

I. PROJECT IDENTIFICATION

1. PROJECT TITLE <b>Food and Nutrition Technical Services</b>		APPENDIX ATTACHED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <i>8p.</i>	
3. RECIPIENT (specify) <input type="checkbox"/> COUNTRY _____ <input type="checkbox"/> REGIONAL _____ <input checked="" type="checkbox"/> INTERREGIONAL <b>TA Bureau</b>		2. PROJECT NO. (M.O. 1095.2) <b>931-11-560-831</b>	
4. LIFE OF PROJECT BEGINS FY <b>69</b> ENDS FY <b>78</b>		5. SUBMISSION <input type="checkbox"/> ORIGINAL <input checked="" type="checkbox"/> REV. NO. (3) <b>9/20/75</b> CONTR. PASA NO. <b>1-74</b>	

II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS

A FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMOD- ITIES \$	F. OTHER COSTS \$ 1/	G. PASA/CONTR.		H. LOCAL EXCHANGE CURRENCY RATE: \$ US _____ (U.S. OWNED)		
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$	(2) MM	(1) U.S. GRANT LOAN	(2) COOP COUNTRY (A) JOINT (B) BUDGET	
1. PRIOR THRU ACTUAL FY	1,839	1,839	240				0	1,839	240			
2. OPN FY	76	700	640	82			60	700	82			
3. BUDGET FY	1Q	140	140	3			0	140	3			
4. BUDGET +1 FY	77	725	650	84			75	725	84			
5. BUDGET +2 FY	78	725	665	84			60	725	84			
6. BUDGET +3 FY												
7. ALL SUBJ. FY												
8. GRAND TOTAL	4,129	3,934	493				195	4,129	493			

9. OTHER DONOR CONTR. BUTIONS

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT

III. ORIGINATING OFFICE CLEARANCE

1. DRAFT <i>Amy Pound</i> TA/N: Amy Pound/ P. R. Crowley <i>app for</i>	TITLE Int'l Coop. Spec/Research Chemist	DATE 5/20/75
2. CLEARANCE OFFICER TA/N: Irwin Hornstein <i>I. Hornstein</i>	TITLE Deputy Director	DATE 5/20/75

IV. PROJECT AUTHORIZATION

1. CONDITIONS OF APPROVAL

This project was reviewed and endorsed by the Research and Development Committee at its September 16, 1975 meeting.

Reference: RSSA 1-74 USDA/ERS  
 \*Prior year funds through FY 75 - \$1,839,000.

2. CLEARANCES

BUR OFF.	SIGNATURE	DATE	BUR OFF.	SIGNATURE	DATE
AFR/DP	Frank Moore (phone) <i>ECM</i>	9/23/75	PPC/DPRE	Ronald Bobel (phone) <i>ECM</i>	10/22/75
NESA/TECH	James Dalton (phone) <i>ECM</i>	9/23/75	TA/PPU	Evelyn C. McLeod <i>ECM</i>	9/23/75
			TA/PPU	John N. Gunning <i>ECM</i>	10/23/75
LA/DR	Norma Parker (phone) <i>ECM</i>	9/23/75	TA/PPU	Carl R. Frazz <i>ECM</i>	10/23/75

3. APPROVAL A/AS OR OFFICE DIRECTORS

SIGNATURE Kenneth Levick <i>Kenneth Levick</i>	DATE 10/24/75	SIGNATURE John C. Murphy <i>John C. Murphy</i>	DATE 11/10/75
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4. APPROVAL A/AID (See M.O. 1025.1 VI C)

SIGNATURE John C. Murphy <i>John C. Murphy</i>	DATE 11/10/75
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Acting Assistant Administrator, AA/TA      Deputy Administrator, A/AID

## Introduction

This document amends the existing PROP for Food and Nutrition Technical Services, and extends this activity through Fiscal Year 1978.

