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MEMORANDUM FOR THE DEVELOPMENT ASSISTANCE EXECUTIVE COMMITTEE

FROM: USAID/NICARAGUA  
SUBJECT: INTENSIVE REVIEW REQUEST  
LOAN TITLE: NUTRITION IMPROVEMENT

I. BORROWER AND EXECUTING AGENCY

The Borrower will be the Government of Nicaragua (GON) acting through a National Nutrition Council (NNC) which, when created, will consist of high level GON officials. The NNC will establish a special staff unit that will implement national nutrition policies and programs and the A.I.D. Loan.

II. LOAN AMOUNT

Up to \$3.0 million repayable within forty years including a ten year grace period with an interest rate of 2% per annum during the grace period and 3% per annum thereafter. It is expected that A.I.D. loan funds will be disbursed over a three year period and that the GON will provide a counterpart contribution to the project of at least the equivalent in Cordobas of US\$3.0 million.

III. RATIONALE

A. Project Goal: The goal of the proposed project is to improve nutrition levels of the poorest majority of the Nicaraguan population, in support of the general goal, as reflected in the GON Rural Policy Statement and in the Mission DAP, of improving the living standards of the rural population. The GON's recent Agricultural Sector Assessment concluded that the nation's first priority in rural development would be "to improve rural income distribution and bring the benefits of the nation's economy to the rural masses" and increase the overall quality of rural life. To carry out this policy, the Sector Assessment's Strategy and Policy Document provides that "there will be established programs for progressive improvements in nutrition, health and housing".

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The profile of the nutrition level of Nicaragua's population has been sketched in a study done by the Nutrition Institute for Central America and Panama (INCAP) published in 1969. The results for the rural population are summarized in the table included in Annex I. The INCAP Study reached the conclusion that "despite the fact that the average intake of nutrients was adequate, the distribution among and within families was unequal". "The most deficient nutrients of the Nicaraguan population were calories, proteins, vitamin A and riboflavin", with the most serious nutrition problems in rural areas as further outlined below:

1. Protein and Calorie Deficiency: This is the most prevalent deficiency in Nicaragua, striking particularly hard at small children in the lower socioeconomic levels. Although the Table in Annex I indicates that 59% of the rural population receive at least the minimum daily protein requirement, this measure fails to consider that the main sources of protein in Nicaragua are beans and cereal products lacking in certain essential amino acids. This lack of animal source protein plus low caloric intake leads to first, second and third degree malnutrition found in approximately 57% of Nicaraguan children less than five years of age.
2. Vitamin A Deficiency: This deficiency is the most widespread, affecting 89% of rural families and again concentrated among children less than ten years of age.
3. Riboflavin Deficiency: The results of dietetic, clinical and biochemical studies show a high deficiency in riboflavin which is very closely related to protein deficiency since the sources of quality protein and riboflavin are the same. Riboflavin is essential for proper growth, metabolism and tissue function.
4. Iron Deficiency: A shortage of iron was observed in a large part of the population especially in pregnant mothers, lactants and children under three years of age. Although the table shows a very low incidence of iron intake inadequacy (17% of rural families deficient) most of this ingestion comes from cereals and vegetables with only small quantities of animal based-food being consumed thus reducing iron absorption to minimal levels. Deficiency in folates, also a cause of anemia, is as high as that of iron. Pregnant mothers, lactants and males between 12 and 44 represent the most vulnerable group.

5. Iodine Deficiency: Lack of iodine in the diet represents another serious health problem with a prevalence of endemic goiter of 32% in Nicaragua.

More current statistics on the nutrition situation in Nicaragua than those contained in the 1969 INCAP Study, although of a more general nature, show that the magnitudes of the nutrition problem have not diminished. The recently completed Nicaraguan Agricultural Sector Assessment states that the proportion of the rural population in the under-fed category vary between 54% and 68% within the eight regions of the country.

The serious nutritional deficiencies noted in these studies lead to various degrees of malnutrition, retarded physical and mental growth, chronic diarrhea, anemia, sight-impairment, low birth weights, goiter and propensity to infections, all of which affect a large proportion of the Nicaraguan population.

As a result of the GON's Agricultural Sector Assessment new interest has been focused on the national nutrition problems mentioned above, particularly as related to the poorest majority of the rural population, and the GON anticipates organizing in CY-1975 a major new effort at attacking the above problems through the development of a National Food and Nutrition Policy and Program (NFNP). It is expected that this policy and program will call for the establishment of an institutional structure that will have the capability of implementing various nutrition improvement activities aimed at producing the following results: (a) increasing per capita caloric consumption and protein intake, especially among nutritionally vulnerable groups, pregnant and lactating women and children below five years of age, (b) decreasing the incidence of Vitamin A deficiency, endemic goiter and chronic diarrhea and (c) providing a more nutritionally balanced diet especially for the rural population of Nicaragua.

