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NOTES ON FOOD AND  
NUTRITION POLICY IN  
INDIA

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## NOTE ON FOOD AND NUTRITION POLICY IN INDIA

By W. R. Aykroyd

During the last two to three years the problem of food supply in India has been an urgent one, and the main preoccupation of Central and Provincial administrations. Cereals form the great bulk of Indian diets, providing 80—90 per cent. of total calories. Owing to a variety of circumstances there have been general and local shortages of cereals, notably rice, involving danger of starvation, since in the greater part of the country there are no alternative foods available in sufficient quantities to replace cereals. By slow and painful degrees the situation as regards cereals has been brought under control, not without catastrophe in the process. Problems of procurement and distribution are being mastered and rationing has secured at least a minimum of cereals to a considerable section of the population. Active food and rationing Departments are now functioning at the Centre and in the Provinces.

A new position has thus been reached with regard to the problem of nutrition in India. It has come into the foreground of public attention, and governments are ready, as never before, to take action in this field. Experience has shown that it is possible to exercise a considerable degree of control over the diet of the people. It is generally realised that defective nutrition is a major cause of ill-health in India and that improvement in diet would lead to far-reaching changes in health and physique. Considerable interest is being taken in the question of increasing supplies of "protective" foods which are needed to provide the nutrients in which rice and other cereals are deficient. It is natural that we should ask ourselves whether the existing food organisation can be used, not only to distribute equitably foodgrains in short supply, but to raise standards of nutrition.

### (2) LIMITATIONS

The food administration in Great Britain has been one of the most successful of war organisations. As a result of its various activities, the diet of the population has not deteriorated in nutritive value during the war, and may have improved. The health of the nation has not suffered. But the success achieved in England should not blind us to the fact that conditions in India are very different. In England reasonable quantities of protective foods could be produced or imported even in war time and it was the task of the food administration to distribute supplies and to teach the public how to make use of them in the wisest possible manner. It has at its disposal modern methods of education and propaganda, and has been working with an educated population ready to listen, and respond to guidance.

In India adequate supplies of protective foods are not available. This is, if anything, an under-statement. For example, in various parts of the country milk and milk products are for practical pur-

poses not obtainable at all. Apart from actual shortage of protective foods, the economic factor is of primary importance. A well-balanced diet containing sufficiency of protective foods costs more than an ill-balanced diet based largely on cereals. It can be clearly shown that the bulk of the population cannot afford a well-balanced diet and lives perforce on a diet composed of the cheapest foods. This problem has been discussed and analysed in an article by myself entitled "The Economic Aspects of the Problem of Nutrition in India" published in the Indian Journal of Social Work in 1941. Before the war an ill-balanced diet of adequate calorie value consisting largely of cereals cost about Rs. 2-8-0 per adult man per month. A well-balanced diet of the same calorie value containing milk, meat, fish, vegetables, etc., in sufficient amounts cost from Rs. 5 to Rs. 6 per adult man per month. It was shown, by reference to income levels in India, that the poorer classes in general could not possibly afford a well-balanced diet. At the present time the gulf between the existing and desirable expenditure on food is wider.

Mere propaganda in support of a greater consumption of protective foods thus lays itself open to the retort, "First provide the foods and the money to buy them, and we will eat them". Take milk for example. Everybody in India realises the value of milk; it is a part of the tradition of the country. There is no need for "Drink More Milk" campaigns to popularise milk. Milk is in fact a rare and precious fluid which everybody tries to obtain if he can—witness the precautions which have to be taken in well-to-do households to prevent its disappearance. The extreme adulteration of milk is a product of its shortage. The effect of adulteration is to spread limited supplies over a large number of consumers, for most of whom the choice is watery milk or no milk at all.