Improvement in the nutritional status of the citizens of developing countries is a high priority objective of AID. An essential part of the Agency's approach to attain this goal is to increase the protein and other nutrients available to vulnerable groups such as infants. Increasing the availability of inexpensive nutritious food staples and processed foods has been identified as a key factor that could contribute to overcoming the nutrient deficiencies in these target groups. Competence in food technology and agricultural economics is required to effectively develop programs to increase the availability and utilization of these low cost nutritious foods. Strong competence in these areas is found in the Nutrition and Agribusiness Group of USDA's Economic Research Service (ERS) and AID has utilized the guidance and assistance of ERS in the generation of required programs.

The Nutrition and Agribusiness Group applies its technological and economic capabilities (1) to backstop Mission and TAB projects currently underway; (2) help develop new programs and (3) undertake special assignments. Major activities are concerned with assisting in the development of programs to define the technical, economic and logistic parameters of fortifying food staples both in commodity and processed forms and assisting industry in producing and determining the commercial feasibility of marketing inexpensive nutritious foods in developing countries. Examples of specific activities include (1) assisting in

the organization of a wheat fortification workshop in Tunisia; development of whey/soy drink mix (WSDM) an inexpensive milk replacement product now being distributed in LDCs through Food For Peace; establishment of a project in Korea for the test marketing of a soy fortified wheat bread; assisting LDCs develop indigenous foods to supplement or replace imported donation foods and helping develop and introduce culturally acceptable weaning foods that will reach preschool children in low income families; and promoting the utilization of inexpensive technology for processing soy and soy/cereal mixtures at the village level in LDCs.

As a result of this AID funded activity, the concept that food fortification provides a significant approach for alleviating malnutrition in LDCs has gained wide acceptance.

Plans have been made for ERS to continue to provide technological and economic backstopping to TA/N and Mission activities.

A. Statement of Project Goal

1. The Goal

This activity supports the general AID nutrition goal to increase utilization of nutritious foods in developing countries through the application of food technology and related disciplines. The basic strategy for achievement of this goal is to develop, test and demonstrate approaches which can be used by LDCs to increase such utilization.

2. Measurement of Goal Achievement

A significant increase in the emphasis developing nations put on making nutritious foods available to their populations as evidenced by 5-10 LDCs being actively engaged in providing new nutritious foods to their populations.

3. Assumptions of Goal Achievement

Greater utilization of nutritious foods by LDCs is technologically and economically feasible.

LDC governments and private organizations will be responsive to efforts to effect such change.

B. Statement of Project Purpose

1. The purpose is to apply food technology, food marketing, and related disciplines to improve the nutritional status in LDCs, especially through the development and introduction of low-cost nutritious foods. This activity extends the technical capability of the Office of Nutrition to accomplish the purpose by utilizing resources of USDA to

provide assistance to the Office of Nutrition, to the Missions and to developing countries.

2. End of Project Status

Several approaches to the provision of low-cost nutritious foods will have progressed to the point of incorporation in mass programs in the LDCs. (Continued on p. 4a).

3. Assumptions

Specific approaches can be identified and/or developed which have the capability of alleviating problems of providing nutritious foods in LDCs.

C. Project Outputs

1. Outputs

- a. Concepts for making available nutritious foods and for creation of new improved foods.
- b. Pilot programs to demonstrate feasibility and impact.
- c. Operational scale manufacture and distribution of inexpensive nutritionally improved foods.
- d. Analyses and workshops to improve information relating to nutrition interventions.
- e. Promotion of coordination, or joint effort, with agriculture and other delivery systems.

2. Output Indicators

Indicators of project outputs will be:

- a. Several different food concepts or approaches accepted by Missions and LDC governments.
- b. Several concepts undergoing pilot testing.

End of Project (Cont'd from p. 4)

Note: This is a technical assistance project designed to assist LDCs, regional bureaus, USAIDs upon request to: (1) identify and advise on specific problems pertaining to food science and food technology; and (2) assist in design of projects to attain the conditions described under A. 2 above. Short term services, and the maintenance of a response capability, are funded under this project. Longer term services to implement recommendations resulting from TDYs would be justified and funded as separate projects, usually funded under bilateral programs.

