and that too because of the very slight progress in the rural coverage (0.1 per cent to 0.5 per cent; and despite a slippage from 27.5 per cent to 26.9 per cent in the urban population served). In 1980 only 198 towns, out of 3119, had sewerage facilities. Among cities with a population of 100,000 or more, only 46 per cent had sewerage system and some arrangement for sewage treatment. Except for some pilot projects in a few states, sanitary facilities have been absent in the rural areas.

2.4 As of March 1981, 93.7 per cent of the total population was without sanitary facilities. This situation improved marginally to 92.7 by March 1985:

	1981		1985	
	Population (million)	Percentage	Population (million)	Percentage
Urban	40.03	25.1	49.56	28.4
Rural	2.80	0.5	4.03	0.72
Total	42.83	6.3	53.59	7.3

2.5 Against this background the plan for 1985-90 is somewhat subdued in its ambition:

	1985 - 90	
	Population to be served (million)	Percentage
Urban	87.91	44.7
Rural	12.06	1.8
Total	99.96	12.5

2.6 The goals for India for the International Drinking Water Supply and Sanitation Decade may therefore have to be redefined as below:

	Percentage of population with basic sanitary facility	
	Original plan	Revised goal
Urban	81	50
Rural	25	5

2.7 RURAL SANITATION

(Population & Coverage in 000's)

State/ Union Territory	1985		Progress/Set-1981-85 (Percentage)
	Rural population	Population coverage (percentage)	
Andhra Pradesh	43112	1.7	+1.7
Assam	20290	0.9	-0.1
Bihar	64836	3.7	-0.2
Gujarat	24914	0.24	-0.06
Haryana	10865	-	-
Himachal Pradesh	4355	-	-
Jammu and Kashmir	5127	0.1	+0.1
Karnataka	27776	0.17	+0.07
Kerala	21872	1.6	+1.1
Madhya Pradesh	44782	-	-
Maharashtra	42371	-	-
Manipur	1106	0.09	+0.09
Meghalaya	1175		-
Nagaland	71	0.3	+0.3
Orissa	24700	-	-
Punjab	12671	-	-
Rajasthan	29671	-	-
Sikkim	275	-	-
Tamil Nadu	33116	0.2	-
Tripura	2007	-	-
Uttar Pradesh	96433	-	-
West Bengal	42754	0.06	+0.06
Andaman and Nicobar	169	7.7	+7.7
Arunachal Pradesh	650	0.2	+0.2
Chandigarh	19	52.6	+52.6
Delhi	472	-	-
Dadra and Nagar Haveli	107	-	-
Goa, Daman and Diu	765	-	-
Lakshadweep	24	-	-
Mizoram	412	43.7	+43.7
Pondicherry	318	1.0	+1.0

2.8 URBAN SANITATION

(Population & Coverage in 000's)

State/ Union Territory	1985		Progress/Set-back - 1981-85 (Percentage)
	Urban population	Population coverage (percentage)	
Andhra Pradesh	13638	10.9	+0.3
Assam	2347	15.7	+1.0
Bihar	9669	22.9	+2.9
Gujarat	11602	38.0	-3.2
Haryana	3097	28.4	+16.0
Himachal Pradesh	366	13.7	-1.7
Jammu and Kashmir	1420	7.7	-0.3
Karnataka	11740	38.4	+4.6
Kerala	5271	28.2	+21.9
Madhya Pradesh	11896	7.8	+2.7
Maharashtra	24164	39.8	+1.5
Manipur	505	0.8	+0.8
Meghalaya	271	-	-
Nagaland	150	-	-
Orissa	3480	9.5	+0.2
Punjab	5078	48.5	+13.2
Rajasthan	7250	9.6	+5.4
Sikkim	82	32.9	+32.9
Tamil Nadu	17302	47.5	+1.10
Tripura	266	13.2	+8.8
Uttar Pradesh	21329	14.1	+1.2
West Bengal	15167	19.5	+4.0
Andaman and Nicobar	60	55.0	+15.0
Arunachal Pradesh	52	38.5	-9.1
Chandigarh	563	100.0	+5.9
Delhi	6818	73.4	+1.2
Dadra and Nagar Haveli	17	-	-
Goa, Daman and Diu	452	13.3	-3.8
Lakshadweep	21	-	-
Mizoram	132	1.5	+1.5
Pondicherry	346	39.9	+1.9
INDIA	174551	28.4	+3.3