Hence the campaign to raise the intake of protective foods must be accompanied by most vigorous efforts to increase production. Simultaneously purchasing power must be raised by the general development of the resources of the country. Propaganda urging a greater consumption of various articles of diet may do something to create supply, but not very much under existing circumstances. For example, people might be encouraged by propaganda to eat more fish, and this would no doubt provide some stimulus to the fish industry. But to produce adequate supplies of fish, the industry must be completely reorganised, placed on a modern and efficient basis, and new systems of transport and distribution created.

### (3) PRACTICAL MEASURES

Food production is the concern of the departments of agriculture, animal husbandry and fisheries. Something of a revolution has taken place in the mental attitude of those responsible for food production policy. Previously the policy of agricultural departments, in so far as they had any policy, was mainly directed to increasing the output of certain cash crops such as cotton and sugar-cane. Efforts were of course made to increase production of certain staple food crops, but these were not related to estimates of the nutritional requirements

of the country. To-day, as the result of the stimulus given by the Hot Springs Conference, and, it may be added, because of steady and persistent pressure on the part of nutrition workers in India, the agricultural authorities have become "nutrition-minded". They have realised the need for planned production based on a scientific assessment of nutritional needs. No doubt it will take many years for such plans to bear fruit, but at least a beginning is being made in the right direction. It is realised that distribution is almost as important as production, and the responsibilities of food administrations lie mainly in the former field. Obviously it is necessary that the activities of the food and agricultural departments should be closely correlated, both having the common aim of raising standards of nutrition. Nutrition is the main link between them.

At present, as has been pointed out, adequate supplies of protective foods are not available. What, in the circumstances, can be done immediately? The Nutrition Advisory Committee of the Indian Research Fund Association in various reports, notably its report of March 1944 on "Nutrition in India", has suggested a number of possible measures. Nutrition work in India has developed in relation to medicine and public health, and in the report in question the emphasis is somewhat on the nutritional functions of health departments. The creation of nutrition sections in Central and Provincial public health departments is recommended, and it is visualised that these should be principle guiding agents in formulating nutritional policy and devising practical measures. Stress is placed on the eradication of deficiency diseases, the nutrition of expectant and nursing mothers and infants, school-feeding, institutional feeding, the feeding of employees and labour groups, community feeding, and catering and nutrition. The need for improving dietary arrangements in hospitals is pointed out. The question of education and propaganda receives due attention. The report also deals briefly with synthetic vitamins, vitamin concentrates, processed foods and food standards and food control.

As regards short-term policy certain questions are given prominence. Among these are the need for close contact between nutrition workers and food departments, the immediate establishment of nutrition sections in public health departments, school-feeding, education, the improvement of agricultural statistics, vegetable production, the development of fisheries, the extension of rationing to cover foods other than cereals and the provision of milk to expectant and nursing mothers. Some of these activities fall within the range of food departments.

(a) **Education and propaganda.**—It has already been pointed out that the possibilities of increasing the intake of protective foods by educational methods alone are at present limited. In spite of this, however, something can be achieved by a well-considered educational campaign which avoids the error of urging people to eat what is not available and what they cannot afford. The population must by degrees be made "nutrition-conscious" in order to pave the way for future developments: A problem of major importance at the present time is the consumption of alternative cereals in place of rice. Here

the question of short supply does not arise, since it is rice that is lacking in sufficient quantities while alternative cereals are more readily obtainable. From the standpoint of nutrition the partial substitution of rice by other cereals such as wheat or millet is to be recommended. On this point food and nutrition policies are in conformity. It must be emphasised that more is needed than verbal and visual propaganda. The people must be taught to turn to alternative grains by demonstration. Suitable recipes must be devised and popularised by sale in canteens, Government restaurants, etc. The methods of preparation which are advocated must be physically possible, or, if not, steps must be taken to make them physically possible. Before undertaking an educational campaign, the cooking habits of the people and facilities for adopting unfamiliar methods of cooking (utensils, etc.), must be investigated. Thus in Bengal, one of the difficulties with regard to the popularisation of wheat is that chakkis are not generally available, so that most wheat has to be distributed as atta which readily goes bad. In Bombay, wheat can be distributed as such and ground locally in chakkis. With regard to the popularisation of wheat it would be valuable to study the story of attempts to extend its use in Ceylon. It appears that after numerous efforts to encourage the consumption of wheat in the form of whole wheat, atta, etc., the Government of Ceylon has been ultimately forced to adopt the policy of providing wheat in the form of bread. Whether this would be possible or desirable in certain parts of India is a matter for investigation.

