

memorandum

DATE: October 29, 1979

REPLY TO
ATTN OF: Doris Mason, AFR/DR/SFWAP

SUBJECT: CRS Benin Soya Nutrition OPG (680-0207)

FILE

TO: See Distribution

The subject OPG was authorized in September, 1979 with a Condition Precedent to first disbursement of funds that CRS provide a supplement to A.I.D. for approval covering issues raised by the Project Committee. CRS has submitted a supplement which is scheduled for review by the Project Committee on Thursday, November 8, at 10:00 a.m. in Room 2248 NS.

Please find attached for your review a copy of this supplement, the project review memo summarizing points raised by the Committee and a waiver request for vehicle procurement.

Attachments: a/s

Distribution:

AFR/DR/SFWAP: JRMcCabe
 AFR/CWA: B. Lane
 SER/COM: P. Hagan
 GC/AFR: J. Patterson
 L AFR/DR/ENR: J. Morgan
 AFR/EA: D. Parker
 AFR/DR/HN: A. Braunstein
 AFR/DR/EHR: M. Shaw
 SER/CM/ROD: R. Cohn

Cancelled

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

September 5, 1979

AFR/DR/SFWAP, Jonathan R. McCabe

Project Review Meeting - CRS Benin
Soya Nutrition OPG No. 680-0207

AFR/DR, John W. Koehring

1. A Project Review meeting was held from 2:00 to 3:45 p.m. on August 31, 1979, for the subject OPG.
2. The Project Review concluded that the proposal should be recommended to the AA/AFR for authorization without an ECPR meeting. The rationale for this conclusion is that there were no project issues which could not be resolved at the Project Committee level.
3. The project proposes to reduce malnutrition within the People's Republic of Benin by promoting the production and consumption of soya as an affordable, nutritional protein component for the rural poor. The A.I.D. L.O.P. contribution is \$321,000 with an initial FY 79 obligation of \$195,000.
4. The following concerns were raised during the Project Review. CRS has agreed to address these matters as a supplement to the proposal. It is proposed that project authorization proceed with A.I.D. review and approval of this supplement as a Condition Precedent to the first disbursement of funds.
 - A. The Committee felt that the extent of the educational campaign required for project success was not clearly recognized in the proposal. In addition, the project outputs seemed somewhat optimistic. The Committee, however, felt these concerns would surface early during project implementation and that CRS should be allowed the latitude to identify and address them at that time. In view of these concerns, and to insure that A.I.D. share in lessons learned through this project, it was recommended that A.I.D. participate in the design and implementation of the project evaluation.
 - B. A procurement plan is required as well as some indication that CRS has the capability to handle the procurement.

- C. There needs to be a more detailed discussion on how coordination of the various implementing ministries is to be facilitated through the Inter-Ministerial council identified in the proposal.
 - D. The discussion in the proposal on institutionalization should be expanded to indicate how the project activities will be continued after A.I.D. Funding has ended.
 - E. A more detailed training plan is needed.
 - F. Data collected under the acceptability tests conducted by CRS should be attached to the supplement.
 - G. More specific information with respect to women's involvement and the impact upon women should be provided.
5. The review of the proposal was chaired by Jonathan R. McCabe. Those participating were:

AFR/CWA, Melissa Cadet
AFR/CWA, Formino Spencer
SER/COM, Cynthia Torres
AFR/DR/SDP, Jack Nixon
GC/AFR, Jerome Patterson
AFR/DR/ENGR, Jack Morgan
AFR/HA, Don Parker
AFR/DR/HN, Art Braunstein
REDSO/WA, Sidney Chambers
AFR/DR/SFWAP, Doris Mason.

Those officers invited but not represented in the meeting were:

AFR/DR/EHR, M. Shaw (comments submitted during
Project Committee meeting)
AFR/DP
SER/CM/ROD

Approved _____

Disapproved _____

Date _____

Clearance:

AFR/DR:NCohen

AFR/DR/SFWAP:DMason:dmb



CATHOLIC RELIEF SERVICES

UNITED STATES CATHOLIC CONFERENCE

1011 First Avenue, New York, N. Y. 10022

Most Rev. Edwin B. Broderick, D.D.
Executive Director

Rev. Msgr. Andrew P. Landi
Assistant Executive Director

Jean J. Chenard
Senior Director of Operations

Telephone: (212) 838-4700

Cable: CATHWEL New Yo

Telexes: 224241 and 6672

September 21, 1979

Miss Doris Mason
Project Officer
AFR/DR/SFWAP
Room 2645 N.S.
Agency for International Development
Department of State
Washington, D.C. 20523

RE: Benin Soja Project

Dear Miss Mason:

Enclosed please find a SUPPLEMENT to the Benin Soja Project Proposal as requested by your office. We have endeavored to answer each of the points raised in your letter of September 11th. Our Procurement Plan is being typed and will be submitted shortly.

With reference to the question of vehicles - American vs Peugeots - we have not received an answer to our cabled inquiry of Sept. 12th about the availability, etc. of spare parts and maintenance from AEROFORD in Cotenou.

We hope that this additional information will help to expedite approval of this project.

With kind personal regards, I am

Sincerely yours,

(Rev.) Robert L. Charlebois
Special Assistant

Encl.

SUPPLEMENT INDEX

- 1 - Evaluation of Project
- 2 - Taste Acceptance Tests
- 3 - Education Component
- 4 - Role of Women in Project
- 5 - Coordination with Benin Government Ministries
- 6 - Institutionalization of Project
- 7 - Procurement Plan
- 8 - Revised Budget
(Addendum No.2)



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SUPPLEMENT TO THE BENIN

SOJA NUTRITION OPG PROPOSAL

1 - Evaluation of Project

Catholic Relief Services is agreeable to AID becoming involved with CRS in the design and implementation of the evaluation of the project. (Ref. p.27)

CRS is planning the first evaluation at the end of 18 months.

(Ref. p.26 - Action Schedule) This will be about six months after the first harvest which is dependent on the time of planting.

CRS feels strongly that to conduct an evaluation earlier than this would not permit adequate time for implementation to take place to the extent which would allow evaluation of project goals.

It should be understood that much must happen in sequence before the harvest can be accomplished. The promotional campaign to introduce soja, instructions in blending soja with traditional local foods, testing for acceptance and observation of improved nutrition. It will take at least 4 to 5 months to gear up, buy equipment and get it on site, buy seeds and distribute them. Growing time is three months, after which is the harvest, followed by the promotion of the usages of soja. CRS feels

that too early an evaluation would not tell us whether the goal of improved nutrition had been achieved.

2 - Taste Acceptance Tests

These acceptance tests have been carried out since 1976 when the Government of Benin expressed its interest in developing soja as a nutritional enrichment for the general diet, especially for the rural population. The national agricultural extension service (CARDER), Government Health Facilities, and Private Health Facilities have been fully involved in this process. Table No. 2 of the Attachments entitled LIVE DEMONSTRATIONS details when and where these testings were carried out. Also shown are the numbers of participants who took part in these tasting tests. As will be noted, the tests have taken place over a period of two years and three months with over 6,500 people tested.

Test results will be included in ongoing reports and are integral to the project. However, it can be reasoned that prior successful test conclusions must have been reached, leading to the development of a formal project to introduce soja to the general rural population in Benin.

3 - Education Component

There will be different levels of education carried out for this project. Seminars will be given in-country for various levels of

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.../...

provincial leaders to instruct and promote soja production and use; to which technical experts will be invited such as Father VanNeste. Then, more scientifically directed conferences will be held, with agriculturists and agronomists attending to share their information. Patrice Gnacadja, a Government agronomist and expert on legumes will be involved in these. A basic curriculum is detailed on pages 4 and 5 of the project text.

After the initial training to be given to the project manager, four mobile unit team leaders and several CARDER extension agents, they will receive additional more technical training at IITA in Nigeria. These then will be the core project staff who will supervise the dissemination of the techniques to be applied in the production of soja.

4 - Role of Women in Project

The entire thrust of this project is aimed at the Beninese women. As is the case with most of the ethnic groups in Benin, women have the traditional roles of providing food for the household and the marketing function. In this regard, they do control certain profits from the cash crop and thus serve as co-providers for the family. (see Addendum No.1)

5 - Coordination with Government of Benin Ministries

This project has been developed over the past three years in close collaboration with five ministries of the Government.

of Benin - Ministry of Plan, Ministry of Public Health, Ministry of Rural Development, Ministry of Higher Education, Ministry of Secondary Education.

As described in the project text (ref: pgs.4,5,6,&7) while the components of the project to be executed by CRS are being carried out, these five Ministries will be conducting complementary activities simultaneously. The initial training courses will be given by CRS staff, foreign and Beninese technicians, to selected participants who will include doctors, CARDER agents, senior level agriculturalists, nutritionists from the Ministry of Social Affairs and other ranking national or provincial officials.

The village level conferences will reach village-level workers in the Ministries of Health, Rural Development, Education, Social Affairs, etc.

Much of the effort at promotion of the uses of soja with government staff at the district and village levels will be in the hands of CARDER (National agricultural extension service). CARDER field agents will receive special training in the various aspects of the cultivation of soja.

The Department of Agronomic Research within the Ministry of Higher Education will conduct field trials on varieties of soja

The National Director of School Production within the Ministry of Secondary Education will also conduct field trials at selected high schools in each province - as well as carrying out seed multiplication at a number of other schools. Technical assistance for this activity will be provided by the Department of Agronomic Research.

Finally, the Department of Applied Food and Nutrition (DANA) within the Ministry of Public Health will continue blending and cooking experiments in their laboratories where nutritional analyses will be checked. DANA also will conduct nutrition surveys with controlled experimental groups to determine the effects of soja enriched diets on malnutrition.

6 - Institutionalization of Project

As explained on page 22 of the project text, the methodology for the institutionalization of this project is hopeful, even promising. After three years of careful preparation, thorough testing and research, the possibility is good that the production and uses of soja will have proven both nutritionally and economically advantageous to the general population within the time frame of the project, thereby insuring its widespread acceptability to the target group, the rural poor.

7 - Procurement Plan

A statement of the Procurement Policies and Guidelines of Catholic Relief Services is being assembled from our Procurement Manual and will be submitted separately to AID/Washington.

8 - Revised Budget

A revised budget is attached under Addendum No. 2.

ADDENDUM NO.1 TO SUPPLEMENT

Catholic Relief Services agrees that women should be, and hopefully will be, involved at all stages of the project, e.g. in the planning and implementation as well as profiting from the beneficial impacts of the results.

however, CRS does not believe that it should affect, either coercively or consciously, CARDER's operations or the existing situation within the country.

PROJECT BUDGET

USAID EXPENDITURES	Year 1	Year 2	Year 3	Totals
1. SALARIES (fringe & per diem)	\$82,763	\$84,620	\$87,998	\$255,381
2. VEHICLES (purchase, operation, and maintenance)	70,610	34,728	36,832	142,170
3. EQUIPMENT & SUPPLIES	72,725	23,437	16,128	112,200
4. TRAINING (personnel & siminars)	19,131	20,458	16,679	56,268
5. TECHNICAL EXPERTISE	7,740	10,680	13,040	31,460
6. OFFICE & ADMINSTRATIVE EXPENSES	15,265	25, 765	26,650	67,680
SUBTOTAL	268,234	199,688	197,327	665,249
7. OVERHEAD RATE 7.3%	19,581	14,577	14,404	48,563
8. CONTINGENCY 15%	40,235	29,953	29,599	99,787
TOTAL	328,050	244,218	241,330	813,599

TABLE 1

SUMMARY COST ESTIMATE AND FINANCIAL PLAN

(U.S. 000)

BENIN SOY NUTRITION OPERATIONAL PROGRAM GRANT PROPOSAL

SOURCE	AID		GFRB		TOTAL
	FX	LC	FX	LC	
<u>Personnel</u>					
(1) U.S technicians	60.7 (36PM)	--	--	--	60.7
(2) 3rd Country	20.3 (2.8PM)	--	--	--	20.3
(3) Local	--	202.1 (1750PM)	--	436.8 (1440PM)	638.9
<u>Training</u>					
(1) U.S.	--	--	--	--	--
(2) 3rd Country	22.7 (14PM)	--	--	--	22.7
(3) Local	--	33.4 (189.1PM)	--	--	33.4
<u>Commodities</u>					
(1) U.S.	19.7	--	--	--	19.7
(2) 3rd Country	--	--	--	--	--
(3) Local	--	222.6	--	176.7	399.3
<u>Other Costs</u>					
(1) Office & Admin.	48.2	23.1	--	16.5	87.8
(2) Construction	--	12.0	--	--	12.0
Subtotal	171.6	493.2	--	630.0	1294.8
Overhead Rate (7.3%)	12.52	36.0	--	--	37.52
Contingency	25.7	73.9	--	--	99.6
TOTAL	209.82	603.10	--	630.0	1431.92

TABLE 2

SUMMARY COST ESTIMATE AND FINANCIAL PLAN

(U.S. 000)

BENIN SOY NUTRITION OPERATIONAL PROGRAM GRANT PROPOSAL

AID	1979	1980	1981	TOTALS
PERSONNEL				
US	18.7	20.6	21.0	60.3
3rd Country	4.0	7.0	9.3	20.3
Local	66.7	66.3	69.1	202.1
TRAINING				
US	--	--	--	--
3rd Country	8.4	9.4	4.9	22.7
Local	10.6	11.0	11.7	33.3
COMMODITIES				
US	19.7	--	--	19.7
3rd Country	--	--	--	--
Local	114.6	55.1	52.9	222.6
OTHER				
Office	16.7	27.4	27.2	71.3
Construction	9.0	3.0	--	12.0
SUBTOTAL	268.4	199.8	196.1	664.3
Overhead Rate (7.3%)	19.6	14.6	14.3	48.5
Contingency 15%	40.2	29.9	29.4	99.5
TOTAL	328.2	244.3	239.8	812.3**
GPRB				
PERSONNEL*				
3rd Country	--	--	--	--
Local	145.6	145.6	145.6	436.8
COMMODITIES*				
Local	21.7	21.7	21.7	65.1
OTHER				
Land	37.2	37.2	37.2	111.6
Office	1.8	1.8	1.8	5.4
Lab	3.7	3.7	3.7	11.1

	1979	1980	1981	TOTALS
SUBTOTAL	210.0	210.0	210.0	630.0
GRAND TOTAL	538.2	454.3	449.8	1442.3

* calculated at 6% of totals.

** Discrepancies between table 1 and 2 are due to amounts being rounded off.

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: AFR/DR, John W. Koehring

SUBJECT: Benin Soya Nutrition (680-0207) Waiver Request

REF: (A) Lome 3190 (B) Cotonou 1230

Problem: Your approval is required to execute a source/origin waiver from Geographic Code 000 (U/S. only) to Geographic Code 935 (Special Free World) for the purchase of five vehicles.

- A. Cooperating Country: People's Republic of Benin
- B. Nature of Funding: Grant
- C. Project: Benin Soya Nutrition OPG 680-0207
- D. Description of Goods: Five Vehicles (Pick-up trucks) with spare parts
- E. Approximate Value: \$52,500
- F. Probable Source: France

Discussion: Section 636(1) of the Foreign Assistance Act of 1961, as amended, prohibits A.I.D. from the purchase or long-term lease of motor vehicles unless such vehicles are manufactured in the United States. However, Section 636(1) does provide that "... Where special circumstances exist the President is authorized to waive the provisions of this section in order to carry out the purpose of this Act."

The Benin Soya Nutrition OPG was authorized September 20, 1979. At the time of authorization, the request for a source/origin waiver for purchase of project vehicles was held up pending clarification on local service and spare parts availability for U.S.

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manufactured vehicles. This maintenance capability was thought to be the result of the establishment of a Regional Road Maintenance Training Center (RRMTC) in Lome under the Entente Fund. Per ref. A, the RRMTC provided for, inter alia, the training of mechanic's and electricians. This training was confined to heavy equipment and trucks. Although the training created some automotive mechanical and electrical expertise which can be applied to lighter vehicles, there exist no stock or supply of spare parts for U.S. manufacture vehicles and thus, no service capability in Benin.

The subject project proposes to conduct approximately 500 soya demonstrations throughout the six province of Benin by fielding four mobile teams. To carry out this task, the mobile team units will require vehicles that are appropriate for the extremely difficult road conditions, that can be maintained and serviced adequately, and for which spare parts are readily available locally. There are neither local dealerships nor facilities for spare parts and adequate services for vehicles of U.S. manufacture in Benin. As a consequence, the procurement of American vehicles would impede implementation of this project. The only vehicles for which there are locally available spare parts and which can be repaired and maintained are of non-U.S. manufacture. The French, Italian and Japanese vehicles are well known and widely used throughout Benin. Local mechanics are trained in their maintenance and adequate spare parts as well as maintenance facilities are available throughout the country.

Recommendation: That by your signature below, you find special circumstances exist requiring the waiver of the requirements of

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Section 636(i) and that the exclusion of the procurement of the five non-U.S. manufactured vehicles from Code 935 countries would seriously impede attainment of U.S. foreign policy objectives and the Foreign Assistance program.

