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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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68130

FOR EXECUTIVE DIRECTORS' MEETING

For consideration on November 27, 1973

R73-247

FROM: The Secretary

October 31, 1973

SECTOR PROGRAM PAPER

NUTRITION POLICY

There is attached a paper entitled "Policy Guidelines for Bank Nutrition Activities" prepared in the Population and Nutrition Projects Department.

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POLICY GUIDELINES FOR BANK NUTRITION ACTIVITIES

Population and Nutrition Projects Department

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SUMMARY AND RECOMMENDATIONS

i. Malnutrition in low-income countries is a problem of substantial proportions, with significant and wide-ranging developmental consequences. Recent research has led to a better understanding of the causes of malnutrition, as well as new techniques to alleviate it. Accordingly, the Bank has had a growing interest in the subject and, over the past year, has devoted staff time to examine nutrition within the Bank context, including the possible program implications.

ii. In addition to the pronounced effect of malnutrition on mortality and morbidity, investments which improve nutrition are likely to lead to fuller utilization of education opportunities and to greater productivity of the working population. Nutrition programs also imply a more equitable distribution of income and may encourage more effective population planning. While the precise relationships linking all these factors are only beginning to be understood and are still being studied, there is little doubt that nutrition programs that are effectively designed and operated can improve the level of well-being and enhance a country's prospects for development.

iii. To date, the response to malnutrition has been limited both in size and scope. U.N. and bilateral agencies spend a total of approximately $20 million a year for nutrition (not counting food donations), most of this for research and technical assistance. To the extent there have been efforts to develop operational programs, concentration has been on institutional feeding programs and health center-oriented projects of a curative nature.

iv. The Bank can contribute to the alleviation of malnutrition by drawing attention to the problem, by assisting in multi-sector analysis, by furthering the development of discipline in the new field through the project process, and by providing additional resources to finance nutrition intervention activities. Possible specific approaches appropriate for the Bank in the nutrition field include: (a) the design and financing of nutrition projects; (b) the addition of nutrition components to projects in other sectors; (c) the consideration of nutritional consequences of projects in other sectors; and, (d) the encouragement of nutrition awareness and analysis by incorporating nutritional considerations in appropriate sector surveys and economic reports. With respect to nutrition projects, initial emphasis would be on the evolution of an overall nutrition strategy in concert with the government and the design of projects to implement the strategy.

v. It is therefore recommended that:

(a) the Bank assume a more active and direct role in nutrition, and

(b) that it proceed with tentative plans currently under consideration which call for the financing of two nutrition projects in FY75, two or three projects in FY76, and three or four projects each in FY77 and FY78.

INTRODUCTION

1. From the time of its first project loan to a low-income country (Chile in 1948), the Bank has been concerned about production of food as an important component to development. The number and size of loans for agricultural production (of which food production constitutes a substantial part) have increased substantially over the years -- from $16 million in FY48 to $725 million projected for FY74 -- and in the past decade the percent of the Bank lending program directed to this sector has increased from 8.5% to 22%. In addition, a special program of grants has been initiated to help international agricultural research institutes in their efforts to increase the production of food.

2. In the past few years there has been a growing appreciation that attention to food production, of itself, is insufficient to satisfy food needs. If investments in production by the Bank and others are to be of maximum benefit to those in need, attention should also be directed to the nutritive quality, processing and distribution of what is produced.

3. A better understanding of the distributional shortcomings of current food systems, coupled with an increased appreciation of the magnitude and implications of malnutrition in low-income countries, led the Bank in late 1971 to commission a group of consultants to prepare a report on the problem and on the Bank's possible role in its alleviation. On the basis of that report, a nutrition unit was established in the Population Projects Department (renamed Population and Nutrition Projects Department) and, since September 1972, studies relating to possible Bank action in the nutrition field have been undertaken. The purpose of this paper is to examine the need for active Bank involvement on a sustained basis and to delineate the possible forms of this involvement.

I. THE PROBLEM

4. Malnutrition is a pathological state generally resulting from deficiencies of essential nutrients such as calories, protein, and certain vitamins and minerals. In low-income countries, malnutrition is a problem of substantial proportions, contributing significantly to high mortality and to the generally poor level of well-being among the survivors. Nutritional deficiencies affect all age groups, but the toll is greatest among the very young. The Pan American Health Organization recently identified malnutrition in Latin America as a primary or contributory cause in 57% of all deaths in one-to-four year olds. FAO estimates that as many as 30% of preschool-aged children in low-income countries suffer from second or third

degree malnutrition (below 75% and below 60% respectively of standard body weight per age); an additional 40-45% of the children have first degree malnutrition (75-90% of the norm).