B. Project Purposes: The purposes of the project are: (1) to assist the GON in developing and implementing its National Food and Nutrition Policy and Program and (2) to support the development and operations of an institutional structure that can carry out the NFNP through the design and implementation of selected nutrition improvement activities.

C. <sup>7663</sup>Project Outputs: By the end of the Project it is expected that the following outputs will be achieved: (1) An effective National Food and Nutrition Policy and Program for reducing malnutrition in Nicaragua will have been developed and

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adopted. (2) An institutional structure for implementing the NFNP will have been created and staffed. (3) A mass-media nutrition education program oriented to the rural poor will have been developed and implemented and be utilized on a continuing basis to carry nutrition messages to the target population. (4) Nutrition information systems in the Ministries of Health, Education and Agriculture, and in other agencies, will have been strengthened and expanded to provide better services for the rural poor. (5) New products such as a fortified high-protein weaning food will have been developed and disseminated on a pilot basis. (6) Sugar will be fortified with Vitamin A. (7) Existing legislation calling for salt iodization will have been implemented. (8) Selected food processing plants will have introduced fortificants through the use of new equipment and additives. (9) Nutritious mixed food to replace PL-480 Title II food will have been developed and the GON will have mobilized domestic production to meet the needs of its own surrogate feeding program as part of an integrated nutrition improvement program.

D. Problems or Constraints Being Addressed. General: Malnutrition leading to high rates of infant mortality and morbidity and to permanent brain damage in the young has resulted in the overall sapping of Nicaragua's economic and social strength. As indicated above, malnutrition is a widespread scourge in Nicaragua whose alleviation and eventual eradication are recognized as essential to the meeting of national development goals, especially in rural areas. The project will address this major development constraint through the support for a National Food and Nutrition Policy and implementing structure designed to initiate a major attack on malnutrition in Nicaragua.

Specific Problems or Constraints Being Addressed: (1) Lack of a national nutrition policy and implementing mechanism, and difficulties of coordination among government officials, have led to slow progress in undertaking urgently required nutrition improvement activities. (2) Difficulties in changing existing food and sanitation habits among the majority of Nicaraguans afflicted with malnutrition. (3) Inadequate nutrition information provided through public and private sector organizations. (4) Lack of fortification of existing food products of widespread daily use and the need for new products and dissemination techniques. (5) The requirement that the GON develop its own feeding program to replace PL-480. Title II food. (6) Lack of sufficient GON funding to support a new National Food and Nutrition Program without external assistance due to reconstruction and other rural development demands.

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E. Critical Assumptions: The project is based on the following assumptions: (1) Low nutrition levels sap the vigor of a developing nation's population, resulting in low productivity, poor health, reductions in the capacity of the student population to learn and benefit from educational opportunities and thus act as a major constraint for development. (2) Malnutrition is a major factor inhibiting the improvement of the standard of living of the poorest majority of the Nicaraguan population and is a major constraint for Nicaraguan development. (3) The GON is sincere in its expressed desire to undertake a new national nutrition program oriented to the rural poor. (4) The GON can provide the financial and human resources, and political will, to achieve nutritional betterment in Nicaragua. (5) The NNC and its staff unit will be quickly developed and will have the administrative capacity to develop and implement nutrition improvement activities. (6) Existing nutrition improvement activities that have been successfully implemented elsewhere can be successfully implemented in Nicaragua. (7) The target rural population, given availability of low cost fortified foods or increased incomes or better nutrition education and information, or a combination of these, will diversify and improve their diet in order to achieve better nutrition.

F. Project Beneficiaries: Nicaragua's total population is approximately 2.3 million of which 1.2 million are classified as rural. Seventy-seven per cent of this rural population (approximately 900,000 people) have average annual cash incomes of \$120 or less. This group is composed of small subsistence farmers, agricultural and rural laborers, the rural unemployed and underemployed and their families. This rural person is characterized by low productivity and income, impoverished living conditions, low levels of education, and poor health and nutrition with all the resulting deficiencies outlined in the INCAP survey of Nicaragua. The major portion of this group suffers some degree of serious malnutrition, leading to high rates of infant mortality and morbidity, permanent brain damage in the young, lower productivity and overall weakness and poorer health. It is this poorest majority of the Nicaraguan population that will be the target group for the proposed project and the major beneficiaries.

