

## NUTRITION AND FAMILY HEALTH IN THE THIRD WORLD

Paper prepared by Dr. C. Gopalan, Director-General,  
Nutrition Foundation of India

---

There is now ample evidence that, of the many problems which afflict the poor countries of the Third World, the problem of nutrition is of pivotal importance and of far-reaching implications. It is now known that malnutrition not only contributes directly to considerable ill-health and disease in these countries, but that it also reduces resistance to infectious diseases of various kinds. It is also being increasingly realised that, in the context of undernutrition and high child mortality, programmes of family planning in many of these countries have had only limited success.

2. Estimates of the magnitude of the problem may vary, depending on the country and the criteria employed. In India, for example, it has been estimated that the income levels of 30 to 40 per cent of the families are so low that, even if they expend 75 per cent of their incomes on food, they will still not be able to afford low-cost diets in amounts adequate to meet their full nutritional needs. Nearly 80 per cent of children in rural communities (which account for 85 per cent of the country's population) suffer from varying degrees of growth retardation. Even if we dismiss minor degrees of growth retardation as of no functional significance, there is the distressing finding that at least 15 per cent of such children suffering from moderate and severe degrees of growth retardation exhibit demonstrable signs of functional impairment. Since currently available tests of functional competence are by no means sufficiently comprehensive and sensitive, this figure of 15 per cent must be considered as probably an underestimate. The nutritional situation in other countries of Asia (barring Japan and to some extent Malaysia) is apparently not very different.

3. There is suggestive evidence that malnutrition in early childhood may leave permanent irreversible effects reflected in poor productivity in adult life. The quality of the human resources in the countries of Asia and Africa is thus being steadily eroded by malnutrition. Under these circumstances, programmes of national development in these countries which do not address themselves to this basic problem of malnutrition can have no real meaning or value.

4. Malnutrition is largely the by-product of poverty, and in fact may be looked upon as an important attribute of the poverty syndrome which afflicts large segments of the population of the Third World. A lasting solution to the problem of malnutrition can come about only through a successful attack on the basic problem of poverty. It is the inability of the poor countries to mount such an attack that lies at the heart of the nutrition problem.

5. To be sure, these countries are beset with a whole range of formidable problems competing for immediate attention. The economic plight of these countries has to be seen in the global setting. In the game of global economics, the dice are still heavily loaded against the poor countries of the Third World. The economic gap between the affluent and

the poor countries is widening. The North-South dialogue has so far been largely an exercise in futility, and the much-talked-about New International Economic Order still a distant dream. The oil crisis which has inconvenienced the affluent nations has seriously crippled the economy of several countries of the Third World. Suggestions for new initiatives and new strategies, such as those contained in the report of the Brandt Commission, have encountered a cold reception.

6. International agencies like FAO and WHO have apparently accorded nutrition a low priority in their plan of operations, and this situation has not significantly changed despite recent resolutions in their general assemblies urging greater emphasis on nutrition. UNICEF has no doubt organised some useful action programmes which have helped to mitigate malnutrition in children in many countries of the Third World. Fortunately, also the World Bank, which in earlier years used to shy away from nutrition programmes (in the belief that they were poor investments), has apparently now begun to recognise the mutually reinforcing interrelationship between nutrition, fertility regulation, health productivity and economic development; but the impact of international initiatives on the nutritional situation in the countries of the Third World, if any, can at best be only marginal.

7. It must be clear, under the circumstances, that in meeting the problem of malnutrition, the countries of the Third World have to rely largely on their own devices and resources. There must be an awareness within the countries themselves of the importance and implications of the nutrition problem, and its bearing on national development. Nutrition must find adequate focus in plans for national development. What is more important, there must also be a deep political and social commitment to eradication of poverty and removal of socio-economic disparities. I recently discovered, to my utter dismay, that there are captains of industry in some Third World countries who had no concern or compassion for the poor in their own countries, and who feel that it will be counter-productive to reduce infant and child mortality among the poor! But fortunately their number is small.