5. Of the nutritional problems found in low-income countries the most prevalent include protein-calorie malnutrition, iron deficiency anemias, and vitamin A deficiency. In most cases, these interact with infections and childhood diseases in ways that exacerbate both problems.

6. Protein-calorie malnutrition during the fetal period and in early childhood is associated with both physical and intellectual impairment. FAO reports that more than 300 million children are afflicted with grossly retarded physical growth and the Director of India's National Institute of Nutrition estimates that 80% of Indian children suffer from "malnutritional dwarfism." Small stature often reflects other subclinical disabilities and may be related to a shortfall in performance. WHO states that a six-year old with the physical development of a three-year old cannot be compared in intellectual or social behavior with either group; he is another being altogether, with his own biological and behavioral characteristics. Severely malnourished children have brains smaller than average size and have 15-20% fewer brain cells than well-nourished children (for those with a low birth weight, implying malnutrition in utero, the deficit is 40%) -- a phenomenon whose significance is not yet fully understood. There is a growing body of literature pointing to protein-calorie malnutrition as a cause of suboptimal performance and abnormal behavior, as well as evidence suggesting that abnormality in the young may produce chromosomal abnormalities that may persist through subsequent generations.

7. More than two-thirds of the children in many low-income countries suffer from iron deficiency anemias. A similar incidence of iron deficiency among pregnant women contributes to low birth weights and premature births. In some areas, 70% of deaths in the prenatal period are of low birth weight.

8. Vitamin A deficiency, common in up to half the children in low-income countries, affects growth, the severity of other nutrition-related illnesses, and vision. At least a million cases of blindness in India are a direct result of inadequate vitamin A intake, and this estimate may be conservative and misleading since children blinded from diseases brought on by inadequate vitamin A often do not survive. In addition, to every case of total or near-total blindness, 10-15 people are unable to see in dim light ("night blindness") and suffer other ocular manifestations of vitamin A deficiency.

9. Since it often will be impractical to think of attacking nutritional deficiencies among all segments of the population, the most lasting and numerically widespread impact in most countries will come from providing adequate nutrition to mothers in the last trimester of pregnancy and children up to three years of age. The greatest physiological need and greatest growth occur in the early years, and during this period children require,

relative to body weight, considerably more of the key nutrients than adults (e.g., two and one-half times as much protein). Even if a child's diet is fully adequate only in utero and during the critical early years of life, he probably will be brought closer to his growth potential. If, during adulthood, his food intake level falls short of the desirable norm, his productivity and well-being will already have been lifted to a higher level than could be achieved without a strong start.

10. In most low-income countries large segments of the population are incapable of supplying by their own initiative (because of both lack of awareness and inadequate income) the nutrition needed to meet the basic health requirements and the full mental and physical potentials of their children. If child malnutrition is to be overcome in a reasonable time period, governments must intervene.

II. IMPLICATIONS FOR DEVELOPMENT

11. The effectiveness of improved nutrition as a means of reducing the severity of childhood infections and of preventing forms of retardation, blindness, anemia and other problems discussed above has been clearly established for some time and is, of itself, sufficient justification for investment in better nutrition. The case for an investment in better nutrition on more direct economic grounds, however, has only recently been advanced and is as yet less clear.

12. Quantitative estimates of the economic cost of malnutrition and the benefits of its prevention are possible with certain micronutrients. In India, for example, the annual consumption burden of one million people blind from vitamin A deficiency amounts to $25 million a year. Annual ingredient costs (2 cents per person) for a prevention campaign that would cover all Indians would be approximately $10 million. In parts of Bolivia 40-50% of the population is goitrous and 5-10% of these suffer from cretinism and deaf-mutism. The cost of preventing goiter (through the addition of iodate to salt) is estimated at one-sixth of a cent a year per person covered. Similarly, with regard to energy requirements alone, there is a substantial body of literature permitting the estimation of what energy/work output to expect from a given calorie input. In the major deficiency of current concern, however -- protein-calorie malnutrition in the very young -- precise links between diet, subsequent performance, and economic returns are not yet as quantifiable or as well understood. 1/

1/ This partly reflects the newness of the understanding of the magnitude and implications of protein-calorie malnutrition (PCM); major interest about the relationship of PCM and mental development, for instance, emerged only in the mid-1960s.

13. In addition to these arguments for better nutrition, several indirect relationships between nutrition and development merit attention, even though they are difficult to quantify with any precision. These relationships are reviewed below.