As regards millets, similar difficulties arise as in the case of wheat, and there is the further difficulty that millets are "socially inferior" grains. In this instance some change in attitude might be brought about by well-considered propaganda. The organisation required to encourage the use of alternative grains needs careful consideration. Those concerned in the campaign must be very fully informed about the domestic habits and prejudices of the people. They must know a good deal about cooking and household facilities for cooking. There is little doubt that for this sort of work women are particularly suitable. The women of India have not yet been enlisted in the campaign for improved nutrition. It is to be regretted that up to the present domestic science institutions in India have not been to any extent concerned with problems of food, catering and nutrition. The question whether, after suitable reorganisation, such institutions could be used in the campaign for better nutrition should be investigated.

(b) **School-feeding.**—The value of this measure is generally recognised. Ideally the food or meals provided in schools should be such as to make up qualitative defects in the home diet. No food can do this more effectively than milk. We must, however, dismiss for the moment the possibility of providing milk in schools on a reasonable scale. As things are, however, almost any meal which provides additional calories is of value since in general poor children are underfed. Many get only a scanty breakfast and often no food throughout the day until the evening.

No uniform method of school feeding to suit all parts of the country can be devised. Schemes must be based on local supplies and require-

ments and organised with the co-operation and advice of nutrition workers. The main obstacle to school feeding is its cost. If all poor school children in a given area are given a meal costing 1-2 annas daily, the expenditure on school may be more than doubled. Governments in the initial stages are likely to be staggered by the cost of school feeding, but it must be realised by the authorities concerned that money spent on school feeding is money spent on "nation building" and in the long run will give large returns. School feeding need not, of course, be universal. It may be confined to schools in which the children are particularly poor and mal-nourished, or to specially mal-nourished children in certain schools. Parents who can afford it may be persuaded to contribute to the cost. At the moment what is required is that the governments concerned should take up the question and work out suitable schemes. A strong push on the part of the Central Food Department would be useful. An officer concerned with school feeding might be appointed, whose task would be to investigate the matter and make concrete suggestions. He could begin by studying the existing schemes in Cochin and Ceylon.

Apart from the question of finance, the organisation of school-feeding is by no means a simple matter. Supplies of the necessary foods have to be obtained and distributed. Arrangements for cooking have to be made. The further question arises as to responsibility for organisation and management. In England school-feeding is the concern of the educational authorities. Would educational departments in India have the necessary resources to undertake the task? School-teachers are poorly paid and difficulties might arise if they were given authority to purchase and provide food to their pupils. Should local committees be created to administer and supervise school-feeding schemes? The health authorities must be associated with such schemes and the part which they can play needs examination. Another possibility for consideration is whether local people could be persuaded to contribute to school-feeding by gifts of food. Again, school-feeding could be combined with a drive to establish vegetable gardens in school compounds which would provide additional food for the midday meal. The problem is in fact a complicated one which demands the most careful and detailed study. In the first instance it would probably have to be approached by trial and error. But given the will (and the money) there is no reason why the preliminary difficulties should not be overcome. Two years ago the rationing of large urban populations in India seemed to many an impossible task, but to-day, as a result of the most praiseworthy efforts on the part of food departments, rationing schemes are working fairly smoothly. Similar success could unquestionably be achieved in the organisation of school-feeding.