Approved: _____

Disapproved: _____

Date: _____

Clearance:

AFR/DR:NCohen _____

AFR/DR/SFWAP:JMcCabe _____

AFR/CWA:FSpencer _____

AFR/CWA:BLane _____

GC/AFR:JPatterson _____

SER/COM:PHagan _____

AFR/DR/SFWAP:DMason:10/24/79

9-10-1979

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR FOR AFRICA

FROM: AFR/DR, ^{JW Koehring} John W. Koehring

SUBJECT: Benin Soya Nutrition Project No. 680-0207

Problem: Your approval is required to execute an Operational Program Grant with Catholic Relief Services (CRS) for the implementation of the Soya Nutrition Project in Benin. The total A.I.D. funding for the three year project is \$822,000. FY 79 funding will be \$195,000 from the Agriculture, Rural Development and Nutrition Appropriation.

Discussion:

1. Project Purpose:

The Project proposes to reduce malnutrition within Benin by promoting the production and consumption of Soya as an affordable nutritional protein component for the rural poor. The project components include: (a) training of local personnel; (b) promotional work through demonstrations; and (c) promotional work through information dissemination.

The average per capita daily caloric intake in Benin is approximately 2,200. Protein/calorie malnutrition is a principal cause of mortality among infants and young children and leads to impaired physical growth (stunting), low work output, premature aging and reduced life span. Recent research has also revealed a link between malnutrition in infancy and early childhood and impaired learning behavior in later life. The widespread occurrence of protein/calorie malnutrition and anemia, especially among infants, pre-school children and expectant mothers, in Benin spells grave danger to the full expression of genetic potential of a large portion of Benin's rural population. The project intends, by means of extensive training and promotional activities, to heighten the awareness and involvement of over 250,000 people to the existence and utility of Soya as a means of improving the nutritional composition of local diets.

2. Conformance to A.I.D. Country Strategy:

The project has been reviewed and endorsed by OAR/Cotonou as falling well within the parameters of A.I.D.'s country strategy for Benin.

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3. Beneficiaries:

Approximately 2,000 civil servants will receive instructions in soya cultivation, promotion techniques and extension activities. The project aims at diffusing knowledge of soya to a major segment of Benin's rural poor. Four mobile teams will be established to conduct demonstrations in approximately 500 schools, pre-school programs and other rural settings throughout the six provinces of Benin. Parents will be encouraged to attend these demonstrations with their children and it is expected that a minimum of 100,000 adults and 50,000 students will benefit from this program. It is also anticipated that at least half of the rural families who will benefit from the soya demonstration program will adopt the recommended package, and, as a result, approximately 50,000 rural farm families or 250,000 people will be impacted. Finally, the production and consumption of soya will ultimately supply the rural and urban families with a high protein food which would be totally at their disposition, with a minimum of transport, price, and distribution constraints.

4. Financial Summary of the Project:

A. A.I.D. appropriated funds will be \$195,000 for FY 79 and \$822,000 for the life of the project.

B. Overall Dollar Breakdown (\$000)*

	<u>First Year</u>	<u>LOP</u>
Commodities	\$ 55.0	\$115.0
Technical Assistance	5.0	36.0
Construction	14.0	14.0
Training	10.0	65.0
Vehicles	69.0	164.0
Salaries (local personnel)	23.0	293.0
Other (overhead, office & administrative expenses)	19.0	135.0
Total	195.0	822.0

C. Host Country Financing (\$000 equivalent):

Personnel	437.0
Other	193.0
Total	630.0

* Includes 15% inflation and contingency factor prorated between line items on a proportional basis.

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5. Socio-Economic, Technical and Environmental Description:

A. The Socio-Economic Acceptability of the Project:

The project is focused on improvement of the nutritional well-being of the rural poor. The results of CRS and GRPB testing over the last three years indicate that soya can be grown at a yield and cost that will make it readily available to the poor majority.

The promotion of soya as a nutritional component will be undertaken in the context of locally consumed dishes. When combined with the local staple cereals, corn, sorghum or millet, soya can serve to enrich the daily diet of the population. Taste acceptability testing conducted by CRS from 1976 through 1978 revealed blends of soya with local cereals proved not only to be palatable to children and adults, but also created a consistency in the enriched local dish "pate" (gruel or mush) which was deemed superior to the local dish made with local flour alone.

The project will not disturb the social structure by changing the traditional division of labor within an ethnic group. No opposition is anticipated to this project since it is assumed that all ethnic groups will be motivated by the likelihood of achieving improved health levels.

B. Implications With Respect to Human Rights:

There are no human rights issues concerning Benin at this time which would preclude authorization of this project.

C. Technical Analysis:

The project has been found to be technically sound. The intent and requirement of 611a of the FAA have been fulfilled.

D. Environmental Analysis:

The IEE recommends a negative determination with no further environmental analysis necessary.

6. Major Conditions and Covenants, Waivers and Implementing Agencies:

A. Conditions Precedent:

In order to authorize this project in FY 79, the Project Review has recommended approval subject to the following Conditions Precedent to first disbursement. CRS is to satisfactorily submit to A.I.D. a supplement to the proposal covering the following points:

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- Modification to the project evaluation plan such that A.I.D. participates in the design and implementation of the evaluation; A.I.D. will thus be able to assist in the development of a nutrition evaluation methodology for the project which would permit the lessons drawn from it to be used world-wide;
- An acceptable procurement plan which includes a discussion of CRS procurement capability and procedures;
- A detailed training plan;
- A plan for institutionalizing activities under the project;
- A plan for coordinating the various ministries during the implementation of the project;
- Specific information with respect to women's involvement and the impact on women of the project;
- Data collected under the taste acceptability tests conducted by CRS.

B. Major Implementing Agencies:

The project will be implemented by CRS/Benin in coordination with the Ministry of Rural Development (MRD). In addition, the MRD will select a national coordinator who will be responsible to an inter-ministerial committee composed of representatives of the Ministry of Plan, the Ministry of Justice and Social Welfare, the Ministry of Education and the Ministry of Rural Development. The committee will convene quarterly for progress reports or whenever it is necessary to resolve any problems affecting all ministries.

C. Congressional Apprisement:

As this project did not appear in the FY 79 Congressional Presentation, Congress was notified through a Congressional Notification. Congressional clearance was effected on March 28, 1979.

D. Committee Action:

The project proposal was reviewed at a meeting held on August 31, 1979, and chaired by Jonathan R. McCabe, AFR/DR/SFWAP. The Project Review recommended approval contingent upon CRS submittal of a supplement addressing concerns raised at the meeting. The Project Review concurs in a recommendation that review and approval of this supplement be a Condition Precedent to initial disbursement of funds. It was further determined that there were no outstanding issues which required attention at the ECPR level.

E. Responsible Officer:

The officer responsible for backstopping the project in AFR/DR will be Mr. L. Ortega. OAR/Benin will monitor the project.

Recommendations:

1. That you sign the attached PAF II and thereby authorize the project.
2. That you concur in a Negative Environmental Determination by your signature on the IEE face sheet.

Drafter: AFR/DR/SFWAP, DMason:fn:9/10/79

Clearances:

AFR/DR:NCohen 
AFR/DR/SFWAP:JRM McCabe 
AFR/CWA:FSpencer (draft)
GC/AFR:JPatterson (draft)
AFR/DP:EDonahue 
AFR/CWA:BLane (draft)
AFR/DR/HN:ABraunstein (draft)
AFR/DR/ARD:NUlsaker (draft)
AFR/DR/ENGR:JMorgan (draft)
AFR/DR/SDP:BBoyd (draft)
AFR/HA:DParker (draft)
AFR/DR/EHR:NShaw (draft)
SER/COM:BViragh (draft)

/s/ W. Haven North 

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PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

Name of Entity: Catholic Relief Services

**Name of Project: Benin
Soy Nutrition Project**

Number of Project: 680-020'

Pursuant to Part I, Chapter I, Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize a grant to Catholic Relief Services ("CRS") of not to exceed One Hundred Ninety Five Thousand United States Dollars (\$195,000.00), the "Authorized Amount", to help in financing certain foreign exchange and local currency costs of goods and services required for the subject project.

The Project strives to reduce malnutrition within Benin by promoting the production and consumption of Soya as an affordable nutritional protein component for the rural poor. The project components include: (a) training of local personnel; (b) promotional work through demonstrations; and (c) promotional work through information dissemination.

I approve the total level of A.I.D. appropriated funding planned for this project of not to exceed Eight Hundred Twenty Two Thousand United States Dollars (\$822,000.00), Grant, including the authorized amount, during the period FY 1979 through FY 1981. I approve further increments during that period of Grant funding up to \$627,000, subject to the availability of funds in accordance with A.I.D. allotment procedures.

I hereby authorize the initiation of negotiation and execution of the Grant by the officer to whom such authority has been delegated in accordance with A.I.D. regulations and Delegations of Authority subject to the following essential terms and covenants and major conditions; together with such other terms and conditions as A.I.D. may deem appropriate:

a. Source and Origin of Goods and Services.

Goods and services, except for ocean shipping, financed by A.I.D. under the project shall have their source and origin in the Cooperating Country (Benin) or in countries included in A.I.D. Geographic Code 941, except as A.I.D. may otherwise agree in writing. Ocean shipping financed under the Grant shall be procured in the U.S. or the Cooperating Country, except as A.I.D. may otherwise agree in writing.

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b. Condition Precedent.

The Grant Agreement shall have a condition precedent to first disbursement providing in substance as follows:

Prior to the first disbursement under the Grant, or to the issuance of documentation by A.I.D. pursuant to which disbursement can be made, the Grantee will, except as the Parties may otherwise agree in writing, furnish the following to A.I.D., in form and substance satisfactory to A.I.D.:

- a modification to the project's evaluation plan providing for A.I.D. participation in the design and implementation of the evaluation;
- a procurement plan which includes a discussion of CRS's procurement capability;
- a detailed training plan;
- a plan for institutionalizing activities under the project;
- a plan for coordinating the various ministries during the implementation of the project;
- specific information with respect to women's involvement and the impact on women of the project;
- data collected under the taste acceptability tests conducted by CRS.

Date: _____


Goler T. Butcher
Assistant Administrator
for Africa

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Project Title: Benin Soya Nutrition OPG Total OPG Request
Project Location: People Republic of Benin
PVO Name and Location: Catholic Relief Services USCC, People Republic
Central Headquarters: New York, N.Y., USA of Benin
Contact Person: Father Charlebois, CRS/New York
Date of Submission to AID: July 2, 1979

A. Project Purpose and Description

1. Project Purpose

The project purpose is to promote the production and the consumption of soja* within the People's Republic of Benin (GRPB) as an affordable nutritional protein component for the rural poor.

2. Target Group of Beneficiaries

This project aims at diffusing knowledge of soja to a major segment of Benin's rural poor. By fielding 4 mobile teams, the project will conduct demonstrations in approximately 500 schools, pre-school programs and other rural settings throughout the six provinces of Benin. Parents will be encouraged to attend these demonstrations with their children and it is expected that a minimum of 100,000 adults and 50,000 students will participate in this program.

We are assuming that at least half of the rural families who will have the benefit of a soja demonstration will adopt the recommended package. Thus the project expects to have a positive impact in terms of better health on 50,000 rural farm families or 250,000 people (50,000 x 5 persons/family).

The minimum participators among these 50,000 rural farm families are poor - as evidenced by the 1976 per capita GNP of \$130.00. In addition to low incomes, their poverty is reflected in: (1) low levels of nutrition caused both by food scarcity in times of bad weather and the perennial lack of a balanced diet; (2) a national life expectancy rate of 41 years; (3) a high incidence of disease and mortality - especially among infants and

* soja: the term soja is used throughout the text for soya or soybeans.

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children; (4) inadequate water supplies and sanitation facilities; and (5) insufficient educational facilities in the rural areas, resulting in a 90% illiteracy rate which assists in the perpetuation of the above factors.

Demonstration campaigns will also be directed at school teachers and older students, young mothers, farmers associations, and national development "cadres" - particularly those in health, education and agriculture, thus including all social groups. By this approach, approximately 15% of the rural farming population will have the benefit of a demonstration of soja's ability and practicability within their present farming and eating habits. The production and consumption of soja will supply the rural, and eventually the urban, family with a high-protein food which will be totally at their disposition, with a minimum of transport, price, and distribution constraints.

3. General Description of the Project

Goal

The goal of this project is to reduce malnutrition within the People's Republic of Benin. Malnutrition is basically a health problem. But whereas health professionals alone are responsible for control on diseases such as smallpox, there is no doubt that the solution to the nutritional problems of Benin will need a team approach. The causes of malnutrition almost always are complex and multifaceted, but basically reflect the quantity of food consumed and the body's ability to utilize it. Cooperation between ministries responsible for health, social welfare, agriculture, rural development and education are important for the success of any broad attack on malnutrition. This project offers such an approach.

Problem

In Benin the average daily caloric intake is around 2,200 calories. Protein/calorie malnutrition is an important cause of mortality among infants and young children. (The infant mortality rate in Benin is approximately 113* and for ages 1-4 is 43.8). Protein/calorie malnutrition leads to impaired physical growth (stunting), low work output, premature aging and reduced life span.

* per 1,000

Recent research has also revealed a link between malnutrition in infancy and early childhood and impaired learning behavior in later life.

In addition to kwashiorkor and marasmus which indicate severe protein/calorie malnutrition, iron deficiency anemia is a serious problem among children and their mothers. The widespread occurrence of protein/calorie malnutrition and anemia specially among infants, pre-school children and expectant and nursing mothers in Benin spells grave danger to the full expression of genetic potential of a large portion of Benin's rural population.

Purpose

Catholic Relief Services-USCC (hereafter referred to as CRS) in collaboration with five ministries (Ministry of Plan, Ministry of Public Health, Ministry of Rural Development, Ministry of Higher Education, Ministry of Secondary Education) proposes a three year project in Benin to promote the production and consumption of soja.

The project intends by means of extensive training and promotional activities to heighten the awareness and involvement of over 250,000 people to the existence and utility of soja as a means of improving the nutritional composition of local diets. The nutritional value of soja lies in its high protein content, which is 38% and is more than triple the protein value of most cereals. The practice of eating soja in combination with cereal foods (i.e. corn, rice, wheat, sorghum or millet) enhances their protein value. The amino acid (protein units) patterns of cereals and legumes such as soja are complementary and when these foods are eaten together, they provide complete protein for body growth and development. Soja also provides valuable protein, iron and vitamins to a diet based on starchy staples such as manioc, yam or plantains. Popular acceptance of soja for cultivation and in food preparation should result in improving the nutritional value of local diets and make for healthier individuals, a precondition for active participation in development activities.

The components of the project that will be executed by CRS consist of three basic elements: 1) training of local personnel, 2) promotional work through demonstrations; and 3) promotional work through information dissemination. Simultaneously, the five ministries will carry out complementary activities as described below.

Training of Local Personnel

The project manager, four mobile unit team leaders and several CARDER (agricultural extension service) agents will be selected by CRS and the GRPB for training. Their training will consist of 1) the nutritional value/effect of present dietary habits; 2) mal-nutrition, its causes, symptoms, effects, treatment and prevention; 3) cultivation, preparation, and consumption of soja; and 4) conservation of seeds for reproduction. This training will be conducted at the beginning of the project under the direction of CRS staff and GRPB technicians. At some point to be determined by CRS, the team leaders will receive additional training at IITA in Nigeria. IITA will provide interpreters.

The training conducted at IITA will cover techniques related to the production of legumes, with special emphasis on soja. The courses will be technical in orientation as well as practical in application. This training will provide the core project staff with experience, vocabulary and a working knowledge of the basic agronomic techniques which will be applied in the production of soja.

The short-term training (conferences and demonstrations) will have a pyramid effect, i.e. CRS staff to provincial to district personnel of the various ministries and finally to the villages.

Provincial Level Conferences

CRS staff, foreign and Beninese technicians will conduct two initial training courses for approximately 180 participants in Benin. The participants will be chosen from the 6 Provinces and will include doctors, senior level agriculturalists, nutritionists from the Ministry of Social Affairs, and other ranking national or provincial officials. The conferences will be about three days each, and cover such topics as:

- Soja Plant Growth
- Variety Selection
- Soil/Seedbed Preparation
- seed and pod development
- plant cycles
- selection of grains for reproduction
- methods of storing seed grain
- best varieties for each region
- requirements for germination and root growth
- planting rate, depth, etc.

- Insects, diseases, pests
 - Recipes
 - Malnutrition
 - Nutritional value of soja and other legumes
- Insecticides
 - mix soja flour with millet, maize, sorghum, rice
 - causes, impact, prevention

These conferences will have two objectives: 1) to raise the awareness and interest of provincial policymakers and other influential persons as to the value and utility of soja; and 2) to bring the CARDER staff and other "cadres" to a level where they will be able to present similar conferences throughout the country.

District Level Conferences

At the district level a similar type of 3-day conference session is planned during the second and third years of the project. Of the 80 districts it is expected that approximately 2 persons from each district would attend. These sessions will be directed by the local CARDER officials with assistance from the CRS Project Staff. The purpose of this level of training is to raise awareness and stimulate interest on the part of individuals who can assist in promotion of soja in the district, assist in demonstrations at the village level and become channels of information and contact points on soja for the district. A total of 160 persons are expected to participate in each year's course.