Within the target population, major emphasis of nutrition improvement activities will be directed at pregnant and lactating women, pre-school children and the rural woman in general. A detailed profile of the target population will be developed during intensive review. In addition, due to the nature of some nutrition programs, especially fortification, individuals outside the target group will also benefit from this project.

#### IV. PROJECT DESCRIPTION

The project is composed of two basic components: Component One will primarily support the establishment of the Nicaraguan National Food and Nutrition Policy and Program and its implementing structure. Component Two will finance the implementation of selected nutrition improvement activities within the NFNP. Each Component consists of individual project activities that are further described below.

##### 1. Creating the National Nutrition Council and Its Staff Unit

a. Technical Assistance: At present there are few nutrition professionals in Nicaragua and only a very limited nutrition planning and implementation capability in the form of a small nutrition unit in the Ministry of Health. The development and implementation of the NFNP and the establishment and operation of the NNC will require extensive short and long-term foreign technical assistance that will be partially financed by the proposed A.I.D. loan. Approximately 15 man-years of assistance are expected to be required from the following types of personnel: Nutrition Planner/Programmer, Food Technology and Processing Specialist, Agricultural Economist, Food and Nutrition Statistician, and Mass-Media and Nutrition Training Specialists. The A.I.D. Loan will provide for the foreign exchange costs of this technical assistance.

b. Personnel Training: In conjunction with the above, Nicaraguan personnel will be provided foreign training during the project to permit the NNC's staff unit to develop the capacity to carry forward future nutrition planning and project design and implementation without additional foreign technical assistance after completion of the project. Long-term foreign training (up to two years) of approximately 10 professionals and short-term foreign training (up to six months) of 10 to 15 professionals required by the NNC will be financed partially by the A.I.D. loan.

c. Nutrition Research and Special Studies: During the implementation of the NFNP it is expected that the NNC will have to carry out some directed nutrition research and special studies and/or contract this work out to a competent research organization such as the Institute of Nutrition for Central America and Panama (INCAP). Research and special studies will be required for revising and eval-

uating the NFNP and in designing alternative nutrition intervention activities. It is expected that the following types of studies and research will be financed by A.I.D. loan and GON funds: pre-intervention feasibility studies for fortification activities, nutrition monitoring surveys, cost/benefit analyses of various nutrition activities and research for the development of high lysine varieties of corn, rice and beans. Other studies will be specified during the Intensive Review. In addition, further analysis during the Intensive Review will determine whether the NNC should develop some of its own in-house research capability or contract this work out.

d. Equipment: The development of the NNC's staff unit will require some equipment and supplies that will be partially financed by the A.I.D. loan. Vehicles, office and laboratory equipment, books, and other special commodities will be eligible for A.I.D. loan funding.

e. NNC Staffing and Operating Costs: All NNC staffing and operating costs will be provided from GON counterpart funds. During the project it is estimated that this will total approximately \$0.6 million.

## 2. Implementing Selected Nutrition Improvement Activities

a. Mass-Media Program: Lack of basic facts about nutrition, particularly in the rural areas of Nicaragua, has been identified by the Agricultural Sector Assessment as one cause of malnutrition. To deal with this problem, the NNC will develop various mass-media techniques, aimed primarily at the rural woman, for promoting improved nutrition. A.I.D. loan financing will be provided for the development of radio programs, films, pamphlets and billboards designed to bring basic nutrition facts to the rural family. It is expected that the design of this material will be done partly by the NNC staff unit and partly through contract services.

b. Training of Nutrition Promoters: Expanded nutrition information provided through public service organizations such as the Ministries of Health, Education and Agriculture could provide improved nutrition information to the target rural population through existing health, education and agriculture delivery systems and programs. While some limited efforts in this area have been initiated by the GON, rural health workers, rural teachers and agricultural extension agents will require expanded nutrition education and organizational support if their roles as nutrition promoters are to be fully utilized and organized within the NFNP.

Through the proposed project, A.I.D. loan funds will be provided to the NNC for the design of courses and other instructional material for training GON rural development personnel in basic nutrition, dietetics, gardening techniques and maternal/child nutrition and organizing this personnel into a national nutrition extension service for the NFNP. Particular emphasis will be placed on the training of rural health center staff members and rural teachers and providing commodities for the expansion and development of school and community gardens. In addition, training and nutrition education activities will be expanded utilizing the structure of existing programs currently supplied with PL-480 commodities (maternal child feeding program, the Applied Nutrition Program, Nutrition Recuperation Centers, Food for Development Program, the School Feeding Program and the Integrated Program of Nutrition Application and School Gardens). After FY-1976 the feeding program will be provided with commodities utilizing GON counterpart funding, with A.I.D. funds being provided only for nutrition education and information. The Intensive Review will also investigate the possibility of providing some project funds to the Private Voluntary Agencies, such as CRS/CARITAS, so that they can expand their nutrition education and information programs.

