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RECENT TRENDS IN THE HEALTH STATUS OF  
INDIAN CHILDREN - A REAPPRAISAL

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## Recent Trends in the Health Status of Indian Children - A Reappraisal

### I. Introduction

The economic recession in the industrial market economies, generally associated with the two oil price hikes of 1973-74 and 1979-80, and policy responses of the concerned national governments have affected the Third World countries to varying extent. The commercial, monetary and fiscal policies adopted by the governments of the formal group of countries in response to the recessions were evident in the rising protectionist barriers, high interest rates and inflation. These were promptly transmitted to the Third World countries through the international trade and finance mechanism, as reflected in the decline of their exports, the worsening of their terms of trade, and fall in the growth rate of investment and gross domestic product. The widening of the current account deficit, rise in external debt, especially to non-concessional credit agencies, and rise in debt, services have exacerbated the situation in many a developing country. These have led to the adoption of adjustment policies like monetary and fiscal policies, including cutbacks on public expenditure, especially welfare programmes like various subsidies and

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social services such as health and education. The combined effect of the recessionary impact and adjustment policies are presumed to affect the health status and general welfare of children. It is in this context that the UNICEF recently sponsored some country case studies on the impact of world recession on children.<sup>1/</sup>

In one of the case studies included in the UNICEF publication, Sudipto Mundle has attempted to give a review of the recent trends in the condition of children in India. Mundle has rightly observed: "As exports account for only about 3% of the value added in agriculture, the agriculture-dependent population is even less susceptible to the recessionary impulses of world trade than would appear from the overall export/GNP ratio of 6% in recent years."<sup>2/</sup> However, he has expressed concern about the deterioration in the balance of payments situation, the growing deficit in the central government budget, and their likely repercussions by way of curtailment of development programmes, welfare schemes and subsidies which have a bearing on children's health and welfare. On the basis of presumed trends in nutrition levels, anthropometric measures, infant and child mortality rates, child labour and literacy, Mundle has concluded: "Our fairly detailed review of recent trends in a large set of indicators has indicated that the quality of life for children in India has improved in recent years."<sup>3/</sup> The purpose of this note is to examine the statistical basis on which his review of the trends is based and the extent to which his conclusions are warranted. The focus of our discussion will be on the trends in the health status of Indian children in the context of the recession and adjustment policies.

## II. Limitations of the conventional indicator and data base

Before we proceed to examine the findings of Hundle on the trends in child health and welfare, let us consider the adequacy of the conventional indicators and available data for appraising the impact of a short term economic recession on the health status of children. We propose to examine the sensitivity and specificity of indicators like IMR and child death rate and growth measurements to cyclical fluctuations affecting any economy.

### (i) Infant mortality:

Infant mortality is the most frequently used index for the assessment of the health status of a population. A declining infant mortality rate (IMR) usually is considered to reflect an improvement in the health of the population. However, the empirical evidence indicates that IMR has been declining in almost every country in recent years, irrespective of the economic cycles affecting these nations. Even during periods of economic recessions, infant mortality is seen to have declined. For instance, in the state of Sao Paulo, Brazil, which suffered serious recessionary impact IMR registered a significant and consistent decline during 1979-82.<sup>4/</sup> The experience of Chile, another Latin American country which experienced a more protracted recession, also conforms to this pattern.<sup>5/</sup> This apparent paradox is not difficult to resolve. For one thing, IMR does not necessarily reflect the overall health situation of children in a community. In other words, IMR can continue to decline even when there is no perceptible improvement in the morbidity condition

