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NFI BULLETIN

Bulletin of the Nutrition Foundation of India

The Nutrition Foundation Of India

During the last 32 years since the attainment of Independence, the country has witnessed some remarkable progress in the fields of agriculture, industry and science and technology. However, malnutrition remains our major problem and continues to affect the health and well-being of millions of our people.


The problem of malnutrition has very wide ramifications. It is not just a problem of agriculture and health, but involves many other sectors concerned with national development. It cannot be controlled merely through governmental efforts. Active community participation is essential.

In particular, there is an imperative need for a body outside the Government, which can play a constructive and critical role in identifying problems of malnutrition, and in organising objective in-depth studies of different facets of the problem in order to suggest practical and feasible solutions. The Nutrition Foundation of India has been set up with this purpose in view.

The Foundation does not propose to duplicate the efforts of existing institutions. In view of the inter-disciplinary nature and the wide range of efforts needed to combat malnutrition, the Foundation will promote a coordinated programme of nutrition uplift of communities through harnessing the support and active involvement of existing institutes and university centres. The objective will be to develop a total coordinated effort addressed not only to the manifestations but to the root causes of malnutrition in the community.

The Scope. The scope of function of the Foundation will be the following:

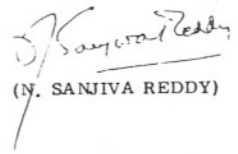
(i) Highlight and focus public and government attention on national problems connected with malnutrition, assess their causation, magnitude and implications and offer short-term as well as long-term action plans.



राष्ट्रपति भवन नई दिल्ली भारत
RASHTRAPATI BHAVAN NEW DELHI INDIA
27th November 1979

The formation of the Nutrition Foundation of India on the initiative of enlightened citizens and distinguished scientists is indeed a welcome development. Children are the most valuable resource that the human race has. A well conceived and forward looking nutritional programme implemented with imagination and determination will ultimately determine the quality of our youth and endow the future with promise. Nutrition in all its aspects and dimensions must therefore receive the highest priority among national objectives. Such a programme will call for closely coordinated action on the part of governmental agencies as well as the active involvement of voluntary agencies and non-governmental organisations including international agencies.

I wish the foundation success in the great task which lies before it—a task which is at once a challenge and an opportunity for public service.


(N. SANJIVA REDDY)

(ii) Initiate, conduct and support action-oriented studies and research on these problems through existing institutes, university centres and other suitable bodies in order to evolve appropriate solutions capable of application in the current context.

(iii) Investigate means to offset existing deficiencies in the pattern of production and distribution of foods and to ensure the wholesomeness and nutritive value of foods sold for public consumption.

(iv) Disseminate information on diet and nutrition, promote nutrition education in schools and through mass media; publish periodically a bulletin in order to disseminate information on important facets of nutrition.

(v) Interact with the Planning Commission and governmental and non-governmental agencies and international bodies in facilitating the formulation, implementation and evaluation of nutrition programmes.

Who will be involved? The Foundation will enlist the support and active involvement of:

Leading nutrition scientists, dietitians, food technologists, organisations connected with food products, agencies connected with women and child welfare, educationists, leading industrialists and enlightened lay citizens with a deep concern for the nutrition problems of underprivileged.

A Governing Body composed of leading scientists and enlightened citizens will guide the policy. A Scientific Advisory Panel composed of outstanding nutrition

scientists, food technologists, social scientists and economists will provide the technical support. Dr. S. M. Merchant, the leading paediatrician of Bombay, who has been deeply interested in the nutrition problems of children, is the President. Dr. C. Gopalan, the nutrition scientist of international repute, who was formerly Director-General of the Indian Council of Medical Research and President of the International Union of Nutrition Sciences, and who headed the National Institute of Nutrition, Hyderabad, for nearly 15 years, the Director-General of the Founda-

line was determined on the basis of nutritional requirement of 2400 calories per person per day for rural areas. The Planning Commission estimated that the poverty line is taken as a point, the number of persons below the 'modest poverty line' would have been 160 million. According to Prof. Sukhatme, clinical evidence shows that the incidence of malnutrition is high and after making an allowance for individual variation, 15-20% of the population could be considered as undernourished for want of adequate food. Taking the figure of 15%, there appears to be an immediate need to raise the per capita income and, therefore, of consumption about 100 million people in the country. Presuming that 80% of the population live in the rural areas, provision for 80 million population will have to be made in income-cum-employment generation works.