8. The socio-economic disparities within some Third World countries are even greater than the disparities between affluent and poor countries, and programmes of national development have sometimes served to further accentuate these disparities. Several of these countries have no doubt from time to time undertaken nutrition intervention programmes but the concept and strategy underlying these programmes have been such that they have, by and large, made no significant dent on the problem. Some of these programmes have been no more than exercises in tokenism, designed to mitigate the glaring symptoms of the disease while leaving the basic cause untouched. One could discern a reluctance or inability to bring about those institutional and structural changes in the socio-economic order essential for the eradication of poverty and malnutrition.

9. However, the experience of many Third World countries in grappling with the problem of malnutrition during the last two or three decades has provided some valuable lessons which should help in the formulation of new initiatives and new strategies for combating malnutrition. Some of these lessons learnt from past experience and mistakes may be briefly reviewed.

#### **The nature of the protein calorie malnutrition problem**

10. Protein calorie malnutrition was rightly identified as the major problem affecting children in poor countries. In earlier years, it was

widely held that this problem was primarily a manifestation of protein deficiency. On this basis, expensive protein-rich foods and specially fabricated protein-rich food formulations were projected and promoted as the answer to this problem. If this was the correct position, then a solution to the problem would have been clearly beyond the scope and resources of the poor countries of the Third World. Poor communities in these countries, who are currently unable to afford even the least-cost cereal-based diets in adequate amounts, could hardly be expected to resort to the use of such expensive and special formulations.

11. Fortunately, we now have a much clearer picture of protein and calorie requirements, and also of the actual dietaries consumed by poor children. On the basis of these data and on the basis of careful studies carried out, notably in some countries of the Third World, it has now been established that our earlier assumptions were wrong. We now know that the problem of protein calorie malnutrition in children subsisting on cereal-legume-based diets is due primarily to inadequate intake of such diets and not due to their poor protein quality. In other words, it is now clear that, though the adequate and judicious use of inexpensive, locally available, cereal-legume-based diets, it should be possible to prevent (and indeed even to cure) protein calorie malnutrition in children. This finding, which has now gained wide acceptance (in spite of powerful protein lobbies and vested interests), has served to alter the whole outlook with regard to this major problem, and has offered a new hope to the countries of the Third World.

#### **Child health indivisible from family health**

12. During the last three decades, the recognition that the age-group 0-3 years is the most vulnerable from the nutritional point of view, led to several curious distortions in the approach to nutrition programmes. It was believed that if only the age group 0-3 could be directly reached the problem of malnutrition would be largely overcome. The subject "how to reach the pre-school child" came to be debated in many national and international nutrition conferences. Supplementary feeding programmes specially addressed to the pre-school child were started on a large scale and at much cost. The usual strategy followed was to gather the children in the village square for on-the-spot feeding. The emphasis on on-the-spot feeding was based on the apprehension that if the supplement was delivered at home or handed to the mother, and if it was not ensured that the child actually consumed the supplement on the spot, there was the danger of the supplement being shared by other members of the family. The concern was to prevent the mother from getting at the supplement and allowing other children of the family to share it.

13. As it turned out, in most of such supplementary feeding programmes, the majority of the beneficiaries were actually the older children (beyond three years of age) who could walk (or run) to the "spot" with or without their mothers; there was in fact a great deal of sharing because the children could not in many cases finish eating the supplement on the spot within the duration of the feeding operation. The attendance was also irregular since the same children could not make the journey to the spot at the appointed time every day. The mothers (and the fathers) were not involved and the so-called community participation was often illusory. A considerable proportion of the total expenses of the operation (more than 40 per cent according to some estimates) went towards meeting the costs of administration and supervision. In many cases the supplement was based on imported food ingredients donated by some foreign agency. There was no emphasis on health

and nutrition education, and the programme had no element of self-generation. The result was that when the programme finally folded up with the inevitable withdrawal of foreign support there was nothing left behind in the community, except that the children who actually received the supplement did show temporary improvement in their nutritional status.