A. Education

14. Recent research suggests that returns on educational investments have been reduced by insufficient attention to non-school factors, among which nutrition ranks importantly. Because malnutrition interferes with a child's motivation and his ability to concentrate and learn, one can conclude that it limits the potential payoff of an investment in education. Typically, a malnourished child is listless, lacking in curiosity, and unresponsive to maternal and other stimulation; the mother herself is often a victim of nutritionally-induced lethargy. If this were not a sufficient disadvantage, the malnourished youngster also falls behind because of his frequent bouts with nutrition-related illnesses. In four Latin American countries, illness caused children to miss more than an average of 50 school days a year; this constitutes as much as one-third of the scheduled school days. The frequently absent malnourished child often is unable to cope with the school situation and drops out. Obviously, school performance is affected by a child's home and school environment, and nutritional improvement alone may not significantly better the learning capacity of the child disadvantaged in a multitude of ways. There is little doubt, however, that malnutrition contributes to poor performance, to the low aspiration to higher education levels, and to the substantial student dropout rate often found among the poorly fed portions of the population.

B. Family Planning

15. In many poor areas, where large percentages of children die before reaching a productive age, uncertainty and the over-compensation it induces are often assumed to be major factors in the bearing of large families, e.g., seven or eight offspring. Although a substantial lowering of child mortality as a means of influencing birth rates is not sufficient of itself, overcoming malnutrition, which is the prime contributor to child mortality, may be a powerful factor toward lowering the population growth rate in the long-run.

16. During the period it takes parents to realize that there is no longer a need to bear many more children than actually desired, numbers will grow before they begin to stabilize. The lag between the decline in infant mortality and the decline in birth rate was an estimated 20 years in Chile and Puerto Rico, 15 years in Sweden, and 10 years in the United Kingdom. If a substantial further reduction of child mortality is a pre-condition to lowering the number of desired births, the sooner action is taken the better. The longer the action is delayed, the larger will be the population base from which future generations will be reared. In an operational context it

has been demonstrated that mothers, whose malnourished children have received successful care, are receptive to advice, including family planning information, from those who assisted in that care. Nutrition activities commonly are conducted in ways that allow contact with young mothers of childbearing age, e.g., through programs where preschool-aged children are brought to MCH centers by their mothers, thus offering an accessible audience for creation of family planning awareness and motivation.

C. Productivity

17. Little study has been made of the relationship between malnutrition and productivity other than the effect of inadequate calories where the loss of productivity is clear. (Men living on 1,800 calories a day have been shown to lose 30% of their muscle strength and 15% of their precision of movement.) One could assume, however, that overcoming other nutrient deficiencies may overcome a debility that reduces a worker's productive capacity, return an absent worker to the active labor force, lengthen his working life span, and perhaps improve an individual's comprehension and retention of things taught. Such results increase the flow of earnings above what it would have been in the absence of improved nutrition and health. 1/

D. Income Redistribution and Other Economic Benefits

18. Nutrition programs can be a direct and effective way to redistribute income. The nature of most organized nutrition activities (see Section III) is such that they benefit directly those with the greatest need, namely the poor, in a way that boosts both their health and real incomes.

19. Improved nutrition can be expected to yield other economic benefits. Lower incidence of communicable diseases among adequately-nourished people, for example, reduces the exposure of these diseases to others. Increased income of the well-nourished worker (or the well-nourished child when he enters the labor force) will improve the living standards and probably the future productivity of his dependents.

1/ In this connection it is interesting to note that the concept of adequate nutrition is commonly incorporated into the planning of military establishments. In many low-income countries, a sizable portion of the nutrition research budget is directed at the relationship of nutrition to the effectiveness of the fighting man, and his feeding receives priority attention.

E. Additional Benefits

20. Changes in nutrition also can be expected to have certain intangible effects. For societies which place a premium on social mobility, intellectual loss caused by malnutrition may be the strongest obstacle to attaining this goal. A malnourished child's chances for advancement are greatly restricted no matter what else is offered by education or other means designed by policy-makers to facilitate upward movement within a society.

21. In some ways the most important benefit of better nutrition is its contribution to human well-being. For all their economic privation, the "very poor" have the potential for enjoying a wide range of non-economic goods that are not quantifiable in the national accounts. However, those who are apathetic and physically drained by anemia or debilitated by frequent bouts with nutritionally-related diarrheas cannot enjoy these potential satisfactions. It is well-being more than income that determines whether a man has the capacity to enjoy certain fundamental sources of satisfaction. Most low-income economies are not likely in the near future to provide a very much wider range of material goods to those in lower income levels. But it may be within the power of public policy to improve the level of nutrition which, in turn, can increase the capability for a substantial portion of the population to enjoy whatever sources of consumption are available.