Village Level Conferences

At the village level two approaches will be taken. The first, through the mobile teams at schools, health centers, youth and agriculture clubs, etc., is explained below. The second will involve one-day courses for various village-level members conducted in major part by CARDER with the assistance of the CRS Project Staff, and other selected individuals.

It is expected to reach 300 persons per province who will be comprised of village-level workers in the Ministries of Health, Rural Development, Education, Social Affairs, etc. The purpose is to bring the awareness of soja and understanding of its potential role in improving nutrition closer to the family and community. It is expected that 1,800 persons will participate at this level.

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Promotional Work Through Demonstration Teams

While much of the effort at promotion with government staff at the district and village levels will be placed in the hands of CARDER, CRS intends to intensify the promotional effort through schools, health centers, youth and agriculture clubs, church groups, etc., by means of live demonstrations given through 4 mobile teams. It is felt that this type of intensive approach to demonstrating soja, its nutritional value, planting techniques and preparation procedures in local dishes at the specific sites where the community can participate as well as receive seed (approx. 50-100 grams) will have the most significant impact. However, it must be complemented by individuals to whom the villagers will have continuing access and will be supportive of the idea.

The project will conduct demonstrations in approximately 500 schools, pre-school programs and other settings throughout the six provinces of Benin. Seeds will be distributed upon request to an estimated half of the farmers and about 300 schools where demonstrations are held. Schools will be expected to plant a soja section of their gardens for consumption in school, and for seed dissemination to families in the area.

Also approximately one third of the 28 main pre-school centers and the 164 sub-centers operating in 1977 under the CRS Maternal Child Health Program have communal gardens which will become venues for demonstrations of production techniques, as well as a forum for discussion of the benefits of utilization of soja within local dishes.

Promotional Work - Information Dissemination

This element of the project will include the production and distribution of propaganda posters and information sheets on nutrition and soja. These materials will be distributed at each demonstration, to each participant in the seminars, and to public offices and other settings throughout the country. The visibility of these posters and descriptive materials should serve to complement the efforts described above, keep the nutritional question in the forefront of people's minds and keep soja in the limelight.

The Government of Benin's agricultural extension service, CARDER (Centre d'Action Régionale pour le Développement Rural), Ministère

du Développement Rural et de l'Action Coopérative, will be responsible for growing and multiplying soja seed which will be used in the demonstration/distribution campaigns. Approximately 200 CARDER field agents will receive special training in cultivation practices of soja, in cropping systems with soja, and in measuring and reporting the amount of soja under cultivation in the project areas.

The Department of Agronomic Research within the Ministry of Higher Education will conduct field trials on varieties of soja in each climatic zone of Benin, including a plot that will be located at the University of Benin, to determine which varieties produce the highest yields under a wide range of growing conditions. Experiments will also be carried out in the university laboratories on protein content, oil content and other pertinent data on the various varieties.

The National Director of School Production (La Direction Nationale de la Production Scolaire) within the Ministry of Secondary Education, will also conduct field trials at a chosen high school in each of the six provinces. In addition, seed multiplication will be carried out at 144 schools (24 high schools and 120 primary schools). These activities will involve approximately 58,000 students. Technical assistance for this activity will be provided by the Department of Agronomic Research.

Finally, the Department of Applied Food and Nutrition (DANA) within the Ministry of Public Health, will be continuing experimentation on soja flours mixed with other local products to produce a high protein mixture that is affordable and acceptable to the Beninese. These cooking experiments will be carried out in the DANA laboratories in Porto Novo and Pabegou where analysis can be carried out on the mixture to determine their nutritional composition.

DANA will also conduct nutrition surveys using controlled experimental groups in schools and villages to determine the effects of soja enriched diets on malnutrition.

End of Project Status

The following conditions will be achieved at the end of the project.

- a) Soja will have become better known and used in the Beninese diet
- b) The general health of the participating farm families and other project participants will have improved

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- c) The mobile units will be staffed by Beninese and operating effectively in all six provinces of Benin
- d) Host country personnel will be fully competent to hold training sessions on the nutritional value, cultivation, and preparation of soja
- e) Improved varieties of soja and related recommended practices for their cultivation will have been tested and disseminated
- f) A variety of local dishes which include soja will have been developed, tested and disseminated.

Outputs

- a) Training - Approximately 2344 people will be trained over the life of the project as follows:
 - (i) Project manager and 4 mobile unit team leaders in the various aspects of soja as described in the project description
 - (ii) 2140 persons (senior level agriculturalist, provincial policymakers, doctors nurses teachers, etc.) trained in soja horticulture, soja promotion techniques, its nutritional value and animation techniques
 - (iii) 200 CARDER agents in the various aspects of soja as described in the project description
- b) Five hundred demonstrations given by mobile units
- c) Approximately 10,120 kilos of seed, 9000 posters, and 150,000 soja information sheets distributed by mobile unit teams
- d) Eight soja experimentation plots established
- e) One hundred forty four (144) seed multiplication plots established by schools
- f) One hundred fifty (150) lab tests on soja mixtures by DANA
- g) Eighteen nutrition surveys carried out by DANA
- h) Nine thousand tons of soja produced

Inputs

Table A below lists the required inputs by AID and the Government of the People's Republic of Benin over the three year life of the project. The Financial Plan and particularly Attachment B contain the details of the costs summarized in this table.

TABLE A
\$ (000)

	1979	1980	1981	TOTAL
AID: Personnel				
Training				
Commodities				
Other	195.0	382.4	244.4	822
GRPB: Personnel				
Commodities				
Other	210.0	210.0	210.0	630.0
				<hr/>
				\$1,452,000

* Includes inflation and 15% contingency

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B. Project Background

1. CRS and Host Government Experience

In collaboration with the Ministry of Social Welfare, CRS/Benin has, for the last three years, been investigating and testing ways and means of improving nutrition of the local population with an available low-cost food crop that has a high nutritive value and that will be readily accepted by rural families. Investigations indicated a significant number of available high-protein foodstuffs which were grown or existed locally. Fish, bushmeat, beef, poultry all suffered from two major drawbacks, they were not relatively accessible to the rural family due to availability or cost constraints, and in many instances there were traditional beliefs about the negative effects their usage would have on various members of the family. Various legumes, such as beans, peas, peanuts, all relatively high in protein and nutritionally acceptable were found either to be exportable and thus not consumed in great quantity, or also were labeled by traditional beliefs as having adverse side effects.

It was felt that the introduction of soja, when combined with the local staple foods, corn, sorghum or millet, could serve to nutritionally enrich the dishes of a vast majority of the population without suffering from the two major side effects of other available protein sources, i.e. there are no known negative beliefs relative to its usage and no plans for export. The problem then remained, would soja grown in Benin at a yield and cost that would make it readily available, and if it would grow how could local populations be introduced to it in the most cost efficient manner to attain the maximum impact and regular consumption.

The CRS Program Director pursued the concept with technical experts on soja production, both in Benin and outside of Benin. Dr. Germain VANNESTE, C.I.E.M., a priest who had been working on soja development and promotion for over 18 years in the Zaire, was financed by CRS for a short term consultation in April and July 1976. On the basis of his recommendations, and the work that had previously been undertaken by the CRS Program Director with his own contacts in Benin, CRS/New York agreed to finance \$27,000 toward the initial promotion and pursuit of the program of soja development, introduction and dissemination.

Further contacts were made with a local Beninese legume expert and professor of agronomy at the National University of the Benin,

Dr. Patrice GNACADJA, Doctor in Agronomic Science and Agro-Nutrition, who has since become the Beninese technical advisor to the project. The IITA staff was also called upon, as well as the University of Ghent, Belgium, Professor HENDRICK, to test the nutritive make-up of local dishes enriched with soja flour.

By the end of 1977, CRS had sponsored tests on over 50 varieties of soja, procured from the USA, Brazil, Upper Volta, Nigeria, Mexico, and Zaire. There was no doubt in anyone's mind that soja could grow well in a tropical or arid climate as exist in the south, center and north of Benin. Various varieties were yielding up to 1,000 kilos per hectare in the south, 2,000 kilos in the center and 3,000 kilos in the north, a significant (100%) improvement over other local legumes, when fertilizer and inoculation were used. (See Attachment 5).

The Ministry of Rural Development has also conducted production trials for soja. In conjunction with INTSOY, at Ina (Northern part of the country) and Savé (center of the country) the IRAT report of 1975 shows that 2 varieties of soja produced 2500-3000 kg/ha at Ina (north) and 1000 kg/ha. at Savé (center) when using fertilizer and inoculate. The IRAT Report shows 7 out of 16 varieties tested yielded more than 2500 kg/ha at Ina (North) and the Horticulture Center at Pabegou (1976) planted 12 varieties and all yielded greater than 1200 kg/ha. (See Attachment 6). The GRPB continued to respond to the experiments in 1977 and 1978 with the National University of Benin (South of the country) that carried out experiments supervised by a Beninese engineer in agriculture and expert in legumes. (See Attachment 7).

2. History of Proposal Development

Based on the preliminary results of the CRS/GRPB testing described above, the Ministry of Rural Development (MRD) and CRD entered into discussions in early 1977 on the possibilities of a program to promote the production of soja for local consumption on a national level. In July 1977, the MRD submitted a preliminary proposal (avant-projet) to CRS/Benin for financing. CRS/Benin in collaboration with the MRD re-drafted PRD proposal and this draft was unofficially submitted to USAID/Cotonou for comment in March, 1978.

INTSOY: International Soybean Program, University of Illinois-Urbana
IRAT: Institut de Recherches Agronomiques et Tropicales

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Based on the guidance provided by USAID/Cotonou, CRS/Benin revised the proposal and officially submitted it to the USAID and the GRPB for approval in August, 1978.

The GRPB gave its official concurrence in September, 1978. However, USAID/Niamey suggested in a December 13, 1978 memo that the draft be revised according to the format provided in AID Handbook 3.

In February, 1979, CRS/Benin requested through USAID/Cotonou the services of a design officer for ten days to assist in revision of the document. For this purpose, REDSO/WA dispatched a design officer in mid April, 1979. The paper was revised in collaboration with CRS. However, it was not possible to finalize the document within the time allotted. The document was therefore taken to REDSO/WA for review and completion the last week of April.

Unfortunately due to previous commitments and the heavy travel schedule of REDSO's technical specialists, they were only able to review the document and recommended a somewhat modified approach. As REDSO personnel could not be made available to assist in any redesign within a timeframe that would allow CRS to start the project before the cropping season started, CRS/Benin dispatched a representative to REDSO the last week of June to assist the design officer in finalization of the paper.

c. Project Analysis

1. Economic Benefits

The project will distribute 15 tons of seeds to approximately 50,000 participating farmers who have the potential to produce over 9,000 tons of soja by the end of Year III. The market value of the soja alone will be \$4,243,000 (100 francs CFA per kilo), which is over six times the cost of the initial project.

Since the project envisions production activities insticuted from a number of different approaches, it is difficult to calculate the total benefit. On one hand, CARDER and the Ministry of Secondary Education will be undertaking seed production and distribution activity, while on the other CRS demonstration mobile teams will be distributing seeds either purchased in Benin or imported.

We have attempted to calculate the economic return for only those farmers who receive and plant as a result of demonstrations by the four CRS demonstration teams. (See Attachment 8).

- At each demonstration 50-100 grams of seed will be distributed to each requesting farmer. Since approximately 30 kg of seeds are required to plant one hectare, each farmer will have enough seeds to plant .003 ha. at the first planting. The harvest from this

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initial crop will supply the farmer with adequate seed to plant .25 ha., which is enough for his family needs.

- The first year of the project will provide seeds to 10,000 initial farmers. The second and third years of the project will provide seeds to 20,000 new farmers each year for a total of 50,000 farmers planting at the end of the three years.

- Estimated yields in the south are 700 kg/ha for the first planting and 500 kg/ha for the second planting. Since the farmers enjoy a two-season harvest in the south, we assume they will plant twice a year.

- Yields in the center and north are 800 kg/ha and 1,500 kg/ha respectively and there is only one harvest a year.

- The potential total yield by Year III of the project should be over 9,000 tons of soja.

Estimated yields are based on production without inoculation or fertilizer. Figures are extrapolated from IRAT and IITA^x and confirmed in general by CRS variety testing and results from private farmers.

Since seeds will be given to the farmers, the only costs to the farm family will be minimal labor costs. These have been calculated to be \$27 over one cropping season as demonstrated in Section C2.

There are also economic benefits and costs at the farm and national level which cannot be easily quantified. For example how much more productive is a properly nourished person? How much more will a person with full mental and physical capacities contribute to his/her society. Conversely, what are the cost to the society of malnutrition in the form of medical treatment, welfare-type relief and waste through death of those who have a limited number of productive years. What, in fact, is the relationship of malnutrition to development - or, more specifically, what

x IRAT: Institut de Recherche Agronomique et Tropicale

IITA: International Institute of Tropical Agriculture

are the economics of malnutrition. Unfortunately, little research has been directed to these questions. The scattering of peripheral studies, however, leads to certain inferences worth noting:

- 1) Limited life expectancy brought about by malnutrition limits the number of productive years. Recent calculations by Dr. Eugene Campbell show that the typical worker of Southeast Brasil will -- because of improved health and resulting increased average life expectancy -- produce nearly five times as much during his life time as the average person born in nutritionally deficient Northeast Brasil. Where malnutrition reduces life expectancy, the cost to the society for education and other supporting expenses through the pre-productive years becomes proportionately more costly per year of productive output.
- 2) Malnutrition decreases a worker's productivity. The body, weak from lack of proper nutrients, protects itself by avoiding the expenditure of energy. This results in apathy, lethargy and lack of initiative -- characteristics commonly found in poorly fed groups in protein deficient countries.

The Food and Agriculture Organization now reports that those countries with the lowest per capita daily protein (and calorie) consumption are also those with the lowest productivity. An interesting demonstration of the relationship was noted during the construction of the Pan American Highway. The disappointing output of local laborers was quickly remedied with the introduction of three well-balanced daily meals. Within a few months, workers averaged an increase in concrete paving from 1.8 to 5.9 cubic yards per day.**

3) The medical costs necessary to treat the effects of malnutrition -- either through hospitals or health centers -- are many times greater than the cost of providing the necessary nutrients to prevent the malnutrition initially. One estimate, in Guatemala, is that the cost of 90 days of hospitalization for each arising case of malnutrition is \$600, compared to an annual cost of \$7 to \$10 to prevent the malnutrition in the first place.**

*Alan Berg, "Malnutrition and National Development", undated
** Ibid

- 4) Malnutrition lowers persons resistance to disease and, relatedly, increases his/her rate of absenteeism from the job or school.

Thus, while no one has computed the monetary loss to economic development caused by malnutrition one can be sure it is considerable.

2. Technology and Its Appropriateness

This is a production program geared to family consumption with soja grown in family gardens or on family farms. Seed will be given to farmers and inoculation and fertilizer will not be used. Therefore constraints such as inputs and market opportunities will not pose a problem.

Initially certified seeds for multiplication will be purchased from the U.S., but soja for demonstration and local distribution will be supplied from the existing soja fields of CRS. Also as mentioned in the project description, the Provincial CARDER will grow and multiply seeds for this purpose.

CARDER is the official agricultural agency of Benin. The organization consists of approximately 2400 encadreurs (400/province) and six provincial directors who report to a national director. CARDER encadreurs have a primary education but also complete several months of practical agricultural training. Each provincial director has at least one agronomic engineer and other university level agriculturalists.

Seed multiplication conducted by the Provincial CARDERS will be carried out on .5 to 1 hectare plots in each of Benin's six provinces. Approximately 40 encadreurs (6-7 per province) will be involved in the seed multiplication operations. This work will be carried out under the supervision of CARDER's agronomic engineers.

CARDER encadreurs will also attend all soja demonstrations given by the mobile unit teams in their districts and are expected to continue the promotion of soja as well as follow-up on any soja related problems with farmers within the framework of their normal extension activities. As mentioned in the project description approximately 200 of CARDER agents will receive special training in the culture and nutritional value of soja.

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The Department of Agronomic Research within the Ministry of Higher Education consists of experts from the University of Benin, the Office of Agronomic Research and other schools of agriculture (Savé and Kandi). The field trials that will be conducted by this ministry will be located at eight agricultural research stations including the University of Benin in distinct climatic zones throughout Benin.

The plot at the University will be under the supervision of the college of agronomy and directed by a doctor of agronomy. University students will carry out a major portion of the field work as well as tests conducted in the University laboratory to determine the mineral and chemical composition of soil and the oil, moisture, protein content and germination power of seeds produced.

The field trials that will be conducted at the other seven agricultural research stations will be carried out under the supervision of agronomic engineers and senior level agriculturalists.

The National Direction of School Production (DPS) within the Ministry of Secondary Education is supervised by 2 agronomic engineers and 5 agriculturalists and nutritionists. In each of the 6 provinces there is one agriculturalist responsible for production in the schools and each school has at least one teacher of agriculture. The curriculum of all schools includes several hours each week of classroom instruction on agriculture as well as practical experience.

DPS proposes variety testing at 6 selected high schools located in different geographic areas of Benin. This activity will be supervised on the national, provincial, and local level and will complement and reinforce the variety testing under the Department of Agronomic Research (DAR). Since this activity is concerned with variety testing, it will be a bilateral activity between DPS and DAR.