14. Apart from some inherent drawbacks in the above strategy, which will be dilated upon later, a basic fallacy underlying the approach must be pointed out. While it is true that young children below three years of age are specially vulnerable to malnutrition, it must be remembered that in poor communities the family diet as a whole is inadequate and deficient; and apart from the young child, the older children in the family and the mother are also subsisting on inadequate diets. In a few families the diet of the male wage-earner may be marginally adequate precisely for the reason that he has to keep working and keep the family pot boiling. This is not to deny that among poor families, partly out of ignorance and partly because of economic factors, the intra-familial distribution of food is often faulty. However, in a great majority of poor families, even with the most optimal and physiological intra-familial distribution of available food, the diets of practically all members of the family including children will be found inadequate. Thus Kamala Jaya Rao at the National Institute of Nutrition, Hyderabad, India, found on an analysis of the results of extensive diet surveys of poor families in India that (on the basis of actual calorie intakes expressed as percentage of recommended dietary allowances, the diets of children between four and ten years of age were as deficient in calories as those of children below four years of age (personal communication).

15. Under the circumstances, the assumption (held even by some experts of international agencies) that all that is necessary to combat childhood malnutrition in poor countries is to educate mothers to distribute better the available food within the family is a naive oversimplification of the problem. By the same token, the prescription that a food supplement provided to one child in the family should not be shared by other needy children in the same family is wholly unrealistic. In most poor families it is often the older children who are charged with the task of looking after the young child when the parents are out at work. The older children also carry out a lot of other family chores and for that reason are looked upon by poor families as an economic asset. Indeed, family planning programmes among the poor have not caught on for this important reason.

16. It will thus be seen that the family has to be viewed as a single unit; the health and nutrition of the young child is indivisible from the health and nutrition of the family as a whole. It is only through an improvement of the family diet as a whole that the diet of the young child in the poor family can be improved. Nutrition education designed specially to protect the young child may prove successful under such circumstances. On the other hand, a programme exclusively addressed to the young child which ignores the other needy members of the family is foredoomed to failure. Our future programmes must be addressed to the family as a whole, with special emphasis placed on young children. It must be clearly recognised that the mother has to play the pivotal role; she must be trusted, educated and motivated, and should not be relegated to the position of a passive and apathetic onlooker. The state or any welfare agency cannot take on the role of the mother.

### Limitations of supplementary feeding programmes

17. Apart from the considerations discussed in the foregoing paragraphs, the inherent limitations of supplementary feeding programmes as an answer to the problem of malnutrition in poor countries need to be emphasised. Experience with numerous supplementary feeding programmes over the last few years indicates that the results of such programmes are by no means commensurate with the investment in resources and manpower. Poor countries can ill afford such programmes. In times of disasters such as famines, floods and droughts, supplementary feeding programmes may be life saving; in the absence of such emergencies, large-scale supplementary feeding programmes make no sense. Unfortunately, poor countries are often tempted to embark on such programmes by free food gifts from foreign countries. It is often not realised that the resources which the poor countries have to expend in the transport of food and in organising and monitoring the distribution are considerable, and that the operations involved tend to tie down scarce trained manpower. Such programmes, often not monitored and regulated by proper nutrition surveillance, result in the really needy children not being reached; and in any case the benefits are temporary.

18. On the other hand, selective supplementary feeding programmes carried out in well-monitored under-five clinics, as part of comprehensive health care, targeted to children identified as at-risk through a programme of nutrition surveillance, can prove beneficial, but such programmes need an entirely different type of organisation. Large-scale supplementary feeding programmes applied to whole groups of children often degenerate into charity operations which only serve to increase the distance between the giver and receiver and to destroy the self-respect of poor communities. They are economically not viable and they tend to distract attention and resources which should really be directed to the root causes of the problem. Poor countries cannot hope to combat malnutrition through such devices, based on foreign doles. They must try to change the system and not just treat the superficial symptom.