III. EXISTING AND POSSIBLE RESPONSES TO MALNUTRITION

A. Traditional Responses to the Problem

22. To the extent that development programs are aimed at increasing incomes of low-income groups or that agricultural investments are aimed at increasing the supply of basic foodstuffs, countries have long been engaged in activities that affect their nutritional status. 1/ More conscious responses to malnutrition and/or balanced nutrition have been essentially limited to specialized functional activities. Fair amounts of laboratory and clinical research have been directed to this problem -- in some 20 countries special nutrition institutes or nutrition wings of medical research

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1/ Increases in food supplies and income have a major positive effect on the problem of malnutrition (and could have much more if nutrition were given explicit consideration as one of the objectives in the framing of agriculture policies). But even when national aggregate food supplies are adequate, nutritional deficiencies persist because of lack of consumer knowledge and because distribution mechanisms do not reach those in need. Similarly, increased income of itself is an insufficient condition for adequate nutrition, particularly in cases where food beliefs and practices adversely affect the nutritional status of the young.

facilities have been established -- and a better understanding of the epidemiology of nutritional imbalance, and of the biochemistry of physiological and pathological aspects of human nutrition have been elaborated. The resulting programs, generally with a medical orientation, have led to efforts directed only to a small segment of the child population.

23. The need for more far-reaching efforts became clear in the food shortages during and after World War II. One of the major responses was large institutional feeding programs. Conducted through schools, health centers and other institutional facilities, such programs are now organized in over a hundred countries and reach an estimated 125 million children at an approximate cost of $750 million a year. Although these programs rely mainly on foreign-donated foods, the receiving countries themselves contribute an estimated $250 million a year to meet administrative and logistical expenses and to buy local food. Commonly, fewer than 10% of all beneficiaries are from the vulnerable but difficult-to-reach preschool-age group.

24. In the 1950s, attention was directed to nutrition education, the major approach being the village-level applied nutrition program, which combines nutrition education with the stimulation of production of nutritious foods at the community and family level. These programs (including variations) are now under way in some 25 countries.

25. Attention in the early 1960s moved to the high cost and limited availability of essential nutrients, this leading to attempts to develop new technologies aimed at providing low-cost solutions. At least a dozen technological institutes have been established in developing countries to promote such work.

26. There has been in the past year or two a marked increase of interest in the problem by governments of low-income countries. A few countries have prepared national nutrition plans and at least a dozen others are in the process of doing so. In several countries, new agencies or policy committees have been established to develop and direct nutrition programs.

27. From the experience to date, several generalizations may be drawn:

(a) With the exception of institutional child-feeding programs, nutrition activities have been modest, limited mostly to experiments and pilot projects.

(b) In the past, nutrition investments have often not been directed specifically to the most vulnerable segments of the population.

(c) Most programs, whose objectives have been deliberately concerned with nutrition, have concentrated on face-to-face techniques; mass techniques have been insufficiently employed (e.g., fortification of centrally-processed foods,

adjusting agricultural price policies to get a nutritional effect).

(d) The nutrition field has been the province of functional specialists, especially medical scientists and food technologists; until recently, little attention has been directed to moving the field into broad-gauged operational activities.

(e) Most projects for nutrition improvement in low-income countries have been made possible by external food and financial grants, supported by specialized technical assistance.

B. Multilateral and Bilateral Assistance

28. As the above shows, there is a fair amount of specialized activity and interest in nutrition. The most extensive attention to nutrition within the U.N. is being given by UNICEF, WHO and FAO. (UNDP, Unesco and UNIDO also provide assistance in this field.) UNICEF's major approaches are the applied nutrition programs, pilot project assistance to local manufacture of high protein weaning foods, and support for local dairies. Although in special situations UNICEF continues to provide imported milk or special food mixtures for children, the days when UNICEF was supplying imported milk powder on a large scale are now past. Nutrition expenditures by UNICEF in 1972 were $5 million, or 10% of total program expenditures.

29. WHO's central and regional nutrition units initiate and promote research and provide technical guidance on medical aspects of nutrition. A substantial part of this work is included in their family health program. The programmed nutrition commitment for nutrition activities in 1973 is $1.4 million, representing about 1.5% of all WHO expenditures. There are approximately 50 WHO personnel concerned with nutrition. In addition, PAHO's 1973 budget includes $3.3 million for nutrition, approximately 7.5% of its program. Approximately 90 PAHO staff members work in this field.