The DPS will also conduct seed multiplication centers at 144 additional schools. All of the schools have on-going garden projects and either produce commodities for sale or for consumption in the schools that have cafeteria facilities. These selected 144 schools will produce soja that will be distributed to parents and surrounding villagers for home planting. Those schools that have cafeteria facilities will also consume a portion of the soja produced to ensure an adequate source of protein and help defray the cost of meats and other commodities.

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DANA is directed by college degree nutritionist and has a staff of eight persons and five lab technicians who perform analysis on foods. DANA will be continuing the experimentation on soja flours mixed with other local products to produce a high protein mixture that is acceptable, affordable, and available to the local Beninese. These cooking experiments will be carried out in the laboratories of DANA in Porto Novo and Pabegou under controlled conditions where mixtures can be analyzed for nutritional composition. In addition, experiments will be undertaken in the field center of malnutrition, Bohicon and Nutrition Center, Ouando, where data will be collected on taste acceptability and effects on severe malnutrition.

DANA will experiment on other uses of soja, i.e. biscuits, cookies, breads, milk, weening foods, that are acceptable to local tastes and can be prepared with resources available at home.

DANA will analyze samples from all demonstrationsto ensure that protein levels are maintained and also to test for levels of other components.

A team comprised of DANA personnel will be responsible for all nutritional surveys using controlled and experimental groups in schools and villages to determine the effects of soja enriched diets on general health and malnutrition.

The live demonstrations given by the mobile units will include the following topics: the nutritional value/effect of present dietary habits; how soja can enhance and improve local dishes; how to prepare dishes enriched with soja; how to cultivate soja; and how to store soja. The lesson plans used during the demonstrations will be geared to the level of each target audience, i.e. mothers with pre-school children, students, young farmers, adults, and professionals. The demonstrations will be given in the official language, French, when appropriate, i.e. for schools and professionals, and in the local languages in the rural settings.

To reinforce the live demonstration, audio-visual materials have been expressly prepared for the target groups and posters and leaflets will be left at each demonstration site.

It is proposed that the mobile units will be French-made vehicles. As such maintenance and spares are assured as facilities for the upkeep of French vehicles are found throughout Benin.

Growing soja is not difficult if one chooses a variety adapted to the area. Not only is soja less difficult to cultivate than some crops; it is beneficial to the soil at the same time. Most plants remove nitrogen from the soil. Because it is a legume, soja adds nitrogen to the soil by taking nitrogen from the air. Soybeans are drought-resistant and they are less likely to be attacked by bean beetles and other kinds of insects than are many legumes.

The following estimate for cultivating .25 hectares of soja over one cropping season was worked out with a Beninese agriculturalist. The calculation is based on an 8-hour day at 400 CFA/day using manual labor. It is assumed that the 25 hectares has been cleared.

<u>Operation</u>	<u>Person Hours/Days</u>	<u>Costs (CFA)</u>
1) Soil Preparation	3 days	1200
2) Planting	4 hours	200
3) Weeding	3 days	1200
4) Weeding	1 1/2 days	600
5) Harvest	4 hours	200
6) Threshing	4 hours	200
7) Drying	14 days (3 hours/day)	2100
8) Storage	1/2 hour	50
TOTAL	14 days 2 1/2 hrs	5,750 CFA 215 CFA = \$1.00

The cropping season for soja is approximately 100 days. We have estimated that it will take approximately fourteen 8-hour days to cultivate .25 hectares of soja at a total cost of approximately \$27. Given an average farm family size of five persons (active workers), these operations could be carried out in a relatively short time and at minimal labor costs per farm family.

3. Sociocultural Factors

This project addresses AID's Basic Human Needs "New Directions" Mandate by: A) targeting benefits to the rural poor; and B) addressing real constraints to the rural poor's health and productivity i.e. by improving nutrition you improve both health and the ability to work.

11/1

The overall purpose of the project is geared toward improvement of the nutritional well-being of approximately 250,000 rural Beninese. Its intention is to enhance the local dishes, presently deficient in protein, through an education campaign designed to promote the local production and consumption of soja. There are no known norms or values against soja. Thus, there are no adverse social or cultural implications foreseen as a result of the project, for no attempts are being made to change diets, but rather to complement them.

The unique aspect of this project is that the promotion of soja consumption as a nutritional protein component is undertaken in the context of locally consumed dishes. As mentioned in Section B.2 of this paper from 1976 through 1978, CRS and the GRPB conducted acceptability and taste testing with over 6,500 people in all six provinces of Benin. The results of this testing revealed that soyflour mixed in a 1 to 3 ratio with corn, sorghum, or millet flour, proved not only to be palatable by children and adults, but created a consistency in the enriched local dish "pâte" (gruel or mush) which was deemed superior to the local dish with local flour alone.

Corn is grown throughout Benin by all ethnic groups and therefore, at least one soja blend (soja and corn) will be available which has been proven acceptable to the rural population. In addition, the Ministry of Public Health, DANA, will continue to conduct acceptability and taste testing using soja flours mixed with other local staples, e.g. yams, manioc, and rice, based on the diet of the various ethnic groups. Thus, it is expected that by the end of the project, several soja blends will have been developed including a weaning food for infants, that will be acceptable to most ethnic groups.

The cultural situation in Benin, as in most of Africa, provides that often times the women are designated with the responsibility for providing virtually all the food that is consumed other than the staples. This is usually done by means of a backyard garden for vegetable crops. With the promotion of soja as a crop to be consumed it is expected that the production task in major part of the educational campaign will be leveled at methods and needs of improving the protein intake of the children, the mother will once again become responsible since it is she who determines the dishes to be served within the family.

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It is presumed that no farm family will plant greater than .25 hectares as the campaign will be leveled at women. As indicated in Attachment 8, this is sufficient hectarage to produce enough soja for family consumption, seed for the next cropping season, and a surplus of 50-100 kg that could be marketed once the nutritional value of soja becomes better known. In many cases women may plant a smaller area (0.8 ha:) which would be sufficient for family consumption and seed for the following year.

The project will not disturb the social structure by changing the traditional division of labor within an ethnic group. However it should be noted that the cultivation of soja is so simple it can be accomplished by primary school children. It is certain that younger children will contribute significantly to soja cultivation on family farms.

It is assumed that all ethnic groups will be motivated by likelihood of achieving better health. Thus no opposition is anticipated to this project. Moreover the GPRB has specifically requested assistance in combatting the nutrition problem.

4. Project Relationships

Impact on the Poor Majority

The purpose of the project is geared toward improvement of the nutritional well-being of the poor majority. The results of CRS/GPRB testing over the last three years indicate that soja can be grown at a yield and cost that will make it readily available to the poor majority. Further when combined with the local staple cereals, corn, sorghum or millet, soja can serve to enrich the daily diet of a significant proportion of the population. As soja will be grown in family, school and pre-school center gardens and combined with local staples, the rural population will have high protein foods totally at their disposition unlimited by transport, price and distribution constraints.

Related Programs

The current Title II food assistance program in Benin is administered by CRS and emphasizes nutrition, particularly for young mothers, babies and school-age children. This soja project

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builds on the many years of experience/expertise and the extensive network of contacts and community rapport that CRS has developed administering the Title II program.

Also, an AID financed rural family health extension project is presently being planned. The purpose of the project is to train the necessary personnel and establish and/or strengthen the necessary facilities for the delivery of effective family health services throughout the country. As the project will emphasize family and preventive health education, it will be complementary to the proposed CRS project.

Potential for Spread

The ultimate aim of the program for the promotion of soja is to improve the consumable supply of protein throughout Benin. This should, barring extraneous factors, help to stem the incidence of poor nutrition among both adults and child populations, because the extensive promotion activity is geared toward utilizing soja in the context of present local diets. Soja has had significant exposure in the Benin until 1976 when CRS was able to begin promotion in selected areas of the country. This project aims at increasing the awareness of the population to the crop, and to convince families of its nutritive value. Once the connection between soja and health is firmly established, soja will spread like wildfire.

5. Institutionalization

The live demonstrations given to farmers will consist of a complete package of the nutritional value, cultivation, preparation, and storage of soja. Therefore, farmers are expected to become self-reliant in its production. Also by including the educated populace in the rural sectors, the project should receive greater acceptability both by the secondary beneficiaries and further by the primary beneficiaries, who hold the more educated in higher esteem and look to them for support.

The project will train a cadre of CARDER agents who will be in constant contact with the rural populace capable of giving complete soja demonstrations and providing any follow-up technical assistance necessary. However, CARDER does not have the financial resources to continue promotion activities on a large scale.

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It is quite possible that as a result of this project soja will have a market value at least equal to corn, millet or sorghum. However, we are also aware that as the crops market value increases, there is a greater probability that it will be sold on the open market for other commodities. This factor may be considered advantageous for two reasons: 1) it would provide a means whereby the project could become institutionalized with domestic resources; and 2) it will provide soja to those unable to participate in the production mechanism. Unless this happens, it is highly unlikely that the project could become institutionalized with domestic resources as Benin ranks 14th on the UN's list of the world's poorest nations and relies heavily on external donor assistance.

D. Project Design and Implementation

1. Implementation Plan

This CRS/Benin O.P.G. project proposal is embraced by the legal Agreement Catholic Relief Services - USCC enjoys with the Government of Benin dated December 12, 1958.

CRS/Benin will be the responsible agency for the implementation of this project. CRS personnel will consist of an American Project Manager, an assistant project manager and four mobile unit team leaders who will be Beninese.

The team leaders will be selected from various regions (ethnic groups) and will therefore be familiar with the social terrain in all six provinces of Benin. Team leaders are required to have entered the class of terminale (junior college) and be fluent in the official language, French, as well as 2 local languages. Thus, as a whole, they will be capable of communicating in the six major languages of Benin as well as several dialects.

Although the Ministry of Plan (MOP) will not carry out any elements of the project, all projects must be approved by the MOP. The MOP has approved the soja project text and budget and when the project agreement is signed, the MOP will turn the project over to the Ministry of Rural Development (MRD) who will be the counterpart ministry for the project.

The MRD will name a national coordinator for the project. The national coordinator will be responsible to an inter-ministerial committee composed of representatives of the 4 active ministries, the Ministry of Plan, and the Ministry of Justice and Social Welfare. The committee will convene quarterly for progress reports or whenever it is necessary to resolve any problems affecting all ministries.

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Technical Assistance

Technical consultation on a national level has been and will continue to be provided by Beninese and expatriate experts on soja production and promotion as well as by other Beninese and CRS technicians.

Management

Following the standard operational procedures of CRS-USCC with all Operational Program Grants (OPG) this project becomes welded to the present CRS management structure of CRS/Benin. As discussed above, an American Project Manager has been selected by CRS-USCC, and all other personnel employed and trained under this project will be Beninese (See Attachment 10).

Disbursement Procedures and Related Control

CRS will make disbursements for the local currency cost portion of the project. These disbursements will be made against an advance provided by AID when conditions precedent have been met. Replenishment of the advance by AID to CRS will be in accordance with procedures to be prescribed by AID in Project Implementation Letter.

After satisfaction of conditions precedent, AID will issue appropriate commitment documents in order to finance the dollar cost of the project.

Financial control procedures implemented will be based upon and generally adhere to those in place within the normal CRS accounting manual. All financial transaction will appear on the monthly CRS financial report. Quarterly financial reports will be prepared on the project expenditures by line item, submitted to CRS/New York for approval, and onward submission to the donor. Accounts will be audited in the normal CRS cycle, approximately a year and a half, by CRS internal auditors. A provision has been made in the project to cover the costs of yearly independent audits.

Schedule of Actions

<u>MONTHS</u>	<u>ACTION</u>	<u>ACTION AGENT</u>
1-2	Signing of Operational Program Grant.	CRS-USAID
	Signing of Accord with GOB (Govt of Benin)	CRS-GOB

<u>MONTHS</u>	<u>ACTION</u>	<u>ACTION AGENT</u>
1-2	Establish Project Office	CRS
	Purchase office equipment & supplies	CRS
	Hire Secretary/Accountant	CRS
	Purchase five vehicles	CRS
	Hire two drivers	CRS
	Hire Watchman	CRS
	Select and hire four team-leaders for mobile units	CRS
	Four team-leaders start in-country training	CRS-GOB
	Buy soyabean seeds	CRS
	Start seed reproduction	CRS-GOB
3 - 4	Start producing posters & information sheets	CRS-GOB
	Start live demonstrations & seed distributions	CRS-GOB
	Start distribution posters & information sheets	CRS-GOB
	DANA of Ministry Health start recipe trials and tests	GOB
	Department Agriculture, University & DPS start variety selections	GOB
	Two team-leaders go to IITA & start training	CRS-IITA
	Consultant Rev. Vanneste arrives	CRS-GOB
	Training sessions for 180 Govt & other "cadres"	CRS-GOB-Vanneste
	Start laboratory tests of cereal- legume mixtures	CRS-Univ.of Ghent
	Quarterly report	CRS
6	Two team-leaders complete IITA training	CRS-IITA
	Hire two drivers	CRS
	DANA nutrition survey	GOB
7	Training sessions at district level	CRS-GOB
	Quarterly report	CRS
9	Two other team-leaders go to IITA training	CRS-IITA
10	Quarterly report	CRS
	Introduce growth surveillance system in schools	CRS-GOB

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<u>MONTHS</u>	<u>ACTION</u>	<u>ACTION AGENT</u>
12	Two team-leaders complete IITA training External audit	CRS-IITA Outsiders
13	Quarterly Report	CRS
14	Consultant Vanneste Training sessions at village level	CRS-GOB CRS-GOB
15	Start monitoring local market soja prices	CRS-GOB
16	Quarterly report	CRS
18	Training sessions at district level First evaluation	CRS-GOB CRS-GOB
19	Training sessions at village level Quarterly report	CRS-GOB CRS
22	Quarterly report	CRS
24	Zaire field trip	CRS-GOB-Vanneste
25	External audit Four consultants: Vanneste, Hendrick, Peeters, N'Deer Second evaluation Quarterly report	Outsiders CRS-GOB CRS-GOB CRS-GOB-Consultants
27	Other African country field trip	CRS-GOB
28	Quarterly report	CRS
31	Quarterly report	CRS
34	Quarterly report	CRS
36	Third evaluation External audit Quarterly report - final	CRS-GOB Outsiders CRS

Monitoring

The project manager will be responsible for monitoring and day to day management of the schedule of actions presented above. Monitoring responsibilities will include the following:

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1) Liaise with the GPRB ministries involved and assure that the GPRB is performing its agreed to services; see that responsible persons and organizations take corrective actions where necessary and alert AIDOFF/Cotonou of problems.

2) Keep close watch on the implementation schedule recommending corrective action in the event of slippages and revise the schedule of actions as appropriate.

3) Request and schedule technical and financial assistance.

4) Collection of baseline data.

A sample monitoring plan is included as Attachment 11.

2. Measurement and Evaluation of Project Accomplishment

In order to evaluate the efficiency, effectiveness, and significance of the contributions of project inputs to the accomplishment of the project purpose, three evaluations will be conducted over the life of the project as indicated in the schedule of actions. These evaluations will be carried out jointly with the GPRB and a CRS convened team of experts. The four active ministries will also conduct self-evaluation of their activities usually after the harvest since most are concerned with soja production.

Baseline data will be collected throughout the life of the project by the CRS mobile unit teams, CARDER agents, the Office of School Production, the University of Benin (UNB), the Office of Agronomic Research, and DANA through its nutrition surveys.

A schedule of accomplishments (outputs) is included by year in the logical framework. Actual project accomplishments will be measured against these outputs. The means of verification provided in the logical framework should provide sufficient information upon which to base the evaluations.

The evaluation team will conduct site visits and process available data to determine the impact of the project on the people and the actual impact on nutritional status. Each evaluation will serve as a source of feedback and a determinant for project continuation and modification.

During the final evaluation an attempt will be made to draw out useful aspects of this project that could be duplicated elsewhere. In addition recommendations for continuation of the project could be made, not only to CRS, but to appropriate GOB ministries.

E. Financial Plan

The Benin Soja O.P.G. represents a substantial investment, but considering the number of people exposed to the nutritional value of soja, 250,000; the number of people attending seminars and training sessions on soja, 3,000; the number of people consuming and planting soja, 250,000 and 50,000 respectively; then the overall cost is very moderate.

The budget includes the financial inputs necessary for the continuation of the project. The amount of money and manpower, over \$100,000, contributed by CRS over the past three years to bring this project to a realization has not been included. The taste testing of soja and growing experiments already accomplished by CRS enables this project to advance 2-3 years. The existing soja fields of CRS assure the first year's supply of seeds that would otherwise have to be imported at a cost of over \$30,000 or grown locally which would delay the project one full year.

The GPRB contributions are estimated at 6% of total time for personnel, vehicles, and office.

The total budget is estimated to be \$1,254,000 including inflation and contingencies of \$98,000. Project budget contributions are as follows:

AID	\$ 822,000
GPRB	630,000
Total.....	<u>\$1,452,000</u>

Of the total budget, \$254,000 reflects foreign exchange and \$568,000 reflects local currency. Table 1 Summary Cost Estimate and Financial Plan shows project contribution and source.