19. That community participation is an essential prerequisite for the success of health and nutrition programmes is well recognised. It is, however, not often realised that true community participation characterised by genuine enthusiasm, self-confidence and self-respect can come about only through an arrangement in which the community feels that it is making a real contribution to the programme and that, therefore, it is entitled to the services, rather than having to feel grateful for a free dole. In such an arrangement, adult members of the family have to be engaged in productive occupations which will provide them a minimum wage that will enable them to pay for the services at least partly. This will also ensure accountability on the part of those administering the programme. A model programme on these lines being currently developed by the Nutrition Foundation of India in 200 villages, with the support of the Planning Commission of the Government of India, will be referred to later.

### Integration of nutrition programmes with primary health care and rural development

20. It is now clear that nutrition programmes carried out in isolation, while mitigating malnutrition temporarily, leave no lasting impact on the community and are not self-generating. To be successful, nutrition programmes must become an integral part of primary health care, which in turn must be a component of a programme of socio-economic development of the community. In view of the mutually reinforcing effects of the

components of nutrition, health and socio-economic development, our strategy must be to promote integrated programmes including these components, rather than isolated exercises which in the end prove to be poor investments.

21. Unfortunately, however, while lip service is often paid to integration, in actual practice this has proved to be very hard to achieve. Programmes for integration worked out at the central level often fall apart at the field level - the level at which real action lies. There is a great deal of macro-planning but very little micro-planning in Third World countries. Detailed inventories of carefully conceived and realistically planned rural development projects at the village and the district levels are often lacking, with the result that there is a great deal of wastage of resources and unnecessary duplication of effort.

22. Also, many Third World countries which can boast of outstanding economists, planners, social scientists and nutrition scientists are often deficient in management skills. Unfortunately, some of the so-called management experts in these countries are those who have learnt management methodologies in the affluent countries and who have no intimate knowledge and experience of real-life conditions in the village of their own countries. The result is that management of integrated rural programmes in many Third World countries is often undertaken by unimaginative bureaucrats whose approach is rule-oriented rather than result-oriented. Under the circumstances, improvisations and mid-course corrections in programmes necessitated by unanticipated developments are hardly possible.

#### **Nutrition and primary health care**

23. Malnutrition in the Third World is partly due to poor diets and partly due to infections - especially diarrhoea and dysenteries which interfere with the absorption and assimilation of nutrients. In the attack against malnutrition, control of infection is just as important as improvement of diets. Indeed, improving diets alone without plugging the leaks in absorption and assimilation is a wasteful approach. There is thus a sound scientific basis for integrating nutrition programmes with health programmes. Unfortunately, it is precisely the very communities that suffer from poverty and poor diets that are denied even basic minimal health care. The vicious cycle of undernutrition and infection is the characteristic feature of the poverty syndrome.

24. In many Third World countries, available health facilities are heavily concentrated in the urban areas and are oriented to cure the ailments of the rich minority; the vast rural masses are left to fend for themselves. The training of the doctors in the Third World and indeed the whole "culture" which pervades the medical profession in these countries today is not favourable to extension of health care to the rural poor.

25. Fortunately, there is now an awakening of interest in primary health care. At the Alma Ata Conference, jointly sponsored by WHO and UNICEF, a declaration setting forth the target of health for all by 2000 AD was adopted. One may argue as to whether this is a realistic goal or just a slogan and mere rhetoric. At least, the adoption of this declaration has stimulated lively interest in some Third World countries in extending the outreach of basic minimal health facilities to rural areas.

26. Ideally, the major components of primary health care ought to be

the improvement of environmental sanitation, health education, nutrition, family planning and immunisation. That nutrition should form an integral part of the composite primary health care package is now widely accepted; but the important questions are: what precisely should constitute the nutrition component and how is it to be delivered? The other components of the primary health care package are relatively well-charted operations; therefore, unless the nutrition component is clearly defined in practical and realistic terms, it is to be expected that it will be crowded out and left only with lip service.