The 26-Round of the National Sample Survey (1972) revealed that 33.2% of rural households operated no land or of less than one acre in area. These households may comprise a population of about 160 million. Excluding the households with some land or some other population or marginal sources of income, half of this population, i.e., 80 million could qualify as in the severely impoverished category.

Achieving freedom from hunger.

Can we launch a total attack on malnutrition and under-nutrition and eradicate it much in the same way smallpox was eradicated? In my view, this can be done. However, for this purpose, a *National Freedom from Hunger Programme* involving a blend of Food-for-Work and employment-guarantee schemes have to be implemented to the limit of administrative and financial capacity. Experience during the severe drought of 1979 has shown that administrative capacity rather than finance may be the main constraint. This is why it is important that in such programmes a mechanism of horizontal co-ordination to bring together official, academic and voluntary agencies into a working consortium is developed. How can we organise such a programme with a built-in nutritional dimension? In my view, the following steps are needed:-

(a) In all such programmes (including the food for work programme), half the wage should be paid in cash. There is no point in giving as wages more than what is required for consumption. If done, it will only force the worker to get the balance in the market and as a result he will be in a weak position. The provision to be paid in cash can, however, vary in different parts of the country depending on the non-grain ingredient of food.

Green Power and Freedom from Hunger

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Freedom From Hunger—basic to socio-political stability.

It is now widely accepted that countries which do not provide to their citizens the basic minimum needs of food, drinking water and fuel will suffer both in economic progress and socio-political stability. At the General Conference of the Food and Agriculture Organization of the United Nations held in Rome in November 1979, Dr. Kenneth D. Kaunda, President of the Republic of Zambia underlined this fact when he said that "hungry people everywhere do not want to wait until *to-morrow* to eat; they want to eat *now*". He further added that even "if we have no conscience to trouble us, let us at least have the instinct of self-interest and self-preservation to prod us into exceptional effort to wipe out hunger". Theodore W. Schultz, in his address at Stockholm in December 1979 on the occasion of his receiving the Nobel Prize in Economics, drew attention to the fact that the productivity of the soils is not a useful variable to explain why people are poor in some parts of the world, since there is extreme poverty in several developing countries which are endowed with highly productive soils. Due to lack of incentives and appropriate public policies, the un-utilised economic potential of agriculture is very large in many poor nations. The reason for this situation was also summarised by Prof. Schultz in the following words:

"Most economists over-rate the economic importance of land and greatly under-rate the importance of the quality of human agents."

Indian agriculture at the cross-roads.

We have reached a stage in our agricultural evolution when further progress will depend upon our ability to promote marketing and consumption. Marketing and consumption in their turn can only be stimulated when people have more pur-

chasing power. This is why the eradication of hunger is exceedingly essential for sustaining and stimulating agricultural advance. Plans for food production and nutrition improvement will hence have to go side by side. The experience of the last 15 years has shown that, if there is an economically viable technology which is supported by appropriate services, including assured and remunerative marketing, the production of basic staples can go up fast. Progress in wheat and rice production is due not only to the availability of high-yield technology, but also because of the prompt procurement at reasonable support prices undertaken by the Food Corporation of India and State agencies. Other recent examples of improved production associated with producer-oriented marketing are apple in Himachal Pradesh and soyabean in Madhya Pradesh. It is now clear that we can easily produce over a million tonnes of soyabean in the next two years, provided we can purchase the produce at a reasonable price soon after harvest. The absence of a proper marketing mechanism on the other hand has led to the virtual stagnation in the production of *sorghum*, millets and barley, although in these crops significant technological advances have taken place. Costs, returns and risks mainly determine the decisions for farmers and consequently the pace of agricultural advance. *Therefore, the key to progress clearly lies in raising the incomes and purchasing power of the poorest.*