c. New Product Development and Dissemination: While nutrition information and education programs, as outlined above, can be major instruments for attacking malnutrition in Nicaragua, preliminary investigations indicate that the low levels of income in the rural areas make the development of new food products and dissemination methods indispensable for the eventual eradication of malnutrition from Nicaragua. While this activity must be further investigated during the Intensive Review, it is expected that the A.I.D. loan will finance NNC research contracts for the development of new nutrient products and dissemination methods on a pilot basis, as one long-range method of attacking malnutrition. For example, a protein rich vegetable mixed weaning food produced from domestic agricultural products will be investigated, and pilot tests financed for use and acceptability. Other products, such as a Nicaraguan soft drink (e.g. VitaSoy) and/or an iron-fortified product aimed at pregnant and lactating women may be looked at. It is expected that INCAP and possibly other nutrition research organizations will be contracted with for this element of the project and that this research will be coordinated with other similar regional efforts.

d. Credit Fund: The NFNP will contain requirements for the fortification and enrichment of basic food products sold in Nicaragua such as the iodization of salt, fortification of sugar, tortilla and bread flour, and the introduction of fortificants for other food products. Preliminary surveys indicate that producers of these food products may prove reluctant to introduce the expensive mixing equipment and

additives required for fortification, all of which must be imported. Thus, in support of the NFNP, the proposed project will provide the NNC with a fund to provide concessionary credits to private industry to finance purchases of capital equipment needed to fortify foods or otherwise process higher protein foods for mass markets. Terms, conditions, and standard analyses for this fund will be developed during Intensive Review and a GON subsidy program, as part of the NFNP, will be investigated to cover the additional costs of fortified foods. The credit fund will be administered by either the National Bank, INFONAC or the Central Bank's FED and each subproject will be approved by the NNC's staff unit. It is expected that the A.I.D. loan will provide up to \$1.0 million for this credit fund and the GON will provide \$1.0 million as a counterpart contribution.

e. Inspection and Certification Service: The NNC through its staff unit will operate an inspection service to insure that national nutrition legislation concerning fortification and additives is being implemented by food processors. In addition, a service will be provided for certifying the nutrient value of food products and giving seals of approval. It is expected that the A.I.D. Loan will provide this service with funds for the training of staff and with commodities such as vehicles and testing equipment. Operating and staff expenses will be provided by the GON.

f. Feeding Program: With the serious caloric and protein gaps that Nicaragua faces, the continuation of a PL-480 type feeding program focused on the most vulnerable groups is indispensable if those most seriously affected by hunger and malnutrition are to be directly assisted. It is expected that the current A.I.D. supported PL-480 program will be phased-out by the end of FY-1976 and that the GON, as part of its NFNP, will phase into its own feeding program through the development of a nutritious mixed food and mobilization of domestic production. The NNC and its staff unit will coordinate this feeding program and GON counterpart funds to this project will provide necessary financing. The existing distribution system utilizing the Catholic Relief Services and Caritas/Nicaragua, as Executing Agency, is expected to continue when the GON assumes the feeding program with its own funding.

## V. PROJECT IMPLEMENTATION STRUCTURE

It is expected that the GON will establish in CY-1975 a National Nutrition Council (NNC) that will be responsible for formulating a NFNP and developing material required for the A.I.D. loan. The NNC will be chaired by the President of Nicaragua and will be composed of the Ministers of Finance, Health, Agriculture,

Education and Economy. A National Nutrition Director will serve as Executive Secretary of the NNC and will direct the NNC's staff unit on a full-time basis.

During CY-1975 a part of the Nicaraguan Agricultural Sector Assessment Working Group (UNASEC) and the Health Sector Assessment Working Group will provide the necessary staff support for the NNC and will undertake the Intensive Review for the A.I.D. Loan. UNASEC, and Health Sector Assessment personnel with foreign technical assistance, will develop various NFNP's and supporting analyses, draft nutrition legislation, an overall nutrition improvement program and possible implementing mechanisms for presentation to the NNC in late CY-1975.

Based on the above work, it is expected that a permanent NNC operational unit will be established and staffed to implement the NFNP and the A.I.D. Loan. While the exact location of this staff unit within the GON must await the Intensive Review, the following alternatives are being discussed: (1) the NNC staff unit may be established within an existing organization such as the Ministry of Health, the new National Agricultural Research Institute (INTA) or the Ministry of Finance all of which have expressed interest in nutrition programs, or (2) the NNC and its staff unit may be established as a new autonomous National Nutrition Institute, or (3) some combination of these two alternatives.