27. A great deal of operational research is called for in this area. A programme of Action Research in Nutrition for developing countries was developed and published by the South East Asia Regional Office of WHO, but unfortunately the type of dynamic follow-up so essential for the implementation of the programme has been sadly lacking. Apparently, malnutrition is "their" problem, not "ours"!

#### **Alternative strategies**

28. In many Third World countries, health ministries are notoriously weak, and lacking in political clout and financial resources. Nutrition is a multi-faceted problem and cannot be considered as necessarily falling within the purview of health alone. Even if there is an efficient public health infrastructure reaching right down to the village, the health system alone cannot do full justice to the nutrition problem. This will be so even if the nutrition component finds strong focus in the primary health care package. Clearly it will be wrong strategy to put nutrition entirely in the public health basket, and to rely on the single channel of primary health care for the fulfilment of community nutrition needs. Nutrition must be, and in fact logically is, entitled to "piggy-back" on other developmental programmes reaching down to the village. Indeed, all available channels for reaching rural communities must be exploited for this purpose.

29. An example of an excellent ready-made infrastructure that can be used for the promotion of nutrition programmes is the chain of rural schools. In India, for example, there are at present nearly one and a half million rural schools. The rural school can be a convenient portal of entry into the community, and the rural school teacher, with proper orientation and motivation, could very well serve as an agent of change. Through the school, we can reach not merely the school-children but their siblings and parents. Nutrition and health programmes operated through rural schools are more likely to be prevention-oriented than those operated through the conventional health structure, which are bound to have a curative bias.

30. In an earlier paragraph, it has been pointed out that the recognition that the age group 0-3 years is the most vulnerable period from the nutritional point of view had led to several curious distortions. One of these distortions is the view that nutrition programmes addressed to children of school age are of low priority! As was pointed out earlier, the diets of children of this age group are as deficient in calories as those of younger children. There is a great deal of clinical malnutrition such as anaemia, vitamin A deficiency and vitamin B complex deficiency among this age group.

31. Moreover, this group can be reached in large numbers through the school system, and through an imaginative programme a much larger number of the community (constituted of their siblings and parents) can also be covered. It is sometimes argued that the school lunch often becomes

a substitute for the home meal and not a supplement. Even if this were so, considering the overall inadequacy of the family diet as a whole, the school lunch should make a contribution towards improving the family diet as a whole. The devaluation of nutrition programmes among school children, as also the reduced emphasis on maternal welfare programmes, has arisen from an unfortunate misinterpretation of the emphasis which nutrition scientists rightly laid on the pre-school child.

32. In several Third World countries school lunch programmes are in operation, but they have generally not proved to be a shining success because they have not been integrated with a school health service, with a programme for improvement of the school environment and with health and nutrition education. Also, the parents and the community are not involved. Isolated school lunch programmes carried out in schools with no protected water supply and in circumstances where nearly 20 per cent of the children suffer from chronic infection such as middle ear disease and rheumatic heart disease cannot obviously do much help.

33. What is needed is a school health service of which nutrition (including, where feasible, a school lunch programme) should form a part. Such a service should include also a community education component that should cover the school children, their siblings and parents. The State of Kerala in India, one of the poorest but probably the most progressive state in India (at least as far as health and education are concerned), has recently instituted such a comprehensive school health service covering nearly five million children in that state. Since Kerala has successfully pioneered many such measures in the past, it is expected that the way shown by Kerala in this regard will eventually be followed by other states of India as well.

#### **Nutritional repercussions of development**

34. The nutrition problem that bedevils the Third World countries today is formidable. The indications are that, unless rigorous steps are instituted, the problem will get worse in the coming decades. Death rates in most Third World countries are declining at a much faster rate than birth rates. Indeed, in some countries the family planning programme has received a set-back. The augmentation of food resources is not keeping pace with population growth. On the top of it all, urbanisation and industrialisation are tending to bring about the same disturbing changes in infant practices.