Cost estimates are detailed in Attachment 12 . The larger input

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category is personnel and estimated at \$719.9 which represents 52% of the total cost of the project. The U.S. technician makes up only 4% of total personnel cost and 8% of total AID contributions. The second largest category is equipment and supplies \$421,000 which is 30% of project cost. AID is to finance 56% of these purchases which is 31% of AID contributions.

Project construction (\$12,000) is only 1% of total budget cost. This amount is for 8 warehouses and covers materials and labor.

Training costs outside Benin is 2% of total project and 3% of AID contributions. Training in Benin is 3% of project budget and 4% of AID contributions.

Contingency and inflation costs (\$99,786) are approximately 15% of total AID inputs. Inflation was calculated at 5% for Beninese personnel at the suggestion of the GRPB. All other expenditures are based on 5-10% inflation rate.

F. Conditions

On August 9, 1978, CRS presented the official O.P.G. Soja text for approval to the GRPB. Approval was granted on September 15, 1978. (See Attachment 13).

An interministerial meeting with CRS and all active ministries participating in the project including the Ministry of Plan, Social Welfare, Interior, Finance, and the Presidency was conducted on January, 1979. At this meeting the GRPB approved the budget for supportive resources of the four active ministries and their plans of action.

The contribution of the four active ministries will be in kind. It consists of personnel, use of vehicles, laboratory and office facilities as detailed in Attachment 13, page 17.

G. We believe this proposal satisfies all statutory requirements. Concerning 611(a)(1), considerable effort has been made to insure that cost estimates in this project are properly detailed and accurate. Also, the cost of the minor construction element has been reviewed by a REDSO/WA engineer. The memo on this subject is included as Attachment 14.

TABLE I

SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(U.S. 000)

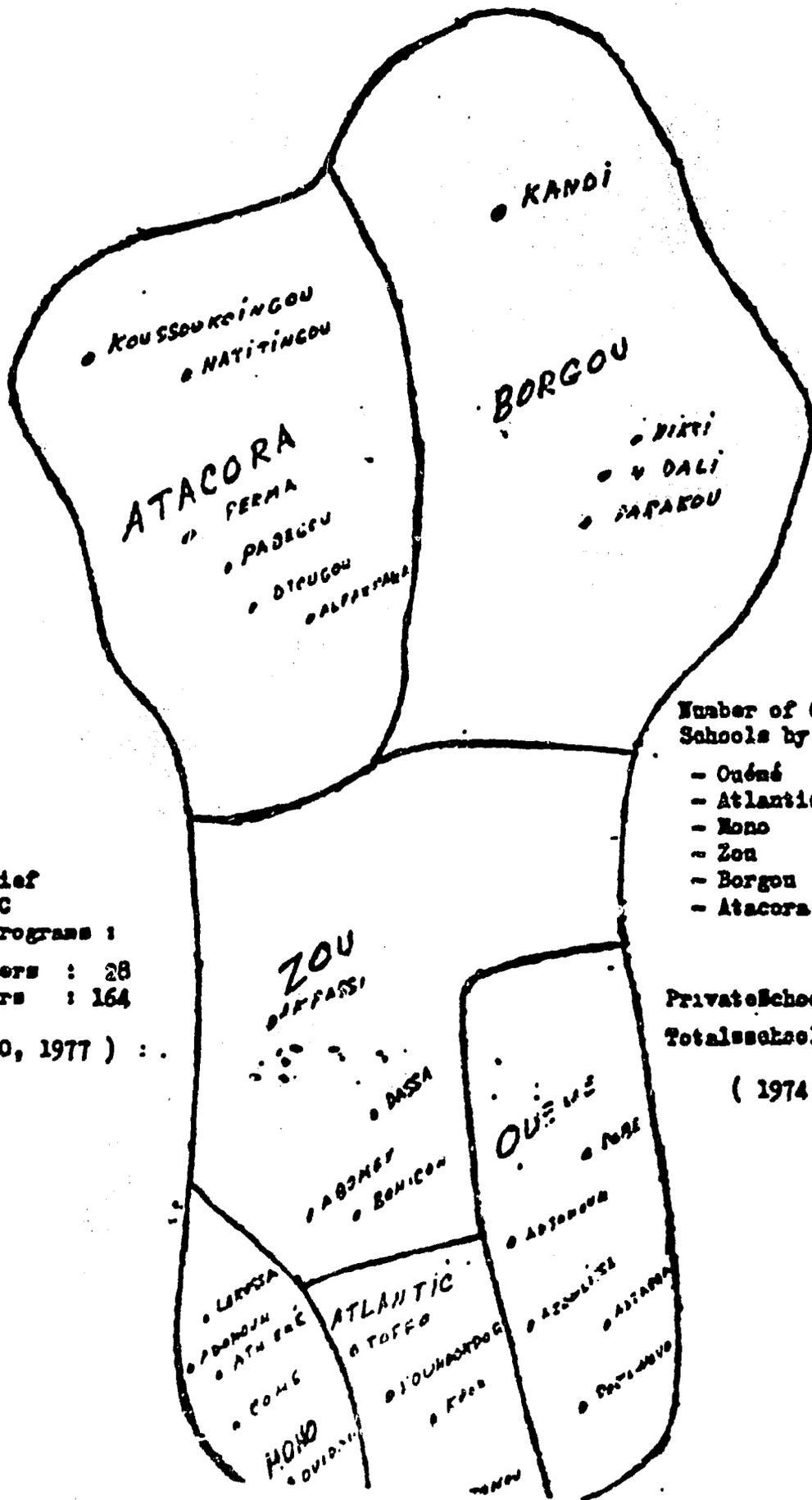
BENIN SOY NUTRITION OPERATIONAL PROGRAM GRANT PROPOSAL

SOURCE	AID		GPRB		TOTAL
	FX	LC	FX	LC	
<u>Personnel</u>					
(1) U.S. technicians	60.7 (36 PM)	-	-	-	60.7
(2) 3rd Country	20.3 (2.8 PM)	-	-	-	20.3
(3) Local	-	202.1 (1750 PM)	-	436.8 (1440 PM)	638.9
<u>Training</u>					
(1) U.S.	-	-	-	-	-
(2) 3rd Country	22.7 (14 PM)	-	-	-	22.7
(3) Local	-	33.4 (189.1 PM)	-	-	33.4
<u>Commodities</u>					
(1) U.S.	19.7	-	-	-	19.7
(2) 3rd Country	-	-	-	-	-
(3) Local	-	222.6	-	176.7	399.3
<u>Other Costs</u>					
(1) Office & Admin.	48.2	23.1	-	16.5	87.8
(2) Construction	-	12.0	-	-	12.0
(3) Overhead @7.3%	48.53	-	-	-	-
Subtotal	220.13	493.2	-	630.0	1294.8
Contingency	34.0	74.9	-	-	99.6
	254.1	568.1	-	630.0	1,394.4

LIVE DEMONSTRATIONS

DATE	NAME & ADDRESS OF CENTERS	Participants	Gardens at (the Centers)	Family Gardens (Estimated)
13 Jan. 76	Medical Corps - Natitingou	90		
7 April 76	Soc. Cen. Pre-school - Abomey	1,000		
21 April 76	Nutritional Center - Ouando	20	Yes	
28 April 76	Pre-school - Pabegou	110	Yes	200
26 May 76	Pre-school - Comé	700	Yes	200
21 June 76	Pre-school - Toffo	90	Yes	
22 June 76	Pre-school - Toffo	115		
23 June 76	Soc. Cen. Pre-school - Ouidah	225		
28 June 76	Pre-school - Azowliase	1,500		
13 July 76	Pre-school - Zogbodomey	300		
13 July 76	Pre-school - Dili	20		
14 July 76	Pre-school - Sedohomey	260		
4 March 77	Scouts-Pre-school - Athieme	75	Yes	
8 March 77	Pre-school - Kpoe	175	Yes	200
11 March 77	Pre-school - Adjehoun	140	Yes (8)	100
20 May 77	CARDER - Athieme	50	Yes	200
24 May 77	Pre-school - Akpassi	50	Yes	150
24 Nov. 77	Ecole de Base - Agassa-Godomey	100	Yes	
25 Nov. 77	Ecole de Base - Dangbe	300	Yes	
27 March 78	Ecole de Base - Sekou	340	Yes	
28 March 78	Ecole de Base - Houdome	310		
30 March 78	Ecole de Base - Zinvis-Doume	260		
31 March 78	Ecole de Base - Azohé-Gada	160		
6 April 78	Village Communal - Adjan	125		
	Pre-school - Bohicon			1,000
	Maternity - Zo		Yes	
	Pre-school - Koussoukoingou		Yes	100
	Pre-school - Gamban		Yes	100
	TOTALS	6,515		2,150

PEOPLE'S REPUBLIC OF BENIN



Catholic Relief Services-USCC
 Pre-school Programs :
 - Main centers : 28
 - Sub-centers : 164
 (June 30, 1977) : .

Number of Government Schools by Provinces :

- Ouémé	277
- Atlantique	318
- Mono	173
- Zou	237
- Borgou	160
- Atacora	148

1,323

Private Schools 24

Total schools 1,337

(1974 figures)

SOJA-ENRICHED SAMPLE ANALYSIS

ATTACHMENT 3

Prof. Hans K. HENDRICKX, University of Ghent, Belgium

DATE	Sample	Description	Cooking time	NO lab.	% of proteins in mixtures	% of proteins in dry matter	Anti-trypsin fac
19 Mai 76	Bouillie maïs-soja cru/CRS Cotonou			30	15,40	16,78	7
19 Mai 76	Pâte maïs-soja cru/CRS Cotonou			31	14,92	16,18	7
22 Juin 77	Pâte maïs-soja non grillé/CRS Cotonou		20	73		14,87	3,7
22 Juin 77	Pâte maïs-soja non grillé/CRS Cotonou		19	74		14,39	3,7
28 Juin 77	Pâte maïs-soja cru/Anovliassè		17	82		11,76	
15 Sept 77	Pâte maïs-soja cru/CRS Cotonou		10	145			11
15 Sept 77	Bouillie maïs-soja cru/CRS Cotonou		15	137			0
15 Sept 77	Pâte maïs-soja cru/CRS Cotonou		10	140			1
15 Sept 77	Bouillie maïs-soja cru/CRS Cotonou		10	138			10
16 Janv 78	Agassas-Godomey (école) pâte maïs-soja, bon feu		12				0
16 Janv 78	Pâte maïs-soja, feu doux		12				0
16 Janv 78	Pâte Maïs-soja, feu doux/Dangbo école		16				0
16 Janv 78	Pâte maïs-soja-lait, Dangbo école		15				0

INITIAL ENVIRONMENTAL EXAMINATION

Project Location: People's Republic of Benin

Project Title: Benin Soja O.P.G.

Funding (Fiscal Year and Amount): 1979 \$765,036

Life of Project: 3 years

IEE Prepared by: John Owens

Date:

Environmental Action Recommended:

Concurrence:

Date:

Assistant Administrator's/Director's Decision:

Date:

12/8

I. Examination of Nature, Scope, and Magnitude of Environmental Impacts

Description of Project

The project is a nationwide effort to counter malnutrition through the consumption of soja enriched flours used in local dishes.

Four mobile teams will be fielded to give live demonstrations on the nutritional value of soja when added to local dishes. Seeds will be distributed to farmers after each demonstration.

A soja promotional and public awareness campaign, involving posters, visual aids, informational pamphlets, and instructional materials on nutrition, soja cultivation, and food preparation will be undertaken simultaneously with the demonstration program.

Seed multiplication will be carried out in all six Provinces of Benin, as well as variety experimentations in the eight major climatic zones.

The project will enable the rural population to produce an affordable source of protein that is acceptable to local tastes.

Identification and Evaluation of Environmental Impacts

(See Impact Identification and Evaluation Form).

II. Recommendation for Environmental Action

A. LAND USE

1. Changing the character of the land through:

a: Increasing the Population

The project will decrease the level of malnutrition for the existing population which should result in a lower mortality but, more important, a healthier and more productive population.

b. Land clearing

The rural farmer will be producing on already cleared lands. Only the agricultural agents and experimental stations have foreseen clearing lands, but this is

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about 7 ha. for the entire country. (1/2 ha. per Station x 14 Stations).

c. Changing Soil Character

The growing of soja actually enriches the soil so there will be no adverse impact.

B. WATER QUALITY

Chemical and Biological States

The use of approximately 5,000 kg of fertilizer (NPK) is foreseen over the three year life of the project. The fertilizer will be used on seed multiplication plots only. It will be added to the soil (.5 to 1 hectare plot) by hand and mixed into the soil using a small hoe. This work will be carried out by trained agriculturalist of Ministry of Agriculture. There are no harmful effects associated with the use of this fertilizer. The amounts will be insignificant and the results imperceptible.

C. ATMOSPHERIC

Air additives

There is a possibility that the insecticide, Decis, will be used for the soja field trials to be conducted at the seven agricultural research stations and the University of Benin. The determination cannot be made until the soja plants reach maturity and insects actually began to attack.

The insecticide was recommended by IITA in Ibadan, Nigeria. IITA will be queried further as to the technical information required by the AID Pesticide Procedure. When this information is secured, a separate request for the approval of its procurement and use will be forwarded to AID/W.

C. CULTURAL

Diluting a Culture

The inclusion of soja into the traditional diets of local Beninese is done through the inclusion of soja flour mixed with the local corn flour to make the local staple: gruel. The inclusion of soja flour adds no taste, but improves consistency.

E. SOCIOECONOMIC

Changes in patterns of economic growth and employment

The project envisions improving the nutritional well-being of the rural Beninese which makes for a more productive labor force. The distribution of seeds and production of soja is expected to eventually produce a market. The population will benefit from an accessible, affordable source of protein.

IMPACT IDENTIFICATION AND EVALUATION FORM

Impact Areas and Sub-areas

A. LAND USE

- 1. Changing the character of the land through:
 - a. Increasing the population L (positive)
 - b. Extracting natural resources N
 - c. Land clearing L
 - d. Changing soil character L (positive)
 - 2. Altering natural defenses N
 - 3. Foreclosing important uses N
 - 4. Jeopardizing man on his works N
- _____
- _____

B. WATER QUALITY

- 1. Physical state of water N
 - 2. Chemical and biological states N
 - 3. Ecological balance N
- _____
- _____

C. ATMOSPHERIC

- 1. Air additives to be determined
 - 2. Air pollution N
 - 3. Noise pollution N
- _____
- _____

IMPACT IDENTIFICATION AND EVALUATION FORM

D. NATURAL RESOURCES

- 1. Diversion, altered use of water N _____
- 2. Dilution of cultural traditions N _____
- _____
- _____

E. CULTURAL

- 1. Altering physical symbols N _____
- 2. Dilution of cultural traditions N _____
- _____
- _____

F. SOCIOECCNOMIC

- 1. Changes in economic/employment patterns. M (positive) _____
- 2. Changes in population N _____
- 3. Changes in cultural patters N _____
- _____
- _____

G. HEALTH

- 1. Changing a natural environment N _____
- 2. Eliminating an ecosystem element..... N _____
- _____
- _____

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IMPACT IDENTIFICATION AND EVALUATION FORM

H. GENERAL

- 1. International impacts
- 2. Controversial impacts
- 3. Larger program impacts

N
N
N

Different Varieties of SOJA Tested in the P.R. of Benin

<u>Designation</u>	<u>Country of origin</u>
Lokossa jaune	Benin
Lokossa vert	Benin
Bragg	U S A
Hampton 266 A	U S A
Coker 338	U S A
Improved Pelican	U S A
Semmes	U S A
Bossier	U S A
Hutten	U S A
Lee 74	U S A
Jupiter	U S A
T G M 249-4.2371	I I T A (Nigeria)
T G M 210.1.2363	I I T A (Nigeria)
T G M 13.3.2644	I I T A (Nigeria)
Kinganda Kikuvit	Zaire
S J 222	Zaire
S J 61/1	Zaire
SJ Vert d'Azovè	Azovè (Benin)
SJ Jaune d'Azovè	Benin
SJ 225	Zaire
SJ 230	Zaire
SJ 227	Zaire
SJ 213	Zaire
SJ 127	Zaire
SJ 121	Zaire
SJ 118	Zaire
SJ 125	Zaire
Santa Rosa	Bresil
Pelicano	Bresil
La Ireen	Bresil
P.I. 240663	Bresil
G 22	H.V.
G 115	H.V.
G 121	H.V.
G 5	H.V.
294-4-4268	I I T A (Nigeria)
York 482	U S A

AVAILABLE PRODUCTION FIGURES - IN BENINIRAT Report - Campagne 1975

"Première Campagne D'experimentation sur le Soya dans le Nord et le Centre de la République Populaire du Bénin"
Results et conclusions - R. Dumont.