30. The FAO nutrition program concentrates on specialized forms of technical assistance. Attention is now also being directed to the execution of food consumption surveys. The approved two-year budget (1972-73) for the Food Policy and Nutrition Division of FAO is $2.7 million, 3.1% of the total FAO budget. The nutrition staff at FAO consists of 37 professionals at headquarters and 91 field officers, the latter paid for largely by UNDP.

31. Several governments have bilateral assistance programs in nutrition, the largest of these being Sweden, the United States and Canada. Emphasis has been on research and technical assistance; annual agency financing for this being $2 to $3 million. Of far larger size -- and the main emphasis of nutrition assistance efforts to date -- has been the food aid provided for

use in institutional feeding programs. Approximately half a billion dollars worth of food a year has been transferred for such purposes either bilaterally or via international agencies (e.g., the World Food Program, UNICEF, UNWRA) or voluntary agencies (e.g., CARE, OXFAM, CARITAS). The supply of grant food available from the United States, the largest donor, is expected to decline substantially.

C. New Technologies and Techniques

32. Several recent developments in nutrition suggest opportunities to reorient the nature of response to the problem. For instance, in the area of disease prevention, technologies now may make it possible to help alleviate certain forms of malnutrition at modest costs, often in ways previously not possible. Vitamin A-related blindness, for example, can now be prevented through mass prophylaxis of vitamin A or through fortification of wheat flour, sugar or several other commonly used processed staple foods. Iron compounds can be added to salt and processed cereal staples to reduce anemia. In the agricultural field, high protein varieties of maize have been developed through genetic manipulation, and breakthroughs in other grains seem to be on the horizon. In the industrial field, new processes for soybean, cottonseed, groundnut and other oilseeds have made possible large potential sources of protein seldom previously used in most countries as ingredients in human food. A number of low-cost protein-rich formulated foods have been developed, usually incorporating these non-conventional raw materials. Work has also advanced on the use of single-cell protein and fish protein concentrate. Although additional development work is still necessary on certain of these technologies, several are now ready and the overall picture is promising.

33. Also, new techniques appear to be evolving to "program" better nutrition. New distribution mechanisms are being tested to reach nutritionally vulnerable groups, and new education techniques, often involving the use of mass communications, can be used to teach people how to get better nutritional value from resources already available to them. There also is a growing awareness of the relationship of income and nutritional status and the effects of agricultural policies and practices on nutrition, thus offering potential for more systematic nutrition project planning.

IV. WHAT THE BANK CAN CONTRIBUTE

34. The rationale for the Bank's involvement in nutrition activities flows from earlier discussed implications of malnutrition for development, the effects of malnutrition on other Bank investments, and general recognition of the need to improve human well-being. The Bank could contribute to the alleviation of malnutrition by adding its voice in drawing attention to the problem, by assisting in planning, by furthering the development of programming discipline in this new field through the project process, and by providing additional resources to finance nutrition intervention activities. In all these

areas, there exists a wide gap between what is being done and what could be done, and the Bank is in a position to fill part of this gap in the following ways:

(a) Adequate attention to nutrition requires, in the first instance, attention from key leaders of governments, including those with whom the Bank regularly consults -- senior officials of finance and planning bodies. The ability to create awareness of the nutrition problem in such circles is a particular advantage of the Bank and could constitute a contribution in much the same way that many observers credit increased population planning activities partly to informal Bank influence. Also, expressed concern by the Bank about malnutrition would add strength to the nutrition movements within countries.

(b) Nutrition problems and remedies cut across sectors and traditional ministries (and U.N. specialized agencies), and require analysis of the complex relationships of nutrition and agricultural production systems, food distribution, food processing, pricing policies, health problems, education and mass communications, family planning, transportation, consumer preferences, development finance and economics. (Seldom has the kind of multi-sector analysis needed for the formulation of integrated national nutrition policies and programs been undertaken. Under some circumstances a modest shift in agricultural price policies could have greater impact on the nutritional levels of a target group than special feeding programs, health education and other more direct measures.) The Bank could make a particular contribution in this regard by encouraging the kind of broad planning and analysis it undertakes in other sectors and which is not normally done by other international agencies working in this area because of their more specific functional orientation.

(c) The application of project assistance, with its discipline in integrated programming and project execution, could be a forceful tool in helping to bring order to existing -- commonly ad hoc -- nutrition activities. In the process, project assistance would aid in building necessary institutions.

(d) Other than for direct feeding programs, the amounts of assistance thus far applied specifically to nutrition problems have been too small to have a significant impact. The Bank, as a major international source of development funding, could help provide needed resources on a scale that would make a substantial contribution to initiating and supporting nutrition programs.

