DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER

GUINEA BISSAU
FOOD CROP PROTECTION III
(657-0012)

UNCLASSIFIED

AUTHORIZED:
$1,250,000
August 23,1985

GUINEA BISSAU
FOOD CROP PROTECTION III
(657-0012)

CONTENTS

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE (A = Add, C = Change, D = Delete) — Amendment Number — DOCUMENT CODE: 3

2. COUNTRY/ENTITY: GUINEA-BISSAU

3. PROJECT NUMBER: 657-0012

4. BUREAU/OFFICE: AFRICA [6]

5. PROJECT TITLE (maximum 40 characters): Food Crop Protection III

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 90

7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4): A. Initial FY 85 B. Quarter 4 C. Final FY 86

8. COSTS ($000 OR EQUIVALENT $1 =)

A. FUNDING SOURCE	FIRST FY B. FX	FIRST FY C. L/C	FIRST FY D. Total	LIFE OF PROJECT E. FX	LIFE OF PROJECT F. L/C	LIFE OF PROJECT G. Total
AID Appropriated Total	1,000		1,000	1,250		1,250
(Grant)	(1,000)	( )	(1,000)	(1,250)	( )	(1,250)
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
Other U.S. 2.						
Host Country		174	174		870	870
Other Donor(s)		90	90		690	690
TOTALS	1,000	264	1,264	1,250	1,560	2,810

9. SCHEDULE OF AID FUNDING ($000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	C. PRIMARY TECH. CODE 2. Loan	D. OBLIGATIONS TO DATE 1. Grant	D. OBLIGATIONS TO DATE 2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	E. AMOUNT APPROVED THIS ACTION 2. Loan	F. LIFE OF PROJECT 1. Grant	F. LIFE OF PROJECT 2. Loan
(1) FN	113					1,000		1,250	
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE COI

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code

B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To strengthen the National Crop Protection Service's capability to administer and implement a crop protection program based on integrated pest management strategies.

14. SCHEDULED EVALUATIONS

Interim: MM 09 YY 87 — Final: MM 09 YY 90

15. SOURCE/ORIGIN OF GOODS AND SERVICES: [X] 000 [X] 941 [X] Local [X] Other (Specify) 935-vehi

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

APPROVED: REGCON JAMES ITO — DATE: 8/21/85

17. APPROVED BY

Signature: Jesse L. Daniels III

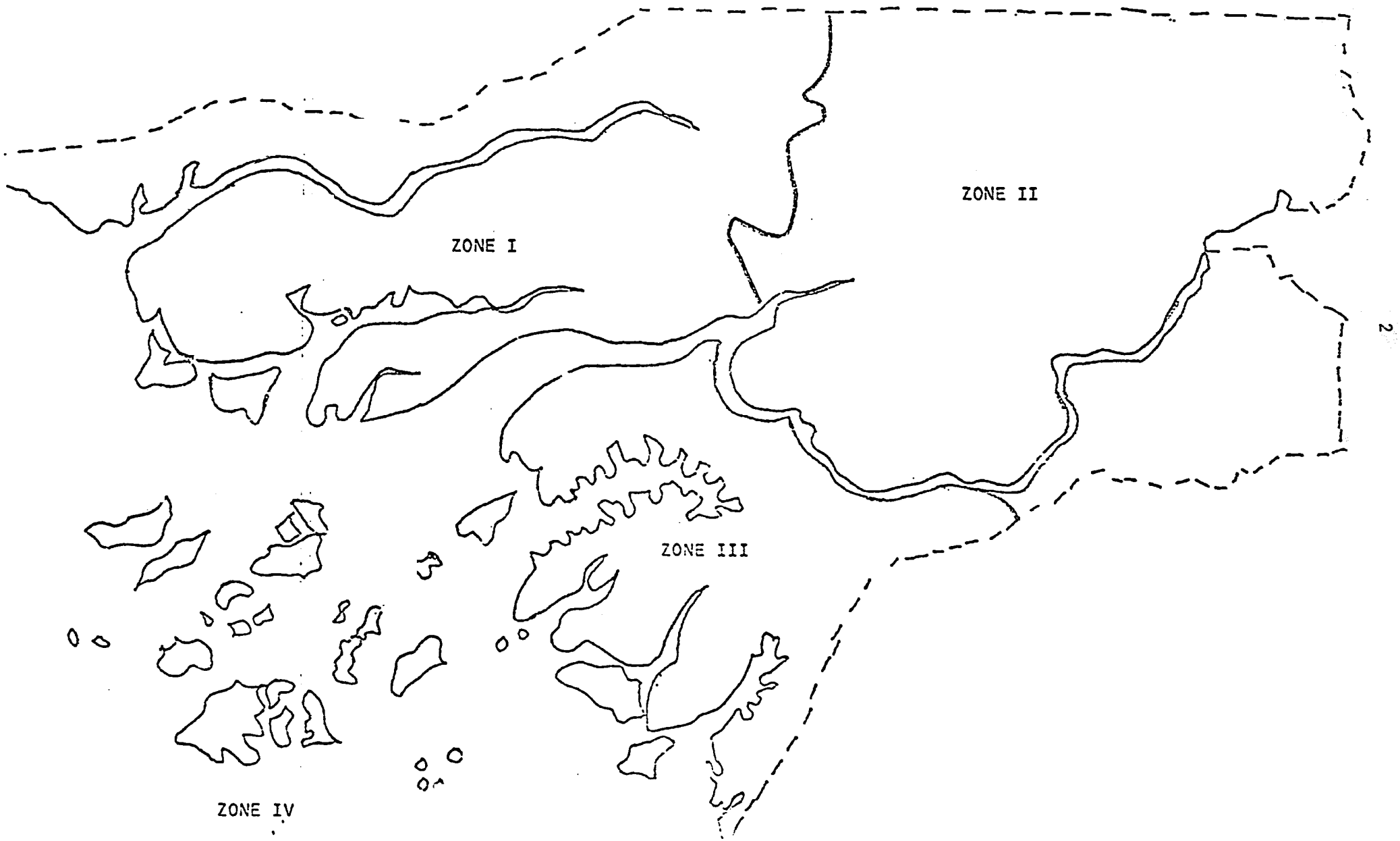
Title: AID Representative Guinea-Bissau

Date Signed: MM 08 DD 23 YY 85

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

AID 1330-4 (8-79)

GUINEA BISSAU
DIVISION OF AGRICULTURAL ZONES



E. Financial Summary ($000):

AID-financed inputs:	FY 1984	LOP
Technical Assistance	300	350
Training	300	350
Commodities	400	550
	1,000	1,250
Host Country inputs:	174	870
Other Donors	90	690
Total	1,264	2,810

F. Host Country and Other Donor Contributions: The Government of Guinea Bissau will provide, in-kind, the salaries and benefits of the employees of the Crop Protection Service, the fuel for field transportation office space and utilities valued at $870,000 over the life-of-project. Other donors will provide pesticides, construction, limited commodity, training and technical assistance support.

G. Socio-economic, Technical and Environmental Description:

1. Socio-economic acceptability - Social soundness and economic analyses contained in the PP conclude that the project approach and benefits are valid.

2. Human Rights - There are no implications with regard to human rights in Guinea Bissau.

3. Technical Analysis - Annex E.1 provides sufficient evidence that the proposed approach is technically sound.

4. Environmental Assessment - Annex E.5 provides sufficient evidence that appropriate environmental measures are being followed.

H. Conditions and Covenants

(1) Conditions Precedent to Disbursement - Prior to any disbursement or the issuance of any commitment documents under the grant, the Cooperating Country shall, except as A.I.D. may otherwise agree in writing, furnish:

(a) A statement identifying field offices for the Crop Protection Service's Zonal Supervisors;

(b) A statement naming an acting Director for the Crop Protection Service to function in the absence of the Director; and,

(c) A statement of the names of the persons holding or acting in the office of the Grantee specified in section 8.2 of the Grant Agreement and a specimen signature of each person specified in such statement.

(2) Covenants - The Grantee shall covenant to:

(a) Make reasonable efforts to increase the participation of women at all levels;

(b) Limit the use of project-funded vehicles to Crop Protection Service employees and their official business;

(c) Plan and participate in mutual project evaluation of the activities funded herein on a regular basis to include: (a) an evaluation of the progress towards the objectives of the Project; (b) identification and evaluation of problems areas or constraints that may inhibit such attainment; (c) assessment of how such information may be used to help overcome such problems; and, (d) evaluation, to the degree feasible, of the overall development impact of the Project;

(d) Make the neccesary economic reforms required to increase the production incentives for food crops; and,

(e) Treat, in a meaningful way, the problem of recurrent costs in project implementation to ensure the effective continuation of the CPS beyond the project.

I. Implementation Plan:

The Project Committee determined that the implementation plan is realistic and establishes a reasonable time frame for carrying out the project. Detailed plans are prepared at the Crop Protection Service on an annual basis.

USAID/Bissau recommends that a PASA arrangement be entered into with USDA for the technical assistance portion of this project. The Project Committee concurs with this recommendation, in accordance with regulations governing procurement of technical services. This is also in accordance with PID review guidance.

J. Major Implementation Agencies:

The National Crop Protection Service is the primary implementing agency for this project. The structure of the service is described in more detail in the Administrative Analysis (Annex E.5).

K. 611(a):

All preliminary planning and cost estimates were reviewed by the Project Committee. The Project Committee then determined that the usual review by a USDH engineer was not necessary and that the planning and cost estimates are reasonable and the requirements of 611(a) have been met.

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L. Project Officers Responsible:

USAID/Bissau - Norman Garner, Agricultural Development Officer
AID/Washington - Howard Helman, Project Officer AFR/PD/CCWAP

M. Waivers:

A vehicle waiver for 13 automobiles, 30 motorcycles and spare parts was approved in principle during the PID review. It is currently being processed for approval by the AA/AFR. No other waivers are anticipated.

N. Justification to the Congress:

Congressional notification will be the responsibility of AFR/CWA upon project authorization.

O. Executive Committee for Project Review:

REDSO/WCA Director, pursuant to D.O.A. 140, Revised, concurred in the approval of the project based on thorough review in Abidjan on the date of signature as shown below.

P. Recommendation:

That you sign the attached Project Authorization thereby authorizing the Guinea Bissau Food Crop Protection III Project (657-0012) with a life-of-project funding of $1,250,000.

Attachments:

Project Authorization
Project Paper
PP Annexes

Clearances:

OD:AGMacArthur ____
ODD:JStanford (d)
PDR1:JOsborn (d)
PADS:TWStervinou (d)
ECCS:DMcClellan (d)
RLA:ANewton (d)
RCMO:PElissabide (d)
PADS:JGoodson (d)
PADS:DMcLean (d)

Drafted:DRobertson, PDO:06/21/85

EXECUTIVE SUMMARY

Per State 224906 (83), this project entitled Guinea Bissau Food Crop Protection III (657-0012) is summarized as follows:

(A) Grantee or Borrower

Republic of Guinea Bissau

(B) Implementing Agency

Ministry of Rural Development - National Crop Protection Service

(C) Financial Plan

AID Financing	$1,250,000
--Technical Assistance	(350,000)
--Training	(350,000)
--Commodities	(550,000)
GOGB contribution (in-kind)	$ 870,000
Other Donors	$ 690,000
Total	$2,810,000

(D) Term of Project

Project Activity Completion Date (PACD) September 30, 1990

--AID funding FY 85-86

(E) Description of Project

The Project provides continued technical assistance, commodity and institutional support to the National Crop Protection Service (CPS) of Guinea Bissau. Earlier phases (Regional Food Crop Protection 625-0916/-0928) were instrumental in:

Establishing the crop protection unit within the Ministry of Rural Development;

Providing the minimum training needed to adequately staff the emergent service; and,

Developing the first draft strategies for Integrated Pest Management of key pests of food crops.

This follow-on project is designed to strengthen the capability of the Service to develop and direct the crop protection program, and continue to implement the on-going program in crop protection. The Crop Protection Service is involved in many activities designed to reduce crop loss due to pests, such as comprehensive data collection (pest surveys), biological control techniques (cassava mealybug), training farmers in Integrated Pest Management practices that reduce the dependency on

phytosanitary practices necessary to control pest outbreaks in the future containing the steps to be followed by farmers in their agricultural practices and the GOGB in its agricultural policy.

(F) Purpose of the Project

The purpose of the project reads:

> "to strengthen the National Crop Protection Service's capability to develop and direct a crop protection program and continue to implement the on-going program in crop protection based on Integrated Pest Management strategies."

(G) Background of the Project

In response to massive grasshopper attacks in millet/sorghum growing areas in 1977, the GOGB took the first steps toward agricultural pest control by creating a National Crop Protection Service, and requesting USAID assistance in organizing and training brigades of pesticide applicators. AID responded by including Guinea Bissau in an existing regional project of the Sahel (625-0916/625-0928). A total of $1.8 million was provided in two phases for participant training, laboratory construction, technical assistance, and commodities. The first academic participants returned in 1984. As the country's only Entomologist and Plant Pathologist, they have begun national surveys of the food crop pests, and have initiated programs of adaptive research, such as the liberation of predators and parasites against the cassava mealybug.

A project evaluation carried out in early 1985 found the Crop Protection Service to be a well-organized, highly motivated agency with clear and sound technical objectives. It was recommended that support be continued and that increased emphasis be given to providing qualified, timely field coverage to the four agricultural zones.

(H) Whether Small, Small Disadvantaged and Women-Owned Firms Have Been Considered

The Design team recommends the use of a PASA arrangement with USDA to provide the technical assistance needed to implement the project, as the highly specific skills required are solely available through its agencies, and the USDA is "particularly suitable" to provide assistance and backstopping in areas such as plant quarantine procedures, pest risk analysis, and national control campaigns. USDA is also a particularly suitable source since it has provided TA to the earlier phases, and is familiar with AID procedures. The use of USDA is not in competition with private industry.

(I) Waivers Required

AID/W is processing a source/origin waiver for 13 automobiles, 30 motorcycles and spare parts (Code 935) for approval based on review of the PID. No other waivers are anticipated.

(J) Major Covenants and Conditions Precedent: In addition to the standard conditions precedent and covenants, the Grant Agreement will contain the following conditions and special covenants:

1. Conditions Precedent to Disbursement

The Grantee must furnish AID:

(a) A statement identifying field offices for the Crop Protection Service's Zonal Supervisors.

(b) A statement naming an acting Director for the Crop Protection Service to function in the absence of the Director.

(c) A statement of the names of the persons holding or acting in the office of the Grantee specified in section 8.2 of the Grant Agreement and a specimen signature of each person specified in such statement.

2. Covenants

The Grantee shall covenant to:

(a) Make reasonable efforts to increase the participation of women at all levels.

(b) Limit the use of project-funded vehicles to Crop Protection Service employees and their official business.

(c) Plan and participate in mutual project evaluation of the activities funded herein on a regular basis to include: (a) an evaluation of the progress towards the objectives of the Project; (b) identification and evaluation of problems areas or constraints that may inhibit such attainment; (c) assessment of how such information may be used to help overcome such problems; and (d) evaluation, to the degree feasible, of the overall development impact of the Project;

(d) Make the neccesary economic reforms required to increase the production incentives for food crops; and,

(e) Treat, in a meaningful way, the problem of recurrent costs in Project Implementation to ensure the effective continuation of the CPS beyond the project.

(K) List of Project Technical Assistance

LONG TERM
Plant Protection Advisor 2 years

SHORT TERM
Plant Quarantine
IPM Specialist
Extension Specialist
Weed control Specialist

(M) Technical Summary Findings

The proposed project builds upon methodologies introduced into Guinea Bissau since 1978 by previous food crop protection project assistance. When the rationale for utilization of Integrated Pest Management (IPM) concepts, and their applicability to GuineaBissau was analyzed, it was found that the potential application of IPM against key pests of food crops is probably higher in GuineaBissau than in many other West African countries. This is due to factors such as absence of overdependence on pesticides, and relatively unsophisticated present agricultural practices. Although lack of adequate indigenous agricutural research was identified as a constraint, measures are suggested to overcome this with project resources. The following components of the Crop Protection Service workplan were reviewed and found to be technically sound:

Pest Survey & Detection Capabilities
CPS Assistance to Villagers
Biological Control
Training
Extension of IPM Practices
Pesticide Usage
Quarantine Needs
Planning Procedures

(N) Project Issues

Per State 147800, the following issues were raised:

Recurrent Costs - During PID review, the design team was requested to identify the recurrent costs and propose a strategy for their possible assumption by the GOGB over time.

This project will finance those recurrent costs which the GOGB is unable to provide due to the extreme scarcity of foreign exchange (automobiles, motorcycles, laboratory equipment). The remaining recurrent costs associated with the project (salaries, fuel, office space, utilities, pesticides, etc.) will be supplied by the GOGB through other donor initiatives, PL 480 counterpart funds and the limited resources the GOGB possesses.

Since the issue of recurrent costs is a program issue in Guinea Bissau, the Mission prefers to deal with it at that level, rather than on a project-by-project basis. The Mission strategy for addressing recurrent costs is contained as an annex to the project paper, and is founded on regular dialogue with appropriate government officials to discuss possible ways that the GOGB can begin to gradually bear certain project recurrent costs requiring foreign exchange (project vehicles, for example). Because of the serious economic problems being experienced by Guinea Bissau and the program of austerity measures already prescribed by the IMF, it is expected that regular dialogue and counsel, where appropriate, will assist the Government to better prioritize their foreign exchange needs and begin to devote an increasing amount to agricultural project needs. The ABS contains a more detailed description of the measures being taken by the Government to address the economic crisis.

Other Donor Support - Design team should investigate methods of garnerin a wider range of other donor support.

The project calls for increased participation by other donors through proposals, study trips, and professional contacts. For 1985, the servic received commitments totalling $90,000 (commodities, training). It seem realistic to target approximately 10% increases in support by preparing variety of proposals for other donor consideration.

The likelihood of increased support from other donor for crop protection activities is based on: the proportionately large number and diversity o activities presently supported by the donor community in Guinea Bissau; past experience with donors such as the Dutch Germans, who have provided pesticides and laboratory equipment; key donor contributions to neighboring country crop protection programs; and, the success of the service to date in its implementation of a sound crop protection program

Evaluation - Design team was asked to establish benchmarks for evaluatio

The revised logframe provides more quantifiable outputs for evaluation.