The NNC and its staff unit will function not only as a planning and delivery system for nutrition improvement activities, but will also become the GON's ideological focus for assuring that nutrition goals and considerations are incorporated into national planning and into agriculture, health, education, family planning and other development programs. Thus, the NNC with its staff unit will be responsible for implementing all activities included in the A.I.D. loan either directly or through contracts with cooperating agencies. A full analysis of the NNC's staff unit will be developed during Intensive Review.

## VI. FINANCIAL PLAN

The table that follows shows the total estimated costs of the Loan Project by individual component and project elements together with sources of funding:

SUMMARY FINANCIAL PLAN  
(\$000's)

	<u>A.I.D.</u>	<u>GON</u>	<u>TOTAL</u>
<u>Creating the National Nutrition Council and its Staff Unit</u>	<u>1,350</u>	<u>850</u>	<u>2,200</u>
Technical Assistance	750	-	750
Personnel Training	300	100	400
Nutrition Research and Special Studies	200	100	300
Equipment	100	50	150
NNC Staffing and Operating Costs	-	600	600
<u>Implementing Selected Nutrition Improve- ment Activities</u>	<u>1,650</u>	<u>2,150</u>	<u>3,800</u>
Mass Media Program	200	100	300
Training of Nutrition Promoters	200	50	250
New Product Development and Dissemination	200	-	200
Credit Fund	1,000	1,000	2,000
Inspection and Certification Service	50	*	50
Feeding Program	-	1,000	1,000
TOTAL:	<u>\$ 3,000</u>	<u>\$ 3,000</u>	<u>\$ 6,000</u>

\* GON contribution included in NNC staffing and operating costs.

It is anticipated that due to gearing up the project, the A.I.D. loan will be disbursed in increasing amounts over a three year disbursement period (CY 1976 to CY 1978). Annual disbursements of \$750,000 the first year, \$1.0 million the second and \$1.25 million the third year appear reasonable at this point, but will be further analyzed during Intensive Review. It is expected that a major portion of the A.I.D. loan will cover dollar cost expenditures required for the project.

Potential sources of GON funding for the project are expected to be: (1) the Government's yearly current budget, (2) a loan counterpart fund established in agreement with Venezuela and (3) a possible earmarked tax to cover operational expenses for nutrition improvement programs.

## VII. BACKGROUND

Since FY-1972 the PL-480 Title II Program has been active in Nicaragua and has directed assistance to improving the diets of needy people and in relieving the hunger caused by large natural disasters. Specific disaster feeding programs were initiated in response to Hurricane Edith in FY-1972, the drought of 1972/73 and the Managua earthquake of December, 1972. At its height, the earthquake emergency program was providing food for approximately 600,000 recipients and was fully phased out by the end of CY-1973.

During FY-1974 and FY-1975 regular (non-disaster) feeding programs have and are being implemented that provide CSB (corn/soy blend), rolled oats, all-purpose wheat flour and vegetable oil to approximately 175,000 predominantly rural recipients. The Catholic Relief Service serves as Executing Agency for the program in cooperation with the Ministries of Health and Education. Food is distributed through health and community centers and schools in the maternal child feeding program, Child Day Care Facilities and Nutrition Recuperation Centers, the food for development program and the school feeding program. The PL-480 part of this feeding program is expected to be phased out by the end of FY-1976.

Within the context of the overall A.I.D. reduction in food donations for non-disaster type situations, the USAID advised the GON in 1973 that the PL-480 program would be terminating and that the GON would have to decide which programs it wanted to carry out with its own resources. The GON took this opportunity to study the possibility of launching a full nutrition effort, saving the best of the PL-480 activities and extending the program from there.

In March, 1974, the USAID Mission Director wrote the GON, at its request, outlining A.I.D.'s interest in assisting a new nutrition program and noting A.I.D.'s approval of the GON's growing interest in the establishment of a full-fledged national food and nutrition policy, especially in the light of the phase-out of the PL-480 program. During the remaining months of CY-1974, the GON held a series of high level meetings at which it selected UNASEC (the Agricultural Sector Working Group),

in coordination with the Health Sector Assessment Working Group, to initiate a complete analysis of nutrition in Nicaragua and formulate a national nutrition program. The general purposes of the program would be to increase the availability of food and nutrients for the population with special emphasis on the rural poor, to effect an adequate distribution of food with special reference to the population groups in greatest need, and to assure optimum utilization of food for the whole population. While additional work and analysis is required to develop the GON's full nutrition program and the A.I.D. loan, it is expected that the NFNP will fit the guidelines of the 1973 A.I.D. Nutrition Sector Strategy Statement.