2.9 Sanitary latrines are an important part, though not of course the only component, of a sanitation programme. However, it is neither feasible nor necessary for public funds to be invested for household facilities. The 1985-90 (seventh) plan has allocated some Rs.2750 million for promoting sanitation, compared to a negligible amount in the preceeding plan. Clearly, the aim is more than a matter of construction; it is a question of building awareness to a level of self-discipline when health and hygiene practices change. The water seal latrine, along with increased rural water supply and public education through health related communication at the community level is a key element of the projected social change. Latrines will be built by people (and not for them) when they convince themselves that there can be no health without sanitation and no sanitation without safe disposal of wastes, particularly human excreta.

2.10 **Promise**: There are some indications that a breakthrough in knowledge, attitude and behaviour would be possible. For example, in the rural areas, public investment during 1985-90 focuses on construction of some 500,000 sanitary latrines for the scheduled castes and tribes and freed bonded labourers. Such latrines will be the integral part of the housing programme for these population groups. They will also be provided in all village level institutions like health sub-centres, schools, panchayat offices and anganwadis. There will also be an effort to link community latrines with bio-gas and soil nutrient schemes. And, health education and hygiene work will be systematically imparted to the rural population particularly the children.

2.11 Outside the government sector a few promising agencies have come up with successful construction designs as well as the capacity to build and maintain public conveniences on a "pay and use" basis. Several ways for a low income family to meet the cost are being tried out; loans repayable in easy instalments, revolving funds administered by voluntary organizations, cost sharing including contributions in unskilled labour. All of these are, however, on a modest scale in relation to the task ahead. A hopeful factor is the spreading recognition that more important than the investing of money is the training of the mind. Another is that women, the worst-affected for want of household sanitary facilities, are increasingly making their demand heard.

3. Drinking Water

3.1 A mention was made in the preceeding section about current trends of decline in the natural life support systems including water sources. In particular, the scarcity of drinking water and its uneven quality and availability was reviewed against a cluster of contributory factors: geographical, geological, physical, demographic and seasonal. For example, the system of monsoon winds, the lie of the mountain ranges, erratic rainfall and unpredictable cyclones lead to periodic flooding of helpless villages and recurrent droughts leading to conditions bordering

of family in vast areas. Neither flood control nor irrigation has reached a stage of development in which the end of these conditions familiar in many parts of the country, can be foreseen. However, substantial progress has been achieved in recent years in making drinking water available to water scarce villages by drilling borewells and fitting them with handpumps and in hilly areas through gravity-fed schemes.

3.2 **Experience**: That thirst could be as disastrous, or even more so, than hunger was recognized in India at least from the end of the 1960s. However, the "International Drinking Water Supply and Sanitation Decade 1981" gave the national effort an impetus and a perspective on the health and developmental dimension of drinking water supply, particularly for children from low income groups including the scheduled castes and tribes. The decisive link between water supply, sanitation, health, education and socio-economic development appear to be better recognized today than before.

3.3 The number of "problem villages" identified as of 1980 was about 231,000 (out of the total number of nearly 600,000 villages). During 1980-85 over 190,000 villages have been provided with at least one source, presumably perennial of drinking water. However, the "problem village" — defined in terms of non-availability of water within a depth of 50 ft. or a distance of 1.6 km or in terms of endemic diseases like cholera or guineaworm or contamination by toxic elements -- is a variable phenomenon, with more and more villages being identified for special attention from year to year.

3.4 Also, while the percentage of villages with at least one perennial source of drinking water is, of course, an index of progress, that by itself does not tell what proportion of a community actually consumes safe water. Again, experience shows that the norms set for priority in reaching health to communities may have to be made more liberal to derive the intended benefit - for example, enhancement of the provision of 40 litres per person per day to 70 litres and providing a source of drinking water within half a kilometre instead of 1.6 kms, or an elevation of 15 in hilly areas.

3.5 **Participation**: Even more, questions have to be asked and answered about cost and quality, use and maintenance, utility and effect. In short, the challenge of bringing safe water to village or urban slum, is much more than the physical task, formidable as it is in itself. To illustrate, water supply without knowledge related to health and hygiene would be as unproductive as a good borewell without a proper handpump. And, to sustain a cluster of allied services over time, and to derive an optimal field from them for the intended population, the local community must have a role and a voice in the location, planning, installation, maintenance, use and evaluation of the services. Experience shows that any alternative to this strategy is bound to be costlier and to increase the dependence of the people on agencies in the public or private sector.