V. POSSIBLE TYPES OF INVOLVEMENT

35. Several approaches, or combinations of approaches, are appropriate for the Bank in the nutrition field: (a) financing nutrition projects (with an initial emphasis on design of an overall nutrition strategy); (b) addition of nutrition components to projects in other sectors; (c) consideration of nutrition consequences of projects in other sectors; and, (d) encouragement of nutrition awareness and analysis by incorporating nutritional considerations in sector surveys and economic reports and through other means.

36. Emphasis on the nutrition project approach, as distinct from the indirect approach involving the addition of nutritional considerations and possibly nutrition components to other projects, is one of degree rather than an "either/or" question. But there are several reasons why emphasis on the direct approach, at least initially, seems appropriate. The nutrition field is multidisciplinary, meaning in operational terms that it involves several ministries -- among them, agriculture, health, education, social welfare, and industry. Only a comprehensive approach can view the problem in its totality and make specific recommendations involving coordinated planning and implementation of various "sub-programs" which would, in practice, be the responsibility of different branches of government. And it is through this comprehensive review and project development that the Bank and member governments could hope most rapidly to gain an understanding of the whole sector and the appropriate areas of emphasis. Once a "nutrition policy" evolves, it will be easier to determine which nutrition components are most suitably added to which other projects and how they relate to other nutrition activities. Because of the time required for the preparation of a multidisciplinary project in a new sector and the limitations of staff in a new field, the number of countries that can be assisted through Bank nutrition projects necessarily will be small.

37. A broader geographic coverage from Bank nutrition involvement might be made by trying to instill a nutritional awareness in other phases of the Bank's development work. This could include adding nutrition components to appropriate Bank projects in other sectors -- especially food processing, rural development, population, certain types of agriculture and education

projects, and perhaps water supply. This has already been done or is being planned on a modest scale in a number of cases. 1/

38. A contribution might also be made by anticipating the nutritional consequences of Bank projects under preparation in other relevant sectors. This could be attempted through sensitization of those working in such fields, by the issuance of standardized guidelines which would be useful to staff members involved in project preparation activity. Some Bank loans, such as those for agriculture and irrigation, influence food supply directly, as well as relative prices, and these often substantially affect consumer nutrient intake. These nutritional results of Bank investments are often not specifically considered in choosing and designing projects, so that they become by-products incidental to the pursuit of other objectives. In designing a project, therefore, nutritional implications could be more directly explored and, where needed and possible, additional actions could be taken to compensate for resultant nutritional imbalances. Because of the many types of projects and the varying conditions under which they would be operated, no simple criteria can be given for deciding when and how a project should be modified to improve nutritional impact. But it should be possible to find low-cost modifications that help nutrition without fundamentally disturbing other aspects of project return.

39. A food/nutrition dimension included in the guidelines for economic reports would have the effect of encouraging the focus of attention on the overall country food problems and nutritional needs by development officials who are not specifically involved and generally not familiar with the problem. Similar value would come from giving more explicit attention in agriculture sector surveys to foodstuffs from the view of consumer need, rather than concentrating primarily on agricultural production. This could have the effect of alerting officials to the importance of designing production goals and distribution systems consistent with the country's nutritional needs, in addition to aiding in the selection and design of nutrition projects. The Bank could also engage in other means of encouraging nutrition awareness, such as through references in EDI courses and participation in the U.N. Protein Advisory Group and other relevant forums.

1/ A population project in India included a $2.1 million experimental nutrition component. In Africa there was the addition, on the basis of nutritional considerations, of a nutritionally-needed oilseed component to a recently appraised mixed farming project. In an approved education project, food/nutrition interests have been strengthened by (a) including emphasis on family food production (rather than only cash crops) in the curriculum of farm training centers, (b) adding nutrition expertise in an evaluation of that country's extension program, and (c) possibly providing fellowships in nutrition. In a protein-deficit Asian country, a large cottonseed processing project now under preparation proposes to include funds to study the feasibility of producing a protein-rich human grade cottonseed flour from the residue after the cottonseed oil is extracted. And in Latin America, one of the rural development projects being prepared plans to include a nutrition component.

VI. THE NUTRITION PROJECT

A. What Constitutes a Bank Nutrition Project

40. A Bank nutrition project can be defined as an activity or set of investment-oriented activities designed to achieve specified nutritional objectives and which is well defined as to content, costs, timing, location and means of execution. Generally, the project should be aimed at causing a specific improvement in the nutritional conditions of a specified population within a stated period of time. When this is not possible to determine because of insufficient information, the project may be aimed at developing the necessary data base, analysis, and institutional capability to make it possible. Certain components of a nutrition project would be common to those that normally fall within other project sectors, such as agriculture, industry and education. The distinction is the explicit objectives and the unifying theme of the nutrition project.