Nature and extent of poverty

There is considerable difference of opinion about the nature and extent of poverty in our country. According to the Planning Commission, 48% of the rural population and 41% of urban population totalling 290 million have been estimated to have a level of consumption below the minimum desired. This poverty

budgets of people in that level of income in each district.

It is also important that the schemes on which rich people are put to work are such as which could create some productive potential. At least are tangible benefits to the community. The selection and preparation of schemes which will measure up to this minimum standard will itself be a difficult task demanding great care and dedicated effort. Technically educated employees who offer their work under such schemes can be used for this purpose. It would be useful to constitute a block level consortium for this purpose in each IRD Block.

It may not be necessary that such employment schemes should be uniformly spread over the country. A sense of priority will have to be developed. They could be taken up where most needed, that is, where the incidence of unemployment or under-employment is high. The important and beneficial side effect of such schemes will be that by reducing the intensity of competitive offer of labour, the general level of wages in the rural areas will be toned up. Economic surveys should be organised from time to time to find out how far this is happening. Agro-economic centres could be entrusted with this task.

Procurement at support prices should be extended to all crops grown in rural farming areas. The assured market for wheat and rice effectively helps only the surplus farmer. Small and marginal farmers should be assured of a ready market for whatever they produce. Here, in the limiting factor appears to be administrative capacity rather than finance.

There is likely to be a growing international market for our rainfed crops like *jowar*, *bajra*, etc. What is procured at support prices can, therefore, be disposed of by export when not required for domestic consumption. We should not, therefore, be unduly timid in introducing such procurement schemes.

At the place where work is organised, mobile fair price shop arrangements will have to be made. Such shops should also undertake a nutrition education programme in the sense that there is any specific nutritional malady in the area such as Vitamin 'A' or iron deficiency, lathyrism, goitre, etc., they should sell the nutritional items which can provide the appropriate remedies. Therefore, in organising these shops, the local medical, home science and nutrition research institutions will have to provide guidance about the deficiencies which ought to be specifically promoted.

Programmes like "Nutrition Gardens", social forestry, mixed farming in coastal and inland aquaculture

need to be developed for each block both with economic and nutritional considerations.

Unlike most developing countries, we are fortunate to have a good infrastructure in science, technology, education and administration. If we can bring together the various agencies into a working consortium, rapid success will be within our reach.

Wise use of Green Power

Prof. V.S. Vyas in a recent paper on "Agriculture—the next decade" has pointed out that even with 4% per annum growth in agriculture, we will have 30% of rural households below poverty line in the year 2000. However, if production actually exceeds about 3% per annum, there will be glut in the market due to inadequate purchasing power. Hence, the nutrition problem is directly related to opportunities for gainful employment and purchasing power.

This is where the "green power" endowment of our country assumes such great significance. 'Green power', or the power derived from the use of solar energy by green plants, is the most important source of renewable wealth. As pointed out earlier, the price crashes when production goes up in the predominantly rain-fed crops like *jowar*, *bajra*,

maize and minor millets. So far no mechanism exists for assuring farmers the support price announced by Government for crops like *jowar*, *bajra* and maize. On the other hand, there is a growing demand for food and feed grains both for home consumption and in the international market. It has been estimated by FAO as well as the International Food Policy Research Institute that the gap between demand and supply for grains may reach a level of nearly 100 million tonnes during this decade. Because of the vast untapped production reservoir existing in most farming systems and because of our large irrigation resources, we should try to capitalise upon the potential international market for food and feed grains in order to give a reasonable price to our farmers and to generate more jobs in the post-harvest sector. Larger home and international trade in agricultural commodities will contribute towards improving rural prosperity. The Chairman of the Australian Wheat Board, Sir Leslie Price, has recently stressed the need for parity between the prices of a bushel of grain and barrel of oil. It is only the wise use of 'Green power' that can help India to offset the problem arising from the restricted geographical distribution of "oil power". Such wise use in its turn can help us to achieve freedom from hunger.