By the mid-project evaluation, project implementation should have progressed to the point where:

- Guidelines and job descriptions exist for all CPS positions;
- Performance evaluation conducted on a regular basis;
- Draft strategies complete for all the four major food crops and at least one reviewed by National Legislature;
- Data collected by field agents analyzed by senior staff and fed back into CPS as recommendations for farmers in agricultural practices; and,
- Senior staff regularly prepare detailed work plans and monitor progress in the field.

In addition to the above benchmarks, the evaluation team will need to examine:

- The degree to which other Departments cooperate in program implementation with CPS;
- Operational state of the vehicles (if obviously abused, the final $170,000 may be withdrawn);
- Steps taken to encourage other donor support for the CPS.

PROJECT RATIONALE

Introduction

The National Crop Protection Service of the Ministry of Rural Development in Guinea Bissau was created with the assistance of the Sahel Regional Food Crop Protection Project in response to massive grasshopper attacks in millet/sorghum growing areas in 1977. The awareness of food crop protection as an important factor in national agricultural development strategy led to a second phase of the regional project with continued training, technical assistance and commodity support to the service lasting until 1986. At that time, regional support will cease due to difficulties in applying further regional solutions to a nationally stratified problem. The Government of Guinea Bissau has requested continued assistance based on the success of the project as implemented in Bissau.

USAID/Bissau called for technical evaluation of the project activities in mid-1985 to determine the need and viability of a continuation of these activities. Based on the encouraging results, the mission is proposing this third phase funded at $1,250,000 through a bilateral agreement.

Evaluation Results

In mid-1985, the mission undertook a technical review of the activities of the Current Food Crop Protection Project (657-0007) with the services of an IPM Entomologist from Ohio State University. The objectives were:

1) to assess the viability of the strategies being implemented by the crop protection service; and,

2) to provide technical guidance for improving the service's operation.

The evaluation found the following:

A. Pest Survey and Detection Capabilities

Considering the language barriers, logistics, etc. the survey and detection of pests works fairly well. Extra efforts must be made to improve reporting by field agents. In addition, it was felt that service in the more difficult-to-reach areas (Zones III and IV) needs increased logistic support to provide better coverage.

B. Quality of Crop Protection Assistance

Pesticide applications are generally made on a timely basis and progress has been made in farmer training in pest recognition, however intensive training at all levels is still necessary.

C. Biological Control

There is great optimism among the CPS scientists concerning the establishment of a recently introduced parasite of the cassava mealy bug. This parasite has been a success in Nigeria and

indications look promising for Guinea Bissau. Many other opportunities in biocontrol exist and should be pursued by the CPS.

D. Training

Training of CPS mid-level and senior scientific staff is vital to the development and expansion of crop protection. The CPS makes good use of short-term opportunities in other countries to build on academic degree programs. It is recommended that in-country, US and short-term training be continued to build a solid base for the Service.

E. Extension Service

The evaluation recommended continuation and expansion of extension services to other crops and regions of the country.

F. Adaptation of Research Findings to Field Conditions

The evaluation recommends continued academic training of senior staff to support the nascent capability in this area.

G. Pesticides

Extreme care has been taken in developing a capability in pesticide training, with emphasis on safety. Malathion, the major pesticide in use, is one of the safer pesticides available and is a good choice ecologically since it is a short residual insecticide and not particularly hazardous to beneficial insects.

It is recommended that Bissau continue to use pesticides sparingly and to choose pesticides that are environmentally safe. However, ministry officials should attempt to enact legislation and develop a system to ensure that pesticides remain under the control of the MRDP.

H. Quarantine

The current project is training a participant in plant pathology to act as quarantine officer. It is recommended that the CPS study the International Plant Protection Convention and consider ratification. Assistance is needed to assess quarantine needs, promulgate legislation, and enforce measures designed to prevent the entrance of exotic pests.

Summary

The proposed project attempts to integrate as many recommendations as possible with the understanding that the GOGB must begin to consider how it will support the service when AID-funding is complete. Further assistance is warranted, however, in order to bring the Service up to a level where it is capable of running an independent operation.

PROJECT DESCRIPTION

Annex A provides a logical framework for the proposed project, initially developed during PID preparation and subsequently modified to address comments generated during the PID review as well as information obtained during the PP Design. The following will describe the project elements in more detail beginning with the project goal, purpose, outputs and inputs.

Project Goal

"to increase productivity in staple food crops."

The project goal is shared by all agriculture projects in the Bissau portfolio; Agriculture Development (657-0002); Food Crop Protection (657-0007); Rice Production (657-0009); and, South Coast Agriculture Development (657-0010). It is the policy of the mission to support agricultural projects which focus on food crops, toward self-sufficency in food production.

As indicators of progress toward this goal, the mission monitors food aid imports and national Ag production statistics. Currently, Bissau receives food aid from the US nearly every year.

Achievement of the goal assumes no catastrophic natural events in agriculture such as continued drought conditions, and that national agricultural policy reforms continue with increased incentives to producers. It is generally felt that Guinea Bissau could be self-sufficient in staple grains with more favorable economic conditions. The necessary reforms are of a long-term nature and are progressing. The reader is referred to the Economic Analysis for more details.

Project Purpose

"to strengthen the National Crop Protection Service's capability to develop and direct a crop protection program and to implement the on-going program in crop protection."

Previous support to the Crop Protection Service was aimed at developing a central unit (senior staff training, construction of central office buildings, supply of pest control equipment and materials, laboratory, beginning vehicle fleet). The result of this support is the foundation of a fully operational service; several trained scientists have returned and have created functional crop protection programs.

Technical assistance from past and current projects have sensitized the GOGB and farmers alike to the potential benefits of crop protection; limited research has begun; training and certification of field agents has been instituted. As described in the referenced project evaluation, the nascent Service is functioning satisfactorily, but requires strengthening and the depth to direct and initiate new programs.

The Crop Protection Service is involved in many activities aimed at reducing production losses due to pests, and devotes considerable effort

toward developing an approach consistent with Integrated Pest Management. As is shown in the technical analysis, the Service will perform the following activities during 1985-1990

1. Field pest surveys carried out by trained field agents to identify the types and extent of disease for cassava, millet, rice, traditional vegetables and stored products;

2. Laboratory diagnostic services for Bissau farmers to identify pests and prescribe treatment;

3. Pilot project implementation by senior staff in Bissau with identified early innovators to apply Integrated Pest Management techniques, monitor the progress closely and interpret the results;

4. Development of didactic materials for use by agents with farmers, including radio programs, illustrated leaflets in crioulo, and other uses of the media to extend the IPM technology as well as to alert farmers of potential pest problems;

5. Applied research directed by the senior staff encompassing areas such as biological control of the cassava mealybug, identifying resistant varieties for breeding purposes, chemical control of the white fly, soil sterilization, seed fumigation techniques, etc. Results will be fed back into the field operations for extension to the farmers; and,

6. Chemical treatment for participating farmers to cover a wide variety of pests, field inspection, reporting to authorities.

To attain the purpose, the project design team envisions the service as follows by the end of the project.

1. GOGB adoption of IPM strategy/recommendations for each major food crop; rice, cassava, sorghum/millet and stored products.

The GOGB must adopt national policies in crop protection for the Service to be able to function optimally. There must be well-recognized standards for treatment of the most severe diseases and pests with clear guidelines for treatment. The use of pesticides must be addressed nationally to avoid misuse by farmers and local merchants.

As benchmarks, it would be expected that draft strategies would be prepared for the above crops one year after technical assistance arrives, and that the GOGB has adopted at least one.

2. Professional linkages exist between the CPS and international research institutes.

Another indicator of a strong CPS is the extent and depth of bonds to other similar institutions. By the completion of this project, there should be well-established personal and professional linkages with institutions such as IITA, ORSTOM, FAO, etc. Sharing of information, hosting visits for consultations, conducting seminars, training, etc. are all examples of linkages that will ensure the survival and growth of the Service.

3. CPS coordinates activities with other MDR departments.

The function of crop protection complements activities of other agencies within the Ministry of Rural Development. In order for the Service to become institutionalized, there must be coordination and collaboration with other agencies, notably DEPA (Agency for Agricultural Experimentation and Production) and the National Seed Lab. The CPS will develop training courses for other agency staff and work with other donors involved in agriculture. Central ministry officials are aware of the Service and many have been assisted by the Service. Collaboration through cross-training of agents and submission of pest reports is needed for the CPS to be responsive in a timely fashion to pest outbreaks. The extent of cooperation should be monitored and closely evaluated in order to ensure the full intergration into the ministry structure.

4. Service receives significant donor support from other than US sources.

It is recognized that US support for the CPS must not take the place of the GOGB commitment to its continuation, and that the future of the service lies in the GOGB's ability to provide its own resources or to seek additional resources elsewhere. Because Guinea Bissau is so poor, with very little foreign exchange, it seems clear that support from other donors will be necessary to provide certain of the needs of the CPS, in particular those recurrent costs that require foreign exchange (vehicles, motorcycles). The GOGB is already shouldering a large share of recurrent local costs (salaries, fuel, office space and utilities), but foreign exchange remains largely out of the control of the ministry officials. In FY 1985, the service received commitments totalling approximately $90,000 from other donors (boats, training). It is the judgement of the mission that similar and expanding support should be possible if more effort was made to seek support from other donors, research institutes, international organizations in the form of technical assistance, construction, training and commodities. The support is expected to increase by about ten percent per year. Details are provided in the cost summary.

5. CPS has competent field staff implementing plans of work successfully.

By the end of the project, the CPS should be providing full coverage to the four agricultural zones in a coordinated manner, meeting the needs of local farmers, collecting relevant data necessary to predict and treat present and anticipated pest problems, and training field monitors and farmers in the diagnosis of simple pest problems.

Various government and donor reports will be used to verify whether the purpose is being achieved. Most important will be a thorough project evaluation mid-way into implementation. For more information regarding evaluation and benchmarks, the Evaluation Plan may be reviewed.

It is assumed that crop protection through IPM strategies is an effective and (eventually) economic means of reducing crop loss, and that new IPM research in the field will yield results applicable to Guinea Bissau. Of greatest importance to the sustainability of the CPS is the assumption that AID and the GOGB develop and maintain strategy for addressing recurrent costs.

Outputs

In order to accomplish the purpose, the following outputs have been defined:

1. Trained senior technical staff in CPS headquarters.

It is the intention of the service to train the senior staff to the B.S. level at a minimum, and where necessary, to provide the scientists with M.S. level training. Of the six projected senior staff positions at CPS Headquarters, four are filled with individuals with B.S. degrees. Phase III would provide funding for one of the remaining B.S. programs. The project proposes to train three staff members at the M.S. level - the Director in an as yet unspecified field (perhaps stored product IPM), the plant pathologist in plant virology, and the entomologist in biological control. They will not train simultaneously and they will all perform their field research in Bissau. All are cleared to leave for training with the exception of the Director. This project contains a CP requesting the ministry to designate an Acting Director for the service as a means of easing the transition when the Director leaves for training. It will be incumbent upon the Pathologist and Entomologist to concentrate on developing strategies for the service that take advantage of their stateside training and maximize the limited resources avaiable in Bissau.

The field of crop protection is highly specialized, involving scientific disciplines such as plant pathology, virology, entomology. In order to develop a credible IPM information base, a core of highly trained personnel is required. These specialists will make invaluable contributions to Bissau in agricultural development by being able to generate original research and adapt other research to Bissau's specific conditions. Less than M.S. level training will severely handicap their ability to direct their own program in the absence of continued technical assistance.

2. Trained field supervisors in each zone.

In each of four agricultural zones, there is a CPS supervisor coordinating the activities of the field agents. Currently, the supervisors are high school graduates or mid-level graduates. Since this phase of the project is intended to strengthen the field capability, two B.S. and two Mid-level participants are proposed under the project. Ideally, all supervisors should possess B.S. level training to perform their jobs adequately. Their responsiblities include supervising pesticide application, coordinating the collecton of data, monitoring the work of field agents, etc. Through this project and participants already in training through AMDP, all zone supervisors with one exception will complete B.S. training. The final supervisor will have mid-level training in Brazil (approximate AA level). This training will also afford the staff an IPM technician for pilot projects who will "float".

3. Functionally trained field agents.

The field agents (monitors) cover the interior of the country, providing the link to the central CPS, and supplying the services of the CPS to the farmers. The level of education of the field agents is very limited

possess basic skills to be certified field agents, and selection criteria/job descriptions will be developed under this project to make the procedure as uniform as possible. The field agent positions are relatively coveted positions because of the support provided, and selection out will eventually be necessary to upgrade the service. To that end, the CPS will develop an in-country training plan designed to bring capable field agents to the point required for certification, based on approved competency guidelines. Literacy will be required and, hence, training may have to begin at this most basic level for some. It should be noted that civil servant status was accorded many who fought for independance and the government has felt obliged to maintain their appointments regardless of performance. The IMF, however, has imposed rather stiff procedures calling for lay-offs in the public sector. The selection will follow the development and Ministry approval of job descriptions, performance standards, competency guidelines and an organizational structure.

4. Extension Infrastructure for Crop Protection Service.

In order for the extension agents to carry out their plans of work, they will require not only transportation, but also a field network to stay in communication with their zone supervisor and the headquarters in Bissau. Hence, the project proposes the purchase of vehicles and motorcycles to equip the field staff for national coverage, and the purchase of a portable radio for the field vehicles. The zonal supervisors are supplied vehicles to monitor their areas, and the field agents are provided motorcycles. The service has experience with transportation and imposes strict use guidelines. In addition, police do not hesitate to stop and impound vehicles on the street after established working hours. The project will finance the purchase of approximately 13 vehicles and 30 motorcycles with appropriate spare parts. They will be purchased in two traunches, the second contingent upon favorable mid-term evaluation of the transportion record.

5. Develop and implement draft crop protection strategies.

The drafting of strategies at the output level sensitizes the Service to the issues of crop protection. Implementing the recommendations of the strategies is the responsibility of the CPS and must be coordinated with other Departments. In order to do this, the field agents will require periodic training and the national and regional support to extend the recommendations to the farmers. Passing the strategies to the national government for adoption is an indication that the service is making an impact.

Progress on the above will be communicated by training reports from US and third country universities, project implementation reports (semi-annual), contractor reports, and mid-term evaluation. It is assumed that trained staff will return to Bissau and be assigned to the Service (this has never been a problem in Guinea Bissau). Further, it is assumed that field agents can meet the minimum standards for certification (based on in-service training in the past, most will be able to achieve these standards). Finally, it is assumed that vehicles remain in good working order. Whereas it is the responsibility of the Service to control and maintain the vehicles, evidence to the contrary will result in pulling back vehicles.

In the event that the CPS is not able to responsibly maintain the vehicles, or is unable to replace them as need dictates, the Service will be challenged to generate alternatives to reach the field. In many instances bicycles may be sufficient or simply less travel with fewer vehicles, and organizing group meetings with farmers on a wider basis. It is a serious concern that the full impact of the vehicles be dealt with prior to ordering.

Inputs

The US is providing a $1,250,000 grant which is broken down accordingly:

Technical Assistance	$350,000
Training	350,000
Commodities	550,000
	$1,250,000

USAID intends to supply technical assistance through a USDA PASA arrangement since the technical expertises required is only available through USDA and is not competitive with private industry; long-term and short-term training in the US, third country (Brazil) and in-country; and commodity support to the Service in vehicles, motorcycles, and equipment, etc.

The GOGB is providing $810,000 in kind in operating expenses, such as salaries, fuel, office supplies, utilities.

The project is seeking additional donor support to supply technical assistance, training and commodities valued at approximately $690,000 over the life of the project. Notably, all pesticides for routine operations will be furnished by other donors.

The project assumes availability of funds from the US and timely procurement. Also assumed is the ability of the CPS to obtain continued and increased support from other donors.

Project Beneficiaries

Primary project beneficiaries are the technicians and field workers of the crop Protection Service numbering 50-60. They will be the first line recipients of the training, technology transfer through technical assistance, and improved materials. However, the farmers in the rural areas directly benefit through access to crop protection programs, pesticide application, etc. Each field agent is estimated to be responsible for an average of 100 farmers, bringing the number of beneficiaries to approximately 3500 farm families.

Other Donor Support: The design team shares the project committee belief (State 138155) that untapped donor resources are available that would respond to the opportunity offered by this project. The belief is based, in part, upon:

(a) Proportionately large number and diversity of activities presently supported by donor community in Guinea Bissau.

(b) Donors, such as UNDP, EEC, West Germany, or the Dutch have contributed limited commodity support (pesticides, equipment) in the recent past in response to specific request of CPS. Other types of support haven't been obtained because they haven't been requested.

(c) Key potential donors such as FAO, GTZ, or CIDA have contributed to similar CPS program development in nearby countries, such as The Gambia, Senegal, Mali, and Niger.

(d) Earlier phases of the project have been successful enough in building a CPS infrastructure that risks are minimized for forthcoming supplemental donors.

It is suggested that the project-funded technical advisor assist the CPS Director in development and implementation of a plan to obtain the needed funding. His active participation will ensure that proposals correspond technically with identified needs, that scarce CPS resources are not "overpledged" as counterpart to proposed funding, and that sollicited support doesn't undermine USAID policy, or efforts in areas, such as pesticide usage.

The strategy is to promote joint planning by CPS, GAPLA (the Ministry's planning branch), and the Ministry of Plan, especially the Office of International Cooperation in the identification of sources of governmental and non-governmental support. A list of potential donors will be generated based upon recent donor initiatives, past contributions of key donors to COGB, and past or present involvement of certain donors in similar activities in other countries. Components of the existing plans of works will be identified, and targetted for potential support by specific donor, (i.e. position of Extension/Training Specialist to be filled by U.N. volunteer, or Dutch volunteer). It is possible to also identify spin-off activities, especially in cash crops or forest protection, that fall within the mandate of the CPS, but cannot be financed by this project. The CPS Director will prepare specific proposals (both solicited and unsolicited) for use by the Ministry of Plan as working documents during international travel and conferences. Finally, progress in obtaining additional funding will be evaluated during semi-annual project reviews, and the plans updated as necessary.