and nutritional status of the child population. Nearly 60 percent of all deaths of infants occur in the neonatal period (the first four weeks) and the major causes underlying neonatal deaths are infections (neonatal tetanus, respiratory infections, etc.) and congenital malformation and prematurity. In the post-neonatal period, an important additional factor is enteric infections. It is possible that amelioration of these early childhood problems can be achieved, even within the overall context of a slowly deteriorating environment for child survival. Some factors which can contribute to the decline in IMR, even in the face of deterioration of macro or micro environment for the child are: (a) increasing age at marriage of women -- IMR tends to be higher among children born to young mothers (18 years or below); (b) better health consciousness of mothers -- even in the context of low nutritional intake, simple health and hygienic practices by the pregnant woman can contribute to a reduction in infant mortality; (c) better utilisation of available health care facilities by the pregnant and lactating women, which leads to detection of pregnancy-associated illness and prompt recourse to remedial measures. To give an example, correction of anemia of pregnancy alone, through inexpensive iron tablets (Iron + Folic acid) costing not even 10 paise per day, has been demonstrated to bring about substantial improvement in the birth weight of babies. An improvement in the birth weight of babies is naturally associated with a decline in infant mortality. Country experiences suggest that all the positive factors mentioned are related to a rise in female literacy.

Nor do the results of nutrition surveys in India suggest that in low IMR states, the nutrition status of young children is perceptibly better. A critical examination of the NIMB report brings out this point. Thus, the food intake of pre-school children (1-4 years) during 1975-79 was lowest in Kerala, 36.1% of children taking diets deficient both in energy and protein. This low intake contrasts sharply with the figures from Madhya Pradesh, where only 8.4% of children consumed diets inadequate in energy and protein. When we consider the proportion of children consuming satisfactory diets, the contrast is equally sharp. Only 13.4% of children in Kerala had an adequate intake of energy and protein, while in Madhya Pradesh the proportion is more than three times, 45.5%. As against this, the IMR in Kerala in the late seventies was about one-third of that in Madhya Pradesh, around 45 and 135 respectively. It may be argued that IMR is more influenced by the nutritional status/food intakes of pregnant women; but here again, energy and protein intake of pregnant women in Kerala are lower. IMR represents only the survival prospects of a child in the first year of life. Thus, a decline in IMR may indicate a steady improvement in health-related practices assisted with pregnancy and child birth, including better hygienic practices, dietary modifications, activity restriction, visits by health workers, seeking expert care during delivery, post-natal care of the babies including breast feeding, proper weaning, timely immunisation of children, etc. Any of these factors acting singly or in combination can bring about the reduction in IMR. To repeat, a reduction in the risks of deaths in infancy does not necessarily imply an improvement in the health of the children who survive.

(ii) Child death rate

Next to IMR child death rates are the most widely used index of the health status of children. As with IMR, it reflects the survival prospects of children and is considerably higher in low income developing countries, though there is no clearcut relationship between percapita income and child death rate. It is significant to note that like IMR, child death rate has also fallen in most developing countries during the period 1960-1982.<sup>6/</sup> Further, in almost all countries the rate of decline is sharper than that of IMR. Apparently, the economic recession experienced by many Third World countries has not reversed the declining trends in child mortality. However, it may be noted that within a population, child mortality, like IMR, tends to be higher in disadvantaged groups, where the quality of the living environment is very poor.

The factors which influence mortality of the pre-school children may be grouped into the following categories: (1) host-related factors (2) environmental factors (3) availability and utilisation of medical care facilities. Among the host-related factors, the most important is the nutritional status of the child. As is generally recognised, grossly malnourished children run a much higher risk of death from infection than normal children. Malnutrition invites infections, which in turn further aggravate malnutrition, thus setting in motion the vicious cycle of malnutrition and infection, often terminating in death.

Malnutrition-infection syndrome is evidently more manifest in countries where severe mal-nutrition among children is widespread. In countries where the majority of children are either normal, or suffer only from mild to moderate malnutrition, there need not be any perceptible increase in mortality from host-related factors in the wake of a recession.\* The average child death rate in developing countries, therefore, may not reveal much; what is more useful is to monitor the death rates of children among the worst affected or least privileged groups if the impact of a recession is to be measured.

The frequency with which children contract illness depends very much on the living conditions of the people. Respiratory infections, enteric infections, and other bacterial and viral infections constitute the major share of childhood ailments. Living conditions which include, housing, availability of safe water, methods of excreta and waste disposal, etc., determine the nature, type and frequency of infections. When environmental conditions are very poor and as a result incidence of infections is high we may expect mortality also to be high. This set of environmental circumstances is more an endemic variable which is independent of the cyclical fluctuations affecting the economy.