The project is approved for three year periods. Annual appraisals are made of the performance of the RSSA technicians and a review of project relevance/importance every three years.

- c. Several products being manufactured or distributed on operational-scale.
- d. Initial reports on nutrition intervention issued and further analysis or testing initiated where appropriate.

3. Assumptions

General approaches identified for providing low-cost nutritious foods can be translated into a form(s) sufficiently practical to permit implementation in terms of both technology and cost.

D. Project Inputs

1. Inputs

- a. The staff of the Nutrition and Agribusiness Group of the Economic Research Service, USDA. The staff provides expertise in the technology, economics and implementation of developing, testing and evaluating approaches to the provision of low-cost nutritious foods. Members of this staff have experience in both the nature of the food problems faced in developing country settings and the types of technical solutions available for overcoming these problems.
- b. The expertise of other offices of the Department of Agriculture, e. g., the Agricultural Research Service and the Agricultural Marketing Service.
- c. Additional expertise and resources made available through consultants and contracts, to provide further assistance or conduct research and/or development under the guidance of the Nutrition Group personnel.

d. Input Indicators

(a) Manpower

- (1) Director/Research Chemist. Overall responsibility and technical specialist on food processing and fortification

and development of new foods. Assists in the development and implementation of projects and activities in the above areas of expertise. Assists in the monitoring of TA/N research projects in the food technology area.

- (2) Food Technologists (2) Broad support responsibilities of all the food and technical services particularly (1) cereal technology--fortification of wheat, rice, corn and (2) foods for pre-school children especially weaning foods.
  - (3) Market Economist. Advice on marketing new food commodities.
- (b) Several man-months of expertise from other offices such as the Agricultural Research Service (including the USDA Regional Laboratories) and the Agricultural Marketing Service. In addition, within the Economic Research Service, there is available expertise besides that of the Nutrition and Agribusiness Group.
- (c) Consultant visits and contract expertise assist LDCs, host governments and private industry.

2. Implementation Schedule

Implementation is discussed below under F. Course of Action.

3. Assumptions

- a. Continuing availability of USDA staff with combination of LDC experience and technical skills required to develop and implement effective tests and other food technology.
- b. Availability of consultant and contract personnel with requisite technical qualifications.

ESTIMATED BUDGET

" Food and Technical Services "

TA/N

The resources required for implementation of the course of action described is as follows:

			<u>FY 76</u>		<u>I.Q.</u>	<u>FY 77</u>	<u>FY 78</u>
<b>Salaries 1/</b>							
	<u>Grade</u>	<u>72 MM</u>	<u>143,100</u>	<u>18 MM</u>	<u>37,100 1/</u>	<u>148,400</u>	<u>152,500</u>
1-Research Chemist	GS-15	12 MM	33,000	3 MM	8,500	34,000	35,000
2-Food Technologists	GS-14	24 MM	62,000	6 MM	16,125	64,500	66,000
1-Market Economist	GS-14	12 MM	28,000	3 MM	7,250	29,000	30,000
1-Secretary	GS-5	12 MM	9,400	3 MM	2,425	9,700	10,000
1-Secretary	GS-6	12 MM	10,700	3 MM	2,800	11,200	11,500
<b>Benefits (8.5%) 1/</b>			12,164		3,153 1/	12,614	12,963
<b>Travel (Domestic &amp; Overseas) 1/</b>			36,000		10,000 1/	40,000	44,000
<b>Transportation of HHE 1/</b>			3,500		0	1,500	-0-
<b>Printing &amp; Reproduction 1/</b>			3,500		500 1/	4,000	4,000
<b>Security Clearances 1/</b>			750		0	750	750
<b>(a) Special Activities Under RSSA 2/</b>			330,000		55,000 2/	350,000	375,000
Improvement of Nutrition Food Staples			55,000		10,000	50,000	25,000
Utilization of Processed Foods			125,000		30,000	125,000	125,000
Food Distribution Approaches			150,000		15,000	175,000	225,000
<b>(b) General contracts in support of RSSA activities 2/</b>			30,000		5,160 2/	40,000	15,000
<b>General Contingency 2/</b>			25,000			25,000	20,000
<b>Equipment 1/</b>			750		0	500	750