The following activities should receive priority for other donor support:

(a) Maintain Extension/Training Specialist position for two additional years - likely source is one of the several international volunteer organizations present in GB (Dutch, UN, etc.);

(b) Follow USDA PASA technician in 1988 by specialists in specific areas (i.e. weed control, nemotology, virology) on tours of six months to one year - likely sources are international agricultural research centers, some of which have already expressed an interest in exchanges of this type; or GAO.

(c) Short-term technical training - likely sources are Brazilians and Portuguese in addition to opportunities that may come up through regional AID projects such as AMDP.

(d) Pesticides and other chemicals - likely sources are the Germans, Dutch, and Japanese.

(e) Replacement of vehicles/supply of spare parts - proposals need to be developed for donor solicitation that describe the economic return to the service for an additional vehicle. Strategy should be for individual replacement rather than fleet replacement.

(f) Construction - possible sources are Yugoslavia, or Japan, especially if need can be met with prefabricated structures.

SUMMARY COST ESTIMATE AND FINANCIAL PLAN
(US $000)

	AID		HC*		OTHER DONORS**		TOTAL
	FX	LC	FX	LC	FX	LC	
Technical Assistance	300	-	-	-	100		400
Training	350	-	-	50	50		450
Operating Costs	-	-	-	820	100		920
Construction	-	-	-	-	50		50
Vehicles	350	-	-	-	100		450
Studies/Evaluation	50	-	-	-	50		100
Commodities/Supplies	200	-	-	-	200		400
Pesticides	-	-	-	-	40		40
Total	1,250	-	-	870	690		2,810

AID - financing is grant

* HC financing is in-kind for salaries, office space, fuel, etc.

** Other Donor support is unconfirmed, but planned (see Implement Plan)

PROJECTED EXPENDITURES BY FISCAL YEAR
(US $000)

FISCAL YEAR	AID	HOST COUNTRY	OTHER	TOTAL
1985	195	87	90	372
1986	440	174	100	714
1987	300	174	110	584
1988	270	174	120	564
1989	45	174	130	349
1990	-	87	140	227
Inflation	built-in	-	-	-
Contingency	built-in			-
TOTAL	1,250	870	690	2,810

FOOD CROP PROTECTION III
657-0012

PROJECT INPUTS

PROJECT OUTPUTS

	#1	#2	#3	#4	#5	TOTAL
AID						
Technical Assistance	25% (87.5)	25% (87.5)	10% (35)	10% (35)	30% (105)	350
Training	40% (140)	30% (105)	20% (70)	10% (35)	-	350
Commodities	10% (55)	10% (55)	10% (55)	65% (357.5)	5% (27.5)	550
HOST COUNTRY						
Operation Costs	30% (246)	10% (82)	30% (246)	20% (164)	10% (82)	820
Training	-	-	100% (50)	-	-	50
OTHER DONORS	20% (138)	20% (138)	20% (138)	20% (138)	20% (138)	690
	666.5 24%	467.5 17%	594 21%	729.5 26%	352.5 13%	2810

PROJECT OUTPUTS

#1 Trained Senior Staff at CPS Headquarters

#2 Trained Zonal Supervisors

#3 Better Trained Field Agents

#4 Extension Infrastructure for Crop Protection Service

#5 Draft Crop Protection Strategies

PACD September 30, 1990

PROPOSED BUDGET - FOOD CROP PROTECTION 657-0012

Item	Year of Expenditure (FY) '85	'86	'87	'88	'89	'90	Subtotal	Total
Technical Assistance								
A. Full-Time Specialist	-	150	150	-	-	-	(300)	
B. TDY Assistance	-	5	5	20	20	-	(50)	350
Training								
A. Master's Level (Cassama, Fernandes, Abreu)	20	40	60	20	-	-	(140)	
B. Bachelor's Level (Tavares, Varela)	20	40	40	40	-	-	(140)	
C. Associate's Degree (Brazil) (Delgado, N'Canha)	-	-	10	10	10	-	(30)	
D. Short Courses or Technical	10	10	10	5	5	-	(40)	350
Equipment and Supplies								
A. Vehicles and Spare Parts (12 pickups, 1 minibus, ('80/'88) ('85) 30 motorcycles ('86)	20	170	-	160	-		(350)	
B. Boats/Motors	40	-	-	-			(40)	
C. Spray Equipment (Experimental)	10	-	-	-	-		(10)	
D. Radio System	40	-	-	-	-		(40)	
E. Lab/Field Equipment	5	5	5	5	5		(25)	
F. Training Supplies	20	10	10	5	5		(50)	
G. Expendable Supplies	10	10	10	5	-		(35)	550
Construction								
								1,250

IMPLEMENTATION PLAN

The proposed project can be divided into four components; technical assistance plan, training plan, commodity procurement plan and project management. The following implementation/monitoring plan supposes a fourth quarter FY 1985 obligation of $1,000,000.

Technical Assistance

Technical assistance for the project will be procured through a PASA with United States Department of Agriculture to supply the services of one long-term crop protection specialist and limited short-term technical consultants in the areas of plant quarantine, pesticide use, plant pathology, etc.

Justification - AID may enter into an agreement with another US agency when it can be shown that the agency is "uniquely suitable" or "particularly suitable"; that is to say, when the services desired are available only from another government agency, or when the government agency has a clear and demonstratable superiority to private sources, and the excess capacity to perform the desired services (FN) since USDA was the implementing agency under the previous regional food crop protection projects due to their "particular suitability", it follows that similar technical assistance for a consequent food crop protection project should be procured from the USDA. Specialists in Integrated Pest Management (IPM) crop protection, plant quarantine, etc. are seldom found outside the public sector or university community. USDA provided similar specialists to staff the entire Sahel and thus possesses the resources, likely in excess, to perform the desired services. Finally, this mode of contrasting has been very effective in Guinea Bissau to date and is consistent with the PID Guideance Cable.

It is the initial determination of REDSO legal counsel that the authority to approve a USDA for Guinea Bissau rests with the AA/AFR. For this reason, the PIO/T for technical services will be prepared and approved in AID/W.

Description of Services

A. The services of an IPM Crop Protection Specialist are required for a period of two years.

Qualifications - Required advanced degree in a relevant discipline of crop protection, such as plant pathology, entomology, etc. with published research; must have field experience in similar ecological zone (humid tropical) of long-term nature; Portuguese required at (S-3, R-3) or French and Spanish fluency; must also have significant experience/education in public administration of similar organization.

Counterpart - Mr. Mustafa Soares Cassama, Director of the Crop Protection Service and Acting Director General for Agriculture will be the technician's counterpart. Mr. Cassama particulary requests his project counterpart be skilled in administration/organization.

Scope of Work - The long-term technician will be responsible for the following duties in conjunction with the GOGB counterpart:

1. Advises his counterpart(s) in planning, organizing and directing difficult and important survey and control programs that stimulate the development and extension of procedures for the control of major pests.

2. Identifies, explores, and introduces various techniques and procedures which are of present use or adaptable in aiding the government of Guinea Bissau to improve its National Crop Protection Service.

3. Consults with and advises the Guinea Bissau Ministry of Rural Development and Fisheries in developing and administering national and international crop protection programs and campaigns.

4. Assists his counterpart(s) in maintaining adequate survey, evaluation, and reporting services that permit appraising major crop pest problems.

5. Conducts or provides for cooperative training programs, with national counterparts, establishes field demonstrations that reflect the differences and value between current and improved pest control and crop protection practices. Assists in these demonstrations by timely provision of needed hand and power equipment, cultural and biological controls and any other appropriate material, equipment or methods that reduce losses caused by major food crop pests, including post-harvest problems.

6. Provides on-the-job training, short courses and consultant services.

7. Teaches and employs safe and reliable methods in the storage, handling, preparation, and application of pesticides and other pest control agents to safeguard against pesticide misuse and resultant hazards to man, animals and other environmental values in accordance with Environmental Protection Agency (EPA), United States Department of Agriculture (USDA); Animal and Plant Health Inspection Services (APHIS), State Department and host country regulations.

8. Cooperates with U.S. agencies, various donor countries, and international organizations concerned with improving crop production in their countries and other Central and West African countries.

9. Prepares required progress reports including full coverage on the financial and technical aspects of the project. Also, prepares pre-determined special reports as requested. Submits reports to AID Project Officer and USDA Foreign Technical Assistance Office.

10. Responsible for the safe and proper management, use, control, maintenance, and operation of materials, equipment, and supplies assigned and/or procured by project funds.

B. The services of the following short-term consultants will also be required under the PASA:

Plant Quarantine Specialist - (2 months) to develop a realistic quarantine policy with GOGB counterpart and provide support in transfer of technical documents, resource linking between USDA quarantine programs and GOGB.

Extension Specialist - (2 months) to provide short-term in-country training to the field monitors, and provide appropriate change agent materials for field use.

Other - (2 months) to assist in implementation needs as they arise.

Qualification and language requirements for the short-term specialists will be developed by the long-term technicians in collaboration with the GOGB.

Timing - In order to provide overlap with the current USDA project manager, the long-term technician should arrive in early 1986. This will require submission of a mission-issued, REDSO concurred, PIO/T in August/September 1985. PASAs must be negotiated in AID/W, hence at least six months will required prior to the fielding of a long-term technician. Scheduling of a short-term consultant will be determined by the long-term TA in conjunction with USAID/Bissau and GOGB.

Training Plan

The training plan is presented for the Crop Protection Service on the following page. It has been divided by funding source to demonstrate the relative weight of project-funded training.

Processing Participants

Long-term US project-funded participants will be processed through S&T/IT and USDA. Draft PIO/Ps are on file in the Mission. Long-term AMDP participants are processed through the Afro American Institute (AAI). Finally, the long-term third country participants will be processed through the AID Affairs Office in Brazil or (FN) Portugal.

(FN) - Waivers are not required for third country training where the country hosts an AID presence. Both Brazil and Portugal have AID programs. If the AID offices are unable or unwilling to monitor the participants, other alternatives will have to be explored (such as charging USDA with the responsibility).

ATTACHMENT I

CROP PROTECTION SERVICE TRAINING PLAN

CANDIDATE	PRESENT POSITION	PRESENT EDUCATION	DESIRED TRAINING	DATES	FUTURE POSITIONS
Crop Protection-funded					
1. Mustafa Cassama	Director	Eng. Agronomy (Yugoslavia)	Master's (Stored Products USA)	1985-86	Director
2. Florentino Fernandes	Pathologist	B.S. (USA)	M.S.	1986-87	Pathologist
3. Lourenco de Abreu	Entomologist	B.S. (USA)	M.S.	1987-88	Entomologist
4. Luis Tavares	Supervisor (Zone I)	Mid-level (USSR)	B.S.	1985-89	Quarantine Officer
5. Cirilo Varela	Supervisor (Zone III)	Mid-level A.A. (USA)	B.S.	1986-88	Supervisor, Zone III
6. Carlos Delgado	Acting Sup. (Zone II)	High School	Mid-level (Brazil)	1986-87	Supervisor, Zone IV
7. Calabus N'Canha	Acting Sup. (Zone I)	High School	Mid-level (Brazil)	1988-90	IPM Technician for pilot projects
8. Quintino Correia	Adminstrator	High School	Mid-level (Local)	1985-88	Adminstrator
AMDP-funded					
9. Alfansene Balde	(Student)	Mid-level A.A. (USA)	B.S.	1984-87	Supervisor, Sector Autonomo
10. Geraldo Menout	(Student)	Mid-level (Algeria)	B.S.	1983-88	Supervisor, Zone I
11. Domingos Tchentchelen	(Student)	Mid-level (Checkoslovakia)	B.S.	1983-87	Supervisor, Zone II
Other Donor-funded					
12. Maria Jose Araujo	IPM Technician	Mid-level	Mid-level	1985-87	Nematode/Weed Specialist

Participant Monitoring and Return

As part of the participant monitoring, S&T/IT provides periodic progress reports. Under the project, the M.S. level condidates will also remain in contact with CPS staff to plan their field research, and will return to Bissau for data collection. Upon completion of studies, participants will be reasssigned to the Service in the positions designated in the training plan.

The project has included a covenant that seeks to provide permanent civil service status to participants who successfully complete long-term degree training. Due to stiff economic austerity measures imposed by the IMF, this may not be possible. The project encourages conversion, however, to protect the training investment whenever possible.

Short-Term Training

Under the past and current projects, the CPS has taken advantage of the many opportunities for short-term training and scientific meetings in the field of crop protection. These meetings provide exposure as well as an environment to make a solidify institutional relationships. The project will continue to devote a small portion of the training budget to such activities.

In-Service Training

Annual or semi-annual in-service training of field monitors will be conducted in Bissau. The cost of the trainer and materials will be borne by the project. All other costs will be shouldered by the GOGB (salaries, per diem, etc.). Topics for in-service training will range from extension methodology and pesticide application to pest identification and simple data collection. Assistance in literacy training is contemplated.

Commodity Procurement

The draft commodity list is presented below.

Vehicles (to include 20% spare parts)

1	Toyota "Coaster" minibus, with seating capacity for 25
2	Toyota "Landcruiser" stationwagons, 4WD, 4 cyl Diesel
10	Toyota "LandCruiser" Pickups, 4WD, 4 cyl Diesel
30	Honda Trail Bikes, 125cc

Boats & Motors

4	Aluminum 18' workboats, suitable for tidal rivers
6	Johnson 40 HP outboard motors

Spray Equipment

6	Herbicide Wick-applicators
6	Portable, battery operated, ULV Wand applicators

Radio System (Specificaions to be determined by Min of Communications)

6	Mobile Units (complete with receiver/transmitter/antennae)

Laboratory/Field Equipment

NA	Replacement collecting equipment (nets, boxes, insect pins)
NA	Replacement protective clothing and gear (face masks, etc)
NA	First Aid supplies
NA	Laboratory Glassware
NA	Reagents

Training Supplies

1000	Guide to Key Pests of Guinea Bissau (Printing costs)
500	CPS Manual
12,000	Textile Graphics
NA	Art Supplies, etc.
NA	Printed forms, booklets, posters, calendars
NA	Commercial slide sets, 16 mm films, etc.
NA	Subscription to scienfitic journals
NA	miscellaneous
NA	Office Supplies

The Project Officer, USAID/Bissau is the responsible officer to initiate PIO/Cs in full coordination with the CPS Director. Procurement will be initiated as soon as the Conditions Precedent are met. The Project Officer may call upon the services of the REDSO/WCA Commodity Management Officers on a quarterly basis to help clear up bottlenecks in the procurement process.

Procurement rules and regulations concerning competition, source and origin requirements, shipping, marking, etc. will be observed in compliance with AID Handbocks. Shipping of commodities will be on US flag vessels unless otherwise arranged and agreed upon in unity.

Commodity Eligibility - All commodities listed are eligible for AID financing and will be procured from AID Geographic Code 941 countries with the exception of the vehicles and motorcycles. A source/origin waiver has been granted by AID/W to Code 935 for these items.

REDSO Support

The project requires only minimal REDSO support:

A. Commidity Management - assistance with commodity procurement;

B. Project Development - mid-term evaluation.

There will be no AID-financed construction under this project.

SUMMARY OF ANALYSES

Technical Analysis

The project builds upon methodologies introduced into Guinea Bissau since 1978 by previous phases of food crop protection project assistance. When the rationale for utilization of Integrated Pest Management concepts, and their applicability to Guinea Bissau was analyzed, it was found that the potential application of IPM against key pests of food crops is probably higher in Guinea-Bissau than in many other West African countries due to factors such as absence of overdepedence on pesticides, and relatively unsophisticated present agricultural practices. Lack of adequate indigenous agricultural research was identified as a constraint, but measures are suggested to overcome this with project resources. The following components of the CPS work plan were reviewed and found to be technically sound:

Pest Survey & Detection Capabilities
CPS Assistance to Villagers
Biological Control
Training
Extension of IPM Practices
Pesticide Usage
Quarantine Needs
Planning Procedures

Economic Analysis

The economic analysis demonstrates that the cost-effectiveness of the proposed continuation of the Food Crop Protection project lies in the fact that the National Food Crop Protection Service, created under earlier AID-funded regional projects, is the only institution capable of receiving, packaging and extending Integrated Pest Management strategies to the farmer. Further, the proper use of crop protection practices is a critical element in Guinea Bissau's plan to become self-sufficient in cereal production. Because of the unique nature of crop protection and Integrated Pest Management, it is more cost-effective to continue to strengthen the existing institution to satisfactorily perform the function for which it was created, than to transfer the function to another existing institution with no capability, or to begin a new institution

Social Soundness Analysis

The Social Soundness Analysis describes the gradual change in focus in this third phase of the project, from building the central capability of a National Food Crop Protection Service (laboratory, office, scientific degree training, sensitizing government officials, etc.) to the application of the CPS capability to the farmer through the strengthening of the field staff.

The analysis states that while the primary direct beneficiaries continue to be the employees of the Crop Protection Service through technology transfer, training and commodity support, secondary beneficiaries are the farmers who will receive assistance from the Service. For quantification purposes it can be calculated that each CPS field monitor works with

approximately 100 farmers; thus, at least 3500 farm families are targetted as beneficiaries.

Steps should be taken to increase the profile of women, both in the Service and as clients to the Service. Although sex roles are quite rigidly defined, gradual change is to be encouraged.

Administrative Analysis

The Administrative Analysis details the structure of the Ministry of Rural Development and the National Crop Protection Service. Although the Ministry has been recently reorganized, the CPS is well-placed for access to top Ministry officials. The Director of the CPS is the Acting Director General for Agricultural and works closely with the Minister himself. An organigram of the CPS shows the Service as a young organization building an academic and professional foundation with the support of USAID. The mandate of the CPS is to provide national coverage in plant protection, which is achieved through a network of field monitors. The network is well-structured, but thin and in need of training.

The USAID is assigned three Direct Hire Positions: AID Representative (Program-type), Program Officer and Agricultural Development Officer. In order not to overburden Mission management, technical assistance through a USDA PASA is requested; a system which has worked well in the past.