In other related areas of project development, the Mission is currently working on a series of new rural development loans aimed at increasing the incomes and/or standard of living of the poorest majority of the rural population through agriculture, health and education type programs, in addition to the project contained in this IRR aimed specifically at nutrition improvement. A \$15.0 million loan for a Rural Development Sector Program I (Agriculture) is expected to be authorized in FY-1975 and will assist the GON in carrying out an agricultural development and planning program for increasing the incomes of small farmers and other rural workers. This Program will indirectly impact on the nutrition problem of the target population through expanding incomes to permit increases in caloric and protein consumption and by expanding food production, marketing facilities and small food processing industries in selected regions. Thus, the Rural Sector Program for agriculture will complement the efforts of the Nutrition Improvement Project by attacking the nutrition problem of Nicaragua through activities aimed at increasing rural incomes and production, while the project contained herein will deal with the problem through those activities that overlap various sectors or are specifically outside the scope of other sector programs.

In addition, the Mission also anticipates developing loans in FY-1976 for Rural Education and Rural Health, both of which will be aimed at expanding services in rural areas and improving the quality of life of the rural poor. The Rural Education Sector Loan for \$6.0 million will expand education opportunities, both formal and non-formal, for the target rural population particularly at the primary school level. However, this project can only have full meaning and bear full fruit as Nicaragua's youth overcomes and avoids the brain damage and debilitating illnesses caused by malnutrition. Thus the Nutrition Improvement Project and the Rural Education Sector Program will complement each other in the Mission's overall rural development effort.

The Rural Health Sector Loan for \$6.0 million will aim at improving health administration and expanding and developing improved health delivery systems for the

rural poor. While this Sector Program will aim at improving both preventive and curative services in rural areas, the Nutrition Improvement Project will complement this effort, however, without overburdening the Rural Health Sector Program with large new nutrition planning, research and improvement activities that have traditionally been outside the scope of Nicaraguan health programs and that overlap into other sectors. Thus, separate, but closely coordinated Rural Health and Nutrition efforts appear both desirable and necessary at this stage of project development. (See Issue No. 1 for additional details).

### VIII. FEASIBILITY

The overall structure of the proposed Loan Project is outlined in this IRR and is based on surveys and recommendations made by the Mission's TDY Nutrition Planning Specialist. An evaluation of Nicaraguan nutrition problems and requirements was made and nutrition improvement activities recommended based on successful undertakings in other countries. While in preliminary terms the project is judged technically feasible, the Mission recognizes that this preliminary survey has only established a basic framework for a nutrition improvement program, and that additional planning and analysis are required during Intensive Review. This additional work will be closely coordinated with the Institute of Nutrition of Central America and Panama and it is expected that INCAP technical resources and assistance will be utilized throughout the Intensive Review. Therefore, to determine final feasibility, it is expected that the following analyses or studies will be performed.

Nutrition Policy Formulation: During Intensive Review a National Food and Nutrition Policy will be developed for Nicaragua with supporting analysis. In order to carry out this policy formulation the previous INCAP studies on nutrition levels in Nicaragua will be updated. Experienced Nutrition Planners will work with the GON in developing its NFNP.

Program Design and Development: Based on the NFNP, individual nutrition improvement activities will be recommended and designed as currently shown in the Project Description and further analysis and feasibility studies performed as necessary. The likelihood of public acceptance in Nicaragua of alternative special weaning and fortified foods for rural women and young children will be confirmed by surveys. Preliminary indications from a survey conducted by NABISCO in Nicaragua are that consumers accept the concept of high protein fortified foods but are not willing or cannot afford to pay the premium price for the added nutrition. Hence, a possible subsidy

program to absorb the costs of fortification will be investigated during the development of the NFNP.

Success in improving health by use of fortified foods has been documented in many cases (e.g. reduction of endemic goiter in Guatemala from 38% to 5% of the population following a salt iodization program) and food fortification technologies have been successfully implemented in other countries (Vitamin A in sugar, salt iodization, fortification of tortilla and bread flour, etc.). However, some country-specific studies for Nicaragua and further investigations of the dietary patterns of the target population will be necessary during Intensive Review. The experience of local Nicaraguan industries in developing and marketing fortified foods will likewise be further investigated.

In addition, the GON has expressed enthusiastic support for an AID/W (TA/N) proposed test of mass media nutrition application in Nicaragua. The Mission is hopeful that Nicaragua will be selected for this testing so that results may be introduced into the design of the mass-media program proposed for this project.