The availability and utilisation of medical care facilities can, however, make a significant dent on overall child mortality even in the face of high morbidity rate. Perhaps, the single major contribution

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\* Recent studies indicate that risk of mortality of children does not show a direct relationship with the degree of weight deficit; instead, the risk remains steady throughout a wide range of body weight, but abruptly increases below a threshold weight. (Lincoln Chief, et al, "Anthropometric Assessment of Energy-Protein Malnutrition and Subsequent Risk of Mortality among Pre-school Aged Children", The American Journal of Clinical Nutrition, 33, August 1980, pp.1836-1845.



of the therapeutic revolution is the reduction in death rates. That child death rates can be substantially reduced even in the midst of object living conditions is borne out by the observations that the mortality rates among urban poor are substantially lower than that of rural poor. Admittedly, the overall living conditions of the urban slum dwellers are much worse than that of the rural poor.

(iii) Indicators based on growth

As an alternative to estimating mortality and morbidity rates, measurement of body growth is suggested as a useful indicator reflecting the overall health status of the child population. The indicators generally chosen are: (a) average birth weight and proportion of low birth weight children, (b) weight for age, (c) height for age. Severe malnutrition, repeated infections and other deprivations adversely affect body growth and development. The effects may be transient if the adverse conditions are of short duration, but may be lasting if the duration of the adverse conditions is protracted. Parameters of growth like height and weight are sensitive indicators of the overall health situation of the child population in a country. Height and weight can be measured with considerable accuracy, if reasonable care is taken.

(a) Birth Weight

It is widely acknowledged that birth weights generally tend to be lower among babies born in families belonging to the socially and economically under-privileged groups. The steep social class birth weight gradient observed in many countries is considered by some scholars

to be a reflection of the differences in health and nutritional status of the different socio-economic groups. However, there are many other variables influencing the birth weight. Some of the more important variables are maternal age, birth order, birth interval, average family size, and the height of the mother - an indication of her childhood growth. Maternal health/nutrition is, therefore, only one of the factors influencing the outcome of pregnancy. Despite these limitations, it may be argued that birthweight is a relatively useful indicator of the general health conditions prevailing in a community, with implications on the health of the children.

Apart from the dependability of birth weight as an index of health, the paucity of such information is also a relevant consideration. Accurate information on birth weight will generally be available only in the case of hospital deliveries. Naturally, such information will be restricted to the urban areas where institutional deliveries are more common. Information on birth weight from rural areas of the country, where institutional deliveries are a lower proportion, will be either too scanty or unreliable. However, in view of the commitment of all countries to expand the facilities for maternal care, collection of reliable information on a continuing basis does not present formidable difficulties.

(b) Weight for age

Weight for age is used universally to assess and quantify the nature and severity of malnutrition. Classification of malnutrition based

on Gomez criterion\* of weight deficit for age is the most common indicator used for national and international comparisons of nutritional status of children. With the aid of proper equipment, measurements are reliable and easy to carry out. Weight is very sensitive to changes in the nutritional intake. Therefore, widespread deficit in weight for age among young children is a sure sign of malnutrition. But, weight for age determination in developing countries is beset with many pitfalls. The foremost among the difficulties is the assessment of the correct age of the child. In poor illiterate communities it is almost impossible to obtain the correct age. In pre-school children, any such error in the determination of age is likely to introduce considerable error in the categorisation of malnutrition.

The use of proper equipment, sensitive enough to read upto 100 gms. is a must in these measurements. Unfortunately, the weighing balances used are almost universally the bathroom scales with readings sensitive to only 1 kg, thus reducing the usefulness of the data collected for the purpose on hand. The acute sensitivity of weight to changes in food intake, and/or onset of infection also becomes a disadvantage in that considerable variations in the estimates of malnutrition can occur in the same population, depending

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\* Gomez Classification: According to this classification, children are grouped into 4 nutritional categories on the basis of weight for age:

<u>Weight category</u>	<u>Nutrition Category</u>
90% of expected	Normal
75 -- 89% of expected	Mild nutrition (Grade I)
61 -- 74%       "	Moderate nutrition (Grade II)
60 or below     "	Severe nutrition (Grade III)

Gomes, F. et al Journal of Tropical Paediatrics 2:77 (1956)

on the season in which the measurements were made. Thus, weight for age cannot be recommended as a useful indicator of health status in the situation prevailing in low income countries. Obviously, with all the pitfalls discussed above, and year to year information for the same sections of the population being not available in developing countries, attempts to evaluate the impact of recession on child health, based on body weight may not be rewarding.