Environmental Assessment

With respect to environmental concerns and pesticide usage, the objective during Phase III remains the same as during Phases I and II. The objective is to increase food productivity in Guinea-Bissau through the most environmentally sound means possible. The chosen means is the practice of Integrated Pest Management (IPM), a crop protection technology that emphasizes ecological and social considerations in addition to the economic consideration of traditional crop protection. The implementation of IPM is paramount to the project's goals. The National Crop Protection Director and other host country ministry personnel involved in the project are committed to the development of IPM as a crop protection technology.

The country personnel are acquainted with Regulation 16, as well as the environmental and health implications of using pesticides such as BHC and its isomer Lindane, and the USEPA regulatory actions against such pesticides. They are also aware of the long-term toxicological and environmental hazards which are associated with the use of these pesticides. In recognition of the foregoing, the host country ministry personnel have shown evidence in the recent past that the use of these pesticides is being gradually eliminated and plan to completely replace the pesticides in question during the course of Phase III.

The host country believes that during the period these pesticides are still in use, the immediate benefits to be derived from their use in terms of agricultural productivity greatly outweigh any possible adverse environmental effects. Such effects as may occur will be confined to the countries where they are used since they will not be used on export crops. Bearing in mind the strong emphasis being placed upon the [illegible] and

effective use of their materials and pending the substitution of environmentally acceptable pesticide or non-pesticide alternatives, the incremental risks associated with the use of these pesticides in Phase III are considered negligible and outweighed by the benefits.

CONDITIONS AND COVENANTS

This project proposes three conditions precedent to disbursement and five major covenants. They are designated to reinforce the present GOGB commitment to crop protection activities, and to use the influence of continued AID support to accomplish major policy goals. The mission does not anticipate delays in project implementation resulting from these conditions.

Conditions Precedent to Disbursement

1. The Grantee will provide a statement identifying field offices for the Crop Protection Services's Zonal Supervisors.

Although the CPS presently conforms with the Ministry's decentralization plan, execution of tasks such as coordination of pest survey data, and farmer training is often hampered by lack of an office to receive reports of pest outbreak, to plan measures involving other agencies within the zone, or through which to communicate back to CPS headquarters in Bissau. Establishment of an office within each zone is essential to promote inclusion of CPS activities in Integrated Development Projects, and to facilitate communication with, and oversight by the Director of Agriculture of each zone.

In case where the available office space is less than adequate, the GOGB should provide a temporary solution to the problem while concurrently striving toward a permanent solution.

2. The Grantee will provide a statement naming an acting Director for the Crop Protection Service to function in the absence of the Director.

Whereas crop protection activities now extend throughout the year and timely decision-making could be hampered by the absence of the CPS Director due to attendence at conferences, advanced training, or fulfillment of collatoral responsibilities, it is important that a senior staff member be identified and prepared to quarantee effective management of the CPS in the Director's absence.

3. The Grantee will provide a statement of the names of the persons holding or acting in the office of the Grantee specified in section 8.2 of the Grant Agreement and a specimen signature of each person specified in such statement.

This is a standard condition applied to all A.I.D. project agreements.

Major Covenants

1. The Grantee will make reasonable efforts to increase the participation of women within the Crop Protection Service and its activities.

There are only three women employed by the Crop Protection Service, none of whom is working outside of Bissau. The mission believes women should be as involved as men in all aspects of crop protection with the exception of pesticide application. While there are risks associated with all pesticide application, the calculated risk is much higher for women who will bear and nurse children. Thus they should be excluded from these activities until safer methods of application can be guaranteed.

Concerning opportunities for women in the professional context, positions in extension training, data collection and analysis, and biological control of pests would be suitable. In the field, it is the desire of the Mission to encourage CPS field staff to acknowledge the key role women can play in identifying pests and alerting the Service before a problem develops.

The mission is sensitive to hiring constraints, but feels that ways of increasing the participation of women must be explored and developed into an action plan.

2. The Grantee will limit the use of project vehicles to Crop Protection Service employees and their official business.

In order to assure the availability of vehicles to service the field, it is important that the Ministry limit use to the CPS and appropriate service delivery. This covenant is included to reinforce the need for strictly following a vehicle policy.

3. The Grantee will plan and participate in mutual project evaluation of the activities funded harein on a regular basis to include: (a) an evaluation of the progress towards the objectives of the Project; (b) identification and evaluation of problems areas or constraints that may inhibit such attainment; (c) assessment of how such information may be used to help overcome such problems; and (d) evaluation, to the degree feasible, of the overall development impact of the Project.

For the mid-term evaluation of this project, the Office of Plan in the Ministry (GAPLA) is charged with planning and implementing the evaluation (see the Evaluation Plan for a detailed description). The Ministry has voiced concerns that it is not included in project evaluations to the degree necessary to make Ministry decisions in project implementation. Thus, in addition, the project calls for regular progress evaluation meetings between USAID and the GOGB (semi-anually).

4. The Grantee will continue its efforts to increase Production Incentives for food crops.

At the recent follow-up Round Table Meeting of the donor community, the GOGB stated it would continue with its economic reform program in 1985 and 1986, maintaining flexible exchange rates, reducing public sector expenditures, reforming commerce, adjusting producer prices to favor the rural sector, and holding salary increases below prevailing inflation rates. The Mission encourages the continued serious attention being given the economy by the GOGB and takes this opportunity to highlight it.

5. Treat, in a meaningful way, the problem of recurrent costs in project implementation to ensure the effective continuation of the CPS beyond the PACD.

Since the issue of recurrent costs is a program issue in Guinea Bissau, the Mission prefers to deal with it at that level, rather than on a project-by-project basis. The Mission strategy for addressing recurrent costs founded on regular dialogue with appropriate government officials to discuss possible ways that the GOGB can begin to gradually bear certain project recurrent costs requiring foreign exchange (project vehicles, for example). Because of the serious economic problems being experienced by Guinea Bissau and the program of austerity measures already prescribed by the IMF, it is expected that regular dialogue and counsel, where appropriate, will assist the Government to better prioritize their foreign exchange needs and begin to devote an increasing amount to agricultural project needs. The ABS contains a more detailed description of the measures being taken by the Government to address the economic crisis.

EVALUATION PLAN

Two full evaluations are planned and budgeted for the project, one mid-way to check progress, and a final evaluation at PACD.

Participation

The GOGB has indicated an interest in greater participation in project evaluation. GOGB participation would permit them a better understandin of the AID project process as well as a new perspective in evaluation. The office responsible for organizing evaluations is GAPLA (Gabinete de Planificacào Office of Planning) in the Ministry of Rural Development. USAID will give GAPLA the central responsibility for organizing and carrying out the mid-term project evaluation to include:

1) Write the terms of reference for the design;
2) Submit the terms of reference 3 months prior to the desired start of the evaluation;
3) Provide one staff member as evaluation team co-leader;
4) Arrange all up-country travel;
5) Coordinate the write-up;
6) Arrange presentation of results; and,
7) Follow up results.

AID will assist GAPLA in the following ways:

1) Provide guidelines for planning evaluations;
2) Fund and procure up to two outside specialists for the evaluation (in accordance with Federal Acquisition Regulations);
3) Make a REDSO officer available as evaluation team co-leader;
4) Provide clerical support for the drafting of the Evaluation Reports; and,
5) Additional guidance where requested

Timing

The optimum time for project evaluation is September 1987 as the CPS will be at peak operation of field campaign. No in-service training will be taking place, and most trainees will be fielded.

Language

Because most project documentation is done only in English, the official language for the evaluation should be English. If this turns out to be unworkable, then major documents can be translated with enough advance lead time. Choice of language is always an issue in Guinea Bissau but to the extent feasible the preference is for Portuguese. This must be decided well in advance to permit recruitment and translations where necessary.

EVALUATION ISSUES/BENCHMARKS

Of particular interest to AID in the evaluation are the following issues:

a) Planning and management capability of the senior staff - examples of clear objectives and logical planning to implement the mandate of the service should be evident as should the extension of these skills to other personnel through in-service training.

b) Performance of field agents - guidelines and job descriptions should be complete and, performance evaluation system should be ready if not activated.

c) Operational state of the vehicle fleet - examples of responsible use and care of vehicles should be noted (if vehicles have been obviously abused, project may withdraw the remaining vehicle purchases).

d) Accomplishments in National Strategies for crops/pests - at least one strategy should be implemented on country-wide basis, and all others drafted.

e) Efforts to involve women should be evident.

f) Degree to which other departments have cooperated in field operations should be explored.

g) Other donor support identified and secured for future CPS needs, particularly recurrent costs that must be met in hard currencies.

h) Expansion of CPS activities into non-food crop areas.

BUDGET

The project will provide up to $50,000 for Evaluation (includes both mid-term and final). This is judged sufficient due to the central and regional resources available to the mission through AID/W, USDA and REDSO.

ANNEX A

PID APPROVAL MESSAGE

FM SECSTATE WASH DC 15 MAY 85
TO RUFHPBI AMEMBASSY BISSAU PRIORITY 3878 ON: 15759
INFO RUEHAB/AMEMBASSY ABIDJAN 4156
UNCLAS STATE 14780-0

AIDAC, ABIDJAN FOR REDSO/WCA

E.O. 12356 N/A
TAGS:
SUBJECT: GUINEA BISSAU FOOD CROP PROTECTION III
(6570012)

REF: STATE 138155

1. THE PID WAS REVIEWED AT A BUREAU ECPR ON MAY 3, 1985. THE MEETING WAS CHAIRED BY DAA/AFR JAY P. JOHNSON AND ATTENDED BY REPRESENTATIVES FROM AFR PD CCWAP, AFR/TH/ARD, AFR/CCWA, ST/AGR AND USAID/BISSAU. THE PID WAS RECOMMENDED FOR APPROVAL. THE COMMITTEE OFFERS USIAD/BISSAU THE FOLLOWING GUIDANCE IN PREPARATION OF THE PROJECT PAPER.

A. THE COMMITTEE RECOGNIZES THAT THE PROSPECT OF GENERATING SUFFICIENT REVENUES TO COVER RECURRENT COSTS IN THE NEAR FUTURE IN GUINEA-BISSAU IS REMOTE. HOWEVER, THE DESIGN TEAM SHOULD IDENTIFY WHAT THE RECURRENT COSTS WILL BE AND FORMULATE A STRATEGY FOR THEIR POSSIBLE ASSUMPTION BY GOGB OVER TIME.

B. OTHER DONOR SUPPORT: DESIGN TEAM SHOULD INVESTIGATE METHODS OF GARNERING A WIDER RANGE OF OTHER DONOR SUPPORT AS A COMPLEMENT TO GRADUALLY SEEKING RECURRENT COST RECOVERY. THE COMMITTEE FEELS THAT THERE ARE UNTAPPED DONOR RESOURCES WHICH WOULD RESPOND TO THE OPPORTUNITY OFFERED BY THIS PROJECT.

C. EVALUATION: DESIGN TEAM NEEDS TO ESTABLISH BENCHMARKS FOR EVALUATION OF THIS PROJECT.

2. THE FOLLOWING SUBSIDIARY POINTS WERE ALSO OFFERED:

A. MISSION SHOULD MAKE AN EFFORT TO END THE SUBSIDY ON PESTICIDES SINCE THIS MAKES THEIR APPLICATION FREE TO FARMERS. THESE SUBSIDIES MAKE IT DIFFICULT TO GET FARMERS TO ACCEPT THE SLOWER BIOLOGICAL METHOD OF CONTROLLING PESTS.

B. IN THE AUTHORIZATION ACTION MEMO, A SECTION ON GUINEA-BISSAU AS A CATEGORY III COUNTRY SHOULD BE INCLUDED. THIS SHOULD BE BASED ON A NUMBER OF CRITERIA THAT THE COMMITTEE BELIEVES GUINEA BISSAU MEETS. THESE INCLUDE SECTOR FOCUS, NUMBER OF PROJECTS, A MINIMUM NUMBER OF REGIONAL ACTIVITIES AND A GOOD RELATIONSHIP WITH THE GOVERNMENT.

C. MISSION SHOULD EMPHASIZE SUSTAINING THE QUALITY OF CONTRACT MANAGEMENT THIS PROJECT HAS HAD WITH A VIEW TOWARDS MINIMIZING THE MANAGEMENT BURDEN ON MISSION STAFF. DAM

ANNEX B

LOGICAL FRAMEWORK

FOOD CROP PROTECTION III
(657-0012)

LOP Funding: $1,250,000
PACD: 10/30/90

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Goal: To increase productivity in staple food crops.	Increased production of cereal and tuber crops due to reduced losses to pre- and post-harvest pests.	1. National agriculture statistics. 2. Food aid imports.	1. National agricultural policy reforms continue & increased incentives to produce are realized. 2. No catastrophic natural events affect agriculture.
Purpose To strengthen the National Crop Protection Services' capability to develop and direct a crop protection program, and to implement the on-going program in crop protection. ministry departments.	EOPS 1. GOGB adoption of IPM strategy/recommendations for each major crop/pest: *Rice *Sorghum/Millet *Cassava *Stored Products 2. Professional linkages exist between CPS & international research institutes. 3. CPS coordinates activities with other 7. Performance evaluations 4. Service receives significant donor support from other than the U.S. 5. CPS has competent field staff implementing plans of work successfully.	1. Research results. 2. Evaluation reports. 3. Government reports. 4. Reports of international research institutes. 5. Donor documentation 6. Trip reports	1. Crop protection through IPM is an effective & economic means of reducing crop loss. 2. IPM research will provide new information applicable to GB agriculture. 3. AID and GOGB develop and maintain strategy for addressing recurrent costs.
Outputs 1. Trained senior technical staff in CPS headquarters. 2. Trained field supervisors in each zone. 3. Functionally trained field agents. 4. Extension infrastructure for Crop Protection Service fully developed. 5. Develop and implement draft crop protection strategies.	1. 3 Masters degrees (U.S.), 2 Bachelors degrees (U.S.). 2. 2 Associate degrees in Brazil or Portugal. 3. Training plan for in-country training and extension plan. 4. Organigram for CPS. 5. Competency guidelines developed for field agents. 6. Job descriptions exist for all positions & functional performance evaluation system. 7. IPM recommendations generated and are implemented by field agents.	1. Training reports. 2. Project Implementation Reports.	1. Trained staff will return to Bissau & be assigned to serve. 2. Field agents can meet minimum standards for certification. 3. Vehicles remain in good working order.
Inputs (See Cost Estimate for Breakdown) U.S. - TA $350,000 Training 350,000 Commodities 550,000 $1,250,000 GOGB - Salaries 420,000 Fuel 150,000 Office space/ utilities 300,000 $870,000 Other Donors $690,000 Total Project $2,810,000			1. U.S. assistance is timely & is obligated according to schedule. 2. GOGB continues to provide employment in service at present levels. 3. Crop Protection Service will obtain continued & increasing other donor assistance.

5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable generally to FAA funds, and criteria applicable to individual fund sources: Development Assistance and Economic Support Fund.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

1. FAA Sec. 481; FY 1985 Continuing Resolution Sec. 528. Has it been determined or certified to the Congress by the President that the government of the recipient country has failed to take adequate measures or steps to prevent narcotic and psychotropic drugs or other controlled substances (as listed in the schedules in section 202 of the Comprehensive Drug Abuse and Prevention Control Act of 1971) which are cultivated, produced or processed illicitly, in whole or in part, in such country or transported through such country, from being sold illegally within the jurisdiction of such country to United States Government personnel or their dependents or from entering the United States unlawfully? NO

2. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? NO

3.	FAA Sec. 620(e)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?	NO
4.	FAA Sec. 620(a), 620(f), 620(D); FY 1985 Continuing Resolution Sec. 512 and 513. Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Syria, Vietnam, Libya, or South Yemen? Will assistance be provided to Afghanistan or Mozambique without a waiver?	NO. No transfer of US materials to these countries is foreseen. However, GOGB has close ties with CPRM and GOA
5.	FAA Sec. 620(j). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property?	NO
6.	FAA Sec. 620(l). Has the country failed to enter into an agreement with OPIC?	Negotiations are underway between GOGB and OPIC
7.	FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters? (b) If so, has any deduction required by the Fishermen's Protective Act been made?	NO

8. FAA Sec. 620(q); FY 1985 Continuing Resolution Sec. 518. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any AID loan to the country? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the appropriation bill (or continuing resolution) appropriates funds?

a) NO

b) NO

9. FAA SEC. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the amount of foreign exchange or other resources which the country has spent on military equipment? (Reference may be made to the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

N/A

10. FAA Sec. 620(t). Has the country severed diplomatic relations with the United States? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

NO

11. FAA Sec. 620(u) What is the payment status of the country's U.N. obligations. If the country is in arrears were such arrearages taken into account by the AID Administrator in determining the current AID Operational Year Budget? (Reference may be made to the Taking into Consideration memo.) NA.

12. FAA Sec. 620A; FY 1985 Continuing Resolution Sec. 521. Has the country aided or abetted, by granting sanctuary from prosecution to, any individual group which has committed an act of international terrorism? Has the country aided or abetted, by granting sanctuary from prosecution to, any individual or group which has committed a war crime? NO

13. FAA Sec. 666. Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA? NO

14. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.) NO

15. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Assembly of the U.N. of Sept. 25 and 28, 1981, and failed to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the Taking into Consideration memo.) — N/A See previous years

15. FY 1985 Continuing Resolution. If assistance is from the population functional account, does the country (or organization) include as part of its population planning programs involuntary abortion? — N/A

16. FY 1985 Continuing Resolution Sec. 530. Has the recipient country been determined by the President to have engaged in a consistent pattern of opposition to the foreign policy of the United States? — NO

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria

FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy? — NO

2. Economic Support fund Country Criteria

FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the country made such significant improvements in its human righits record that furnishing such assistance is in the national interest? N/A

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5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only: B.1. applies to all projects funded with Development Assistance loans, and B.3. applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1985 Continuing Resolution Sec. 525; FAA Sec. 634A; Sec. 653(b).