REVIEWS AND COMMENTS

Child Health and Nutrition—The Paradox of Kerala

Infant Mortality Rate (IMR) is considered to be an important indicator of the general health status of a community. By this yardstick Kerala stands out as the state with the best health status in the country. Its IMR of 64, though much higher than that in the developed nations, is the lowest in India where the overall IMR is 120. The Crude Death Rate (CDR) in Kerala is also the lowest in any state in India, being 8.5 as against 16 for India as a whole.

P. G. K. Panikar (Econ. Pol. Weekly 14: 1803, 1979) has recently analysed available data in order to elucidate the factors underlying the relatively better health situation in Kerala. Despite a low per capita State Domestic Product, about 10% of Kerala's total expenditure is on medical and health services. This is only marginally higher than the expenditure on health in other states (6-8%). Kerala's doctor to population ratio is also not higher than that in other states. Panikar argues

that the low mortality rates in Kerala are due to the better distribution of its health facilities. Thus even in 1965, 57% of the hospitals in Kerala were situated in the country-side, as against 22-28% in other states; and 38% of hospital beds in Kerala were in rural areas as against 26% in other states. The rural-urban differential in CDR in Kerala is only 1.2, while in all other states with the exception of Punjab, this ranges from 4.0—9.5, the highest figure being seen in U.P.

That the better health status in Kerala cannot, however, be attributed merely to better availability of health facilities in the rural areas, is evidenced by the fact that in Tamil Nadu and Orissa, where also the proportion of rural hospitals is high, CDR is nearly twice that of Kerala. Panikar points out the obvious—that more than the availability of health facilities, it is the manner and extent of their utilisation that will eventually determine the general health of the population. While such better utilisation of health services in Kerala may be due to their proper spatial distribution and due to the good communication and transport system in that state, the importance of high literacy rate, particularly rural literacy and female literacy should not be overlooked. Rural literacy rate in Kerala is 59 while in other states it is less than 30. Rural female literacy is 53%. In other states it is less than 20% and in

some, such as U.P. it is less than 10 %.

Panikar also refers to the fact that in the health system of Kerala, as much emphasis is given to preventive and promotive measures (such as protected water supply, provision of public latrines and mass campaigns against communicable diseases) as to curative services. According to him good antenatal care, a high proportion of institutional deliveries and infant care through home-visits by ANM have contributed to lowering maternal and infant mortality rate and child mortality has been brought down by preventive measures including immunization programmes. While the female population of Kerala is 4 % of the total female population of India, maternal deaths in Kerala account for only 1 % of the total maternal deaths in the country. The age specific death rate for 0-4 years for rural Kerala in 1965 was 25, as against 92 for U.P. & Rajasthan and 64 for the country as a whole.

To what extent is Kerala's better health status attributable to good nutrition? Data collected by the National Nutrition Monitoring Bureau (NNMB) show that Kerala had the lowest food intake among the ten states studied (Annual Reports of the NNMB 1976 - 1978). The diets of nearly 50% of households in Kerala were found to be deficient in both proteins and calories; in another 25 % of households the diets were deficient in calories. The diets were adequate in all respects only in less than 25% households in Kerala as against 50% in other states. The food and nutrient intakes of the pregnant and lactating mothers in Kerala were also the lowest among the 10 states studied.