41. Unlike many other sectors in which the Bank works, there has been in most countries little national planning in the nutrition field to provide a context within which the Bank can operate. Commonly, detailed understanding of food consumption and family budgetary expenditure patterns and often of nutritional status is sparse. Also, although ongoing public institutional feeding activities often are of substantial scale, little if any evaluation has been undertaken, and there are only vague notions on the benefits of these activities.

42. Given the inadequate planning and frequent absence of hard data, one strategy would be for the Bank to concentrate efforts over the next two to three years on long-range sector analyses and on helping low-income countries to develop a nutrition planning capability. Another would be to move firmly ahead with project activity, in the absence of the desired detailed understanding of the problem and the relative attractions of alternate intervention actions. (Even if efforts turned out later not to be the most cost/effective, they nonetheless may be worth doing because of the existing levels of malnutrition.) An intermediate approach -- and the one being proposed for pursuit -- is the financing of certain evident operational components, while at the same time financing data gathering and a longer-term analysis for more sophisticated subsequent projects.

43. Commonly, an initial nutrition project in most countries would have three general categories of components:

(a) Activities which are ready for large-scale implementation and which would be expected to rate high on a priority list emerging from long-term study.

(b) Pilot field tests designed to generate necessary cost/effectiveness information about activities which are not ready for national implementation without a better understanding of results and costs.

(c) Data gathering, including consumer expenditure surveys, food consumption surveys, nutritional status surveys, and studies on nutritional implications of food and agricultural policies. Such data collection is designed to provide the basis for developing a national food and nutrition policy and for future programs and projects.

(d) In the process of all of the above, efforts would be made to develop or strengthen the institutional infrastructure required for a national nutrition program.

44. Among possible components of a nutrition project might be:

(a) Production of low-cost processed foods for inclusion in both public institutional feeding programs and the commercial market.

(b) Institutional food distribution programs directed to nutritionally vulnerable groups.

(c) Fortification of centrally-processed food staples such as wheat flour, wheat products (bread, pasta), rice, cornmeal, corn-flour, cassava flour, sugar, salt, water.

(d) Agriculture production programs directed to encourage increased consumption of particular nutritious foods.

(e) Nutrition education (including education in subsistence food production) via rural extension agencies, school systems, adult literacy programs and mass media.

(f) Training of workers for the above programs. (Sometimes in conjunction with training of agriculture and health extension workers.)

(g) Development of an information base and related analysis for determining nutrition policy.

(h) Technical assistance related to the above.

Certain of the above activities could be of interest to the U.N. technical agencies and appropriate relationships would need to be worked out. Some project components overlap with areas of interest of agricultural, educational and industrial project activities; in such situations, on a case-by-case basis, the responsibility for the project would be resolved depending on the primary emphasis of the project and the availability of skills.

45. Several examples of specific components of possible Bank nutrition projects have emerged from preliminary discussions with governments. Interest in one country, where bread plays a dominant role in the diet, is for (a) fortification with vitamins and minerals of the country's centrally-processed wheat flour supply and (b) pilot project activities designed to test the impact of various consumer and producer incentives as a means of increasing both the demand for and supply of wheat flour. A second country is considering (a) production of a milk substitute for its public distribution programs (designed to reduce heavy milk imports), and (b) production of a milk substitute for calves, 180,000 of which are annually slaughtered and the potential protein lost because milk is in such short supply that the country cannot afford to have cow's milk fed to young animals instead of being available for human consumption. A third country is concentrating on (a) nutrition education as the major component of a possible project and (b) the testing of several new mechanisms designed to get food to difficult-to-reach preschool-aged children. In a fourth country, interest has been expressed in a project that would (a) fortify the salt supply with iron and (b) produce inexpensive blended foods for institutional feeding programs to replace rapidly declining food donations. Nearly all of the above would include components designed to improve understanding of the nutrition problem and ways to alleviate it.

B. Project Financing

46. The kinds of expenditures to be financed in nutrition projects will depend on the specific facilities and services that go into each project and the economic circumstances of the borrowing country. It seems unlikely that the construction component would be as large in nutrition projects as it has been in many Bank population projects to date, although some health-related buildings should undoubtedly be included in some projects. Industrial components might sometimes be included for the production of formulated foods and additives. Vehicles, furniture, and audiovisual, data-processing, and office equipment are other conventional capital items likely to be required. Quite frequently projects would include important data-gathering activities and the conduct of experimental pilot projects. Technical assistance, training, and large-scale information and education programs would be common components. It is thus apparent that nutrition projects should include a mixture of rather conventional capital expenditures ("hardware") plus expenditures on a variety of other development activities generally covered by the term "software". The foreign exchange component of total costs is expected to vary considerably from project-to-project, suggesting that the question of local cost financing could sometimes arise.