   (a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or nor more than $1 million over that amount)?

   a) Congressional Notification

   b) YES; approved ABS contains this project

2. FAA Sec. 611(a)(1). Prior to obligation in excess of $100,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimte of the cost to the U.S. of the assistance?

   a) YES; financial plan contained in project paper

   b) YES; see project analyses

3.	FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?	N/A
4.	FAA Sec. 611(b); FY 1985 Continuing Resolution Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973, or the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See AID Handbook 3 for new guidelines.)	N/A
5.	FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed $1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?	N/A
6.	FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.	NO

7. FAA Sec. 601(a). Information and conclusions whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.	a) N/A b) N/A c) N/A d) N/A e) YES, by reducing crop loss due to insect and pest infestation. f) N/A
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).	N/A
9. FAA Sec. 612(b), 636(h); FY 1985 Continuing Resolution Sec. 507. Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.	Government of Guinea Bissau is providing salaries and operating expen for employees
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?	NO

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11.	FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?	PASA arrangement with United States Department of Agriculture is required
12.	FY 1985 Continuing Resolution Sec. 522. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?	N/A
13.	FAA 118(c) and (d). Does the project comply with the environomental procedures set forth in AID Regulation 16. Does the project or programm taken into consideration the problem of the destruction of tropical forests?	YES
14.	FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate sysem for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?	N/A

15. FY 1985 Continuing Resolution Sec. 536. Is disbursement of the assistance conditioned solely on the basis of the policies of any multilateral institution?

NO

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing

a) Project strengthens Ministry of Rural Development whose primary clientele are small farmers. Project seeks to increase capabilities to serve the economic fringe.

b) N/A

c) By strengthening the service delivery capability of the Crop Protection Service, the government is further supported in its food self-sufficiency goal.

d) Food crops, which this project primarily addresses, are typically in the woman's domain of farm labor. By focussing on improved food crop protection, this project directly involves women.

the participation of women in the national economies of developing countries and the improvement of women's status, (e) utilize and encourage regional cooperation by developing countries?	e) Part of the process of strengthenin the DPV is to ensure viable linkages/ information sharing with other similar organizations, resource institutions, etc. (See project log frame).
b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?	YES
c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?	YES
d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to whch the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed country)?	Cost sharing waived due to Guinea Bissau classification as RLDC
e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project for more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country	N/A

"relatively least developed"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than $100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character."

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

YES - Crop Protection and Responsible Pesticide use are a Fact of Life in developing countries. Assisting in this strengthens the agricultural sector crucial to self sustaining economic growth. The government is committed to assisting the rural farmer as the foundation of the agricultural economy. By improving the quantity and quality of service delivery in crop protection, farmers will receive support necessary to feed the local population. This project will provide training to the government officials in the Service most capable of making an impact on the rural economy in this sector.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122(b). Information an conclusion on capacity of the country to repay the loan, at a reasonable rate of interest. N/A

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan? N/A

3. Economic Support Fund Project Criteria

a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the extent possible, does it reflect the policy directions of FAA Section 102? N/A

b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities? N/A

c. FAA Sec. 534. Will ESF funds be used to finance the construction of, or the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives? N/A

d.	FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?	N/A

REPÚBLICA DA GUINÉ-BISSAU

Ministério
do Desenvolvimento Rural
e Pescas
~~Gabinete do Ministro~~

Exmo Senhor
EUGENE L. DAVIDS III,
Director da A.I.D.
B I S S A U

Bissau, 30 de Maio de 1985

Ref. 0

O Ministério do Desenvolvimento Rural e Pescas apresenta a V.Ex^a, os seus melhores cumprimentos e tem a honra de através desta, solicitar o financiamento da terceira fase do projecto de Protecção Vegetal (657-0012) no montante de US$ 1.500.000 por um período de cinco anos.

Aproveitamos a oportunidade para apresentar a V.Ex^a, os nossos sinceros cumprimentos.

Atenciosamente,
O Secretário-Geral

Avito José da Silva

Min. AJS
Conf. AJS
Dact. ITS

TECHNICAL ANALYSIS

A. Introduction

Food Crop Protection (657-0012) proposes to build upon methodologies introduced into Guinea Bissau since 1978 by the previous USAID Crop Protection Projects (625-0916/0928). In the technical analysis we will redefine the rationale for the use of Integrated Pest Management (IPM), and review each component of the plan of work in light of the March 1985 Evaluation of Phase II activities.

B. IPM and its potential in Guinea Bissau

IPM, as it is to be used in this project, is a system of pest control that maintains pest populations at level below that causing economic injury through combined studies of pest population dynamics and the environment of pest and plant host and through the utilization of diverse control techniques and methods in as environmentally compatible a manner as possible.

The key to this systems approach is the development of strategy statements,and their periodic updating as more information is known. The strategy statements should englobe all key pests of a specific crop, and outline contraol ta tics to be implemented within existing resources. The strategy may involve intervention by diverse groups such as individual farmer, villages, regional extension projects, or the national Crop Protection Service.

Strategies identify key pests and population (or damage) level at which intervention is necessary. Intervention may be at two levels. First line controls include quarantine, host plant resistance, biological control, cultural control, or mechanical control. Second line controls include the use of pesticides. Often several control methods are needed at the same time. When pesticides are employed, care must be taken to ensure their specificity to the target pests, and compatibility within the overall strategy.

The potential application of IPM in Guinea Bissau is probably higher than in many other West African countries due to several factors:

a) There is no historic overdependence on pesticides. Total annual usage is less than 12 MT.

b) Priority is given to production of food crops rather than cash crops.

c) National decision-makers support IPM concepts.

d) Key CPS senior staff members were trained in US universities under previous phases, and are trained in IPM.

e) Farmers have limited experience with pesticides, and are still willing to try alternate methods, including cultural or mechanical means.

f) All pesticide application is limited to GOGB field agents. The government does not provide pesticides to farmers.

The ability of the national CPS to draft and implement IPM strategies is, however, limited by the lack of baseline data on crops, pests, and crop loss and the lack of agricultural research. The project proposes to remedy this by (a) funding TDY assistance by specialists to gather baseline data on pests and damage (b) reinforcing efforts to integrate national CPS into networks which exchange research results and (c) providing graduate training to CPS senior staff.

C. Components of CPS Work Plan

1. Pest Survey and Detection Capabilities.

Three types of survey are to be conducted: national pest survey, pest-specific surveys, and data gathering for regional programs. In the first, CPS field agents routinely record pest problems found on all crops thoughout the country. The data is used in daily control decisions and to mobilize national resources. In the second, CPS senior staff plan and execute specific surveys of pests of special interest, such as those of quarantine importance. In the third, the national CPS participates in regional efforts to detect and forecast migratory pest outbreaks, such as the proposed FAO African Armyworm Monitoring Program.

Of these, the most difficult to implement is the national pest survey. Many CPS field agents still have difficulty using any type of standardized form. Training in pest identification and timely, accurate reporting must be intensified. The problem of functional illiteracy common among extension agents and "enquadrados" may be resolved by developing crop-specific forms with illustrations of key pests. A microcomputer should be purchased to facilitate compilation and analysis of data.

With pest-specific surveys, including regional efforts, pheromone traps and other less labor-intensive devises should be employed when available.

The presence of new pests, including plant diseases should be reported to the FAO and to the OAU's InterAfrican Phytosanitary Council.

2. CPS Assistance to Villagers.

Although the quality of the service provided to villages by the CPS agents is steadily improving, many villages are still not adequately covered. Three measures are proposed. First, if GOGB budget limitations permit, the CPS should increase the number of field agents by six to provide coverage to all sectors. Secondly, some of the "enquadrados" or village volunteers recruited under the World Food Program should be retained for dry season activities, such as control of stored product pests, or IPM of vegetables. Thirdly, the CPS unit for the capital region should be reorganized into a model unit of use in training new recruits, and agents of other agencies in both crop protection and outreach techniques.

Project input into this component includes training of CPS agents. Providing field vehicles, and radio linkage.

3. Biological Control.

The CPS initiated its biological control program in 1984 with the introduction of one parasite and one predator against the cassava mealybug, Phenacoccus manihoti, in collaboration with IITA. Establishment of the hymenopterus parasite was later confirmed.

The CPS should continue its collaborative efforts with IITA, and expand its contacts to include other regional resources such as the FAO horticultural station outside of Dakar.

The gathering of base-line data, on indigenous natural enemies, however, should be initiated, as the augmentation of pre-existing natural enemies may be as important to the control of some key pests as the importation of exotic species. Project funds will be used to train the CPS entomologist in recognition of parasitic hymenoptera, and to pursue a master's degree in biological control.

4. Training.

The 1985 evaluation recommended that the proposed 5 year training plan be adapted and funded. This includes three master's degrees and two undergraduate degrees, in US universities, as well as mid-level studies for two CPS supervisors at a Brazilian Agricultural School.

The in-service training of CPS agents is to be strengthened by implementing a program of required certification of all new agents in the following core courses: pest identification and biology, pest survey, and pesticide application. Experienced CPS agents will continue to require additional training by choosing optimal coursework.

A significant difference in Phase III is the plan to cross-train field agents of other departments within the Ministry, or even from other ministries

The CPS Director has concurred in the recommendation of the 1985 evaluation to appoint a training officer to the CPS senior staff. It is important that this position be filled ASAP in order for the individual to benefit from training under the PSC extension/training specialist hired under previous funding. If additional funding were to become available, priority should be given to continuation of the extension/training specialist position for an additional one to two years.

5. Extension of IPM Practices.

Implementation of the IPM strategies will depend heavily upon the CPS' ability to extend approved technologies down to the village level despite the difficulties of ethnic diversity. Initial successes under Phase II include establishment of a pilot IPM demonstration among 139 Mancanha vegetable women in the capital region, participation in the Zone I agricultural fair and the Zone II farmer field days, and inclusion of crop protection coursework in pre-service and in-service training of diverse rural extension agents.

In Phase III, we propose to expand all of these activities. Each CPS field agent has received training on how to extend his message to the

rural population. The development of extension aids such as calendars, flipcharts, adult literacy books, educational games, textile messages, and fact sheets will continue. Additionally the 1985 request to World Food Program has been modified from that of past years to ensure the food supplements necessary to conduct farmer field days, and demostration plots.

6. Pesticide Usage.

The CPS Director attended the AID/W-funded conference in Lome on Pesticide Legislation and will work within the next year to draft national legislation to control the importation and use of all pesticides. Additionally, the CPS Director will work closely with GAPLA (the Ministry's planning unit) to ensure that pesticide procurement conforms with anticipated need, technical recommendations, and FAO specifications.

No major increase in pesticide importation is envisioned during Phase III. The number of products distributed to field agents has been reduced to eight (see Environmental Assessment, Annex E5). Field trials will be conducted on rodenticides, herbicides (wick-applicators), and ULV formulations under the direct supervison of CPS senior staff. Most pesticides will be purchased from funds of other donors, however, experimental equipment such as wick-applicators, or small quantities of products to be tested for compatability within IPM strategy may be purchased with project funds.

A certification program for pesticide applicators was begun in 1985. Twenty eight CPS field agents have been certified. Agents of other departments or extension agencies will be certified by CPS upon successful completion of the same course. It is proposed that the forthcoming legislation limit pesticide application to certified applicators, or those working under their direct supervison.

It is proposed that a system of user's fees be established to discourage arbitrary requests for treatment and to limit recurrent costs.

7. Quarantine Needs.

In the past, Guinea Bissau has had no program to prevent the entrance of exotic pests and plant pathogens, and has suffered heavy losses to pests such as the cassava mealybug.

The new CPS workplan, however, calls for ratification of the International Plant Protection Convention and the development of the quarantine regulations and support staff necessary to prevent the entrance of additional exotic pests. Phase III of the project is to support this initiative by providing long-term academic training in plant pathology and quarantine, and TDY technical assistance. The Plant Protection and Quarantine Division of APHIS (USDA will provide the technical guidance needed in assessing need, utilization of methodologies, such as pest risk analysis, determining staffing needs, and design of appropriate facilities.

D. Planning Procedures

The CPS appears to have carefully thought out what should and can be done over the five year life-of-project. The 1985/1986 two year workplan, and accompanying activity summary sheets clearly define what should be done, as well as where, when, and by whom. The plans of work, however, will need to be updated annually to reflect accomplishments, slippage, and change in priorities. The implementation chart of the CPS 1985-86 work plan is annexed.

The Directorate of the CPS is to be commended for the way it involves all senior staff in the planning process, including the drafting of this project paper. As CPS activities broaden, it may be helpful to also include participants from DEPA or other agencies in the planning process, or even create an advisory council.

As USAID assistance enters its third and final phase, the CPS should begin to plan how to actively solicit alternate funding (i.e. FAO, UNDP, Japan) for components dependent upon foreign currency, or spin-off activities (such as Rhinocerus beetle control) that lay outside the realm of food crop protection.

TRAINING NEEDS OF THE NATIONAL CROP PROTECTION SERVICE

I. ACADEMIC TRAINING

Master's Level

1. Mustafa Soares Cassama, Director of the service, is targeted for a Masters in Stored Product IPM. Provision should be made to include needed management courses in this program.
   Proposed funding: USAID 657-0012.

2. Florentine Jose Fernandes, CPS Plant Pathologist, should obtain a M.S. in plant pathology in order to conduct field research and better comprehend published research results. Suggest course work in the U.S., with thesis research to be conducted in Guinea-Bissau under the supervision of ORSTOM virology laboratory (Ivory Coast).
   Proposed funding: USAID 657-0012

3. Lourenco De Abreu, CPS Entomologist, should obtain a M.S. in Biological Control in order to conduct field research and better comprehend published research results. Suggest coursework in the U.S., with thesis research to be conducted in Guinea-Bissau under the supervision of IITA researchers (Nigeria).
   Proposed funding: USAID 657-0012.

4. Marcelino Vaz, Director of Field Operations, should obtain a Masters in Integrated Pest Management in order to better draft IPM strategies and plan their implementation. Suggest coursework in Brazil, with thesis research to be conducted in Guinea-Bissau under the guidance of EMBRAPA.
   Proposed funding: Government of Brazil.

Bachelor's Degree

1. Domingos Tchantchelan, is studying towards a B.S. in Entomology at Southern University/Louisiana State University with funding from AMDP (African Manpower Development Program). Upon return in 1988, he will become the CPS Supervisor in Zone III. Project funds should be used to provide one summer OJT back in Guinea-Bissau after successful completion of two academic years, or to provide supplemental coursework in the U.S.

2. Geraldo Sariot Menout, is studying towards a B.S. in Integrated Pest Management at Colorado State University under AMDP funding. Upon return in 1989, he'll become the CPS supervisor of Zone I. Project USAID 657-007 funds will be used to provide summer OJT in 1985. Suggest that he transfer to University of Florida at Gainesville within the year.

3. Alfasene Balde, is studying towards B.S. in Entomology under AMDP funding. Upon return in 1987, he'll become CPS supervisor of Sector Autonome. Whereas participant has already completed mid-level studies in the U.S., he should be able to complete all necessary coursework in three years total. No summer OJT in Guinea-Bissau is proposed.

4. Luis Tavares, has completed mid-level studies in agriculture in the Soviet Union, and is presently completing the ALIGU program at Georgetown University. He's targeted for a B.S. degree in Plant Pathology, with emphasis on plant quarantine, under USAID 657-0012. Upon return in 1989 he will be assigned to the CPS Diagnostic Lab as Inspection and Quarantine officer. His academic program will have to be supplemented with summer internships with USDA/APHIS (PPQ and University of Maryland Plant Disease Clinic).

5. Cirilo Semedo Tavares Varela, has completed an Associates' Degree in Agriculture in the U.S. He's targeted to complete a B.S. in Crop Protection under USAID 657-0012. If his program takes 3 additional years, he'll return in 1989 to reassume his responsibilities as CPS Supervisor in Zone III.

Mid-Level Training

1. Carlos Delgado is presently Acting Supervisor of Zone II, despite his lack of academic preparation. He should be scheduled for mid-level studies in Brazil in 1986-89 in order to strengthen the skills needed to become CPS Supervisor of Zone IV. Proposed funding: USAID 657-0012

2. Julio Calabus Nancanha has been acting supervisor of Zone I since the departure of participant Tavares. He should be scheduled for mid-level studies in Brazil in 1987-90 in order to gain the skills needed to be assigned to the CPS Diagnostic Lab as the technician-in-charge of IPM Demonstration Plots. Proposed funding: USAID 657-0012

3. Maria Jose Araujo is awaiting call forward from the Government of France to begin first cycle studies in tropical agriculture (C.E.A.T.) in Montpellier, France. Whereas Ms. Araujo has successfully executed her duties as IPM Field Technician, the project 657-0012 should be prepared to fund similar studies, if the French funding were to fall through.

4. Quintinho Lopes Correia has been the administrator of the CPS since its beginning in 1978. He needs a mid-level course in Public Administration in order to cope with the expanding workload. Suggest that he receive training locally under the USAID trilateral project.

II. TECHNICAL TRAINING

Professional Development of CPS Senior Staff

All CPS Senior Staff should attend at least one technical short course, scientific seminar, or international conference per year in order to acquire specific skills needed for their jobs. Care should be taken, however, to ensure that senior staff are not invited to so many courses that they fail to complete planned work due to prolonged absence from the country. Short courses to be funded by USAID 657-0012 in 1986 include:

Lourenco De Abreu June 1986 University of Maryland short courses in "parasitic hymenoptera" and "identification of scale insects".

Marcelino Vaz June 1986 University of Maryland short course in "parasitic hymenoptera".

Alternate funding such as FAO, FAC, or Government of Brazil should be sought for other short-term training opportunities.

Skill Acquisition for CPS Support Staff

As the CPS grows, the support staff such as receptionists, secretaries, drivers, warehouse manager, and mechanics will need to improve their practical skills. Whenever possible, the training should be conducted incountry due to the language difficulties, and expenses. When the needed training is not available locally, it may be sought in neighboring countries: proposed training to be conducted before March 1986, and using pipeline funds of USAID 657-0007 include:

Martinho Sanca, duplicator machine operator, needs a shortcourse in maintenance, operation and repair of Gestetner photocopy machines, electric stencil cutter and duplicator. Training to be conducted by Gestetner representative in Dakar, Senegal.

Embalo M'Bana, CPS warehouseman, needs a short course in warehouse management and inventory procedures, either locally or at Oclalav, Dakar.

Serifo Toure, sprayer repairman, needs training in how to organize a sprayer repair shop before the CPS repairshop is set up on or about March 1986. Suggest 10-day training be solicited from the CPS of Niger, where the Canadians have set up a model sprayer repair facility.