35. The valuable asset of breast-feeding, which has all along been the sheet-anchor of infant and child nutrition in the Third World, is being eroded. With urban migration, with more women seeking jobs in urban industrial undertakings, with commercial baby-food manufacturers resorting to aggressive advertisement practices, serious inroads into the breast-feeding practice may be expected. Should this reach significant proportions before poverty is reduced, the problem of malnutrition in infants and children will become far worse than it is today.

#### **An example of an integrated rural development programme**

36. In co-operation with the Planning Commission of the Government of India, the Nutrition Foundation of India has recently formulated an action programme for implementation in 200 villages of the States of Maharashtra and Tamil Nadu in India. This programme incorporates several concepts discussed in the foregoing paragraphs.

37. Thanks to the huge buffer stock of food grains, the Government of India has instituted a national rural employment programme in which

currently unemployed or under-employed rural labour are deployed in developmental projects in their own villages or in the neighbourhood. The workers are paid half their wages in the form of food-grains and the rest in cash. This programme covers some of the most poverty-stricken areas of the country where malnutrition, especially among children, is widespread. As a result of this programme, the workers will now be guaranteed a minimum wage.

38. However, our experience shows that programmes which serve to raise incomes of poor families from below the poverty line to minimum levels needed for bare sustenance do not automatically result in better health and nutritional status of the children, unless a deliberate attempt is made to build into these programmes a health and nutrition component directed towards children. The project which the Nutrition Foundation of India has now formulated with the co-operation of the Planning Commission seeks to build into the Rural Employment Programme a component of compulsory health and nutrition insurance for children under five years of age.

39 Under this programme, a health centre for under-fives is to be established in each village in which the rural employment scheme is in operation, to cover a total population of 1000, which will include 150 children below five years of age. The services at the centre include among others the following:

- (a) recording the weight of every child once every month;
- (b) ensuring that the children are covered by the expanded programme of immunisation;
- (c) distribution of vitamin A (massive dose) once in six months to all children and of folic acid/iron regularly;
- (d) treatment of minor ailments;
- (e) immediate referral of all cases needing medical attention to the nearest health centre;
- (f) timely administration of oral fluids to children suffering from diarrhoea before referral for medical attention;
- (g) advice to mothers regarding feeding of children and maximal utilisation of local food resources;
- (h) maintenance of a crèche for infants of working mothers;
- (i) nutritional rehabilitation through supplementary feeding of children detected to suffer from weight deficit exceeding 60 per cent of standard, to be losing weight, or not gaining weight in three successive weighings. (Out of 150 children registered at the centre, 20 are expected to require such supplementation on any given day; the food grains needed for providing such supplements will represent a very small fraction of the food grains being made available for partial payment of wages to the workers).

40. The important aspect of the scheme, which will distinguish it from the earlier charity operations, is that the parents will be asked to contribute a small amount of their wages, for the care of their children

registered at the centre. Such contributions will be compulsorily deducted from their salaries. It is envisaged that the contribution for children of birth order three and above will be double that for children of the lower birth order.

41. It is estimated that almost the entire cost of running the compulsory health and nutrition insurance programme for the workers' children under five years of age will be met from the contributions from the parents' wages. Thus it is not a charity operation and the programme does not entail any fresh investment over and above that already envisaged by the Government in the Rural Employment Programme. The programme will therefore be replicable. The parents will feel that they are entitled to the service, and those administering the programme will feel accountable. The really needy children will be served and the programme, not being a charity operation, will be economically viable. It may also prove to be an incentive to family planning.

42. What has been described above is just one model; there may be other and better models. Whatever the model, it must embody two cardinal principles. First, the protection of the health and nutritional status of their children must be considered as the moral and legal responsibility and obligation of all parents. The state can only provide the necessary facilities. Second, it is the right of all able-bodied adults to expect the state to provide them full employment which will at least guarantee them minimum wages to satisfy the basic needs of their family, including particularly the needs of their children. In the ultimate analysis, the conquest of poverty and malnutrition in the Third World has to be based on these principles.