Before the war, dried skimmed milk from Australia and New Zealand was used quite widely in supplementing the diet of children in institutions. In 1936, at the instance of nutrition workers, the import duty on such milk was reduced from 30 to 10 per cent. It was in general cheaper than fresh milk locally produced, and feeding experiments showed that it produced excellent results on the health and physique of children. Dried skimmed milk is now for practical purposes unobtainable, but after the war it will come on the market again.

Since the milk supplies of India are inadequate there would be justification for encouraging the import of this valuable bye-product of the Australian and New Zealand butter industry. It could, if available at cheap cost, be used in school-feeding.

(c) **The provision of milk to expectant and nursing mothers and infants.**—Bombay has already initiated a scheme for supplying milk cheaply to these "vulnerable" groups. The extension of such schemes to other places in India is desirable. As a preliminary it may be necessary to discover whether the supply position in other centres would allow for the provision of cheap milk to the groups in question. Probably it would be necessary, in many instances, to develop and reorganise local milk supplies. The extension of milk rationing would in fact be a big problem requiring careful study. Here again the Central Food Department could provide the initiative.

(d) **Canteen-feeding.**—The N.A.C. points out that the extension of industrial canteens, etc., is eminently desirable from the standpoint of nutrition and in conformity with existing food and rationing policy, since it facilitates food distribution and helps to satisfy the special needs of manual workers. Canteens could also be used for educational purposes, e.g., in the popularisation of unfamiliar foods. In England the provision of meals to industrial workers during the war has been a most successful measure and has helped to safeguard the health of workers and maintain their output and efficiency at a high level. It is hoped to continue industrial canteen feeding after the war. In India little progress has so far been made, except in certain centres, and there is no doubt that at present the idea does not appeal to many industrialists. The reasons for and against require careful examination. It is possible that once initial difficulties, inertia and conservatism were overcome, canteen feeding would become highly popular among industrial workers and would benefit employers because of its effect on the health and efficiency of their employees.

(e) **Pulses.**—Pulses are an important food in India since they add protein to cereal diet and are fairly rich in certain vitamins. The supply of pulses in various areas appears to be at the moment unsatisfactory. The Famine Inquiry Commission, during its tours, found some difficulty in grasping the position as regards pulses; in some areas there seemed to be a glut and in others a shortage, and demand and supply appeared to be uncorrelated. An improvement in distribution would be a step towards better nutrition. Existing difficulties seem to be partly due to lack of knowledge of local preferences for different kinds of pulses. These are important, since local methods of cooking are often based on the use of certain familiar pulses and people may be as reluctant to change their favourite pulse as their staple cereal. There is also some lack of knowledge about the supply and distribution of pulses in normal times. The whole situation needs clarifying and this can only be done by a special investigation based on the collection of information from the various provinces.

(f) **Vegetables and fish.**—Complaints about the shortage and high prices of vegetables are numerous. Military demand is of importance in certain areas, and steps have already been taken to increase pro-

duction to meet this demand. The stimulus thus provided to production should prove of value after the war when areas now growing vegetables for the military can be used to supply civilian needs. Steps should be taken in due course to utilise military production arrangements to meet civilian needs, the present level of production being maintained and extended.

In Bombay some vegetables are sold cheaply in the Government ration shops. This might be possible in other parts of the country. There is a great need to extend production in the neighbourhood of cities. Vegetables in general can be fairly easily grown, and in this case demand can do something to increase supply. A cautious "Eat More Vegetables" campaign would, therefore, be probably justified, but the primary emphasis is on increased production.

With regard to fish, this food is available in abundance in the sea but largely remains in the sea. The development of the fishing industry appears to offer the most feasible and immediate prospect of supplementing Indian diets in respect of protein and certain other nutrients. Strong emphasis should, therefore, be placed on fish in connection with food policy. The question of distribution is of course of the greatest importance. In Bengal lack of ice or other forms of refrigeration appears to be one of the main obstacles to increasing its supply. It may take years to increase milk production and it is difficult to visualise meat and eggs becoming a staple article of diet for the Indian masses, but an abundant supply of fish could probably be made available within a few years if a strenuous effort was made to develop the industry on modern lines.