3.6 Some 60 per cent of the total population, or over 400 million people were without safe drinking water as of March 1981. According to government data, the number and percentage of the population served with at least one source of drinking water (which includes communities covered only partially) is as follows:

	1981		1985	
	Population covered (million)	Percentage of total population	Population covered (million)	Percentage of total population
Urban	115.48	72.3	127.23	72.9
Rural	162.07	30.8	313.56	56.2
Total	277.55	40.5	440.79	60.2

3.7 Among the population provided with a source of drinking water, the scheduled castes and tribes figured to a substantial extent, namely 18 per cent and 10 per cent respectively during 1980-85, about 13 and 7 per cent respectively during 1985-86.

3.8 The investment for drinking water supply has been increased significantly from the 1980-85 (sixth) plan to the seventh plan, from Rs.24,576 million to Rs.34,544 million. The strategy is to cover villages in the following order of priority:

- the remaining villages based on the 1980 assessment;
- "problem villages" identified after 1980; and
- full coverage of partially covered villages and habitations.

3.9 **Constraints:** Among the constraints that have been recognized as limiting progress are financial stringency, lack of skilled manpower and training facilities, shortage of materials and equipment among other lesser factors. The seventh plan seeks, for the first time, to involve voluntary agencies for enlisting community involvement in the execution and maintenance of drinking water supply schemes.

3.10 The expected size of the population who will have safe drinking water by 1990 is as follows:

	Population (million)	Percentage
Rural	452.38	75.2
Urban	169.96	86.2
Total	622.34	77.9

3.11 The drinking water supply programme is executed as part of the Accelerated Rural Water Supply Programme in the Central Government sector and the Minimum Needs Programme in the States sector. A recent realistic re-assessment indicates that the original aim of the goal for the decade for drinking water supply may have to be scaled downward:

	Percentage of Population with safe drinking water	
	Original plan	Revised goal
Urban	100	90
Rural	100	85

3.12 **Survey:** An index of the dimensions of promoting water used in village India is provided by a recent survey in 18 districts in 6 states, of a total sample of 4840 handpumps in 1864 villages. Some 80 per cent of the pumps were in working order at the time of the survey. Nearly 40 per cent of the pumps were located at one end of the village, some 25 per cent in public places and 35 per cent in the middle of the village. Some 60 households use a pump on an average. Over 90 per cent of the pumps are used for drinking and cooking purposes. Nearly 69 per cent of the pumps have surroundings that are waterlogged, some 57 per cent are unclean. A pump is used on an average for over eight hours in summer and nearly six hours in winter. The average flow is 12.5 litres in 40 strokes in about as many minutes. The proportion of pumps remaining out of order, as noticed during the survey, is substantial:

Downtime		Percentage of pumps out of order
Upto 15 days	-	12.62
16 - 30	-	15.90
31 - 90	-	27.26
91 - 180	-	24.84
More than 180	-	19.38

3.13 The expected life of an India-Mark II pump is 10 years. A large number of pumps go out of order much earlier due to poor installation, maintenance and repair. A pump is seldom used by households 150 or more metres away from it. Women who form 80 per cent of those who fetch water, do not like to go to pumps located at public places. They are seldom consulted about location of the pump. There is very little involvement of the villagers in matters relating to location, installation, maintenance, breakdown and repair of pumps. These and allied factors have a direct bearing on the national aim of safe drinking water to all the people.

3.14 RURAL WATER SUPPLY

(Population and Coverage in 000's)

State/ Union Territory	1985		Progress 1981-85 (percentage)
	Rural population	Population coverage (percentage)	
Andhra Pradesh	43112	71.4	30.6
Assam	20290	71.4	17.9
Bihar	64836	77.8	9.3
Gujarat	24914	79.7	10.5
Haryana	10865	57.8	30.5
Himachal Pradesh	4355	59.5	13.7
Jammu and Kashmir	5127	62.7	25.9
Karnataka	27776	82.9	52.0
Kerala	21872	40.8	11.5
Madhya Pradesh	44782	62.7	31.3
Maharashtra	42371	51.0	32.3
Manipur	1106	67.6	41.8
Meghalaya	1175	35.1	15.0
Nagaland	715	65.9	15.5
Orissa	24700	82.0	48.2
Punjab	12671	23.8	4.2
Rajasthan	29671	58.7	22.1
Sikkim	275	43.3	24.4
Tamil Nadu	33116	46.8	26.9
Tripura	2007	65.6	25.1
Uttar Pradesh	96433	28.3	21.2
West Bengal	42754	52.5	36.1
Andaman and Nicobar	169	94.7	37.1
Arunachal Pradesh	650	90.2	24.1
Chandigarh	19	52.6	52.6
Delhi	472	100.0	35.8
Dadra and Nagar Haveli	107	84.1	42.9
Goa, Daman and Diu	765	44.2	21.1
Lakshadweep	24	45.8	10.3
Mizoram	412	64.3	34.7
Pondicherry	318	100.0	16.7
INDIA	557859	56.2	25.4