(c) Height for age.

Unlike weight, height does not respond very quickly to the changes in external health environment. Deficits in height for age can be expected when deprivations and stress exist for fairly long periods. Height measurement is even easier to carry out, since it involves only the use of an inexpensive tape measure.

However, the assessment of health status on the basis of height for age shares the same difficulty of precise determination of age. As mentioned earlier, any error in the determination of age in a pre-school child will limit the usefulness of the data. As in the case of weight for age, periodic cross-sectional surveys of nutritional status or expensive longitudinal surveys of all pre-school children in the same segments of the population may become necessary if these measurements are to be used for assessing the impact of external pressures like world recession. One also cannot expect significant changes in the height in response to short term recession.

In brief, IMR and child death rate and anthropometric measures are not sensitive to cyclical fluctuations afflicting any economy. The lack of detailed, socio-economic classwise information regarding the changes in employment, income, food intake, incidence of diseases, etc. precludes an assessment of the deterioration, if any, of health status as a result of the recession and cut-backs on social services. Under the circumstance, attempts to assess the recessionary impact on children's health cannot be very regarding. It is keeping in mind these constraints that we take a look at Mundle's findings.

### III Mundle's Findings

Mundle prefaces his presentation by referring to a distinct feature of the Indian economy, viz., that the majority of the country's population are less susceptible to the recessionary impulses of world trade than their counterparts in some of the other third world countries.\*

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The Indian economy does not seem to have suffered a serious set back in the wake of the world economic recession, judged in terms of its performance during the seventies compared to the sixties. The growth rate of GDP during the seventies was almost as high as not higher than that of the sixties. The annual average increase in GDP at constant (1970-71) prices during 1980-84 would work out to 5.4% slightly higher than the average for the latter half of the seventies. Further, the performance of the Indian economy compares favourably with that of other low income economies, except perhaps China. External public debt of India in 1982 stood at 11.49% of GNP, as against 28.79% in the case of other low income economies as a whole. Debt service came to 0.7% of GNP and 7.1% of exports of goods and services, again a lower proportion than the average of other low income economies as a group. (World Bank, World Development Report, 1984; Government of India, Economic Survey, 1983-84 and 1984-85).

Mundle has based his appraisal of the trends in the health of Indian children on nutrient intakes, anthropometric measures, and infant and child mortality. We will now proceed to examine his analysis.

(1) Nutrient intakes

To assess the trends in the nutritional status of children Mundle relies on the data solely from one source, viz., the surveys conducted by the National Nutrition Monitoring Bureau (NNMB). This may perhaps be the only source of data based on a longitudinal survey; the data collection is done under the supervision of state nutrition officers. Still, the limitation of the data have to be kept in mind while drawing conclusions. In the first place, the intakes of individual members in the sample households have been estimated on the basis of a 24 hour recall method; the intakes are prone to considerable variation from day to day, month to month, and season to season. Further, the 24 hour recall is done with regard to the quantity of cooked food served to each child using only measuring devices like ladles, cups and wooden spoons to assess the amounts. The investigator should have a precise knowledge of the final volume/weight of each recipe and the weight of every raw material which was used for the preparation of the recipe. To estimate their nutrient values, the estimated intakes of cooked food have to be converted into raw food items like cereals, pulses, milk, etc. Needless to say, the margin of error that can creep into the estimate at each one of these points can be considerable. To give another example, in the rural areas, breast feeding generally is prolonged well into the second year. It is not possible to estimate with accuracy how much breast milk is consumed by a child, unless test weighments on children are done before and after feeding. A warning on these limitations is contained