#### (4) CONSUMER RESEARCH

The policy of food departments must be based on correct and adequate information. At present food administrations generally appear to be somewhat in the dark about the effect of rationing on dietary habits. No satisfactory explanation is forthcoming of the low offtake of cereal rations in certain centres. It is not clear whether it is due to inability to afford the ration, to the fact that the ration is excessive, to sufficiency of unrationed foods, etc. In connection with protective foods, universal complaints are made that their consumption on the part of the middle classes has been reduced by high prices, but here again no exact information is available. Every food department should have a section devoted to research on such matters so that a change in policy would not be a leap in the dark but a considered move based on adequate study and data.

More information about dietary habits in general is also needed in connection with the planning of food production. This at present concerns agricultural authorities rather than food departments. The Nutrition Advisory Committee has recommended that the problem of devising ways and means of carrying out diet surveys in different parts of the country should be taken up by the E., H. and L. Department.

#### (5) EXISTING ORGANISATION IN THE FIELD OF NUTRITION

For the development of nutrition work in India in association with medical, health, food and other departments it is necessary to have



sufficient personnel, suitable institutions, etc. The following is a brief account of the present position in India:

(a) **The Nutrition Advisory Committee of the Indian Research Fund Association** was established in 1936. In early days its main function was to advise the Scientific Advisory Board of the I. R. F. A. about enquiries relating to nutrition, and select those worthy of financial support. The I. R. F. A. finances research on various aspects of nutrition in University laboratories, research institutions, etc., in various parts of the country. During recent years the N. A. C. has developed into an advisory body concerned with broader aspects of nutrition, meeting several times in a year. It has produced reports on nutrition policy and on various other aspects of nutrition such as methods of carrying out dietary surveys, a programme of future nutrition research and nutrition policy in Indian generally. Its reports are circulated to Provincial governments. Nutritional problems arising in the Food Department could certainly be submitted to the N. A. C. for opinion, but it is not a body in permanent being and hence could only advise from time to time. The N. A. C. includes experts in other fields beside nutrition. It has among its members the Agricultural Commissioner with the Government of India; the Animal Husbandry Commissioner and the Rationing Adviser.

(b) **Nutrition Research Laboratories, Coonoor.**—The Nutrition Research Laboratories are primarily a research organisation. Attention has, however, been given to education and propaganda on nutrition and diet. Three popular health bulletins entitled "The Nutritive Value of Indian Foods and the Planning of Satisfactory Diets" (No. 23), "Rice" (No. 28) and "Food and Diet (written for children)" (No. 30) have been published in the Government of India Health Bulletin Series. Health Bulletin No. 23 has run into its third edition and attained wide popularity. Numerous scientific papers are published from the Laboratories, mainly in the Indian Journal of Medical Research. These are of a strictly technical nature and of no use for propaganda purposes. Lectures and broadcasts are given from time to time. Before the present pressure on newspaper space, press notes were issued when suitable materials were available.

A nutrition class lasting about 8 weeks is given annually in the Laboratories during the months of April to June. Classes are attended by Provincial health officers and various other kinds of workers. There is a museum in the Laboratories which is visited by numerous members of the public. Some of the material in the museum could be reproduced for educational purposes in India generally.

The last nutrition class (1944) included a doctor who has since organised a Nutrition Section in the War Services Exhibition. This exhibition includes a restaurant which supplies cheap and nutritious foods, and a series of exhibits on food and nutrition to further the interest of consumers in the subject of food.

(c) **Other nutrition research.**—The Indian Research Fund Association finances nutrition research in various centres in India. Some 13 enquiries are being financed at the present time. It has established nutrition research units in Dacca and Bombay respectively. In

Calcutta there is a department of biochemistry and nutrition in the All-India Institute of Hygiene and Public Health, and a nutrition section is being developed in the Haffkine Institute, Bombay. Workers in these units could be utilised for advisory work on nutrition.