3.15 URBAN WATER SUPPLY

(Population and Coverage in 000's)

State/ Union Territory	1985		Progress/Set-back - 1981-85 (Percentage)
	Urban population	Population coverage (percentage)	
Andhra Pradesh	13638	52.1	-3.3
Assam	2347	37.5	+11.6
Bihar	9669	59.5	-3.9
Gujarat	11602	83.2	-5.8
Haryana	3097	69.1	+29.1
Himachal Pradesh	366	89.1	-10.9
Jammu and Kashmir	1420	86.6	-11.0
Karnataka	11740	81.2	-7.6
Kerala	5271	64.5	+4.7
Madhya Pradesh	11896	79.7	+12.6
Maharashtra	24164	87.1	-7.8
Manipur	505	51.5	-17.8
Meghalaya	271	22.1	-2.8
Nagaland	150	46.7	-11.6
Orissa	3480	38.1	+3.7
Punjab	5078	71.2	+5.6
Rajasthan	7250	56.0	-0.3
Sikkim	82	89.0	+42.8
Tamil Nadu	17302	83.8	+2.9
Tripura	266	51.5	+2.8
Uttar Pradesh	21329	70.1	-0.2
West Bengal	15167	63.7	+3.7
Andaman and Nicobar	60	100.0	-
Arunachal Pradesh	52	88.5	+40.9
Chandigarh	563	100.0	+5.9
Delhi	6818	98.1	+16.6
Dadra and Nagar Haveli	17	76.5	+76.5
Goa, Daman and Diu	452	81.9	-11.9
Lakshadweep	21	-	-
Mizoram	132	7.6	-0.6
Pondicherry	346	76.3	+19.3
INDIA	174551	72.9	0.6

4. Urban Slums

4.1 In a typical discussion of urban development, there would likely be no more than a peripheral mention of slums however defined. And, within slums the needs of children and women may receive but token priority. Like polluted air in deteriorating cities, slums represent a part of the social and environment costs of the growth of modern industry and concomitant values. While the main cause of migration from village to city or town is economic, its major consequence is degradation of the social as well as physical environment and quality of life, particularly of children.

4.2 Dimensions: By the turn of the century, a third of India's population is likely to be living in nearly 4,000 towns and cities as against a fourth today. Around 40 million people including some 6 million children are living in urban slums, possibly a majority of them below the poverty line defined in terms of calories consumed. An alarming trend is that for the first time in India, during 1971-81, the urban population began to grow faster (4.6 per cent) than the overall national growth rate (2.5 per cent) and the rural rate (1.9 per cent). To all indications the population of the urban slums is growing faster than the overall urban rate. And, it is argued that restrictions on urban migration might adversely affect the growth of the (urban) economy. Thus the basic ecology of slums is accepted and attention to their needs focuses mainly on environmental improvements without interfering with the social and economic functions of the slums. Relocation is not easy as it wipes out investment in the huts to be demolished, increases transportation time and cost, reduces employment opportunities to the slum resident.

4.3 Municipal corporations and local bodies find it difficult to meet the demand made on them by the unabated migration from village to town. During the 1980-85 national plan, some Rs.1510 million were allocated for environmental improvement of urban slums. In the following plan - 1985-90, Rs.2695 million have been earmarked for the purpose (representing 0.15% of the total public sector outlay in the plan).

4.4 The norms for environmental improvement relate to water supply, sewers, storm water drains, community bathrooms, street-lights, roads and lanes, rather than housing as such which the slum residents constantly try to improve on their own. Progress in implementing the scheme has been slow during 1980-84, while it has picked up pace thereafter. The major constraints have been the absence of any long term strategy for slum improvement in different states, lack of adequate administrative and technical expertise at local levels, inadequate budgetary resources of local bodies, absence of information on slum projects, and finally the problem of coordination among agencies concerned with water supply, electricity, sewerage and the like. All the same, it is estimated that over 9 million slum dwellers benefitted from the improvement scheme.