in the report. "From the tables it is seen that wide variation in the consumption levels exist between different individuals. These can be explained by some of the following parameters like: (i) socio-economic differences, (ii) season of survey, (iii) inherent variation in methodology and (iv) between investigator differences in collection of data."<sup>7/</sup> The last item, however, is ruled out as unlikely. Secondly, the pooled estimates for 1975-78 and the estimate for 1979 are not strictly comparable. For instance, in the case of Kerala, the data for 1979 covers only 3 of the 14 districts, while it is not clear from the report whether the pooled data represents all the districts. The average calorie intake during 1975-78 among ten districts in Kerala for which data is available is seen to range from 1695 to 2437 per CU per day; as against this, the intake among the three districts covered in 1979 is in the range of 1724 to 2018. <sup>8/</sup> It is not surprising that the author finds that "the picture regarding changes over time is ambiguous".<sup>9/</sup> Thirdly, notwithstanding the basic incomparability of the data for the two periods, if at all the comparison shows any significant change, which admittedly it does not, it cannot be attributed to the impact of the recession. For any evidence on the deterioration of food intake, one should also look at its determinants such as employment, income, food prices, etc., about which there is no reference in the paper.

As is now widely acknowledged, diet survey results do not give a satisfactory measure of the nutrition status of children. The observation of Dr. Copalan, quoted by Mundle, reiterates this point: "Children surviving at this level of calorie intake [ here meaning many children

considered adequately nourished under the minimal adequacy criterion of  $\text{NMB}$  i.e. Mean  $\pm$  2 SD], would most probably suffer from other nutrient deficiencies as well, and would in the long run experience the development of various biological deficiencies/ailments not reflected in the diet surveys".<sup>10/</sup> It should be interesting to test this hypothesis on the basis of data from  $\text{NMB}$  which conducted extensive clinical examinations to assess the prevalence of vitamin and mineral deficiencies. One would expect a large proportion of children, say 50-70% at least, suffering from one or more of the deficiencies. On the contrary, the proportion of children in whom no abnormality could be detected (presumed to be normal) is seen to range from 66% in Gujarat to 98.4% in Kerala.<sup>11/</sup> It may be noted that deficiency signs looked for included those from protein .. energy malnutrition also.

## (2) Anthropometric measurements

The anthropometric measures used in Mundle's paper for assessing the trends in child health during the seventies include height for age and weight for age. As already indicated in the previous section, there are some inherent pitfalls in the estimation of age as well as heights and weights, especially in the rural setting of our country, of which the most critical is the accuracy of age assessment. The inference about trend in these two indices during the period under reference suffers from the constraints referred to earlier, viz., the shortness of the interval to bring about a significant and consistent change.

After discussing the mean height of children, aged 2 years, 5 years, 9 years and 13 years, Mundle concludes: "In general, therefore,



the heights of children in 1979 appear an improvement compared to the average for the late 1970s as a whole.<sup>12/</sup> Elsewhere he admits that the trend is equivocal in the case of children aged 2 years, 5 years and 9 years. It is only in children aged 13 years that the average height in 1979 was better in most states for boys, and just a majority of states for girls. This seems to have been more a matter of statistical coincidence. On the other hand, if we are to consider the age 15 as the suitable age, the direction of change is just the opposite to what is observed with children aged 13. In some states, as for example, Kerala, Tamil Nadu and Maharashtra as shown in the following table:

Table 1: Height for Age in Children in Selected States

		<u>Height of 13 year Boys</u>		<u>Height of 15 year children</u>	
		<u>1974-79</u>	<u>1979</u>	<u>1974-79</u>	<u>1979</u>
Kerala	Mean	135.53	136.1	146.75	144.85
		+	+	+	+
		--	--	--	--
	S D	5.37	5.55	9.72	8.22
Tamil Nadu	Mean	138.69	139.27	147.53	146.65
		+	+	+	+
		--	--	--	--
	S D	6.50	6.11	7.61	5.7
Maharashtra	Mean	139.70	141.78	151.68	150.27
		+	+	+	+
		--	--	--	--
	S D	8.83	7.73	9.36	10.47

Source: NNME Report for the year 1979,

One cannot, therefore, with any confidence conclude that height has shown an improvement. As the author himself cautions, the magnitudes

of the changes are so small in relation to the standard deviation that in no case differences assume statistical significance.