III. IN-SERVICE TRAINING OF CPS FIELD AGENTS

Most in-service training will be held in the "slack" season of January-May. New agents (4-10/year) will be required to pass certification courses in three areas:

(a) Pest identification and biology (5 days)
(b) Pest survey (5 days)
(c) Pesticide application (10 days)

Experienced agents may choose from the following course offerings:

1986 -

(d) Program Planning (1 day)
(e) Extension techniques (2 days)
(f) Integrated Pest Management (2 days)
(g) Biological control (2 days)
(h) ULV application (1 day)

1987 -

(i) Fumigation (3 days)
(j) Adv pest survey (3 days)
(k) Insect taxonomy (3 days)

1988 -

(n) Port inspection (10 days)
(o) Training-of-Trainers (5 days)

In addition, CPS agents are encouraged to enroll in short courses to be offered during the cropping season: cross-training of other agents, especially for courses on IPM of specific crops.

IV. IN-SERVICE TRAINING C "ENQUADRADOS"

Access to World Food Program (WFP) food permits the recruitment of up to 200 volunteer, seasonal workers to assist in pest survey, control measures (including pesticide application), and extension of information down to farmer level. Without adequate training, many volunteers are limited to menial tasks, such as hauling water or cleaning equipment. It is proposed that each CPS agent provide sufficient on-the-job training, so that talented volunteers can be tested and certified in the areas of pest identification and biology, pest survey, or pesticide application, as appropriate. (N.B.: due to problems of functional illiteracy, probably no more than 20 volunteers/year will be certified in pesticide application.)

CROSS-TRAINING OF OTHER AGENTS

I. Potential Audience

Although GOGB does not have a national rural extension service, various donors have assisted in the establishment of pilot extension services as components of larger projects such as Zone I Integrated Development Project, Caboxanque Integrated Development Project (Zone III) Quinara Agricultural Development Project (Zone III), and the Cotton and Groundnut Projects of Zone II. The total number of extension agents is estimated at 130-175.

Additionally, the Ministry of Rural Development and fisheries has another 30-40 agents working on specific tasks on state farms, fertilization projects, or forestry projects who could directly benefit from cross-training in crop protection.

Also, the Ministry of Health has requested CPS assistance in training their seven pesticide applicators.

II. Policy Considerations

Although the CPS has responded favourably to past requests of other organizations to cross-train their agents, the CPS response has not always been timely and the resources provided by the requesting agency (including hours for instruction) have been less than adequate. In Phase III, it is proposed to establish the following policy:

A. CPS actively solicits opportunities to cross-train agents of other organizations, including those of other ministries.

B. Training materials (fact sheets, etc.) will be provided at no cost. Logistical support costs, such as food and lodging will be borne to the extent possible by the requesting agency.

C. Whereas inadequate resources exist for direct training of all agents, a train-the-trainer approach will be adopted, in which CPS specialists train the training officers of all other agencies, and support the training officers as they in turn train the field agents that make up the target audience.

D. The CPS will retain sole authority over issuance of competency certificates.

III. Course Offer

The following course offerings are available immediately. Others can be developed as needs are identified:

Area A - Pest Identification and Biology

Option 1. "Introduction to Identification and Biology of Pests"
Description: General concepts about the notion of "pest with emphasis on growth stages that cause damage, and the groups of pests that must be identified during control decision-making"
Duration: 1 day

Option 2: "Advanced Identification and Biology of Pests"
Description: Additional concepts about pests, to include detailed studies about life cycles, identification of key pests using taxonomic keys and collection/preservation techniques.
Duration: 3 days
Mode: Talks, group work, demonstrations, field exercises, fact sheets and taxonomic keys.
Number of participants: Minimum of 5; maximum of 10.

Area B - Pest survey

Option 1: "Introduction to Pest Survey"
Description: The need to survey pests at local, regional, and national levels; the principles of survey; and practice in the use of survey forms.
Duration: 2 days
Mode: Talks, use of maps, demonstrations, field practice.
Number of Participants: Minimum 5; maximum 20.

Option 2: "Advanced Survey Techniques"
Description: General principles of pest survey, the techniques to be used and the advantages/disadvantages of each, and the use of survey results sto forecast pest outbreaks and plan control operations.
Duration: 5 days
Mode: Lectures, demonstrations, practice on use of survey forms and compilation of data.
Number of participants: Minimum 5; maximum 15.

Area C - Plant Disease Control

Option 1: "Introduction to Plant Disease"
Description: Initial concepts about the nature of plant disease, the types of infectious agents, and modes of transmission. Representative signs and systems are outlined, with samples of each. Some practical control measures at village level are suggested.
Duration: 1 day
Mode: Talks, field visits.
Number of participants: Minimum 5; maximum 20.

Option 2: "Plant Disease Survey & Control"
Description: Specialist assists field agents survey main field crops for diseases and suggests and demonstrates control practices.
Duration: 4 days
Mode: Field activities and demonstrations.
Number of Participants: Minimum 5; maximum 10.

Area D - Integrated Pest Management

Option 1: "Introduction to IPM"
Description: Principles introduced include identification of pests, needs for pest survey, the concept of economic threshold, and alternate control methods, such as resistant varieties, biological controls, physical and mechanical control. examples are given of practices to be adopted at village and regional levels.
Duration: 1 day
Mode: Talks, extension aides such as flip charts and calendars.
Number of Participants: Minimum 5; maximum 25.

Option 2: "IPM of Specific Crops"
Description: IPM strategies are presented for specific crops such as mangrove rice, millet, or stored products, according to the expressed needs of agricultural authorities of the Zone. The key pests of Guinea-Bissau are identified in the lab and in the field. Techniques for survey are reviewed, including how to detect damage. Control options are discussed and explained. (N.B. Due to the specific nature of this option, local authorities should place the request for training at least two months in advance).
Duration: 4 to 5 days
Mode: Talks, slides, field trips, and group work.
Number of Participants: Minimum 10; maximum 25.

Area E - Pesticide Application

Option 1: "Safe and Proper Application of Pesticides"
Description: The most important concepts to be considered before the application of pesticides, and the safety principles to be observed in their use.
Duration: 1 day
Mode: Talks and demonstration
Number of Participants: Minimum 5; maximum 25

Option 2: "Certification Course for Pesticide Applicators"
Description: General review of alternate control methodologies. Detailed presentations on pesticides to be used, toxicity, and recommended dosages. Practical demonstrations on mixing of finished sprays and its proper application. Review of clean-up and safety procedures. Participants must pass standardized practical exam in order to become certified.
Duration: 7-10 days
Mode: Talks, use of fact sheets, practical demonstrations of equipment and safety precautions.
Number of Participants: Minimum 10; maximum 15.

ECONOMIC ANALYSIS

Introduction

The economic justification for the Food Crop Protection III Project is based on the relative cost effectiveness of providing continued support to the National Crop Protection Service, an activity which has proved to be successful, rather than initiation of new agricultural activities. Because all project implementation in Guinea Bissau is problematic and subject to severe economic uncertainties, on-going activities which support the Mission program objectives, and evidence measurable progress with potential for success should receive priority for funding. This is the case for Food Crop Protection.

The following analysis begins with a discussion of the economic context of the proposed project, and the current policies of the GOGB. This is followed by several economic considerations relating to general crop protection benefits and a discussion of the specific elements of the project (technical assistance, training, and commodities). Finally, the theme of recurrent costs is briefly discussed.

Scope and Purpose of the Economic Analysis

Per Handbook Three, the purpose of economic analysis is to determine whether a project is a worthwhile investment for the country, i.e. whether the outputs warrant the expenditure of scarce resources. Since Guinea Bissau suffers from an almost total lack of reliable economic data, the scope of an economic analysis data is much broader and seeks to determine the social profitability of the project as well as the economic.

Macro Economic Context of the Project

The economy of Guinea Bissau is based mostly on agriculture, which represented about 50% of the Gross National Product in 1982. In fact, because of the dirth of reliable data to measure output, the contribution is very likely understated. However, economic problems and drought in recent years have combined to engender an overall decline in food availability. In order to meet food needs, then, the GOGB has been forced to import goods, primarily in the form of food aid. The GOGB has targeted the agricultural sector for development assistance with the ultimate aim of achieving self-sufficiency. As will be described herein, the constraints to self sufficiency are institutional as well as economic.

Most agricultural commodity prices are fixed by the GOGB Ministry of Commerce. The government has control over the purchase, transport, and sale of agricultural produce. Two state-owned and operated stores -- "Armazens do POVO" and "SOCOMIN" - are the government marketing agents of most agricultural commodities produced in the country. In general, the State-owned stores have not been successful in the distribution of agricultural products or other consumer goods. As a result, the commercial system in Guinea Bissau is disorganized and relies upon the existence of informal or parallel market channels. The primary cause of this market malaise is the overvalued currency, the Guinea Bissau peso. While the official exchange rate of the GBP is approximately 150 = $1, the parallel market rate is closer to 450 = $1 (near parity with the CFA).

In addition, the system of administered prices does not represent real market values. Since the government is not able to regulate and enforce state marketing and distribution, producers and consumers turn to the parallel market for exchange. Producers can exchange food for essential non-food items on the parallel market. Within the official system, producers receive fewer pesos per kilo which cannot be used to purchase non-food items because none are available. The general effect of present economic policies on food supply throughout the country, then, is that surplus production is generally not marketed to deficit areas.

The GOGB Economic Stabilization Plan is reorganizing the economy and the commercial system. Although the state continues to control external trade, central and regional warehouses, the private sector will enter into the distribution of goods, transporting out agricultural products, from areas of production to regional warehouses and bringing in necessities for rural population. In addition, import programs will give attention to the basic consumer needs as well as the production input needs of small farmers.

To date, the GOGB has drastically devalued the Peso (by 100% in 1983 and gradual devaluation since) as part of a package of austerity measures imposed by the IMF, liberalized the commercial market for certain food commodities (vegetables, for instance, although not rice) and is struggling with an overencumbered civil service cadre that requires trimming. These actions also follow the recommendations of the World Bank Economic Report which prescribed a development strategy that:

a) make a full commitment to agricultural development;
b) increases the emphasis on institution building;
c) selects ongoing and planned projects according to requirements in organizational capacity and skilled manpower needs; and,
d) raises foreign exchange earnings

Crop Protection as an Investment

Crop protection, as described in the technical analysis, is associated with the following economic benefits: Decreased production costs; reduced crop loss; and, decreased health costs.

Decreased Production Costs - The development and implementation of effective crop protection strategies decrease production costs. Sound national strategies for the major food crops (rice, sorghum, millet and manioc) will be developed that help farmers avoid pest problems; Proper policy and training in pesticide application will increase yields and reduce the cost per unit produced by avoiding under and over utilization of chemical pesticides. In addition, the use of non-chemical strategies is often practical.

Reduced Crop Loss - As well as decreasing production costs, crop protection reduces the crop loss due to pest damage both by predicting and avoiding pest infestation, and by responding to and controlling pest outbreaks when they occur.

Decreased Health Costs - Crop protection emphasizes the safe use and storage of pesticides. Pesticides now exist at every level of development, although a thorough understanding of their effects and

training in their use lag far behind. It is quite clear that proper training and application of appropriate pesticides will prevent sickness and even death. Although it is difficult to assign a value to human life, it is more than simply a social benefit.

As an example, it is reported in Guinea Bissau that the cassava mealybug (which was introduced only recently) has caused crop losses in certain regions amounting to 80% of production. In other areas, a viral disease regularly cuts production by 40%. Because cassava is a staple food crop in Guinea Bissau, a national approach is required to control these pests. While not as severe, similar pest problems affect all major food crops. This clearly impedes the government's achievement of food self-sufficency and exacerbates the production deficit. The GOGB is a chronic importer of food aid (See chart below) due to a variety of circumstances (recent drought, inappropriate incentives to producers, and lack of appropriate agronomic practices including effective pest control). Improved crop protection practices directly affect the production and help reduce the food production deficit.

Production of Food Crops US Food Aid
in Guinea Bissau (Metric tons)

	'76	'77	'78	'79	'80	'81	'82
Production	156	106	149	121	58.5	126	130
Food Aid	21.8	14	13	17.5	N/A	22	24.4

Source: FAO/Rome: Report of the Guinea Bissau Agriculture Sector Review Report No. 66/83-GBS.5

Because of the lack of data, these benefits can only be discussed theoretically. And, even if empirically relevant production/loss/health data were available, it would still not be possible to directly link them to the project. However, a logical extension of these arguments leads one to the following conclusion: Since the introduction of effective pest control strategies through the crop protection service represents a more or less "permanent" technological innovation, the resulting reduction in crop loss and other effects should be viewed as annual benefits in perpetuity to society (given that measures are taken to protect against misuse by chemical pesticides).

Specific Project Elements

The proposed project contains technical assistance, training and commodity requirements. Construction activities originally proposed have been eliminated due to logistical difficulties.

Technical Assistance - Technical assistance has been requested in the form of a plant protection advisor for two to three person years and short-term consultancies by specialists in the fields of crop protection (pesticide control - quarantine systems, etc.)

An institutional relationship with USDA is considered the most cost effective means of obtaining the technical assistance. The mission management scheme requires that this project be staffed by technical assistance with strong institutional contacts. A personal services contractor, while much less costly, requires more management time than the mission can afford. A USDA Plant Protecting Advisor as a direct-hire employee would have adequate past managerial experience to assume the joint role of technical advisor to GOGB and Project Officer within USAID Mission.

In the event a PASA arrangement with USDA is not feasible, the alternate will be Personal Services Contractors. A file of potential candidates has been begun, which include individuals with past West African experience, or Portuguese language skills..

Training - The Project calls for $350,000 in training (in-country, third country and US.), which accounts for 28% of the AID-funded support for this project. Not only is training one of the more cost effective means of providing assistance because of the future returns, but because of the general skill level in the government's cadre, it is crucial at all levels.

Commodities - Commodity support to the Crop Protection Service accounts for $550,000 or 45% of the project budget. The most critical need is vehicles and spare parts in order to cover distant agricultural zones. The investment in training service personnel will only be manifested if the logistics of transportation are addressed to the extent practicable, motorcycles are the mode of transport for field agents. Efforts are also being made to standardize the rest of the vehicle fleet with Toyotas to reduce repairs in general, and permit more economical spare parts acquisition.

Recurrent Costs - Recurrent costs in the Crop Protection Service include salaries, expendable supplies, pesticides, equipment, laboratory supplies, vehicles, fuel, maintenance, etc. The government foreign exchange resources are extremely limited, thus AID will finance the vehicles, equipment, and laboratory supplies as described in the procurement plan. The GOGB pays salaries for personnel, provides fuel and vehicle maintenance (excluding spare parts). Pesticides are provided by other donors.

In projecting recurrent costs over life-of-project, several presumptions had to be made about the future financial stability of Guinea-Bissau. The first and most important is that the GOGB Economic Stabilization plan will work by 1986 (two years behind schedule). We also foresee an 80% devaluation of the Peso and a 40% increase in government salaries in 1986. Probably the price of fuel will double in that year, but all other local costs will remain about the same.

In projecting salary costs, we presume that CPS staff will increase from 54 to 60 next year, but not exceed a maximum of 70 during the remaining four years. (see organizational chart, page 100).

CPS RECURRENT COSTS

	1985	1986	LOP
Salaries	3.840.000PG (=US$24,000)	5.973.332PG (=US$23,333)	27.733.328PG (=US$108,333)
Operating expenses	5.000.000PG (=US$33,000)	8.000.000PG (=US$31,250)	37.000.000PG (=US$158,000)
Replacement equipment & supplies	(=6.890.000PG) US$65,000	(=16.640.000PG) US$65,000	(073.450.000PG) US$325,000

TOTAL NEEDS:

1985-	PG 8.840.000 US$ 65,000	or US$ 122,000
1986-	PG13.973.332 US$ 65,000	or US$ 119,583
LOP	PG 64.773.328 US$325,000	or US$ 591,333

MISSION POLICY ON RECURRENT COSTS

1. BACKGROUND

The recurrent cost issue, both in terms of local currency and foreign exchange, is a continuing and increasingly serious problem which must be viewed in the context of Guinea-Bissau's historical inheritance, current economic conditions, and long-term development potential. After an eleven year struggle for independence, Guinea-Bissau inherited a country consisting largely of illiterate, resource-limited farmers; a physical infrastructure which was inadequate before and heavily damaged during the war; and a miniscule inexperienced cadre of trained policymakers taking charge of a new set of institutions. With as much as one-fourth of the population in forced exile, an empty treasury and the wholesale exodus of Portuguese technicians, Guinea-Bissau had to rely on international assistance for technical advice, most essential inputs, and commodities, (including food support during the periods of drought).

To rehabilitate and develop the economy, Guinea-Bissau initially embarked on an ambitious industrialization effort, with central planning and administrative controls as essential features of the system. Investment in agriculture, which accounts for 52 percent of GDP, 60 percent or more of exports, and employs about 90 percent of the labor force was not only neglected, but the sector was also subjected to an inefficient state-controlled marketing and distribution system, hampered by the lack of modern production techniques and inputs, and immobilized by a chronic shortage of consumer goods. Because of ill-chosen investments in other areas and a lack of administrative experience, production declined, agricultural exports fell and imports rose as the Government resorted to increased internal and domestic borrowing to purchase spare parts, equipment and fuel. The result was that Guinea-Bissau, with a per capita GDP of $180, life expectancy of 42 years, 75 percent of the population illiterate and only 10 percent of the population having access to safe water, experienced a 1.5 percent annual drop in GDP during 1979-82 and an astonishing 5 percent drop in 1983. To reverse these negative trends, the GOGB launched a four-year development plan in 1984. The GOGB's clear intent, then and now, is to achieve financial stabilization and economic recovery which will in turn lead to self-sustained development. The focus is on the agricultural

sector, with national food security and expansion of exports as the main objectives. The actions contemplated at the stabilization phase are expected to eliminate price distortions, shift the internal terms of trade to agriculture and strengthen public sector finances. Needless to say, its success and that of related policies will depend heavily on the extent to which the GOGB is able to finance concessional assistance to finance imports needed to support the adjustment process and to cushion the adverse impact of austerity measures. Simultaneously, the economic recovery effort is going forward, with the GOGB increasing controls over certain expenditures, reducing price controls on basic commodities, introducing interest rates on savings and time deposits, maintaining flexible exchange rates and increasing the role of, and incentives to the private sector.