4.5 **An example:** Among the states, Maharashtra has the highest slum population of about 7 million (or 30 per cent of its total urban population). Dharavi in Bombay has the dubious rank of being the largest slum in Asia, with a population of 800,000 over a area of 4.5 kms. It has grown from a group of fishermen, potters and tanners originally settled there but now includes migrants from all over India. They come to Bombay because it is India's most affluent city. It is estimated that 44 per cent of Bombay's 8.2 million population live in slums such as Dharavi or on street pavements. The situation in Calcutta and other large cities is not very different.

4.6 **Health and nutrition:** While slum dwellers comprise around a third of the urban population of the four major cities - Bombay, Calcutta, Delhi and Madras - they occupy only six to 10 per cent of the urban land area in these cities. The physical, social and psychological consequences of the high density are loudly evident. While reliable data are not available in the absence of any organised countrywide serveys, such studies as have been made point to certain inferences. The health status is poor with respiratory diseases, gastro-intestinal disorders, skin diseases, fever, worms, ear-nose-throat diseases and tuberculosis all of which are common.

4.7 Malaria has re-emerged. While safe water supply, improved drainage and latrines have reduced the level of gastro-intestinal disorders to a par with nearly non-slum areas, viral infections, skin diseases and respiratory illnesses remain significantly higher, presumably due to over-crowding. The major illnesses tend to be chronic, with patients rarely completing the full course of treatment. Malnutrition among children and women is extensive, maternity and ante-natal services are poor, the rates of infant and child mortality are high, family planning acceptance is inadequate in relation to national aims.

4.8 **Education and income:** Literacy rates, particularly among women are low, though the younger age groups show relatively higher levels of attainment. Access to non-formal channels of education is rare and uneven. Under-employment is common. Vocational skills are low and income levels are generally below the poverty line. Over 90 per cent of the income is spent on food, yet the majority remains under-nourished. The exploitive wages of indispensable categories of maintenance jobs in the urban unorganised sector such as sweepers, barbers, porters, domestic helpers and semi-skilled mechanics represent the hidden subsidies to the urban economy. The urban slums are also a source of cheap child labour. These categories, substantially concentrated in the urban slums, also provide support to the continuing stream of migrants attracted through the social network based on kinship, caste, language and place of origin.

4.9 **Aberrations:** In this setting the slum population lags behind the non-slum urban communities in many respects. They seem to have a larger proportion of their population in the lower age groups. Their lower

ratio of females to males tends to even out, specially among the younger groups. Slum families would seem to have an even greater need than others for child care services, maternity centres, educational facilities, training programmes and other facilities geared to the young family. Parents are unable to meet the physical and emotional needs of their children. Problems related to personal relationship, mental and emotional stability, marital disharmony, retardation of growth, speech and intellect, prostitution, crime, vagrancy, and so prevail extensively.

4.10 Another approach: lately there have been attempts by the government, in association with voluntary groups and development agencies, to improve basic services like child and mother care, women's income skills, health, education and pre-school learning facilities, drinking water supply, sanitation facilities and shelter improvement. A significant feature of this current effort, intended to reach the urban poor in some 300 towns by the end of the decade, is the role of the local slum community itself in understanding and analysing their needs, and organising and maintaining services in a decentralized design based on people's involvement and responsibility and adequately supported by government. By this approach, which is in its initial but hopeful stage, it may be possible to reverse, if not the migration to the urban areas, at least the alienation of the migrants from their new surroundings. An allied aim is to view the district with its towns and villages as a single planning unit, with the town or city complementing the rural hinter land rather than living off it. This approach can however succeed only on the strength of a new social ethic which does not accept the inhumanity of life in the slum, the worst victim of which happens to be the child.

VI. COMMUNICATION

1. Overview:

1.1 Viewed as a means to break out of the poverty-ignorance trap, the relevance of communication to the process of education and human development becomes obvious. Thus, extending communication in all its varied trends from a minority to all of the population is a priority in any scheme of social change. However the content and mutuality of communication determine its usefulness, apart from the question of access to it.