The same limitations apply in the case of data on the weight of children also. The direction of change across the states is not uniform, neither is the magnitude of change large, so that the observed variations are possibly chance differences. Nevertheless, Mundle affirms: "Whichever way we look at the statistics, therefore, the disaggregated state level picture confirms that the weight status of children in India has shown distinct improvement in recent years."<sup>13/</sup> He has, more over, come to this conclusion solely on the basis of distribution of children according to weights, by Gomez classification. A look at the NNMB data 1979 would show that the nutritional status of girls in all the states is much better, when expressed according to the Gomez criterion. A priori it may suggest discrimination against boys in all households, which goes against current thinking. Even assuming that conventional notions about discriminations against girls is not correct, one would not expect discriminations against girls is not correct, one would not expect discrimination against boys. Why this paradox? The answer is provided elsewhere in the report. The weight standards used for classifying children into weight deficit categories in the NNMB are different for boys and girls, even though many workers consider that the differences are small enough to warrant the use of combined data for boys and girls as standards. The average standards used in the NNMB exhibit a large difference in the body weight between boys and girls in the pre-school age, setting lower values for girls. The differences shown are much higher than what is indicated in the latest

NCHS standards.<sup>14/</sup>

The data for 1975-78 and 1979 would be comparable only if the nutritional status of boys and girls is compared separately across time. However, separate data for boys and girls is not provided for 1975-78. Alternatively, the proportion of boys and girls in the sample should be the same during the two time periods. An increase in the proportion of girls in the samples studied in 1979 would automatically increase the proportion of children in the normal or mildly malnourished category, which may spuriously be interpreted as an improvement in the nutrition status of children. In fact, this is the case in many states, where a positive shift was attributed on the basis of Gomez criterion..

Thus, the conclusion that the weight status of children in India has shown a distinct improvement in recent years is not borne out by the data analysed by the author. The supporting evidence provided by the data from UNICEF cannot be considered very useful either, since the UNICEF data is only a compilation of available reports from diverse sources, which are not comparable overtime. The author himself cautions that there are a number of instances in which the situation is either not improving or actually deteriorating.

### (3) Infant and Child mortality rates

We have already discussed the limitations of IMR and child death rates as indices to assess the impact of short term recessions on child health. We shall now proceed to examine the findings in the paper under

review, i.e., "for the decade [1970s] as a whole, therefore, the decline in infant mortality rates observed for the 1960s appears to have been maintained."<sup>15/</sup>

The data presented in Table IX.1 and IX.5 in Mundle's paper does not indicate any consistent trend during the seventies. True, the average IMR during 1961-1971 is significantly lower than that of 1951-61. However, no consistent decline is discernible during the 1970s; it remained at the same level, viz., 129 per 1000 live births, during the first two years of the last decade, and then fluctuated at a higher level ranging from 134 to 140 for the next four years, to come down again towards late seventies to the same level as at the beginning of the decade. As a matter of fact, IMR in the rural areas remained the same in 1978 as in 1970, and at a high level.

The picture regarding child death rate (0-4 years) is only slightly better. True, there has been a decline in child death rate during 1972-78. The decline, however, is faster in the urban areas, thus widening the difference in rural-urban death rates. The death rate among girls also did not decline faster in the rural area, as suggested by Mundle.

The slowing down or stagnancy in the decline of IMR during recent years appears to be due to basic factors like low income, poor housing and insanitary environment, limited access to protected water and medical care facilities, leading to the synergism of malnutrition - infection -- in short, the poverty syndrome in which the majority of children are born

and survive in rural India. If the economic recession and adjustment programmes in recent years have had an impact on child health, the connection is remote and the relevant evidence is not available as of now. As for cut backs on government expenditure on child-related programmes, Mundle observes: "This declining share notwithstanding, the absolute expenditures on these programmes has increased in both nominal terms and real terms since the overall size of the plans has also increased..... However, it appears to have picked up in the last two or three years, recording a real increase of 11% in 1980-81 and 22% in 1981-82.<sup>16/</sup> It may be mentioned in this connection that even on a per capita basis, the expenditure on health care has increased significantly in recent years.