In spite of current difficulties, Guinea-Bissau still has considerable potential and resources which can be used for development. The country is capable of producing the food required for the population. Its potential for exporting fish and forestry products is greatly under-exploited. With appropriate policies, expansion of human resource capabilities and a higher level of investment, Guinea-Bissau could rapidly achieve many of its development objectives.

The success of Guinea-Bissau's economic stabilization and recovery efforts will depend, in no small part, on a number of interrelated factors, namely the Government's steadfast perseverance, its commitment to the timely implementation of policies which provide incentives for increasing production and the advice and support which it receives from the international donor community. The Government has stuck to the basic elements of its stabilization program despite some difficulties and muted criticism from some quarters. The private sector's area of operations is slowly being expanded through a new investment code and policies which permit it to retain a percentage of export earnings. Furthermore, Guinea-Bissau has held two Round Table meetings and succeeded in obtaining some external support for short-term stabilization, economic recovery and specific projects in agriculture, forestry, fisheries, education, and health, all deemed priority sectors for immediate and medium-term investment. While there is still much remaining to be done, the GOGB has made an impressive start on rectifying the results of past policies.

Foreign economic assistance and more recently recurring costs have figured prominently in Guinea-Bissau's development planning and economic calculations from the late 1970's to the present. As late as 1979, Guinea-Bissau was one of the countries which received the highest amount of foreign aid: almost US$90 per year in per capita terms. Donors slowly came to a singular view: mainly that Guinea-Bissau had too many projects underway for its limited human resource and administrative capacity to handle at once. As a result, donors took steps to cut back or eliminate marginal activities and concentrate on key sectors and programs. Donor efforts reinforced the austerity, stabilization, and reform measures of the Goverment and, with encouragement from the World Bank, the IMF, and other substantial donors, placed increasing stress on simplification of the fiscal structure, expansion of the potential for internal borrowing, creation of new outlets for savings and augmentation of the potential for obtaining greater efficiencies and higher returns from public sector enterprises.

While these approaches represent a promising beginning, the problem of recurrent cost for project maintenance is likely to remain a major problem for the foreseeable future. The GOGB is aware that recurrent costs represent necessary costs for project maintenance and that is is likely to remain a problem for some time to come. The GOGB, being acutely aware that recurrent costs represent both a drain on future resources, and an impediment to the effectiveness of on-going programs, proposed at the Lisbon Round Table in May, 1984, that donors use part of funds available for projects to pay local costs during this phase of the Four-Year Development Plan. This concept was accepted in principle by most of the donors including the USAID Bissau. With the exception of an occasional moral suasion, however, and periodic appeal for use of counterpart funds to pay local costs, no uniform rules on recurrent costs have emerged.

II. NATURE OF THE PROBLEM

Part of the difficulty in arriving at a common approach on recurrent costs is that Guinea-Bissau's bilateral and multilateral partners employ a variety of approaches. These have taken the following forms depending on the natur of the activity.

a) The Donor requires Guinea-Bissau to pay all costs, (foreign exchange or local), associated with a particular project.

b) The Donor requires Guinea-Bissau to pay a fixed percentage of project costs.

c) The Donor pays the initial costs, but requires a future commitment from the GOGB to cover recurrent costs.

d) The Donor agrees to use of counterpart funds from food assistance and other donations to pay salaries and other recurrent costs.

Thus, there has not been a common approach applied and given the diversity of donor interests in Guinea-Bissau, it is doubtful that one can be developed. In addition, without hard figures on projects and rates of disbursement, it is virtually impossible to obtain a clear idea of the magnitude of the problem and the extent to which Guinea-Bissau may be mortgaging its future flexibility by accepting assistance in certain forms.

For the A.I.D. program in Guinea-Bissau, the Mission estimates the through life-of-project recurrent costs for each respective project to be as follows:

Agriculture Development (PACD 12/31/85)
(657-0002)
Foreign Exchange $5,000 and Pesos(5,500,000) for personnel, fuel, utilities, maintenance/repair of equipment and vehicles, and for laboratory materials.

Food Crop Protection II (PACD 9/86)
(657-0007)
Foreign exchange($65,000) and Pesos(8,840,000) for vehicle repairs, laboratory and office supplies, fuel and salaries. Fuel and salary costs, this project presently being borne by the GOGB.

Rice Production Project(PACD 9/87)
(657-0009)
Foreign exchange($90,000) and Pesos(81,000,000) for costs involved with salaries, POL,maintenance/repairs, in-country training, utilities, and office materials.

South Coast Agricultural Development(PACD 9/89)
Foreign exchange($160,000) and Pesos(78,000,000) to cover costs of POL, salaries, utilities, local equipment repairs, office operating expenses, and spare parts/replacement equipment.

Technical Skills Training(PACD (9/88)
657-0011

Foreign exchange($500,000) and Pesos ($300,000 equivalent) to cover technical assistance in project appraisal, salaries, local transportation, feasibility studies, etc.

Food Crop Protection III (PACD 9/90)
657-0012

Foreign exchange($325,000) and Pesos(64,734,000) to cover costs of salaries, POL, local maintenance/repairs, misc. office operating expenses, and purchase of spare parts and replacement equipment.

III. STRATEGY FOR ATTACKING THE PROBLEM

With the exception of the Agro-industrial Fund project (657-0015), the basic elements of the A.I.D. program in Guinea-Bissau are already in place. During the past year, the Mission has focused its evaluation and redesign efforts on improving the efficiency and outreach of ongoing activities which support the Government's food self-sufficiency objective. The program aims at increasing basic food production(rice, cereals, and vegetables) through seed multiplication, integrated pest management techniques, transfer of improved technology, and institutional support to key sectors of the Ministry of Rural Development and Fisheries.

To further modify or alter these activities for the specific purpose of giving additional attention to recurrent costs, would be counter-productive and cause unnecessary delays in implementation. Hence, the Mission will deal with this issue in designing new projects except for those instances in which redesign work is unavoidable.

The Mission objective will be to provide Guinea-Bissau with the training, technical skills and management systems to keep recurrent costs of implementing agricultural development projects within acceptable limits. The emphasis is on the agricultural sector because of its pivotal role in Guinea-Bissau's development strategy and efforts. The stress on training, technical skills and management systems are aimed at giving Guinea-Bissau affordable and easy-to-learn systems which limit or reduce project costs. Specific operational objectives for 1985-89 are as follows:

-Use the Africa Regional Training projects(AFGRAD and AMDP II) to train a core of ten middle and upper level personnel for help in Agr. institutions, financial management, project design and evaluation. The function of this group will be to help the GOGB identify and apply more efficient systems of project implementation. This activity has already begun with the selection of two persons of undergraduate training in accounting and financial management in FY 1985. Additional persons will be trained in these areas through 1990.

Specific measures designed into the Food Crop Protection III Project to limit recurrent costs include:

-Introduction of low overhead techniques, (biological control agents), continue the use of fuel economy vehicles and introduce, on a trial basis, user fees for services. The long-term objective here is to provide Guinea-Bissau with a system which will enable them to maintain the established high quality of the Crop Protection Service.

Similar measures of other USAID projects include:

-Improve the extension services and encourage the GOGB to shift over to a system under which local farmers pay the real rather than the subsidized cost of land-clearing operations, fertilizer, hand tools and agricultural services.

-Through the design and implementation of the Agro-industfial Fund under the Trilateral Agreement with Guinea-Bissau and Portugal, increase the role of the private sector in Guinea-Bissau's development. Private sector entities in Guinea-Bissau are at an infant stage, beginning just now to profit from and utilize the climate created by the change in the Government's fiscal, investment and foreign exchange policies. This momentum is expected to accelerate under the Trilateral project, and as Guinea-Bissau's private sector becomes more stable, well-organized, and financed, the Mission intends to include a private sector component in the second generation of its food production activities. In this way, the Government can pass on to the private sector activities involving the provision of credit, inputs, and services to rural areas.

The Mission believes that the approaches described herein represent a realistic non-disruptive attempt to focus the GOGB's attention on recurrent costs and institute practical measures to deal with the issue as projects are designed, re-designed and evaluated.

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Summary

In summary, the cost effectiveness of the third phase of the food crop protection project lies in the fact that the Crop Protection Service created under the earlier regional project, is the only institution capable of receiving, packaging and extending IPM strageties to the farmer. Further, the proper use of crop protection stratagies is a critical element in Guinea Bissau's plan to be self-sufficient in food production (primarily cereal grains). Because of the unique nature of crop protection and Integrated Pest Management, it is more cost effective to continue to strengthen the existing institution to better perform its function than to transfer the function to another existing institution with no capability or to begin a new institution.

Bibliography

Agency for International Development (AID); Handbook Three, Project Assistance; Chapter 36, "Economic Analysis", 1982

Agency for International Development (AID); Project Identification Document (PID); Guinea Bissau Food Crop Protection III (657-0012)

Agency for International Development (AID); Project Technical Review; Guinea Bissau Food Crop Protection (657-0007); 1985

Agency for International Development (AID); Project Paper; Sahel Regional Food Crop Protection II (625-0928); 1979

Agency for International Development (AID); Project Paper, Sahel Regional Food Crop Protection III (625-0960) Never Approved, 1983

FAO/Rome: Report of the Guinea Bissau Agricultural Sector Review; Report II 66-83 CP-GBS.5; 1983.

Republica da Guinea Bissau; Secretario de Estado do Plano e cooperaçâo International; 1` Plano Quadrienal de Desenvolvimento Economico E Social 1983-86

Wilson, Robert James; The Economic Implications of New Crop Protection Technologies in Gambian Farms; Master's Thesis, Purdue University, 1982.

AID - Project Paper, Integrated Pest Management and Environmental Protection (936-4142), 1985.

R 081151Z AUG 85
FM AMEMBASSY DAKAR
TO RUFHPBI/AMEMBASSY BISSAU PRIORITY 4966
INFO RUEHAB/AMEMBASSY ABIDJAN 9580
BT
UNCLAS DAKAR 08356

AIDAC
FOR ABIDJAN FOR REDSO/WCA

E.O. 12356 N/A
SUBJECT: FOOD CROP PROTECTION III; 657-0012 PP

REF: (A) BISSAU 1937

1. ADVISE OF BUDGET ALLOWANCE FOR DOLS 1,000.000 RECEIVED. HOWEVER, THESE FUNDS CANNOT BE OBLIGATED UNTIL PP IS AUTHORIZED AND MISSION NOTIFIED THAT CN HAS CLEARED CONGRESS.

2. RCON HAS SEVERAL RESERVATIONS ABOUT THE PP AND DOES NOT WISH TO CLEAR THE PP UNTIL THEY HAVE BEEN RESOLVED. IN ADDITION THERE ARE SOME MINOR TYPOGRAPHICAL ERRORS.

3. PAGE 28 - THE IMPLIMENTATION PLAN DOES NOT DISCUSS OR INDICATE THE METHODS OF FINANCING TO BE USED NOR IS THERE AN AUDIT PLAN FOR THE PROJECT.

4. THE PP IS NOT RESPONSIVE TO THE PID APPROVAL MESSAGE IN THAT (1) IT DOES NOT IDENTIFY THE ACTUAL ESTIMATED AMOUNT OF RECURRENT COSTS AT THE END OF THE PROJECT. (2) PP DOES NOT HAVE A COVENANT DEALING WITH THE QUESTION OF PESTICIDE SUBSIDIES.

5. THE PP BUDGET DOES NOT HAVE ANY PROVISION FOR INFLATION AND OR CONTINGENCY.

6. MINOR TYPOS
1) PAGE 26 1986 DOES NOT CROSSFOOT
2) PAGE 26 TOTAL LINE DOES NOT ADD ACROSS.

PLEASE RESPOND TO PARA 3, 4 AND 5 OF THIS TELEGRAM.
BT
8356 WALKER

AMEMBASSY/BISSAU UNCLASSIFIED

ACTION: AMEMBASSY DAKAR NIACT IMMEDIATE
AMEMBASSY ABIDJAN NIACT IMMEDIATE

UNCLASSIFIED BISSAU 2005

ADM AID

DAKAR FOR: J.ITO/REGCON
ABIDJAN FOR: G.MCARTHUR, REDSO/WCA

E.O. 12356: N/A
SUBJECT: FOOD CROP PROTECTION III: 657-0012

DIST:

REF: A) BISSAU 1937; B) STATE 238714 (NOTAL);
C) DAKAR 08356; D) STATE 147800;
E) DANIELS/HORWEEN TELECON, 8/8/85

AID

CHARGE

CHRON

1. MISSION UNABLE TO REACH ABIDJAN BY PHONE. PER REF B, CONGRESSIONAL NOTIFICATION PERIOD EXPIRED AUGUST 1 AND MISSION CAN PROCEED WITH OBLIGATION OF FUNDS BASED ON ADVICE REFTEL (C).

2. BECAUSE MISSION ASSUMED REDSO/REGCON CONCURRENCE BY AUGUST 8, SIGNATURE OF GRANT AGREEMENT SCHEDULED FOR FRIDAY, REPEAT FRIDAY, AUGUST 9, DUE TO EMINENT DEPARTURE OF MINISTER OF RURAL DEV. TO RESPOND TO DAKAR'S CONCERNS RAISED REF C) MISSION IS SUBMITTING FOLLOWING COMMENTS:

GUSSIE L, DANIELS: rv 8/8/85 GUSSIE L. DANIELS, III AID/REP

A. METHOD OF FINANCING/AUDIT PLAN-MISSION S SYSTEM FOR FINANCING GOODS, SERVICES AND TRAINING FOR PROJECTS DESCRIBED IN PAPER ENTITLED MISSION FINANCING POLICY AND PROCEDURE WHICH WAS SUBMITTED TO DAKAR IN MARCH 1985. FOR THIS ACTIVITY, ESSENTIALLY THE FOLLOWING THREE METHODS WILL BE USED:

- PURCHASE ORDERS FOR SMALL VALUE IN COUNTRY OR CODE 941 PURCHASES OF ESSENTIAL ITEMS, AND SERVICES, HAVING A VALUE OF DOLS 25,000 OR LESS.

- A PASA FOR THE SERVICES OF A CROP PROTECTION SPECIALIST FOR A PERIOD OF 24 MONTHS. PIO/T WOULD BE ISSUED BY MISSION AND THE PASA NEGOTIATED/SIGNED BY AID/W.

- PIO/P/CS FOR PURCHASES OF COMMODITIES SUCH AS VEHICLES, SPRAYING EQUIPMENT, LAB EQUIPMENT, OFFICE SUPPLIES, AND TRAINING.

ALL METHODS WILL USE THE DIRECT PAYMENT MECHANISM. FOREIGN EXCHANGE DISBURSEMENTS WILL BE MADE BY USAID/ BISSAU, WITH SUPPORT AND ASSISTANCE FROM REGCON/DAKAR. LOCAL DISBURSEMENTS TO THE EXTENT REQUIRED WILL BE MADE AT THE MISSION WITH VOUCHERS BEING PROCESSED THROUGH EMBASSY AND REGCON CHANNELS.

B. AUDIT PLAN

THE PROJECT WILL INCLUDE AUDIT AS AN INTEGRAL ELEMENT OF EVALUATION AND MANAGEMENT. SINCE THE IMPLEMENTATION

PLAN INCLUDES A MID-PROJECT EVALUATION IN LATE 1987, THE MISSION PROPOSES TO INCLUDE AN IMPACT AND FINANCIAL AUDIT AT THAT TIME. DOCUMENTS TO BE EXAMINED DURING THE COURSE OF THE AUDIT WOULD INCLUDE REPORTS BY SHORT-AND LONG TERM CONSULTANTS AND VARIOUS GOGB/AID RECORDS ON PURCHASES, MAINTENANCE AND TRAINING. THE AUDIT SHOULD ALSO INCLUDE AN ASSESSMENT OF THE PROGRESS OF THE PROJECT UPTO THAT POINT, ACCOMPLISHMENTS IN PROCUREMENT AND IN DEVELOPING INITIAL PLANS AND CARRYING OUT INITIAL ACTIVITIES. THE AUDIT WOULD FORM PART OF AN OVERALL FINANCIAL ASSESSMENT OF MISSION'S ENTIRE AGRICULTURAL PORTFOLIO.

3. ACTUAL ESTIMATED AMOUNT OF RECURRENT COSTS AT END OF PROJECT WAS CALCULATED PRIOR TO DRAFTING OF MISSION POLICY ON RECURRENT COSTS. ANNUAL RECURRENT COSTS ESTIMATED AT 5,973,332 GUINEAN PESOS (ROUGHLY US DOLS 23,333) IN SALARIES, 8,000,000 GUINEAN PESOS (ROUGHLY US DOLS 31,250) IN OPERATING EXPENSES, AND US DOLS 65,000 IN HARD CURRENCY TO REPLACE EQUIPMENT AND VEHICLES. ABOVE ESTIMATES BASED UPON FOLLOWING ASSUMPTIONS:

(1) ESTIMATED STAFF INCREASE FROM 54 TO 60 OVER NEXT YEAR, BUT HOLDING AT 70 MAXIMUM DUE TO IMF RESTRICTION.

(2) AN 80 PERCENT DEVALUATION OF PESO, AND 40 PERCENT INCREASE IN GOGB SALARIES IN 1986, THE LAST YEAR OF STABILIZATION PLAN.

(3) THE PRICE OF FUEL TO DOUBLE IN 1986, BUT THAT ALL OTHER LOCAL COSTS TO REMAIN STABLE.
DETAILED ESTIMATES WILL BE ATTACHED TO MISSION POLICY (PP ANNEX F-7).