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Overhead	<u>55,236</u>	<u>19,087</u>	<u>37,236</u>	<u>40,037</u>
Subtotal for RSSA	640,000	130,000	660,000	665,000
Direct Contracting Overseas <u>3/</u>	<u>60,000</u>	<u>10,000</u>	<u>75,000</u>	<u>60,000</u>
TOTALS	\$700,000	\$140,000	\$725,000	\$725,000

Overhead: 1/ Regular 25%

2/ Contracts 5-15%(varies on total amount of each contract).

3/ Includes funds local contracts in developing nations. These funds will be expended by AID directly as part of the activities to be accomplished under this project in FY 76 - 78. A limited amount of commodities will be required to accomplish the purpose of the contracts.

E. Rationale

A need exists to take advantage of food technology as an important means of assisting LDCs to provide low-cost nutritious foods to their populations and other means such as minimizing waste through improved methods of storage and preservation. This is particularly important as AID Missions and contract staff work toward translating general nutrition plans into concrete courses of action.

Experience to date indicates that to meet this need more is required than simply a technology transfer. Rather the problems faced by the developing countries in the food area are such that adaption and innovation drawing on food technology principles is very often critical.

What is needed for success is a multi-step process. First, the true nature of the problem must be identified. Second, it must be broken into manageable elements. Third, technical concepts must be developed to solve the problem. And fourth, based on these concepts, specific technical solutions must be fashioned and applied.

The Office of Nutrition has determined that the most effective way to execute these types of steps was to utilize<sup>and to continue</sup> the services of a group in the Department of Agriculture which could bring to bear, either directly or indirectly through contracts administered by USDA, the several levels of expertise needed to deal with the problems involved.

The soundness of using USDA to achieve the purposes of this activity has been strongly confirmed by the accomplishments which have resulted. To date these accomplishments have included:

1. The introduction of the concept that fortification of food staples with proteins, amino acids, vitamins, and minerals can provide a

significant approach for alleviating malnutrition has gained important acceptance. Pilot programs for protein and amino acid fortification of food staples are in progress in Guatemala, Thailand and Tunisia. Serious consideration is being given in Pakistan to implementation of tea fortification with vitamin A on a mass scale.

2. The concept of providing financial incentives to the private sector as a means of encouraging them to develop and introduce low-cost nutritious foods was initiated<sup>in 1966 by the Agency.</sup>. One incentive grant program has involved the U.S. private sector; another will be with the private sector of the LDCs.
3. A program was initiated<sup>in December 1974</sup>/to test and demonstrate the practicality of encouraging LDC bakeries to fortify bread with soy flour and vitamins and minerals. A first demonstration has been started<sup>early in 1975</sup>/involving a large LDC baking company in Korea and a second is anticipated.
4. A Whey Soy Drink Mix (WSDM) was developed<sup>in the spring of 1973</sup>/and introduced into the Title II food distribution program to use as a supplement in feeding the pre-school children.
5. A low-cost extrusion cooker for use in LDCs was evaluated<sup>in 1974</sup>/in its use for extrusion-cooked foods especially grain products which appear to have potential on low-cost nutritionally improved foods and food ingredients in leavened bread, infant and weaning foods, and blended food mixtures. Cookers are presently being tested in India, Guatemala, Kenya, and Indonesia and a program for a more extensive testing and consideration of the approach has been initiated.

in 1974

6. A plan has been developed/for assisting LDC governments having need and interest in replacing or supplementing U.S. Title II foods with foods produced with their own resources, and an initial test of the plan is scheduled to be undertaken early in 1975.
7. In addition to the activities described above, the Nutrition and Agribusiness Group Staff has provided a continuing flow of important technical advisory assistance which has significantly extended the capabilities of the Office of Nutrition. This assistance has included technical monitoring and review of centrally funded research projects, organization and implementation of workshops and review panels, assistance in the development of TA/N funded projects, and a range of advisory assistance to Missions and international agencies.