Surprisingly though, the prevalence of frank nutritional deficiency signs among infants and underfives was much lower in Kerala than in the other 9 states covered in the NNMB study. However, these children showed the same degree of growth retardation as children in the other states. Thus the proportion of "normal" underfives, as assessed by the Gomez classification based on body weight, was no higher in Kerala than in the other states. This would show that though frank nutritional deficiency signs were low in the children of Kerala, there was still a great deal of undernutrition.

When family diets are considered as a whole, as pointed out earlier Kerala is in a worse situation than other states. The fact that, in spite of this, the children of Kerala did not show a greater degree of growth retardation than those of other states and the surprisingly low incidence of frank nutritional deficiency signs among them, may be due to two facts: (i) a lowered rate of "conditioned malnutrition" caused by infections through better preventive and curative health care and (ii) a more equitable intra-familial distribution of available food. The NNMB data show that in the 9

states (excluding Kerala), while the energy deficit in the diets of adult males ranged from 20-30 per cent, and of adult females from 5-25 per cent, the deficit in children under 5 years was as high as 20-50 per cent indicating a pattern of intra-familial distribution of diets, unfavourable to children.

The Kerala experience is important in that it indicates how even under conditions of poverty and food scarcity, communities can ward off at least the worst forms of malnutrition, through better utilisation of health facilities and better distribution of available food resources within the family.

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FROM OUR INSTITUTES

National Institute of Nutrition —Highlights of Recent Research

Non-use of even relatively inexpensive weaning foods by rural household

Prolonged breast feeding and delayed introduction of supplementary foods to infants is almost the rule in rural communities belonging to poor income groups. Although a number of inexpensive recipes based on locally available foods, which are nutritionally satisfactory and culturally and traditionally acceptable, have been developed in the country, their use by the rural population has been limited. The reasons for this have not been adequately explored. A pilot study carried out in rural parts of Hyderabad, earlier had suggested that among factors responsible were lack of knowledge of proper feeding habits, lack of time by working women to prepare special foods for their infants and financial constraints. The relative importance of these three factors will undoubtedly vary depending on the socio-economic status of the communities. An in-depth community study recently carried out by the Institute among poor income groups has shown that of these three factors, economic constraint was the overriding one in the communities studied indicating that unless the purchasing power of poor rural families is improved, the chances of success in introducing supplementary foods at the appropriate time are limited. Mere nutrition education programmes in such a context may be of little avail.

Oral contraceptive use and B-complex deficiency:

Oral contraceptive steroids are being increasingly used for purposes of family planning. The use of these steroids, however, is not without undesirable metabolic side effects. Among such side effects are those related to altered vitamin economy. As part of the National Family Planning Programme, the Government of India contemplating the use of oral contraceptive pills. A large proportion of women belonging to the poor income group subsist on inadequate diets with respect to most nutrients, including vitamins. In view of this, it was considered important to determine the potential adverse effect of the use of the pill on vitamin nutrition status. The results of a long-term study just completed have shown that although a great majority of women studied had biochemical and clinical evidence of deficiency of the B-complex vitamins, the use of the pill for periods upto 18 months did not cause any further deterioration in their vitamin status. These findings suggest that in women whose nutrition status with respect to vitamin B-complex is already poor, the use of the pill is likely to worsen the situation.

NUTRITION NEWS

The Third Asian Congress of Nutrition will be held in Jakarta, Indonesia, on October 8-10, 1980. It will be sponsored by Government of Indonesia, Federation of Asian Nutrition Societies (FANS) and other agencies. The theme of the Congress will be:

Nutrition Related to Population and Environment for Better Quality of Life of the Poor.

A meeting of the Board of Trustees of the Indian Food Policy Research Institute (IFPRI) will be held in New Delhi on 11th and 12th February, 1980, at which the research programme of the institute will be discussed with Indian Researchers.

A discussion on the Food for work programme and the Employment Guarantee Scheme will also be arranged as part of this meeting, under the Chairmanship of Dr. M.S. Swaminathan.

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