<u>Page</u>	<u>Variety</u>	<u>Yeild/ha</u>	<u>Site</u>	<u>Inoculation/Fert.</u>
14	Jupiter Improved Pelican	3175 2729	INA (North) " "	Yes "
15	Jupiter Improved Pelican	1092 1125	Save (Center) " "	" "

IRAT Report - 1976 Experiment 239

<u>Variety</u>	<u>Yeild/ha</u>	<u>Site</u>	<u>Inoculation/Fert.</u>
Jupiter Imp. Pelican	3467 2158	INA (North) " "	Yes "

7 out of 16 varieties = yeild - 3000 kg/ha

± = 2656 kg/ha

Annual Report - Horticole de Pabegou - 1976

Planted 12 varieties of which the best were :

65 ; 6115 ; Jupiter ; Lokossa vert ; Lokossa jaune
du Benin ; Pelican

All yeilded greater than 1200 kg/ha

Addl. trials were carried out in Cotonou
Many Catholic Missions ; health center etc.
Throughout - Available figures vary but
Are generally encouraging

169

Le 25 Mars 1978

ATTACHMENT 1

DONNÉES INDICATIVES SUR LES RENDEMENTS DE CERTAINS CULTIVARS DE SOJA
EXPÉRIMENTÉS SUR LE CAMPUS UNIVERSITAIRE D'ABOMBY-CALAVI

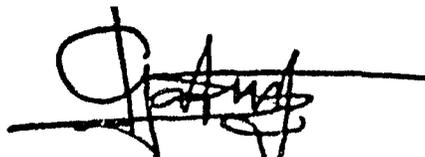
- Sud du Bénin -

TGM 80	(Bossier)	2.371	Kg/ha
TGM 249-3		2.242	Kg/ha
TGM 58-4192	(Amsoy 4192)	2.067	Kg/ha
TGM 249-5-4254		2.010	Kg/ha
TGM 260-2-2-4293		1.950	Kg/ha
TGM 242-2-2297		1.894	Kg/ha
TGM 197-3-3-2494		1.875	Kg/ha
TGM 187-3-2		1.850	Kg/ha
TGM 210-1-2377		1.660	Kg/ha
TGM 294-4-2371		1.642	Kg/ha

1. Graines inoculées et superphosphate

2. Le levé surtout pour le 1er et les deux derniers cultivars classés est dans l'ordre inverse des rendements expérimentaux

3. Aucun traitement phytosanitaire n'a été effectué au cours de la végétation.


D. CALAVI

ESTIMATED NUMBER OF PLANTERS, TONNAGE, US \$ & CFA FC VALUES, OVER INITIAL THREE YEARS (1)

- Planting Notes:
- It takes 30 kilos of soybean seeds to plant one hectare(ha)
 - Each new planter will receive an initial 50-100 grams of seeds, enough to plant .003 ha
 - The different groups of planters are identified by capital letters in parentheses (A, B, R, X, etc.)
 - There are 2 planting seasons in the south of Benin, and only one center & north, each year.

S O U T H		C E N T E R	N O R T H	Total Yield in Kilograms	
One Planting: March-July Est. yield: 700 kg/ha	Two Plantings: Sept-Dec Est. yields: 500 kg/ha	One Planting: April-Aug Est. yield: 700 kg/ha	One Planting: June-Oct Est. yield: 1500 kg/ha	Sub-totals by Groups	Grand total by years
<u>FIRST YEAR:</u>					
(Group A)		(Group R)	(Group X)		
2500 planters: Each planter receives 100 gm of seeds 100 gm enough for .003 ha .003 X 700 = 2.1 kg 2.1 kg enough to plant .07 ha	2500 initial planters: .07 X 500 = 35 kg 35 kg enough to -consume 27.5 kg -plant 7.5 kg 7.5 kg enough to plant .25 of 1 ha	2500 planters: .003 X 700 = 2.1 kg 2.1 kg enough to plant .07 ha <u>Yield:</u> 2500 X 2.1 kg = 5250 kg	2500 planters: .003 X 1500 = 4.5 kg 4.5 kg enough to plant .15 ha <u>Yield:</u> 2500 X 4.5 kg = 11250 kg	(A) 5,250 (A) 7,500 (B) 3,750 (R) 7,000 (X) 11,250 <hr/> 113,750	113,750
(Group B)					
	2500 new planters: .003 X 500 = 1.5 kg 1.5 kg enough to plant .05 ha <u>Yield:</u> 2500 X 1.5 kg = 3750				
<u>FIRST YEAR</u>				c/o	113,750

Best Available Document

SOUTH		CENTER	NORTH	Total Yield in Kilogram	
1st Planting: March-July Est yield: 700 Kg/ha	2nd Planting: Sept-Dec Est yield: 500 Kg/ha	One planting: April-Aug Est yield: 300 Kg/ha	One Planting: June-Oct Est yield: 1500 Kg/ha	Sub-totals by Groups	Grand total: by years
SECOND YEAR : (Group A) 500 initial planters: .03 ha X 700 = 21 Kg 21 Kg enough to: -consume/sell 21.5 Kg -plant 7.5 Kg Yield: 500 X 21.5 Kg = 10,750 Kg		(Group R) 2500 initial planters: .03 ha X 300 = 9 Kg 9 Kg enough to: -consume/sell 56.5 Kg -plant 7.5 Kg Yield: 2500 X 56.5 Kg = 141,250 Kg	(Group I) 2500 initial planters: .15 ha X 1500 = 225 Kg 225 Kg enough to: -consume/sell 217.5 Kg -plant 7.5 Kg Yield: 2500 X 225 Kg = 562,500 Kg	c/o	113,750
(Group B) 500 new planters: .03 ha X 700 = 21 Kg 21 Kg enough to: -consume 27.5 Kg -plant 7.5 Kg Yield: 500 X 35 Kg = 17,500 Kg	(Group C) 5000 planters: .07 ha X 500 = 35 Kg 35 Kg enough to: -consume 27.5 Kg -plant 7.5 Kg Yield: 5000 X 35 Kg = 175,000 Kg	(Group S) 5000 new planters: .003 ha X 700 = 2.1 Kg 2.1 Kg enough to: -plant .03 ha Yield: 5000 X 2.1 = 10,500 Kg	(Group Y) 5000 new planters: .003 ha X 1500 = 4.5 Kg 4.5 Kg enough to: -plant .15 ha Yield: 5000 X 4.5 Kg = 22,500 Kg	(A) 437,500 (AB) 625,000 (R) 150,000 (I) 562,500	
(Group C) 500 new planters: .03 ha X 700 = 21 Kg 21 Kg enough to: -plant .07 ha Yield: 500 X 2.1 Kg = 10,500 Kg	(Group D) 5000 new planters: .003 ha X 500 = 1.5 Kg 1.5 Kg enough to: -plant .05 ha Yield: 5000 X 1.5 Kg = 7,500 Kg			(B) 37,500 (C) 10,500 (S) 12,000 (Y) 22,500	
FIRST AND SECOND YEAR TOTAL :				2100,000	2,100,000
				c/o	2,213,750

DEPT. OF AGRICULTURE

S O U T H		C E N T E R	N O R T H	Total Yield in Kilograms		
1st planting	2nd planting	One planting	One planting	Group Totals	Grand Totals	
THIRD YEAR:				c/o	2,213,750	
(Groups ABC)	(Groups ABC)	(Group R)	(Group I)	(ABC) 1750000 (ABC) 1250000 (R) 500000 (I) 937000	Best Available Document	
<u>10000 planters:</u> .25 ha X 700 = 175 Kg 175 Kg enough to: -consume/sell 117.5 K -plant 7.5 K <u>Yield: 10000 X 175 =</u> 1750000 Kg	<u>10000 planters:</u> .25 ha X 500 = 125 Kg 125 Kg enough to: -consume/sell 117.5 K -plant 7.5 K <u>Yield: 10000 X 125 =</u> 1250000 Kg	<u>2500 planters:</u> .25 ha X 800 = 200 Kg 200 Kg enough to: -consume/sell 192.5K -plant 7.5K <u>Yield: 2500 X 200 =</u> 500000 Kg	<u>2500 planters:</u> .25 ha X 1500 = 375 Kg 375 Kg enough to: -consume/sell 367.5K -plant 7.5K <u>Yield: 2500 X 375 =</u> 937500 Kg			
(Group D)	(Group D)	(Group S)	(Group Y)	(D) 175000 (D) 625000 (S) 320000 (Y) 1125000		
<u>5000 new planters:</u> .05 ha X 700 = 35 K 35 K enough to: -consume 27.5 K -plant 7.5 K <u>Yield: 5000 X 35 =</u> 175,000 Kg	<u>5000 planters:</u> .05 ha X 500 = 25 K 25 K enough to: -consume/sell 117.5K -plant 7.5K <u>Yield: 5000 X 25 =</u> 125,000 Kg	<u>5000 planters:</u> .05 ha X 900 = 45 K 45 K enough to: -consume/sell 55.5K -plant 7.5K <u>Yield: 5000 X 45 =</u> 225,000 Kg	<u>5000 planters:</u> .15 ha X 1500 = 225 K 225 K enough to: -consume/sell 217.5K -plant 7.5K <u>Yield: 5000 X 225 =</u> 1,125,000 Kg			
(Group S)	(Group Z)	(Group T)	(Group Z)	(E) 10500 (E) 175000 (T) 12000 (Z) 22500		
<u>5000 new planters:</u> .003 ha X 700 = 2.1 K 2.1 K enough to: -plant .07 ha <u>Yield: 5000 X 2.1 =</u> 10,500 K	<u>5000 planters:</u> .07 X 500 = 35 K 35 K enough to: -consume 27.5 K -plant 7.5 K <u>Yield: 5000 X 35 =</u> 175,000 K	<u>5000 new planters:</u> .003 X 900 = 2.7 K 2.7 K enough to: -plant .03 ha <u>Yield: 5000 X 2.7 =</u> 13,500 K	<u>5000 new planters:</u> .003 ha X 1500 = 4.5 K 4.5 K enough to: -plant .15 ha <u>Yield: 5000 X 4.5 =</u> 22,500 K			
	(Group F)			(F) 7500		
	<u>5000 new planters:</u> .003 ha X 500 = 1.5K 1.5 K enough to plant .05 ha <u>Yield: 5000 X 1.5 =</u> 7500 K					
GRAND TOTAL INITIAL THREE YEARS ESTIMATED PRODUCTION :				5910000	5,910,000	
					9,123,750	

Best Available Document

ESTIMATED NUMBER OF PLANTERS, TONNAGE, US\$ & CFA FR VALUES, OVER INITIAL THREE YEARS (4) ATTACHMENT 9

ERY ; - Estimated number of planters: - 1st year : 10,000 initial planters
- 2nd year : 20,000 new, for a total of 30,000 planters
- 3rd year : 20,000 new, for a total of 50,000 planters at end of 3rd year
- Tonnage (Metric Tons) - 1st year : 113.75
- 2nd year : 2,100.0
- 3rd year : 5,910.0

9,123.75 MT
- CFA Franc value : 100 francs per kilogram : 9,123,750 kg = 912,375,000 CFA Fcs
- US \$ Value : (Rate; \$ 1.00 = 215) : \$ 4,243,604.55.

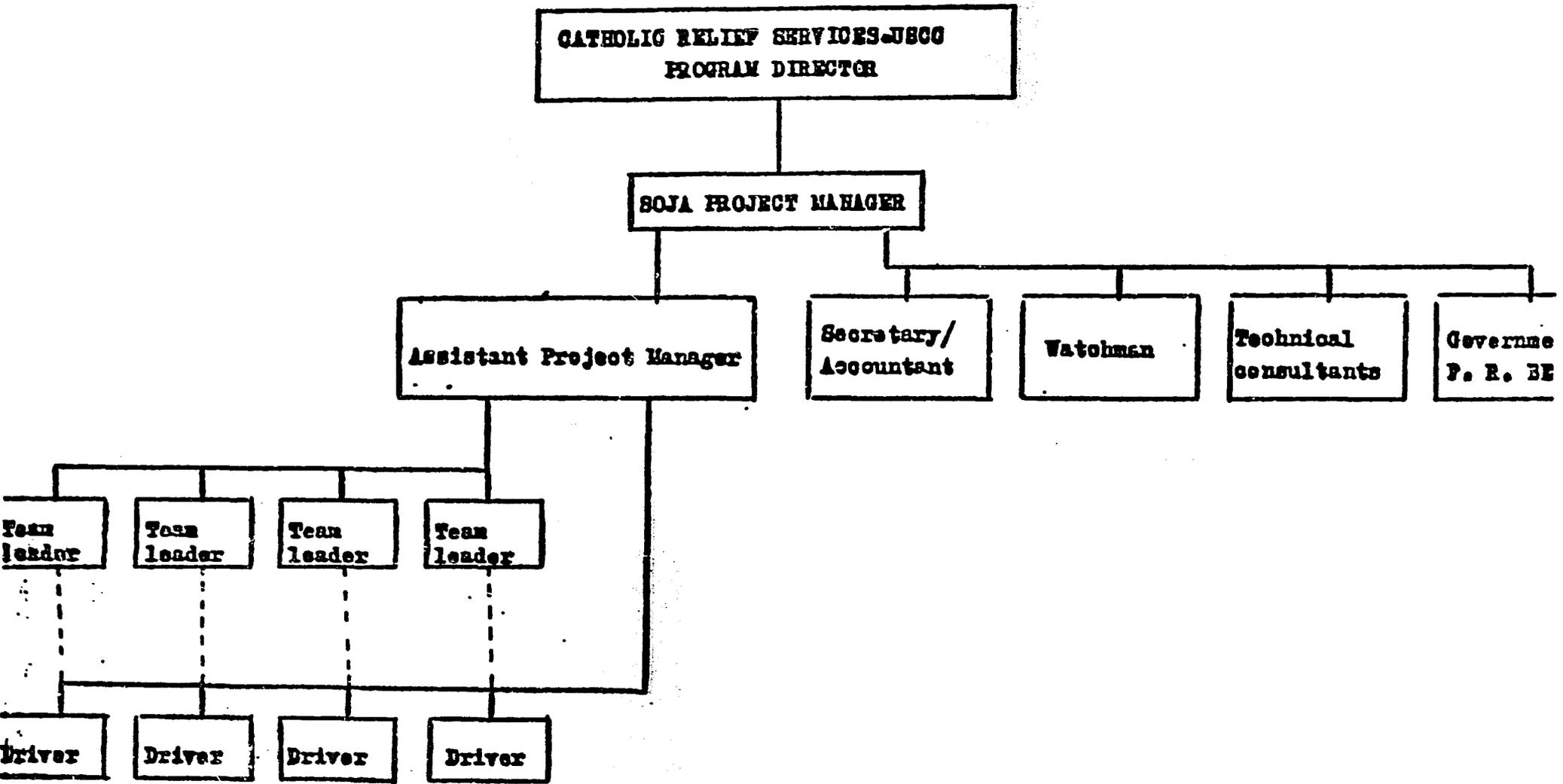
ASSUMPTIONS MADE IN THE ABOVE CALCULATIONS:

- It is assumed that the farmers in the SOUTH will plant twice a year. The others, once a year.
- The estimated yield per hectare is based on scientific experiments where fertilizer was used. It is assumed that the farmers will not use fertilizer, neither inoculation.
- It is assumed that no farmer will plant more than .25 of a hectare, for calculation purposes only.
- The price of soybeans is assumed to be about 100 CFA Fcs per kilo, or \$ 465.00 per Metric Ton.