1.2 The right to expression as well as to information is a basic need of children as well as of adults. This need is all the more urgent when a change in the way of life and living is the aim, involving breaking away from old systems of tradition and belief even on simple daily concerns like eating habits, hygienic practices, farming methods and the equation with the natural environment.

1.3 The communication system in India has steadily expanded during the past four decades to become one of the largest in the world. At the same time, there has been a decline in the "old information order", based on a rich and ancient heritage including song, drama and dance which still lingers in the village in its minstrels, balladeers, story-tellers, puppeteers and theatre groups.

1.4 Communication flows correspond to community structures. To the extent the latter are strengthened; communication becomes more democratic. This precisely represents the present challenge in the face of a fairly rapid, but still inadequate expansion of the modern media. Given the prevailing high rate of illiteracy and the poor means of transportation in much of the countryside where most people live, it was perhaps to be expected that the electronic as well as the print media would cater mainly to the not-so-poor among the urban people. In terms of ownership and control, the press and the commercial films are almost wholly in non-government hands while the radio and the television are owned and managed directly by the government. The printing industry is again largely in private hands while public utilities like the postal and telecommunication systems are in the public sector.

2. Television:

2.1 In recent years there has been a pronounced shift in policy towards sophisticated technology in communication, of which satellite communication, the computer, television and video are the major manifestations. India had its first experimental television centre in Delhi in 1959, with a limited range and programmes meant for schools and rural audiences. Regular transmission for the general public began in 1965. In 1975, an ambitious project, using an American satellite - the Satellite Instructional Television Experiment (SITE) was launched to beam programmes on agriculture, health, hygiene, family welfare, science,

education and the like in four Indian languages, four hours daily for one year. About 2400 villages spread over the six states were provided with community viewing facilities. The viewers, some three million were mostly first generation mass media participants in that they were never before exposed to television, radio, film or newspaper. To provide additional information and new inputs demanded by the audience, SITE could not be followed up, though it paved the way for later satellite systems like the Indian satellite, INSAT, to convey programmes of educational value to children as well as adults.

2.2 The pace of expansion of television picked up during the 1980s. There are today 181 transmitters - 47 high power (10 kw) and 114 low power (1 kw) - with a coverage of about 70 per cent of the country's population. Some 14 centres have their own production facilities. 10 more centres are scheduled to have them soon. Until recently when a second channel was opened in Delhi and Bombay, the Indian television has had only a single channel. Through several thousand community viewing sets have been provided in villages and tribal areas their number remain small in relation to requirements. Meanwhile the number of television receivers, presently estimated at nearly 6 million sets with about 60 million viewers, is set to increase at an annual rate of 3 million.

2.3 Two aspects of this quantitative explosion deserve a mention. On the one hand, television programmes providing glib entertainment or pandering to consumer gullibility are becoming an addiction with urban audiences, and seriously encroach on time available to the young for regular study. On the other, the television infrastructure offers unprecedented scope for educational programmes not only related to institutional learning but well beyond it to reach children out of school as well as unlettered adults, both of whom are in greatest need of information relevant to knowledge, skills, health and wellbeing. This potential remains, by and large, untapped.

3. **Radio:**

3.1 In 1947 when the country attained political freedom, there were only six radio stations. Today the radio network is one of the largest anywhere, with 87 stations with 128 medium wave, 35 short wave and four frequency modulation transmitters, broadcasting for around 1600 hours a day in 21 major languages and 246 dialects. The broadcasts cover 80 per cent of the area and 95 per cent of the population.

3.2 All the same, the number of broadcast receivers, about an estimated 30 million, is rather limited at 4.4 sets for every 100 persons. There is also an imbalance between the rural and urban areas in terms of possession of radio sets. Some 80 per cent of the sets are reckoned to be in urban areas. Another disparity is the skewed distribution of receivers among the states, with 5.26 for every 100 persons on an average in Tamil Nadu to less than one set for every 100 persons in Bihar and Orissa.

3.3 A response by the government to the limited reach of the radio in rural areas and among low income groups, has been the policy of financial subsidy for community radio receivers. By 1969 there were about 210,000 community radio sets installed for organised discussion groups in villages. With the spread of low priced transistor sets (which still remain beyond the financial reach of the majority), the relevance of state subsidized community listening sets was perceived as declining. Today their number is much less than a decade ago and the spread is highly uneven, with two states accounting for nearly half the total number of community sets in the country.