Institutional Analysis: A detailed institutional analysis of the NNC, its staff unit and organizational alternatives will be carried out during Intensive Review. Specific emphasis will focus on administrative requirements and capacity for planning and project design, food research, fortification, distribution programs and mass education efforts. The availability of qualified personnel to implement the NFNP will be assessed.

Evaluation Procedures: An evaluation plan for the NFNP and the A.I.D. loan will be developed during Intensive Review and it is expected that funding for evaluations will be provided through the research and special studies element of the Loan. TDY personnel from AID/W will be requested to assist with this element of the CAP.

Macroeconomic Analysis: The financial capacity of the GON to support the NFNP will be investigated during Intensive Review as well as national agricultural policies to provide incentives for production of sufficient and appropriate food crops.

## IX. SPECIAL CONSIDERATIONS

Environmental Statement: No adverse environmental considerations are expected in this project. A detailed environmental statement will be provided for the CAP.

Women impact Statement: The proposed Loan will have a significant impact in improving the health and nutrition of pregnant and lactating women. As the program improves nutrition among children, the mother's anxiety over the health of her children should diminish and a lowering of the incidence of malnutrition-related sickness would free the mother from the taxing labor of intensive care of the child. Finally, of course, half of the children beneficiaries of the program will be female, and these will have, with improved health and mental development, a greater chance to participate in economic development.

#### X. OTHER INTERNATIONAL DONOR AGENCY PARTICIPATION

The Catholic Relief Services (CRS) and CARITAS of Nicaragua, are carrying out a food program in Nicaragua in coordination with the Ministries of Education and Public Health to provide foods for School Lunch and Maternal Child Health programs respectively. Most of the foods used by CRS/CARITAS in Nicaragua have been supplied by the United States under Title II of Public Law 480. CARITAS also operates other Nutritional and Food-for-Work programs.

CARITAS now is also carrying out a concentrated program of health and nutrition education for its personnel and selected community leaders throughout Nicaragua. The program will involve some 200 to 300 Nicaraguans in seminars and short courses and extends over a nine-month period during 1974/75. This effort is due to the research studies conducted by INCAP and CRS/CARITAS in Nicaragua and is directed toward combating malnutrition. Some US\$25,000 of the US\$100,000 necessary to carry out this program was provided by the Interamerican Foundation, but most of the expenses will be covered by CRS and CARITAS themselves.

The World Food Program is carrying out two Food-for-Work type projects in Nicaragua. The oldest of these is a Forestry Development Project in the Northeastern area of the country with some 25 Miskitos Indian Communities spread over 60,000 hectares. The project, which began in early 1972, is receiving some \$1,000,000 in food commodities (4,106 metric tons plus freight) provided by the United Nations World Food Program over a five year period. The other project is designed to develop the production of basic grains. This activity is being carried out among some 11,500 small farmers over a two year period using about 3,700 metric tons of food commodities supplied by the World Food Program valued at about \$1,000,000.

Additional international donor agency participation, particularly in the technical assistance elements of this project, will be further investigated during Intensive Review.

## XI. ISSUES

Why a Separate Nutrition Improvement Loan Project?: As noted in the Background Section of this IRR, the Mission is currently developing a new rural development program that will include rural sector loans for agriculture, health and education in addition to the nutrition project proposed herein. Thus, the question arises, why this nutrition effort cannot be included in one of these larger sector efforts? While each of the three Sector Programs will impact on various aspects of the nutrition problem, or be complemented by the Nutrition Project itself, the main thrust of the nutrition effort could not be easily folded into one of the existing Sector Programs. The Nutrition Project will involve activities that are either outside the scope of these sector programs, overlap various sectors, or could overburden an existing Sector Program and its implementing structure, thus weakening both the nutrition effort and the Sector Program.

While the new Agricultural Research Institute (INTA), the Ministry of Health and the Ministry of Education could and may undertake various nutrition improvement activities proposed in the NFNP, none of these organizations alone, as currently structured, have either the experience or existing capability to carry out the proposed project. In addition, each of these organizations will be undertaking major new development activities that will be absorbing a large part of their time and attention without the addition of new efforts outside the scope of their traditional activities. Since the nutrition problem in Nicaragua requires a strong central policy-making and implementing capability, if progress in this area is to be achieved, distributing the proposed project activities among various GON organizations would, the Mission believes, weaken the nutrition effort in Nicaragua. Thus, the NNC concept described in this IRR, supported by a separate A.I.D. Loan, should more effectively encourage the GON to place the highest priority on its nutrition problem while also complementing other A.I.D. assisted sector programs.