47. Generally speaking, it is expected that the financial characteristics of nutrition projects would parallel fairly closely those of population projects. The policies worked out for the latter during the past four years should provide useful guides for both the staff and the Board. Although a few nutrition activities (e.g., food fortification and water fluoridation) are normally self-financing, this may not be true of other project elements.

C. Criteria in Selecting Countries for Initial Bank Nutrition Projects

48. The danger in piecemeal response to individual nutrition project proposals is diversion of energy and attention from basic problems. The Bank should insist, as its major criterion in its consideration of proposals, that projects be part of a soundly conceived nutrition plan for the country or a significant region within the country. Other criteria include:

(a) expressed country interest in major nutrition programs and related country willingness to commit substantial financial and manpower resources to nutrition;

(b) project capability to reach large numbers of the nutritionally needy (or replicability of the project to reach large numbers); and

(c) the innovative nature of the project for the country, the Bank, or the nutrition field.

D. Considerations in Appraising Nutrition Projects

49. Several issues associated with investing resources in nutrition projects must be given special consideration in project preparation and appraisal:

(a) A massive fortification program would reach many people who do not need the nutrient, as well as those who do, and might under some circumstances not even reach infants most in need because of child feeding practices. (Conversely, under some circumstances fortification could be the least expensive way of reaching a target group; even though cost also includes reaching others, including, perhaps, some not in need.) An institutional child-feeding program to supplement home feeding could lead to withdrawal of food from the child at home, thus resulting in no net nutritional benefit for the child. Investment in the production of a nutritious weaning food might, on nutritional grounds, be wasted if the product is priced beyond the reach of the needy or if necessary educational efforts to promote consumption are not undertaken. Conversely, nutrition education might have negative effects if the solutions offered are inaccessible to those in need.

(b) In many instances, nutritional conditions could be improved if people knew how better to use existing or attainable nutrients. Because achievement of the goals of nutrition projects (especially in the absence of sufficient increases in income) depends so heavily on individual behavior patterns, the projects often will

call for a larger element of educational activity than previously has been the case in most Bank-funded activities. As in other education investments, the techniques for achieving specific results are uncertain and the costs of doing so are even less sure. Nevertheless, it is clear that in the absence of planned education the desired nutritional change would occur more slowly, if at all. 1/

(c) A Bank decision to finance nutrition projects should recognize that they will usually involve public subsidy. Certain nutrition activities could be fully self-financing (industrial feeding activities and fluoridation, for example), but most attempts to reach and help the young child generally would require public subsidy, at least at the outset.

(d) Multi-sectoral nutrition projects will be an innovation for most countries, as well as for the Bank. The design and monitoring of appropriate national bodies to administer such projects would be critical to project success and would require special attention in project appraisals.

(e) At this early stage in the evolution of nutrition as a development sector, available information, as noted above, is insufficiently comprehensive to establish precise economic costs and benefits of most nutrition intervention programs. Crude estimates could be made that suggest the broad attractiveness of nutrition projects. But the present state of knowledge makes predicted relationships between investment and economic return less feasible than in some other areas of Bank activity. The Bank could help pioneer in this problem.

VII. CONCLUSIONS

50. All available indications suggest that malnutrition is a problem meriting major concern. While efforts should be made to try to develop acceptable cost/benefit methodology and a better understanding of the impact of nutrition interventions, it seems reasonable to proceed on the grounds that a well-directed nutrition investment can lower mortality and morbidity rates, contribute to increases in productivity, assist in achieving family planning and education objectives, serve as a direct means of income redistribution, and, in general, improve the social and economic conditions

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1/ The major exceptions are fortification and genetically improved seeds, neither of which require changes in eating habits (although on a subsistence farm level the latter requires adoption of the new seeds).

of disadvantaged portions of populations. The Bank should be prepared to help bring about nutritional improvement in a given country by financing especially-designed projects having nutrition goals as their primary end.

51. The scale of activity which the Bank could carry out over the next few years is modest in staffing and in number of operations. It is estimated that two nutrition projects could be brought to the Board in each of FY75 and FY76. The Population and Nutrition Projects Department is currently reviewing its work program with the Regions. It is likely that some increase in the pace of project development will emerge from these discussions. It is unlikely, however, that the program would call for more than three projects in FY76 and three or four each in FY77 and FY78.