3.4 Group listening of specially prepared series of radio programmes has revived in the 1980s particularly in the field of mother and child care. At present some 21 radio stations are broadcasting child survival and development messages in 11 different language dialects. Each week, programmes for over 21 hours cater to more than 10,000 listening groups organised in 81 districts in 18 states. These radio forums are linked to expanding network of the government sponsored Integrated Child Development Services (ICDS) presently involving some 100,000 anganwadis (child care centres).

4. **Films:**

4.1 The multi-million film industry in India is the world's leading producer of feature films, over 700 a year in 20 languages. The commercial interest heavily colours the content which typically provides a mix of song, dance, crime, violence, sex and melodrama. A minority of powerful films on themes like untouchability, bonded labour, caste discrimination and other topics of social relevance appear now and again, gaining recognition in India and abroad mainly for their sensitivity, but seldom make a commercial success. While the run of commercial cinema provides escapist fare and promotes questionable social values, attitudes and habits, it can also be said that they have contributed to the spread of the national language, Hindi, and thereby to a common element in the cultural mosaic of the country.

4.2 For the country as a whole, the facilities for film exhibition are limited. Most of the 12,000 cinema halls are in the larger towns. On a national average, there are 7.5 seats for every 1000 population. The number of cinema houses is unevenly distributed, with the four southern states, alongwith Maharashtra and West Bengal, showing the highest density.

FEATURE FILMS, BY LANGUAGE

Language	1951	1961	1971	1981
Hindi	100	109	120	153
Tamil	26	49	73	137
Telugu	20	55	85	132
Malayalam	7	11	52	111
Kannada	2	12	33	65
Bengali	38	36	30	42
Gujarati	6	7	3	34
Others	20	24	37	63
Total	219	303	433	737

4.3 The screening of the official weekly news reviews and documentaries is compulsory and is a source of revenue for the government. Some 70 million people are estimated to be the average weekly audience. Mobile units carry government documentaries farther afield. The rural audience, unlike many of their urban counterparts, do see the documentary, yet prefer the feature film.

4.4 The mass entertainment provided by the film industry tend to compromise artistic standards, exerting an unwholesome influence on programme pattern and content of the other media, from television and radio to newspapers and magazines.

5. **Video:**

5.1 A recent arrival, the video has spread quickly to an estimated half a million. It has acquired a place in small town restaurants, long route buses and even remote villages as a source of ready entertainment, sometimes as a status symbol. Its enormous potential as a medium for education has hardly been touched.

6. **Press:**

6.1 The Indian press exerts a major influence in politics and public affairs, despite the rather subdued circulation due to factors like widespread illiteracy and low purchasing power.

6.2 The number of newspapers at the end of 1982 was 19,937. Of these 1334 were dailies, 5898 weeklies and the rest publications of other frequencies. Newspapers are brought out in 16 major and 69 other Indian languages. The number of newspapers in Hindi was the highest (5655) followed by English (3689); the respective aggregate circulation was 13.7 million and 9.7 million.

CIRCULATION OF NEWSPAPERS

Language	Number		Circulation ('000)	
	Daily	Others	Daily	Others
Hindi	442	5213	3797	9966
English	11	3578	3072	6650
Assamese	3	73	48	230
Bengali	43	1494	1044	2123
Gujarati	39	686	1050	1502
Kannada	80	545	489	1092
Kashmiri	-	1	-	-
Malayalam	103	699	1439	3096
Marathi	124	1002	1266	1533
Oriya	11	261	205	256
Punjabi	24	408	283	792
Sanskrit	2	29	2	5
Sindhi	4	58	12	54
Tamil	102	718	825	3432
Telugu	31	522	477	1519
Urdu	134	1196	736	1533
Bilingual	32	1532	39	1078
Multilingual	9	341	5	244
Others	40	247	58	142
Total	1334	18603	14847	35247

6.3 The largeness of the number of newspapers is, in a sense, misleading. Only 176 of them have a circulation of more than 50,000. Another 373 have a circulation between 15,000 and 50,000. The circulation of dailies is only about 21 copies for every 1000 persons on an average but the readership per copy seems to be high, by international comparison. The main centres of newspaper publication are the four cities - Delhi, Bombay, Calcutta and Madras. Nearly 93 per cent of the total sales of dailies is confined to large towns and cities with a population of over 100,000. Newspapers published in the bigger cities do reach small towns and some villages but on a limited scale and only to a well-to-do clientale. Not more than a fifth of the total circulation of the major dailies seems to enter rural areas.