DEMONSTRATION FORMAT

Lesson Plan	Action Taken
I. Background	
A. What do diets consist of in Benin ?	<u>Talk</u>
B. What <u>should</u> diets consist of here ?	
C. What is the disparity between these two ?	
II. Introduction	
A. What are proteins and why do we talk about them ?	<u>Talk</u>
B. Soja is one good way to close the disparity presented above in I.C.	
III. Presentation of New Concepts	
A. Methods of preparing soja	<u>Talk</u>
1. Talk	
2. Demonstrate	<u>Cooking while talk</u>
3. Review - While "pâte" is cooking, review I.B. and I.C.	<u>continues</u>
4. Questions	
B. Methods of producing soja	<u>Talk</u>
C. Review III.A.- Questions	
IV. Application of New Concepts	
A. Taste test	<u>Eating by Audience</u>
B. Methods of producing soja- Demonstration of III.B.	<u>Planting Demonstration</u>
V. Repetition and Review	
A. Questions and answers	<u>Talk</u>
B. Distribution of printed information	<u>Posters + Sheets</u>
C. Distribution of Seeds	<u>Seeds</u>

MANAGEMENT SCHEMATIC



Sample Monitoring Plan (CRS/Benin- Internal Procedures)(Quarterly Activity)

Activity	<u>Time Frame</u>	Monitoring Criteria	Actual Date Completed	<u>Implications & Recommended Action</u>
Persons to 1 Course	Month 4 Month 9	<ol style="list-style-type: none"> 1. Working Knowledge of soja production 2. Comprehension of terms and vocabulary of soja & legume production 3. Ability to train others 4. Pre/Post course questionnaire 5. Planned vs sent 		<ol style="list-style-type: none"> 1. Obvious Knowledge on soja improvement as recommended in Demonstration format 3. Assess training ability during coming year 4. Improvement in ability to answer questionnaire 5. 5 Planned/5 sept/5 completed
30 individ. training sessions in in		<ol style="list-style-type: none"> 1. Familiarity with soja technology 2. Ability to carry out demonstrations on consumption and planting 3. More interest into legume/cereals mixtures 		<ol style="list-style-type: none"> 1. Identify active "nucleus" of Beninese supportive to project continuation 2. More surface planted, More yield 3. Identify possible trainees for superior training in IITA or Benin
Demonstrations		1. Planned vs Actual		

for period

3. Amount of seed distributed to persons
4. N° of GARDEN STAFF present
5. Participation of teachers and others
6. School gardens - size, quality
- sija, number
7. Growth surveillance data

PROJECT BUDGET BENIN SOYA NUTRITION

<u>Item</u>	<u>FY 79</u>	<u>FY 80</u>	<u>FY 81</u>	<u>Total</u>
1. Salaries	20,000	147,383	87,998	255,381
2. Vehicles (Purchase Operation & Maintenance)	60,000	45,338	36,832	142,170
3. Equipment & Supplies	60,000	36,162	16,128	112,290
4. Training (Personnel & Seminars)	9,000	30,589	16,679	56,268
5. Technical Expertise	4,000	14,420	13,040	31,460
6. Office & Administrative Expenses	<u>5,000</u>	<u>36,030</u>	<u>26,650</u>	<u>67,680</u>
Sub-Total	158,000	309,922	197,327	665,249
Over head (7.3%)	<u>11,534</u>	<u>22,624</u>	<u>14,405</u>	<u>48,563</u>
Sub-Total	169,534	332,546	211,731	713,812
Contingency (15%)	<u>25,430</u>	<u>49,882</u>	<u>32,760</u>	<u>108,071</u>
TOTAL	194,964	382,428	244,491	821,883

SALARIES

	Year 1	Year 2	Year 3	TOTAL
1. Local Employees	\$33,883	\$35,526	\$17,019	\$106,428
2. Per Diem	11,302	12,288	11,773	36,963
3. Project Manager	18,737	20,570	21,370	60,677
4. Field workers & Day laborers	11,772	9,167	9,167	30,106
5. Remunerations	7,069	7,069	7,069	21,207
TOTALS	\$82,763	\$84,620	\$87,998	\$255,381

PROJECT BUDGET

USAID EXPENDITURES	Year 1	Year 2	Year 3	Totals
1. SALARIES (fringe - Per diem)	\$82,763	\$84,620	\$87,998	\$255,381
2. VEHICLES (purchase, operation, and maintenance)	70,610	74,728	76,872	142,170
3. EQUIPMENT & SUPPLIES	72,725	27,477	16,128	112,290
4. TRAINING (personnel & seminars)	19,131	20,458	16,679	56,268
5. TECHNICAL EXPERTISE	7,740	10,680	13,040	31,460
6. OFFICE & ADMINISTRATIVE EXPENSES	15,265	25,765	26,650	67,680
Subtotal	268,234	199,688	197,327	665,249
7. Contingency 15%	40,235	29,951	29,599	99,787
TOTAL	308,469	229,641	226,926	765,036

SALARIES - Local Employees

Rate: 215 CFA/US \$

	1st Year	2nd Year	3rd Year	Totals
1. <u>Assistant Project Manager (1)</u> Base 90,000 CFA (3% increase each yr.). Soc.sec.Medicare Employer's tax 25%	1,080,000 <u>270,000</u> 1,350,000	1,114,000 <u>281,500</u> 1,417,500	1,190,700 <u>297,675</u> 1,488,375	1,404,700 <u>851,175</u> 4,255,875
2. <u>Teamleaders (4)</u> Base 60,000/month 25% as above	2,880,000 <u>720,000</u> 3,600,000	3,024,000 <u>756,000</u> 3,780,000	3,175,200 <u>793,800</u> 3,969,000	9,079,200 <u>2,269,800</u> 11,349,000
3. <u>Drivers (4)</u> Base 17,000 CFA/month 25% as above	816,000 <u>204,000</u> 1,020,000	856,800 <u>214,200</u> 1,071,000	899,640 <u>224,910</u> 1,124,550	2,572,440 <u>647,110</u> 3,215,550
4. <u>Secretary/Accountant (1)</u> Base 60,000 CFA/month 25% as above	720,000 <u>180,000</u> 900,000	756,000 <u>189,000</u> 945,000	793,800 <u>198,450</u> 992,250	2,269,800 <u>567,450</u> 2,837,250
5. <u>Watchman- CRS Office (1)</u> Base 12,000 CFA/Month X 13 month 25% as above	156,000 <u>39,000</u> 195,000	163,800 <u>40,950</u> 204,750	171,990 <u>42,998</u> 214,988	491,790 <u>122,948</u> 614,738
6. <u>Watchman-UNB Soja warehouse.</u> 10,000 CFA/months, all inclusive	120,000	120,000	120,000	360,000
7. <u>Day labor-Demonstration aid</u> 500 CFA/500 demonstrations	100,000	100,000	50,000	250,000
TOTALS CFA	7,285,000	7,638,250	7,959,163	22,882,413
US\$	333,883	\$35,526	\$17,019	\$106,428

SALARIES - Local Employees - In-country Travel. Per Diem 215 CFA/US

	Year 1	Year 2	Year 3	Total
Assistant-Manager (1) (100 nights X 4,000 CFA) 10% increase yr. 2&3	400.000	440.000	484.000	1.324.000
Teamleaders (4) (100 nights X 3,000 CFA X 4) 10% increase Yr. 2&3	1.200.000	1.320.000	1.452.000	3.972.000
Drivers (4) (100 nights X 1,300 CFA X 4) 10% increase yr. 2&3	520.000	572.000	629.200	1.721.200
MEPD-School Production Office National Supervisors 90 days/nights per year 50 days @ 1,000 = 50.000 40 nights @ 3,000 = 120.000 total = 170.000	170.000	170.000	170.000	510.000
Provincial Directors 100 day/night per 3 yrs. 130 days/1,000 = 130.000 120 nights/2,000 = 240.000 total = 470.000	140.000	140.000	140.000	420.000
TOTALS CFA	2.430.000	2.642.000	2.875.200	7.947.200
US\$	\$11,302	\$12,288	\$13,371	\$36,961

	SALARIES - Project Manager			US\$
	Year 1	Year 2	Year 3	Total
<u>Base salary</u>	\$12,000	\$13,200*	\$14,520	\$39,720
<u>Fringe: housing, insurance etc.</u>	4,000	4,000	4,000	12,000
<u>In-country travel (Per Diem)</u>				
\$20 day/night 75 year 1, 100 year 2&3	1,500	2,000	2,000	5,500
<u>R & R to Europe at end of Year 1 & 2</u>	1,237	1,370		2,607
<u>Return trip to NYC at end of Year 3</u>			850	850
TOTALS	\$18,737	\$20,570	\$21,370	\$60,677

* 10% increase in Year 2 and Year 3

SALARIES - FIELD Workers and Day Laborers 215 CFA/US \$

	Year 1	Year 2	Year 3	Total*
<u>Seed Multiplication and experimentation</u>				
METS/UNU				
1 agricultural worker 15.000 CFA/month	180.000	180.000	180.000	540.000
5 laborers 270 days/yr. X 400 CFA	108.000	108.000	108.000	324.000
METS/Agri. Research; 7 stations 400 CFA/day X 2 persons 306 days year 1 205 days year 2 & 3	1.715.000	1.155.000	1.155.000	4.025.000
CARDER : 6 Provinces 400 CFA/day X 220 days/yr	528.000	528.000	528.000	1.584.000
TOTALS CFA	2.531.000	1.971.000	1.871.000	6.473.000
US \$	511,772	89,167	89,167	510,106

METS-Ministry of Secondary Education (Higher)

UNU-National University of Benin

Agri. Research-Experimental Station in various climatic zones

CARDER-Official Agricultural Agency

SALARIES - Local Remuneration

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
<u>Remunerations</u>				
MEPD/DSP				
8 agents X 5.000 CFA X 12 months	480.000	480.000	480.000	1.440.000
MPS/DANA				
10 agents X 5.000 CFA X 12 months	600.000	600.000	600.000	1.800.000
CARDER				
Provincial - 5.000 CFA X 6 CARDERS X 12 months	360.000	360.000	360.000	1.080.000
Central Office - 6.666 CFA X 12 months	80.000	80.000	80.000	240.000
Totals CFA	1.520.000	1.520.000	1.520.000	4.560.000
US \$	\$7,069	\$7,069	\$7,069	\$21,207

MEPD - Ministry of Primary Education

DPS - Direction of School Production - Responsible for soja production in schools

MPS - Ministry of Public Health

DANA - Direction of Applied Nutrition And Responsible for lab analysis and surveys

CARDER - Agricultural Agency

Provincial - Responsible for grain multiplication

Central - Project Government Counterpart and Coordinator

VEHICLES AND GAS/OIL

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
CRS - U.S. manufactured pick-up trucks(4) and four-wheel drive vehicle (1)				
Purchase price \$8,100 ea. x 5	\$40,500	-	-	\$40,500
Comprehensive Insurance \$1,300 x 5 - year 1 10% year 2 & 3	6,500	7,150	7,870	21,520
Maintenance, oil and parts 15% year 1; 25% year 2 & 3	7,500	10,000	10,000	27,500
Gas - 71 CFA/litre; 15 litre per 100 km. 20,000 km/year each = 1.065.000 CFA	4,955	5,400	5,900	16,255
<u>Fuel</u> MEPD/DPS 1 car - 3,000 km/12 mos. 15 liters per 100 km @ 71 CFA/lt. = 383.400 CFA	1,783	1,783	1,783	5,349
mobylettes (6) - <u>melange</u> 5 liters per 100 km. @ 90 CFA/ it. x 156.00 km = 702.00 CFA	1,088	1,088	1,088	3,264
DANA-(6 vehicles) 28,000 km/yr. 15 liters per 100 km. @ 71 CFA/ lt. = 300.000 CFA	1,396	1,396	1,396	4,188
CARDER - 6 provinces, 9,400 km/ CARDER 15 liters per 100 km @ 71 CFA/lt. x 6 Provinces = 600.000 CFA	2,790	2,790	2,790	8,370
Central Team Vehicle - National Coordinator - 9,400 km/yr. 15 liters per 100 km. @ 71 CFA/ lt. = 100.000 CFA	465	465	465	1,395

VEHICLES AND GAS/OIL

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
MBTS-UNB - 14,000 km/yr. (24 days/mo. x 10 months) 15 liters per 100 km @ 71 CFA/lt. = 150.000 CFA	698	698	698	2,094
Agri. Research - 1,220 km/yr. x 7 Stations = 8,540 km.: 15 lts. per 100 km @ 71 CFA/lt. = 91.000 CFA	423	423	423	1,269
Sub-Total	\$68,098	\$31,193	\$32,413	\$131,704

VEHICLES AND GAS/OIL

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
C/O	68,098	31,193	32,413	131,704
Repairs				
MEPD-School Production				
Cars-flat rate				
100.000 CFA-Yr. 1				
200.000 CFA-Yr. 2				
300.000 CFA-Yr. 3	465	930	1,395	2,790
Mobylettes (6)				
15.000 CFA x 6-Yr. 1				
35.000 CFA x 6-Yr. 2				
50.000 CFA x 6-Yr. 3	419	977	1,395	2,791
CARDER-Provincial				
6 Provinces-3 1/2% or				
50.000 CFA/Province =				
300.000 CFA	1,395	1,395	1,395	4,185
CARDER-Central Team (National Coordinator)				
Flat rate-50.000 CFA/yr.	233	233	234	700
TOTAL	\$70,610	\$34,728	\$36,832	\$142,170

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
<u>CRS</u>				
<u>Promotional Materials</u>				
Posters-(9,000\$1 ea.)	\$ 3,600	\$ 3,600	\$ 1,800	\$ 9,000
Mailing-7,000	800	800	400	2,000
Information sheets (150,000)				
Printing 6 CFA/ea. -				
900.000 CFA	1,650	1,650	886	4,186
Mailing (125,000)	250	250	134	634
<u>Camping Equipment (4 mobile units)</u>				
Sleeping cots, blankets, sheets, portable cooking stove, pots & pans, dishes, canteens, mosquito netting, coolers, etc.	1,100	-	-	1,100
Renew supplies	=	300	300	600
Metal storage trunks for vehicles (5)	2,200	-	-	2,200
<u>Audio-Video Equipment</u>				
Mobile units 4				
MEPD 6				
CARDER 6				
Spares 4				
20				
20 portable slide projectors with screens (20 x \$200)	4,000	-	-	4,000
20 portable megaphones (20 x \$100)	2,000	-	-	2,000
20 portable Cassettes recorders with loud speakers (20 x \$300)	6,000	-	-	6,000

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
Batteries and maintenance for above equipment	300	600	1,100	2,000
Slides - 20 sets x \$50 Renew Supplies Year 2 - \$500	1,000	500	-	1,500
Sub-Total	\$22,900	\$ 7,700	\$ 4,620	\$ 35,220

Note: Mobile Units - Catholic Relief Services-USCC
MEPD - Ministry of Primary Education/Office of School Production
CARDER - Agricultural Agency/Ministry of Rural Development

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
C/O	\$22,900	\$ 7,700	\$ 4,620	\$ 35,220
<u>Demonstration Equipment & Supplies</u>				
CRS - 4 Mobile Units Plates, bowls, spoons, pots, basins, buckets, towels, etc. for 300 per persons - 108.000 CFA x 4 teams 432.000 CFA/500 demonstra- tions	2,000	=	=	2,000
MEPD-School Production Same as above only smaller scale. 87.000 CFA x 6 Provinces = 222.000	1,032	=	=	1,032
DANA-Nutrition Experiments Same as above only more cook- ing equipment for taste testing. 2 centers 107.500 CFA per center	1,000	=	=	1,000
Replacements for CRS	-	235	235	470
Replacements for DANA & MEPD	-	300	328	628
<u>Ingredients for Demonstrations</u>				
CRS Soya, corn, millet, sorghum, milling costs, onions, tomato sauce, salt, oil, etc. - 900 CFA/demonstration 900 CFA x 500 demonstrations = 450.000 CFA	837	840	420	2,097

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
MEPD Same as above: 600 demonstra- tions 900 CFA x 600 demos. = 540.000 CFA	837	1,256	420	2,513
DANA - 2 centers Ingredients for analysis, other uses of soya (cakes, biscuits, breads, etc.), cooking experi- ments, taste testing, nutrition- al recipes -- including: flours (wheat, soya, corn, millet, sor- ghum, etc.), shortening, yeasts, sugar, etc. \$814/year/center	1,630	1,630	1,630	4,890
Sub-Total	\$30,236	\$11,961	\$ 7,653	\$ 49,850

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
C/O	\$30,236	\$11,961	\$ 7,653	\$ 49,850
<u>Cultivation Equipment</u> (Experimentation)				
METS/UNB Watering cans, hoes, shovels, rakes, string, stakes, labels, sacks, etc.	557	134	134	825
METS/Agri. Research (7 Stations) Same as above	6,937	1,954	1,954	10,745
METS/UNB/CRS Sprayers (9)	550	-	-	550
<u>Cultivation Equipment</u> (Multiplication)				
CARDER (6 Stations) Same type as above	2,000	465	465	2,930
Scales (8) (RS-1; MEFD-6; UNB-1 50.000 each	1,860	-	-	1,860
<u>Supplies</u>				
Seeds - CRS	1,305	1,435	1,435	4,175
Seeds - CARDER	488	486	486	1,460
Chemicals for lab analysis-DANA 700.000 CFA/year 500 exper. 3 yrs./4200 CFA/ exper. \$20 per experiment	3,255	3,255	3,255	9.