(d) **Nutrition workers in provincial health departments.**—The policy of including nutrition workers in the health departments of provinces and the larger states was initiated by the Nutrition Advisory Committee in 1936. Facilities for training were provided in Coonoor. Though not all governments have responded, some progress has been made. At present there are nutrition officers in the health departments of the Punjab, Bihar, Madras and Hyderabad. In Orissa, Travancore, Cochin, Sind and in certain States there are workers in the health and medical departments who have taken the course in Coonoor but are not specifically employed in nutrition work. In Bombay a nutrition officer has recently been appointed in the Food Department. Public health nutrition workers have been largely concerned with surveys of diet and state of nutrition, investigations of deficiency diseases and propaganda work. In general, health departments have not as yet linked up with food departments in connection with food policy in its broader aspects. There are, however, signs in various Provinces of developments in this direction.

(e) Mention may also be made of a nutrition course in Madras which is part of the Domestic Science course of the University. This has been organised in the Women's Christian College, Madras, with my advice and assistance. One class of about 12 members has completed the nutrition course, and the second class is nearing its end. Some of the graduates who have taken the course might be employed in educational and propaganda work. We have had this in mind all along. Ladies with a training in nutrition might be very useful for popularising suitable recipes and dishes.

#### (6) SCARCITY OF NUTRITION WORKERS

The need for developing nutrition research in India has repeatedly been emphasised by the N. A. C. The N. A. C. has drawn up a detailed programme of future nutrition research, including clinical research, which cannot be developed without a larger body of workers. At the moment the ranks of nutrition research have been depleted by the departure of workers to other employment. For example, the Director of Nutrition Research has during the last two years spent most of his time in attending committees and conferences and in advisory work in general, and is now a full-time member of the Famine Inquiry Commission. Other workers have gone into the army and the Central Food Department.

In England a group of nutrition workers under Sir Jack Drummond has been attached to the Ministry of Food. Problems on which the Ministry requires information and research can also be referred to various laboratories in which there are workers of long experience and high standing, e.g., the Dunn Nutritional Laboratory and the Lister Institute of Preventive Medicine. In India there is no such wealth of workers or institutions. If workers actually engaged in nutrition research are diverted to advisory work in association with food

departments the number of the former will be still further reduced. Research workers who are diverted to advisory work for long periods are inclined to "dry up" for lack of contact with advancing research and need refreshment by return to research activities. It is desirable, in connection with the future development of the work of food departments in India, to consider the need of training more nutrition workers and thus avoid seriously weakening the existing research organisations.

The question of the provision of nutrition specialists for food departments needs careful consideration and discussion. The Health Survey and Development Committee has accepted the report of the N. A. C. which strongly recommends the creation of nutrition sections in public health departments. The question arises whether it would not be better for nutrition officers in such sections to link up with food departments, than to create another nutritional organisation in connection with food administrations. The whole problem of developing food administrations on the nutritional side must be considered in relation to nutrition organisations and personnel at present available.

#### **(7) INSTRUCTION IN NUTRITION TO WORKERS IN FOOD DEPARTMENTS**

With regard to immediate needs, a temporary solution might be to arrange for individuals chosen by food departments to attend a special course on nutrition in Coonoor, lasting for about 4 weeks in April or May 1945. Men and women with some scientific background should, if possible, be selected for this purpose. It is impossible to create a nutrition expert in 4 weeks, but at least a general idea of the subject could be imparted within this period. Senior officers in food departments might appreciate a short course of instruction in nutrition.

Finally, it may again be emphasised that the time is ripe for a great forward drive to raise standards of nutrition in India. The problem is a large and complicated one, demanding action in many different fields for its solution. The newly created food departments can play a most important part in the campaign.

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