6.4 A survey of district level newspapers in Uttar Pradesh and Karnataka showed that they are usually irregular in publication, unethical in practice and have little reading material of interest to the rural people All the same, the concept of district level newspapers, discussed for years, appears sound, though largely untried. A judicious mix of news and views on area-specific development issues, public concerns, political, social and cultural affairs - dealt within the local and backed by good management and some advertisement, should make the grade, as illustrated by some successes already.

6.5 In Kerala, Tamil Nadu and Andhra Pradesh, newspapers have a relatively higher circulation in the rural areas. Kerala with a population of 26 million (3.8 per cent of the country's population) has about a tenth of the total circulation of the dailies in the country, with a share of 1.3 million copies. As in the other media, political events, controversies and personalities dominate press coverage, along with crime and entertainment in urban areas. Reporting on rural areas is rare, with exceptions like political events or calamities. Rural people hardly associate a newspaper with developmental information. Though the press remain urban based, it plays a significant role in political life and its democratic functioning. There appears to be a recent trend towards relatively more information on and analysis of issues related to human development.

6.6 The Government has its own print media for publicity on behalf of the different departments and autonomous bodies. The printed publicity materials are distributed by post upto about 1.2 million addresses. There is also the government information network in the rural areas, particularly for promoting family planning; the field units organize films shows and cultural events.

6.7 Studies reveal a strong association between socio-economic backwardness and lack of communication resources. A study of the rural poor showed that the majority was not exposed to any mass media. Only five per cent of them regularly listened to the radio. As of now, access to the media can hardly be expected among the rural poor.

7.1 URBAN GROUPS BY INCOME NOT EXPOSED TO MASS MEDIA

Media	Per cent			
	Upto Rs.250	Rs.251 to Rs.500	Rs.501 to Rs.1000	Rs.1000 and above
Any daily	82.5	69.2	51.1	37.7
Any publication	62.1	52.6	33.2	21.2
Cinema	41.2	31.3	25.6	20.2
Vividh Bharati	68.4	49.5	34.2	30.0
Television	96.9	92.7	83.5	68.8

Source: Reports of National Readership Survey II, 1978 (ORG).

7.2 EXPOSURE TO MASS MEDIA IN RURAL INDIA

Study area District (State)	Newspaper	Radio	Film
Ballia (Uttar Pradesh)	15.6	26.2	9.1
Almora (Uttar Pradesh)	4.5	16.8	4.2
Alwar (Rajasthan)	18.3	26.5	5.0
Mohindergarh (Haryana)	23.7	53.1	7.2
Mandya (Karnataka)	39.4	62.6	25.4

Source: Reports of IIMC Research studies.

7.3 The radio and television systems devote about two-fifths their time to development related programmes in agriculture, health and child care. However, the impact of the mass media in terms of actual adoption of development messages seem to be small, partly due to limited access and partly due to the larger association and expectation of entertainment rather than education. Analyses show that the mass media are effective usually in proportion to the social relevance or political significance of content and credibility of source.

8. Folk forms:

8.1 Interpersonal and folk forms of communication are fairly active and make up for the limited reach of the mass media. Experience suggests that the interplay of the mass media and the traditional modes of communication are effective. Radio listening groups engaging themselves in related discussion is an example of effective use of a combination of media. The Yatras in support of Grandhashala (library) Movement in Maharashtra and the communication effort to popularise science in Kerala are good examples of inter-personal communication combined with other media.

8.2 The social structure and cultural norms influence the pattern of interpersonal communication. The factors of caste and kinship affect communication flows. So do hierarchial institutional arrangements. The principles traditionally emphasized in social organization and communication pattern in India seem to be asymmetry and hierarchy. Making communication democratic implies the opposite. This is particularly important if the potential of folk forms of communication to convey developmental messages is to be fully liberated from the cultural domination from which they suffered until not long ago.

8.3 Perhaps an effective strategy of communication for development would be to strengthen the interface between various modes of communication -- the mass media, folk forms and interpersonal exchange -- each performing its specific function and supplementing and reinforcing one another. For example, the mass media can help in spreading awareness and creating a climate necessary for change. Folk forms can reflect the area's specific needs and provide local colour and flavour. Interpersonal communication, as for example, between community workers and the people, can underline priorities, clarify doubts, provide details and enhance acceptability of changes in attitude and practice.