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
<u>Fertilizer & Inoculant</u>				
Experimentation:				
METS/Agri. Research				
89 kg per station x 7 stations				
90 CFA/kg. - 56.070 CFA	260	260	260	780
METS/UNE				
23 kg x 90 CFA=2.070 CFA	22	22	21	65
Inoculant-2,600 CFA/year				
Multiplication:				
CARDER - 6 Stations				
160 kg x 6 x 90 CFA				
= 86.400 CFA	420	420	420	1,260
<u>Insecticide</u>				
METS - 9,600 CFA/year	45	45	45	135
Sub-Total	\$47,835	\$20,437	\$16,128	\$ 84,400

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EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
C/O	\$47,835	\$20,437	\$16,128	\$ 84,400
<u>Warehouses</u>				
METS/Agri. Research				
Storage for tools and supplies x 7 Stations. 215.000 CFA (\$1000) each including equipment & labor, 3m x 3m x 3m concrete block wall, sheet metal roof, concrete floor	4,000	3,000	-	7,000
METS/UNB				
Larger warehouse (50 m ²) for display, storage and visitors center; all inclusive. Concrete floor, wood, sheet metal roof	5,000	-	-	5,000
<u>Equipment (Cooking)</u>				
MSP/DANA				
Gas stoves with ovens (2)	800	-	-	800
Gas bottles and replacements (5)	250	-	-	250
Cupboards - metal for storage and protection (4)	750	-	-	750
Refrigerator, 24 cu. ft. with freezer	1,000	-	-	1,000
<u>Equipment (Office)</u>				
CRS				
Desks, chairs, file cab., etc.	1,600	-	-	1,600
Photocopy machine	1,400	-	-	1,400
Mimeograph machine	700	-	-	700

EQUIPMENT AND SUPPLIES

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
Air Conditioner (1) 18,000 BTU	800	-	-	800
Fans (3)	600	-	-	600
Typewriters (CRS-2; DANA-1)-3.	2,000	-	-	2,000
Adding machine	350	-	-	350
40% for insurance and freight for items procured in U.S.A.	5,640	-	-	5,640
TOTAL	\$72,725	\$23,437	\$16,128	\$112,290

NOTE: METS-Ministry of Higher Education
 Agri. Research - Office of Agronomic Research
 UNB - National University of Benin

MSP - Ministry of Public Health
 DANA - Direction of Applied Nutrition

TRAINING OF PERSONNEL

215 CFA/Year

	Year	Year 2	Year 3	Total
<u>Training at I.I.T.A., Ibadan, Nigeria</u>				
4 Teamleaders - 3 months - 95 days	6,800			6,800
- Course fee: 4 x 1,700	120			120
- Travel: 4 x \$30	1,520			1,520
- Per Diem: 4 x \$4 x 95 days				
<u>Familiarization in Zaire</u>				
3 persons - 10 days - 2nd year		4,500		4,500
- Air travel: 3 x \$1,500		1,950		1,950
- Per Diem: 3 x 10 x \$65				
- Miscel: overland travel, materials etc.		1,000		1,000
- Instructors' fees: 2 x 10 x \$100		2,000		2,000
<u>Familiarization in another African Country</u>				
3 persons - 10 days - 3rd year			1,800	1,800
- Air travel: 3 x \$600			1,750	1,750
- Per Diem: 3 x 10 x \$65			1,200	1,200
- Miscel: (as above)				
<u>Training in Benin</u>				
1. <u>Two Managers & 4 Teamleaders:</u>				
- In Cotonou with VAINESTE & GIACADJA (See Technical Expertise)				
- In Cotonou, with IITA team of 2 pers.				
Travel: 2 x \$50	100			100
Per Diem: 2 x 6 days x \$50	600			600
Miscel.: travel, materials, etc.	600			600
- CUANBO Horticulture Center				
Miscel. expenses: 6 x \$100	600			600
2. <u>Provincial Seminars for "Cadres"</u>				
180 persons - 3 days - 1st Year				
- Per diem & travel: 180 x 3 days x 3,000 CFA = 1,620,000 CFA	7,535			7,535
- Teaching materials: 180 x 500 CFA 90,000 CFA	419			419
- Miscel.: 180 x 1,000 CFA = 180,000 CFA (Instructors - See expertise)	837			837
Subtotal	\$19,131	\$9,450	\$4,350	\$33,531

TRAINING OF PERSONNEL (2)

215 CFA/US \$

	Year 1	Year 2	Year 3	Total
c/o	\$19,131	\$9,450	\$4,950	\$33,531
3. District Seminars				
160 persons - 3 days in 2nd Year				
160 persons - 2 days in 3rd Year				
- Per Diem and Travel: 3 days x 160 x 2.500 CFA - 1.200.000 CFA		5,580		5,580
2 days x 160 x 2.500 CFA - 800,000 CFA			3,720	3,720
- Teaching Materials: 160 x 500 CFA 80.000 CFA		372	372	744
- Lecturers (Beninese) 3 days x 3 pers. x 6 Prov. x 5.000 CFA - 270.000 CFA		1,256		1,256
2 days x 3 pers. x 6 Prov. x 5.000 CFA - 180.000 CFA			837	837
- Miscel. expenses: 160 x \$5		800	800	1,600
4. Village Seminars				
300 persons x 6 Provinces - 1 day 2nd and 3rd years Total: 1,800 persons each year				
- Flat rate per Province, including travel, teaching materials, Beninese lecturers, etc. 6 x \$500		3,000	3,000	6,000
5. Refresher sessions for Provincial and District "Cadres"				
6 Prov. x 100 pers. = 600 persons 1 day in each Province - 3rd year				
- Flat rate per Province, including travel, teaching materials, lecturers, etc.: 6 x \$500			3,000	3,000
TOTAL	\$19,131	\$20,458	\$16,679	\$56,268

TECHNICAL EXPERTISE

	Year 1	Year 2	Year 3	Total
<u>Dr. Germain VANNESTE, CICM</u> Consultant Soja Development in Rural Areas				
- Fee \$105 per day (18 days/year)	1,890	1,890	1,890	5,670
- Per Diem: \$50 per day	900	900	900	2,700
- Air travel: Zaire-Benin-Zaire	1,200	1,400	1,400	4,000
<u>Dr. Patrice GNACADJA</u> Professor of Biochemistry & Nutrition at Univ. of Benin; Legume specialist; Doctor of Agronomic Sciences and Agro-nutrition				
- Fee: \$100 per day, 25 days each yr.	2,500	2,500	2,500	7,500
<u>Dr. Hans H.K. HENDRICK</u> Professor Dept. of Nutrition and Hygiene at Univ. of Ghent in Belgium; Specialist in analysis of nutritional composition of local dishes. - 2nd Year.				
- Fee: \$105 per day x 8 days		840		840
- Per Diem: \$50/day x 10 days		500		500
- Air travel		1,400		1,400
<u>Rev. PEETERS, CICM</u> Specialist in mechanized soja processing - 3rd year				
- Fee: \$100 day x 6 days			600	600
- Per Diem: \$50/day x 11 days			550	550
- Air Travel			1,400	1,400
<u>Miss. A. D'HEER</u> Specialist in production of soja products - 3rd Year				
- Fee: \$100/day x 6 days			600	600
- Per Diem: \$50/day x 11 days			550	550
- Air travel			1,400	1,400
<u>Laboratory testing costs-Univ. Ghent</u> - Flat rate for testing corn-soja, sorghum-soja, millet-soja blends etc. \$25 per sample: 50 per year				
	1,250	1,250	1,250	3,750
TOTALS:	\$7,750	\$10,620	\$13,000	\$31,460

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OFFICE AND ADMINISTRATION

15 CFR/100

	Year 1	Year 2	Year 3	Total
<u>JAMA</u>				
<u>Supplies: stationary, data sheets, questionnaires, etc.</u>	1,165	1,165	1,170	3,500
<u>JRS</u>				
<u>Rent, electricity & water, cleaning, etc.</u> \$225 per month	2,700	2,700	2,700	8,100
<u>Supplies:</u>				
- Stationary, stamps, etc. Year 1, plus 10% next years	1,600	1,800	2,000	5,400
- Maintenance & repairs of equipment	100	400	500	1,000
<u>External auditing:</u>	1,000	1,000	1,000	3,000
<u>Translators & Interpreters:</u>	700	700	700	2,100
<u>CRS/New York General Overhad Rate Tax</u> 8.57% 44,580	8,000	18,000	18,580	44,580
TOTAL	\$15,265	\$25,765	\$26,650	\$67,680

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U.S. \$ 000

GFRB

Personnel *

METS ^{1/} (2 Ph.D's, 5 technicians)	14.5	
MEPD ^{2/} (2 Engineers, 5 Agronomists, 6 Agriculturalists)	10.7	
DANIA (1 Nutritionist, 3 Administrators, 4 lab technicians)	48.8	
CARDER (7 Agriculturalists, 400 agents)	<u>363.5</u>	437.5

Vehicles *

METS (7 404's, 2 504's)	33.9	
MEPD (7 mobylettes)	1.2	
DANIA (5)	2.1	
CARDER (45)	<u>27.9</u>	65.1

Land

METS 4 ha.	2.7	
MEPD 151 ha.	105.0	
CARDER 6 ha	<u>3.9</u>	111.6

Laboratory Facilities

DANIA	11.1	
<u>Office:</u>	5.4	16.5

^{1/} METS - Ministère des Enseignements Technique et Supérieur
(Ministry of Higher Education)

^{2/} MEPD - Ministère de l'Enseignement du Premier Degré
(Ministry of Secondary Education)

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MINISTÈRE DE LA JUSTICE
DE LA LÉGISLATION
ET DES AFFAIRES SOCIALES

00732

M. J. L. A. S. DAPA-260

Reçu le 15 septembre 1978. RLB

LE GARDE DES SCAUX,
MINISTRE DE LA JUSTICE, DE LA LÉGISLATION
ET DES AFFAIRES SOCIALES

OBJET : _____

À Monsieur le DIRECTEUR DU SECOURS

CATHOLIQUE

COTONOU

RÉFÉRENCES N° 19/78/R.L.B. de 9

AOÛT 1978.

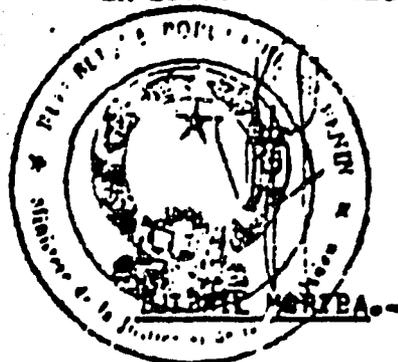
En réponse à votre lettre sus-visée, j'ai l'honneur de porter à votre connaissance, que le Gouvernement de la République Populaire du BÉNIN vient de donner un accord de principe à l'introduction du Projet SOJA dans notre pays.

Les textes subséquents de ce Projet font en ce moment l'objet d'une étude au sein d'une commission Technique Interministérielle dont l'avis sera connu sous peu.

Veuillez agréer, Monsieur le DIRECTEUR, l'expression de mes sentiments très distingués.

PRÊT POUR LA RÉVOLUTION

LA LUTTE CONTINUE.



UNITED STATES GOVERNMENT

Memorandum

TO : CRS/Benin

DATE: June 26, 1979

FROM : Lyle A. Weiss, Engineering Services
REDSO/WA

SUBJECT: Soy Nutrition OPG

The facilities to be provided (constructed) under this project are as follows:

<u>Quantity</u>	<u>Description</u>
7	Tool sheds 3m x 3m x 3m with conc floor, concrete block walls and metal roof construction
1	Warehouse 10m long x 5m wide and 3m high with concrete floor

I Preliminary Plans

The pro-ag shall contain a Condition Precedent that GPMs or shall submit plans and specification to USAID for review and approval before commencing construction contracting procedures

II Construction Standards and Quality Control

The general specifications for construction shall be mini and equal to building construction performed in Cotonou. In general the tool sheds and warehouse shall be concrete foundations, concrete block walls and the walls shall be plastered. The roof shall be sheet metal. The structural framing of the warehouse shall be reinforced concrete or steel and the roof framing shall be steel or wood.

III Construction Contracting

Sufficient contractors are available for construction of this type and quantity and are capable to perform this kind of construction.



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IV Construction Implementation

Since the value of construction for these storage and warehouse facilities is less than \$15,000 a waiver should be requested (no American contractor would come to Africa for this amount of construction). If waiver is not granted the implementation plan shall allow for advertisement of show of interest of U.S. firms - the notice shall state where each tool shed is to be built (town, etc.) and size and where warehouse is to be built and size as well as type of construction.

V Estimates of Cost

The estimates of cost shall be at the going rate for construction in Cotonou (\$100/square meter) or 7 tool sheds \$7,000 and warehouse \$5,000.

VI Recommendation

The facilities proposed will be adequately planned as condition precedent allows for USAID to renew plans for facilities and estimated cost for these facilities is nominal and will not affect overall project cost as 15% contingency is to be included.

The intent and requirement of 611 A of the FAA have been fulfilled regarding the substantive technical aspects of construction in that plan of facilities and a reasonably firm estimate of cost for the work and services has been made. Therefore, it is recommended that a 611 A certification with respect to construction can be issued.

■ GPRB: Government of the People's Republic of Benin
CRS: Catholic Relief Services

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Different Varieties of SOJA Tested in the P.R. of Benin

<u>Designation</u>	<u>Country of origin</u>
Lokossa jaune	Benin
Lokossa vert	Benin
Bragg	U S A
Hampton 266 A	U S A
Cokar 338	U S A
Improved Pelican	U S A
Semmes	U S A
Boesler	U S A
Hutten	U S A
Lee 74	U S A
Jupiter	U S A
T G M 249-4.2371	I I T A (Nigeria)
T G M 210.1.2363	I I T A (Nigeria)
T G M 13.3.2644	I I T A (Nigeria)
Kingandu Kikuvit	Zaire
B J 222	Zaire
B J 61/1	Zaire
SJ Vert d'Azovè	Azovè (Benin)
BJ Jaune d'Azovè	Benin
SJ 225	Zaire
SJ 230	Zaire
SJ 227	Zaire
SJ 213	Zaire
SJ 127	Zaire
SJ 121	Zaire
SJ 118	Zaire
SJ 129	Zaire
Santa Rosa	Bresil
Pelicano	Bresil
La Ireen	Bresil
P.I. 240663	Bresil
G 22	H.V.
G 115	H.V.
G 121	H.V.
G 5	H.V.
294-4268	I I T A (Nigeria)
York 482	U S A

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

Total U. S. Funding _____
Date Prepared: ADP 11 2/1/78
As revised but not completed

Project Title: _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Goal:</u> The broader objective to which this project contributes:</p> <p>To reduce the level of malnutrition within the People's Republic of Benin.</p>	<p>Measures of Goal achievement:</p> <p>A measurable decrease in the incidence of malnutrition.</p>	<p>1. MCH nutrition surveys 2. CRS MCH central records</p>	<p>Assumptions for achieving Goal targets:</p> <p>1. Consumption (3-4 days a week) will lead to a significant reduction in the incidence of malnutrition 2. GPRB and external donor will finance complementary nutrition programs 3. GPRB policy will remain consistent throughout life of projects</p>
<p><u>Project Purpose:</u></p> <p>1. To promote the production and consumption of soya throughout the People's Republic of Benin as an affordable nutritional protein component for the rural poor.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status:</p> <p>1. Soya has become better known and used in the Beninese diet 2. An improved general state of health among project target groups 3. Mobile units staffed and operating effectively in all six provinces of Benin 4. Host country personnel fully competent to hold training sessions on the nutritional value, cultivation and</p>	<p>1. Hectorage under cultivation measured in school, pre-school, village and family gardens 2. Reports from school and pre-school centers. Project evaluations 3. Nutrition surveys by D.A.N. A. and CRS 4. CRS mobile unit reports; on site inspections 5. a) Requests for soya demonstrations b) Staff assigned c) GPRB budgeted for continuation of services</p>	<p>Assumptions for achieving purpose:</p> <p>1. Farmers responsive to information introduced by the project 2. GPRB will continue to provide administrative and financial support during the project and in the post-project period 3. Reasonable regularity amount of rainfall</p>

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK.**

Life of Project
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title: _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS										
OUTPUTS:	Magnitude of outputs:												
1. Most Government personnel trained in soja horticulture, soja promotion techniques, its nutritional value and animation technique (6)	1. Persons trained: <table border="1" style="display: inline-table; vertical-align: middle;"> <thead> <tr> <th>Project Yrs</th> <th>Total</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>340</td> <td>1800</td> <td></td> <td>2,140</td> </tr> </tbody> </table>	Project Yrs	Total	1	2	3	Total	340	1800		2,140	1. Project evaluations	1. Participants successful complete training sessi
Project Yrs	Total												
1	2	3	Total										
340	1800		2,140										
2. CARDER agents trainid to carry out monitoring and extension education activities related to soja production	2. Number agents: 200	2. CARDER reports	2. Farmers understand and accept practices introd by the project										
3. Demonstrations by 4 mobile units	3. Number 200 200 100 500	3. Mobile unit reports	3. Improved varieties and cultural practices developed by the Department of Agriculture Research										
4. Seeds distributed to schools, farmers and civil servants	4. Kilos distrib 315 2240 7560 10,120	4. Mobile unit reports											
5. Posters, distributed	5. Number distrib 3500 3500 2000 9,000	5. Mobile unit reports. CRS reports. CRS reports.											
6. Information sheets on soja. distributed	6. Number distrib 60000 30000 150,000	6. Mobile unit reports. CRS reports											
7. Soja experimentation plot (H.E.T.S.)	7. Number exports: 2 2 3 6	7. H.E.T.S. reports											
8. Seed multiplication plots established in schools (H.E.P.D)	8. Number schools 56 56 32 144	8. Mobile unit reports. School reports											
9. CARDER multiplications centers	9. Number centers 6 6 6 18	9. CARDER reports											
10. 150 lab tests on mixture	10. Number tests 50 50 50 150	10. DANA, CRS, U. Ghent reports											
11. Nutritional Surveys- DANA	11. Number Surveys 6 6 6 18	11. DANA reports											
12. Soja produced - 9,000 tons	12. Numbers tons 100 2000 6000 6000												

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

Life of Project:
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title: _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	<p>6. Improved varieties of soja and related recommended practices for its cultivation developed, tested and disseminated</p> <p>7. Variety of local dishes which include soja developed, tested and disseminated</p>	<p>6. Field trial records. Comparison of yields based on field trials</p> <p>7. Project evaluations</p>	

**PROJECT DESIGN SUMMARY
LOGIC FRAMEWORK**

Life of Project:
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title: _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS				MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<u>Project Inputs:</u>	1979	1980	1981	TOTAL		
AID: Personnel Training Commodities Other	308.6	229.7	225.5	763.8*		
GPRB: Personnel Commodities Other	213	210	210	633		
GRAND TOTAL	518.6	439.7	435.5	1,393.8		
	* Includes inflation and 15% contingency					

**PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK**

Life of Project:
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title: _____

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS				MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<u>Project Inputs</u>	1979	1980	1981	TOTAL		
AID:						
Personnel						
Training						
Commodities	306.6	229.7	225.5	763.8*		
Other						
GPRB:						
Personnel						
Commodities	210	210	210	630		
Other						
GRAND TOTAL	516.6	439.7	435.5	1,393.8		
	* Includes inflation and 15% contingency					