In brief, the data analysed by Mundle does not support his inference that child health has registered as improvement in recent years. The weakness of the inference is inherent partly in the use of indicators such as nutrition status, anthropometric measures and infant mortality, and partly in the limitations of available data for gauging changes in health status of children in response to a recession. Presumably, children belonging to families of certain deprived sections or more vulnerable to the impact of recession might have suffered to a greater extent. But, to assess such differential impact, national or regional averages are obviously not enough.

Summary and Conclusions

The impact of an economic recession in the industrial market economies may not get reflected on the health status of Third World children thanks to: (a) the insensitivity of the outcome indicators to short-term recession, (b) inadequacies of the data, and (c) adjustment responses of the concerned households and governments. The case studies included in the UNICEF publication do not seem to show a consistent and perceptible deterioration in child health during recent recession. Certain indicators like IMR and child death rates have maintained the long term decline in some of the worst recession affected countries of Latin America.

The performance of the Indian economy in recent years compares favourably with that of other Third World countries, judged in terms of the growth rate of G D P and per capita income, ratio of external debt to GNP, of debt service to exports, etc. Nevertheless, Mundle's conclusion that the health and living standards of Indian children have improved in recent years cannot bear scrutiny, owing to the limitations mentioned above. It is not our contention that the health status of Indian children has not registered any improvement; but to assess the trend, more sensitive measures and more detailed and reliable data have to be used.

More important is the differential trends in the health status of children belonging to different socio-economic classes. A priori, the health status of children from the middle and higher income families would have improved while that of children of the staggering number of

families still below the 'poverty line' has deteriorated. Unfortunately, very few attempts have been made to assess the trends in the health conditions of the children from different social and economic classes. In our perception, such an attempt will be more rewarding than trying to assess the impact of recession and adjustment policies on children's health.

It may appear that the requisite data are not available. But, it is not entirely true. It is not the lack of data that makes the situation and trend analysis difficult, but the manner in which the data collecting agencies analyse and present the information. For example, the diet and nutrition surveys conducted by the NMME have their sample households drawn from all socio-economic classes. While the food consumption data is presented on the basis of occupation, income, possession of land, etc., no data on anthropometry or clinical assessment of nutritional status is furnished on the same basis. This on the one hand makes it impossible to relate food intake with nutrition and health status; and on the other, trend analysis in growth and nutritional status is also precluded. Same is the case with data on mortality rates; infant and child death rates among families belonging to different socio-economic classes constitute a crucial type of information which is presently not available. Mortality rates are not ideal measures of child health; the incidence and prevalence rates of morbidity seem to be a more reliable index. However, data on morbidity among children are not readily available, especially data on the pattern and rate of morbidity among different socio-economic classes. The National Sample Survey did make an attempt to collect morbidity

data on a nation-wide basis, but the presentation of the data is wanting in the degree of disaggregation which would be useful for our purpose. In brief, some data do exist awaiting in-depth analysis. Further, refinements in data collection may be considered after the existing data are put to critical scrutiny, informed of some analytical perspective.



Notes and References

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- 4/ Roberto Macedo, "Brazilian children and Economic Crisis: Evidence from the State of Sao Paulo", The Impact of World Recession on Children, op.cit., Table IV, 7., p.43.
- 5/ Alejandro Foxley and Dagmar Raizynsky, "Vulnerable Groups in Recessionary Situation: The case of children and the Young in Chile", Ibid, Table IV.4, p.58
- 6/ World Development Report 1984, op.cit..
- 7/ National Nutrition Monitoring Bureau, (NNMB) Report for the Year 1979 National Institute of Nutrition, Hyderabad, 1980, p.37.
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- 9/ Mundle, op.cit., p.129
- 10/ Loc. cit.
- 11/
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- 13/ Loc.cit.
- 14/ U S Department of Health Education and Welfare, National Center for Health Statistics, NCH's Growth Chart 1976, Monthly and Vital Statistics Report, 25, No.3, (Supplement) 1976
- 15/ Mundle, op.cit., p.131
- 16/ Mundle, op.cit., p.136.

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