GON Capacity to Develop and Implement its NFNP: The GON is faced by a large reconstruction effort and a major new agricultural development program that will absorb large amounts of GON financial, administrative and human resources. Thus, can the GON with only limited professional resources in the field of nutrition,

and limited institutional capability or experience in this area, finance and implement a major new national food and nutrition policy and program?. While this issue will be further investigated during Intensive Review, preliminary discussions with the President of Nicaragua have indicated that the GON is eager to move forward with a NFNP and can and will provide necessary financial support. Indeed, the GON maintains that nutrition improvement programs must be developed if its rural development objectives are to be met. In addition, extensive foreign technical assistance will be provided to assist in developing and implementing the NFNP and a training program initiated to develop Nicaraguan human resources required for the NFNP.

Institutional Structure for the NNC and Its Staff Unit: During the Intensive Review, the issue of whether to create a separate autonomous institution to implement the NFNP or whether to establish the NNC's staff unit in an existing Ministry or other agency will be examined in detail. A hard judgement is required here on the capability of the GON to provide the human resources to staff another autonomous institution, especially since four new autonomous agencies will be created as a result of the Agricultural Sector Assessment. The Mission now anticipates that it will encourage the administrative location of the NNC's staff Unit within an existing agency unless analysis during the Intensive Review should indicate that a new National Nutrition Institute is the only way to proceed.

A.I.D. Loan or Grant Financing of the Project: While preliminary discussions with the GON indicate that they will require A.I.D. financial assistance with this project, a question exists as to the appropriateness of loan financing for all elements proposed for A.I.D. assistance. While no clear-cut criteria presently exist for determining whether a given activity should be financed by loan or by grant funds, given the large financial burdens that the GON will have with the very important reconstruction and rural development efforts, the Mission believes that grant-funding for technical assistance expenses, training and research may be both feasible and desirable. In addition to the financial burden involved, the need for early and fairly intensive technical assistance and training for establishing the organizational structure for the NFNP argues strongly for a grant financed technical assistance component in the contemplated project. Since technical assistance and training will almost certainly be necessary before the GON will be able to meet certain of the conditions precedent, likely to be included in the Loan Agreement for this project, the allocation of grant funds for this purpose would greatly facilitate project implemen-

tation and, at the same time, permit the USAID to exercise more control over progress during the important early stages of the project.

The Mission therefore recommends that the DAEC consider the concept of a combined loan/grant project package being developed during Intensive Review. We estimate that the grant component would total approximately US\$1.0 million of the US\$3.0 million A.I.D. financing proposed for this project.

## XII. INTENSIVE REVIEW PROCEDURES

The Intensive Review for this project is expected to require the remaining months of CY-1975 during which the analyses and studies shown in the Feasibility Section of this IRR will be carried out. Of particular interest will be GON progress in developing its NFNP and plans for continuing the existing food program after distribution of PL-480 Title II food ends in 1976. It is expected that the GON and the A.I.D. Mission will require regular services of a nutrition planner/programmer throughout CY-1975, in addition to other short-term TDY specialists in food technology and nutrition education. The Mission's Food for Peace Officer, Public Health and Education Advisors, Program Economist and Financial Analyst, Rural Development Division and Capital Development Office will also provide appropriate project development inputs as required.

## XIII. PROJECT COMMITTEE

Joseph Huber	Food for Peace Officer (Project Chairman)
John A. Sanbrailo	Capital Development Officer
Joseph A. Charette	Deputy Capital Development Officer
Charlotte Jones	Program Economist
James Sarn, M.D.	Public Health Officer
Richard Hughes	Rural Development Officer
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January 22, 1975

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ANNEX I

PER CENTAGE DISTRIBUTION OF RURAL AREA FAMILIES BY LEVEL OF  
ADEQUACY OF CALORIE AND NUTRIENT INTAKE

	<u>Less Than</u> <u>25% Adequate</u>	<u>Less Than</u> <u>50% Adequate</u>	<u>Less Than</u> <u>75% Adequate</u>	<u>Less Than</u> <u>100% Adequate</u>
Calories	0	6	28	59
Protein	0	3	20	41
Vitamin A	45	68	81	89
Riboflavin	8	32	56	75
Iron	0	1	7	17
Calcium	2	16	27	40
Thiamine	0	9	26	50
Niacin	1	16	47	73
Ascorbic Acid	30	38	44	49

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\*SOURCE: Nutritional Evaluation of the Population of Central America and Panamá  
(INCAP), 1969, Tables included in Pages 119-122, 124-128.

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