F. Course of Action

1. Description

This amendment to the current PROP authorizes the USDA Group to continue as a technical arm of the Office of Nutrition during the FY 76-78 year period.

During this period, their activities may be summarized as falling into the following categories:

1. Providing advice and guidance on food technology and related disciplines and especially making available low-cost nutritious foods and creation of new improved low-cost foods, to AID, developing nations (governmental and private industry), and international agencies.
2. Monitoring on-going projects and assisting in the formulation of new programs.

3. **Furnishing technical inputs with respect to the technology and economics of food approaches, program development, and evaluations including assessments of market feasibility of nutritious foods.**
4. **Assisting in organizing seminars and workshops, providing analyses, improving information relating to nutrition interventions. Responding to inquiries and undertaking short term assignments.**

The categories of activity described above will be directed toward two main thrusts: First, as noted, in paragraph E-7 above, as the food technology arm of the Office of Nutrition, the Group will perform continuing ad hoc services for the backstopping and review of centrally funded and Regional Bureau/Mission activities of various types. Second, the Group will continue with the development of work as cited above with emphasis on implementation or initiatives in main problem areas. These are (1) improvement of staples; (2) utilization of processed foods; and (3) food distribution approaches. A summary of plans under each area to be undertaken by the core group under auspices of TA/N as follows:

1. Improvement of Nutritional Food Staples

This activity started in FY 1974 for a duration of 2 years. It is scheduled to continue for two additional years (FY 76 and 77). The feasibility of fortifying bread with protein, vitamins, and minerals to overcome nutritional deficiencies in countries where bread is the main staple will be demonstrated. The RSSA technicians will work with an American Association of Cereal Chemists Committee set up to cooperate with AID and USDA, an AID-funded Kansas State University project working on nutritionally improved cereal products, and other contract personnel

approved by AID. Pilot projects will be planned in at least two countries dealing with fortified bread. One of these is underway with the Sam Lip Company, Korea. The end-product is intended to be bakery operations in LDCs for producing nutritionally improved bread on a self-sustaining basis. This activity will also encompass activities to reduce dietary deficiencies through fortification of corn, rice, and other cereals with protein and micronutrients such as iron and vitamin A.

2. Utilization of Processed Foods

Building on experience to date, including the programs with commercial companies described in the preceding section (E.2.), a variety of approaches will be tested. A major thrust of this activity will be the development of an approach to the provision of weaning foods. Lack of culturally and nutritionally suitable low-cost supplementary foods and lack of proper weaning practices leads to poor nutrition and corresponding high morbidity and mortality among infants and pre-school children. This activity will identify methods of producing and introducing appropriate weaning foods which will meet the nutritional requirements and satisfy cultural practices of less developed countries. Several different sites will be used to undertake this activity due to varying cultural practices. A variety of experience will be drawn on in implementation of this activity, including U.S. private sector expertise.

3. Food Distribution Approaches

This activity has included introduction of a new Whey Soy Drink product into the Title II distribution program and has involved the

development of plans to assist LDCs to use indigenous resources for distribution programs.

G. Evaluation

This project will be reviewed annually by TA/N with participation by technical representation of the regional bureaus. In addition, a special review will be conducted after 27 months of operation under this RSSA. The special review committee will include but not limited, to, representatives from TA/N, TA/PPU and AID geographic bureaus and outside consultants. The results of this review will provide guidance for future funding or termination of the RSSA at the end of the third year.

H. Approval Process

Approval of activities is by TA/N. Activities under this project are jointly developed by TA/N and the Nutrition and Agri-business Group in response to TA/N requests. These requests are initiated in support of the Agency's Nutrition Strategy and in response to specific requests from the Regional Bureaus, TAB, FFP, USAIDs, LDCs, and international agencies.

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ACTION MEMORANDUM FOR THE DEPUTY ADMINISTRATOR

THRU: ES

FROM: AA/PPC, *A. Shah*  
Philip Birnbaum

SUBJ: Food and Nutrition Technical Services Project Proposal  
(PROP) Revision 3

Problem: To approve the "Food and Nutrition Technical Services" project for three additional years, FY 76 through FY 78, at a total funding level of \$2.3 million.

Discussion: This Technical Assistance Bureau (TAB) activity is designed to apply food technology, food marketing, and related disciplines to improve the nutritional status in the LDCs, especially through the development and introduction of low cost nutritious foods. Increasing the availability of low cost nutritious foods in LDCs is one of the Agency's key problem areas.

Since this activity was initiated in FY 1969, the USDA Agribusiness Group has provided the following technical services to TAB, the regional bureaus and missions:

1. technical backstopping to USAIDs and TAB food fortification projects currently in operation or under development and assistance in the development of new projects;
2. evaluating and monitoring AID-financed high protein projects to promote the development, commercial marketing, and production of inexpensive nutritious foods;
3. consultation to encourage the upgrading of training and practice of food technology and science in developing countries; and
4. performing ad hoc special assignments related to improved nutrition and the development of low-cost nutritious foods including fortified foods and blended supplementary foods.

The proposed PROP revision is for the extension of the field service and applied research activity for three additional years, FY 76 through FY 78. The USDA Nutrition and Agribusiness group, through a Resource Support Services Agreement (RSSA), will continue to provide the technical support to TAB to accomplish the project purpose. The

soundness of utilizing USDA has strongly been confirmed by the accomplishments which have resulted to date. Some of these accomplishments have included: (1) the initiation of pilot studies to commercialize use of soy/wheat flours in LDCs; (2) the fortification of corn, rice and other cereals with protein and micro-nutrients such as iron and Vitamin A; and (3) the introduction of a new Whey Soy Drink product into the Title II distribution program.

The proposal for the extension of the project was discussed at the Research and Development Committee Meeting on September 16, 1975. The representatives of each of the regional bureaus expressed strong support for the project, citing USDA's expertise, their good relations with both Missions and LDC governments, and their ability to respond quickly to any request.

Funds for this project are included in the "Low Cost Nutritious Food" Grant Activity Data Sheet, p. 31 of the FY 76 CP Interregional Book.

Utilization and Evaluation: The standard TA Bureau policy calls for approval of field support projects for a three year period after review and favorable recommendation by the Research and Development Committee. Although the burden of proof at the end of the three year period rests with the proponents of an extension, a termination date normally is not assigned to the project unless/until a three year review determines that it should be phased out. This procedure highlights that this is a "level of effort" activity which use is largely determined by external regional bureaus' and TAB's needs rather than one with outputs specified in advance.

In addition to the three year review, an annual appraisal of the activity is made by a committee including technical representatives of the regional bureaus which ascertains whether the contract continues to be relevant, if the level of funding corresponds to demands and if advice provided has been both relevant and utilized by the regional bureaus, Missions and LDCs.

Recommendation: That you approve the attached "Food and Nutrition Technical Services" PROP revision 3 by signing it at TAB A

Clearance:

GC, WWarren	<u>W. Warren</u>	Date	<u>11/3/75</u>
GC/TF&HA, ARRichstein	<u>Richstein</u>	Date	<u>11/24/75</u>
AA/TA, CFarrar	<u>Farrar (Acting)</u>	Date	<u>10/24/75</u>

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TA/PPU:EMCLeod:lw:10/23/75