B. THE SUBSIDIARY POINT OFFERED IN PID GUIDANCE CABLE (REFTEL D PARA 2A) RE: ENDING PESTICIDE SUBSIDY, WAS DELIBERATELY NOT ADDRESSED BECAUSE THE UNDERLAYING ASSUMPTIONS THAT GENERATED ITS INCLUSIONS ARE INCORRECT. PESTICIDES ARE NOT SUBSIDIZED IN GUINEA-BISSAU. UNLIKE NEIGHBOURING COUNTRIES, NO PESTICIDES ARE PROVIDED TO FARMERS. ALL PESTICIDES, WHETHER PURCHASED WITH GOGB REVENUES OR FOREIGN AID FUNDS, REMAIN UNDER STRICT CONTROL OF NATIONAL CROP PROTECTION SERVICE, AND ARE APPLIED ONLY WHEN CPS CRITERIA ARE MET, AND THEN ONLY BY CERTIFIED CPS AGENTS. GUINEAN FARMERS ON THE WHOLE ARE NOT EVEN AWARE THAT THE OPTION OF PESTICIDE APPLICATION EXISTS SO THE PRESUMED DIFFICULTY IN GETTING FARMERS TO ACCEPT BIOCONTROL IS IN FACT NONEXISTENT. MOREOVER, THE PROPOSED SYSTEM OF USER'S FEE SHOULD FURTHER DISCOURAGE ANY ATTEMPT BY FARMERS TO REQUEST UNNECESSARY TREATMENTS.

4. RE PARA 5, REFTEL C. THE PP BUDGET ALREADY HAS

FACTORED IN A BUILT-IN INFLATIONARY FACTOR. WHEREAS COMMODITY PURCHASES WILL BE EFFECTED WITHIN A SHORT TIME FRAME (IN FY 85-86), NO SIGNIFICANT INCREASES IN PRICES ARE ANTICIPATED. THE TRAINING COSTS THAT WERE CITED ARE BASED ON ESTABLISHED OFFICE OF INTERNATIONAL COOPERATION AND DEVELOPMENT (OICD) COST ESTIMATES. FOR THE TECHNICAL ASSISTANCE LINE ITEM, THE COST ESTIMATES ARE FOR THE LIFE OF THE PROJECT AND CONFORMS WITH COST ESTIMATES GIVEN BY THE USDA.

5. RE PARA 6, REFTEL C): WE WILL CORRECT THE TYPOS WHICH YOU IDENTIFIED ON OUR COPY OF THE PP.

6. MISSION PROPOSES TO INCLUDE TEXT THIS CABLE AND YOURS AS ANNEX F8. PLS RESPOND BY IMMEDIATE CABLE.

7. FOR ABIDJAN: REQUEST CONCURRENCE NOTIFICATION ON PROJECT GRANT AGREEMENT BY IMMEDIATE CABLE. PROJECT GRANT AGREEMENT DRAFT HANDCARRIED TO ABIDJAN BY DON KEENE.

MCILVAINE

0 091246Z AUG 85
FM AMEMBASSY DAKAR
TO RUFHPBI/AMEMBASSY BISSAU IMMEDIATE 4968
INFO RUEHAB/AMEMBASSY ABIDJAN 9584
BT
UNCLAS DAKAR 08408

FOR ABIDJAN FOR G. MCARTHUR, PEDSO/WCA

E.O. 12356: N/A
SUBJECT: PROJECT 657-0012 PP

REF: (A) BISSAU 2005, (B) DAKAR 8356

1. RCON APPRECIATES YOUR PROMPT RESPONSE TO REFTEL (B). RCON HAS REVIEWED REFTEL (A) AND FINDS IT TO BE TOTALLY ACCEPTABLE, AND EXTREMELY WELL WRITTEN. CONGRATULATIONS ON BEING ABLE TO SEND SUCH A COMPLETE RESPONSE IN SUCH A SHORT TIME. IN FUTURE PLEASE SEND DRAFT PP TO RCON AT THE SAME TIME THAT YOU SEND IT TO REDSO/WCA.

2. REGCON CONFIRMS AVAILABILITY OF DOLS 1,000.000 FOR SUBJECT, ASSUMING ON RECEIVED AS PER REFTEL A.

3. PLEASE INFORM YOUR DESK OFFICER TO COPY RCON DAKAR ON CN'S IN THE FUTURE.

4. PLEASE RETRANSMIT STATE 238714 TO RCON FOR THE RECORD.

5. RCON HAS APPROVED THE PP AS AMENDED BY REFTEL (A).
WALKER
BT
8408

SOCIAL ANALYSES

INTRODUCTION

Considering that the Food Crop Protection Service has already created a crop protection infra-structure for its program through the establishment of technical assistance in the central office with a Phytopathologist, an Entomologist, an Engineer/Agronomist and has decentralized the system by placing supervisors in each region in the interior, and selected field agents for different areas of the country, it now becomes imperative to extend the quality of scientific assistance and the quantity of field service. Therefore, the third phase proposes to:

1) Strengthen the existing system by providing technical assistance to analyze pest control options and identify best methods of application; and,

2) Transfer from the traditional system of "Pesticide Application as an answer to new pest problems", to a broader approach of "integration of methods, and farmer involvement". In order to accomplish the above, several sociological aspects will have to be considered:

THE BENEFICIARIES

In this phase, the direct beneficiary of the project continues to be the Department of Crop Protection, although the emphasis is evolving from intensive assistance at the headquarters to a broader support for the field monitors working closest to the farmers.

As field agents compose the larger body of direct beneficiaries, emphasis will be given to improvement through training and logistic support.

The training will be divided into skills acquisition such as:

a) certification courses in pest identification and survey,

b) workshops on implementation of IPM strategies, and

c) methods of farmers training.

These will be done through the annual in-service training courses in which not only technical aspects will be covered, but also motivation and instruction in the role of the field operator as agent-of-change. It is proposed to conduct courses specifically tailored to their zonal needs. For example, the agents in Zone 1 will receive intensive orientation on the control of Rhinoceros beetle - Oryctes boas, a problem affecting that specific area.

This approach will not disrupt the structure and goals of the GOGB; on the contrary, it goes hand in hand with the Direction of the Ministry of Rural Development on use of mid-level/in-country training to solve immediate needs.

The logistic support will take the form of developing educational material to be used by the agents during their villagers' training meetings, and dissemination of information. There is a preoccupa-

with the appropriateness of these educational materials not only in terms of the contents (more pictorial and almost no words), but also in terms of media to be adopted.

No danger of social or group disruption due to the dissemination of this idea is likely, since traditional media will be used with new messages on pest control. Care should be taken to pace the rate of introduction of materials, and each has a plan for distribution which includes time, target area and method of distribution.

Emphasis should be given to support for acquisition of specific field equipment, not available through the GOGB's regular Departmental Supply Agency; for example, experimental spray equipment for horticulture use. Additional emphasis should be placed on the promotion of the work of the supervisors, through in-service assistance and participation in short-courses and mid-level training outside the country.

The in-service assistance will be in the form of general meetings with orientation on supervision techniques, seeking a change from the inspector approach now in use to the orientator role required for the assistance to the agents. The studies for acquiring a mid-level degree in agriculture become mandatory for execution of the supervisors/orientators duties, plus the improvement of the technical support in the field.

The promotion of mid-level studies is, as stated earlier, one of the major concerns of the Ministry. It should not disturb the pattern of the work established at the government or among the agents in the field, once employed by the government. In fact, one of the requisites for promotion is degree acquisition. The supervisors working in the field are not eligible to finish their second stage of basic education (High School), as they have passed the age limit prescribed by the educational system.

The project also propose to install a radio system which will connect the Central Office with the zonal supervisors. Due to the difficulties of communication, especially in the rainy season, or high peak of Crop Protection intervention, a communications network is necessary. The practice is already used by other Departments and different models are available. Installation, maintenance and guarantee of proper use have support from the Ministry of Communication in Bissau.

The service will receive long technical assistance for at least two years. USDA short-term assistance will also be needed to help establish quarantine system, specific strategies for stored pest control and continuation of root knot nematode survey.

Logistic support will be requested to help set up a functional headquarters and laboratory with work plans and programs.

No conflicts or problem are envisioned in this area, as other departments are in the same stage of development (recipients of funds, technical assistance from other donor organizations).

The <u>indirect beneficiaries</u> are the farmer families served by the Crop Protection Service.

SOCIAL VARIABLES

In accordance with the GOGB's goal of self-sufficiency in food crop production, the CPS proposes adoption of several practices of pest control including IPM strategies in which organized, better-informed and well-trained villagers will play a major role.

To prepare villagers for the diffusion of innovative practices, several issues must be considered:

A) Integration of efforts of Crop Protection with other Departments and Organizations working with the villagers. Collaboration between the CPS and other Ministries has already started in the form of training. There are several courses planned to be given to other agents working in the field. For example, one is specifically designed for the "Green Belt Project" of Zone I to develop the staff in the areas of Horticultural Pest Control. In addition, the program for the palm beetle pest in Zone I will be given to the Forestry Department.

There is intense collaboration during extension training courses between the workers in the Experiment Station and Integrated Development Project in Zone I. This is in the form of instruction given by CPS staff and educational materials. There is also interaction taking place in which other agencies are providing assistance to CPS. For example, the Adult Education Department is incorporating messages about IPM into their program, and utilizing CPS material during instruction.

B) Involvement of women

As women constitute a large percentage of the work force in the field, their roles are being emphasized in this phase. There should be a major effort to include the women in the leadership training. Several activities selected from the plan of work are being proposed to be disseminated in the field by women, such as the cassava cultural practices. It's proposed to train as many women as possible, one in each village on the early planting of seedlings to help minimize the attacks of mealy bugs. Up to now, women were not considered as monitors due to the fact that training was made solely in pesticide application. Since women are not seen as active in this activity, they were totally excluded from the benefits of training. It is proposed to give women a more important role in this area. This will have to be approached with caution, as traditionally it is the man's duty to work on the area of protection of the field from pests. Although the women are present and aware of when and where the problem occurs it is the man's responsibility to address the problem. As the CPS involves more women, giving them training in pest problems, alerts, actions and control responsibilities, changes in the attitudes of sex roles may occur. Although this calls for an attitudinal change among the target group, we do not see the possibility of disruption to the social structure. The process will be gradual, starting with three or four activities and increasing as acceptability occurs.

There is, however, the danger of the field agents resisting involvement of women on a turf dominated by the men. This themselves will depend on the training/motivation given to the field agents.

C) Diversification of Cultural Practices and Geographical Areas:

Crop Protection practices, consideration must be given to differences which exist in terms of agricultural practices among ethnics groups. Therefore, although there is a global plan of work for the whole Department, different specifics goals are set, with specific methods prescribed and, more importantly, specific regional training in the field designed to accommodate the needs.

APPROPRIATIVES OF THE PROJECT

The general nature of Phase III is in direct agreement with the Government's agricultural policy. That is, an integration of efforts, integration of the female force, intensification of in-country training, promotion of technical level education to guarantee a maximum of village participation.

The methods prescribed to carry out these activities are going to be dictated through collaboration within the Ministries/International Organizations linked with African problems and under the directions of the M.D.R.P. There will be no influence on land ownership or usage. The main activities are targeted towards food crops.

There will be no displacement of people, or activities which require movement of groups; on the contrary, with farmers involvement in the identificaton of their pest problems and taking an active role in the solution, the village stabilization will be reinforced.

Bibliography

Hochet, A.M. Paysannerie en attente, Guinea-Bissau. ENDA, 1983

ANNEX E-iv

ADMINISTRATIVE/INSTITUTIONAL ANALYSIS

INTRODUCTION

The three factors that shape present GOGB institutions are (1) the dismal legacy of Portuguese colonization, (2) the birth of a new nation in 1974, and its subsequent growing pains, and (3) the strong determination of its leaders to overcome these obstacles. In this analysis we will discuss the institutional strength and weaknesses of the Ministry of Rural Development, ITS' subunit the National Crop Protection Service, and USAID Bissau, and determine how each impacts adminstratively on probable success of the project.

The Ministry of Rural Development and Fisheries

The Ministry is still trying to determine how best to organize itself to meet the priority placed upon rural development by the GOGB. The following points should be noted when reviewing the tentative organigram:

(a) Two important sources of export revenue have only recently been acquired by the Ministry: Fisheries and Forest Resources.

(b) Most major decision-making takes place at quarterly meetings of the executive council, upon which sit heads of each directorate.

(c) The Planning and Management Unit (GAPLA) is assuming a more important role in coordinating donor input, and assuring the logistical support needed to keep the ministry operational.

(d) The General Director position is still vacant, and is often filled on a temporarary basis(either acting, or Ad Hoc) by the Director of Crop Protection, thus facilitating access to decision-makers.

(e) As part of the 1981 decentralization, the country was divided into four production zones. All activities within a zone, including those of donors, must be coordinated with the Director, and the delegates of the regions involved.

(f) Due to the shortage of trained personnel, most agencies serve more a resource rather than an extension function. In many regions the Ministry is only represented by the Regional Agricultural delegate, a veterinary technician, a forest resource technician, and two to four crop protection agents. Only in regions which participate in pilot extension projects are agents available to provide extension coverage to all villages.

Strengths which impact upon project success include:

(a) Active collaboration between research branch (DEPA) and the Crop Protection Service. There is no great gap between "scientific research" and "field operations" seen in many countries.

(b) Top decison-makers are readily accessible.

Weaknesses include:

(a) Lack of enough qualified staff to keep programs operational, if key individuals are sent for further training, as in the case of the documentation center.

(b) Lack of qualified support staff, such as secretaries, or translators.

(c) Lack of sufficient funding in GOGB budget to assure office supplies, vehicle maintenance, or fuel.

These weaknesses are addressed, however, in the project proposal by carefully scheduling additional training to avoid leaving gaps providing practical training to the existing support staff, and supporting the creation of a user-fee system to generate additional revenue.

We should also note that during the life of the project, over 1500 additional Guineans will return upon completion of university studies. Although none are known to be studying crop protection, many are in agricultural sciences.

National Crop Protection Service (CPS)

Since 1977 when the CPS had only one university graduate, a bookkeeper, and a secretary, the service has expanded to a staff of 54 full-time employees which provide coverage to all sections of the country. When reviewing the organigram, the following points should be noted.

(a) The service is field oriented. Over 2/3 of positions are CPS field agents or drivers permanently located at sector level.

(b) Field agents utilize World Food Program donations to recruit an additional 200 rural volunteers to assist in pest survey, field demonstrations, and logistical support, such as hauling water for spray operations.

(c) Only a few additional positions would have to be added to existing staff inorder to achieve project objectives. These are already included in the organigram.

(d) The Plant Protection advisor provided under the PASA with USDA serves as technical advisor to the CPS Director.

(e) The supervisor coordinates all activities within his zone with the Director of Agriculture, who is adminstratively responsible for all MORP employees. Technical questions, however, such as treatment schedules, or pest identification are place directly to the CPS Deputy Director for Field Operations, or the Diagnostic Lab. Logistical support usually comes directly from CPS resources.

Two problems need to be addressed:

1. Of the 54 full-time employees, only two are considered permanent. None of the recently returned university graduates were given permanent status despite the importance of these positions, and the fact that several were "permanent" employees before departure. Resolution of this problem, at least in the case of US trained employees, is important to protect AID investment

2. The skills of some agents are still inadequate for the complex tasks of Integrated Pest Mangement. This problem will either be resolved through the in-service training plan or by replacement of existing field staff with some of the returning 1500 graduates.

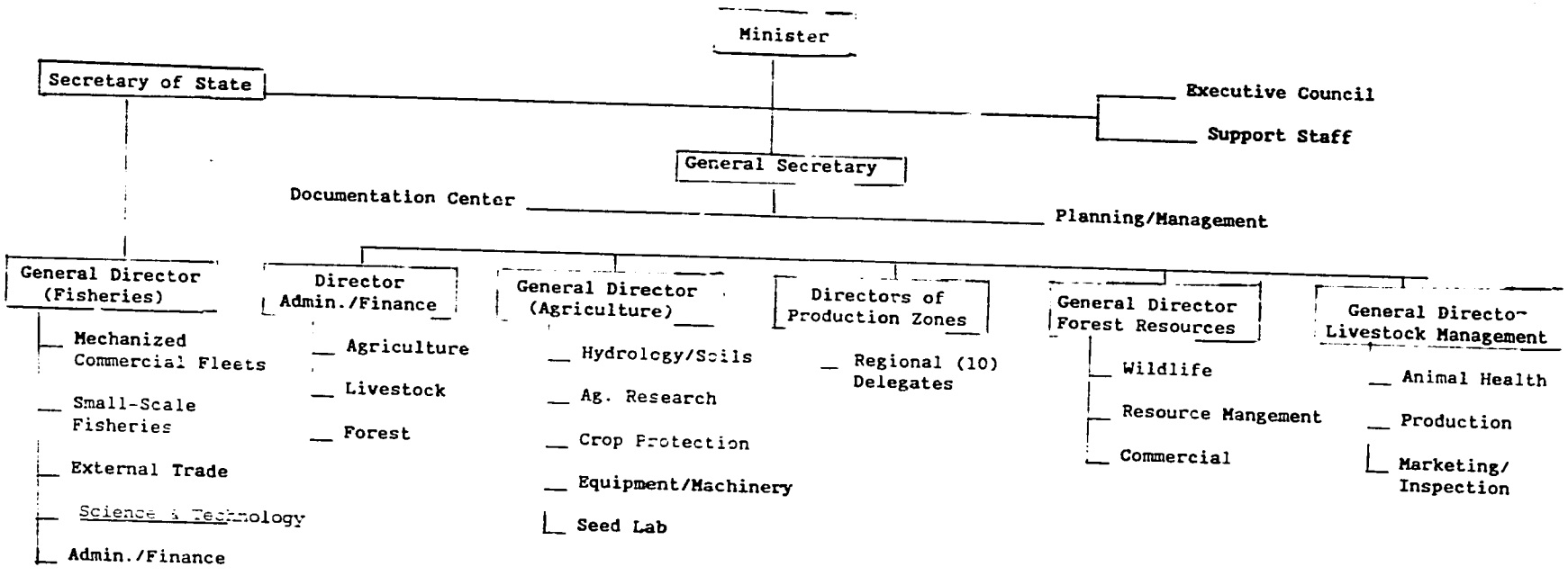
USAID Bissau

Present staffing of the USAID is adequate to administer the proposed project. The PID guidance cable supported the use of a PASA agreement with USDA to secure the technical assistance necessary for project implementation. The Plant Protection advisor will serve both as technical advisor to the CPS Director, and as Project Officer. In the latter role he prepares all project documentation, under the guidance of the USAID ADO. He receives policy guidance from the USAID Representative, and benefits from the technical backstopping of USDA.

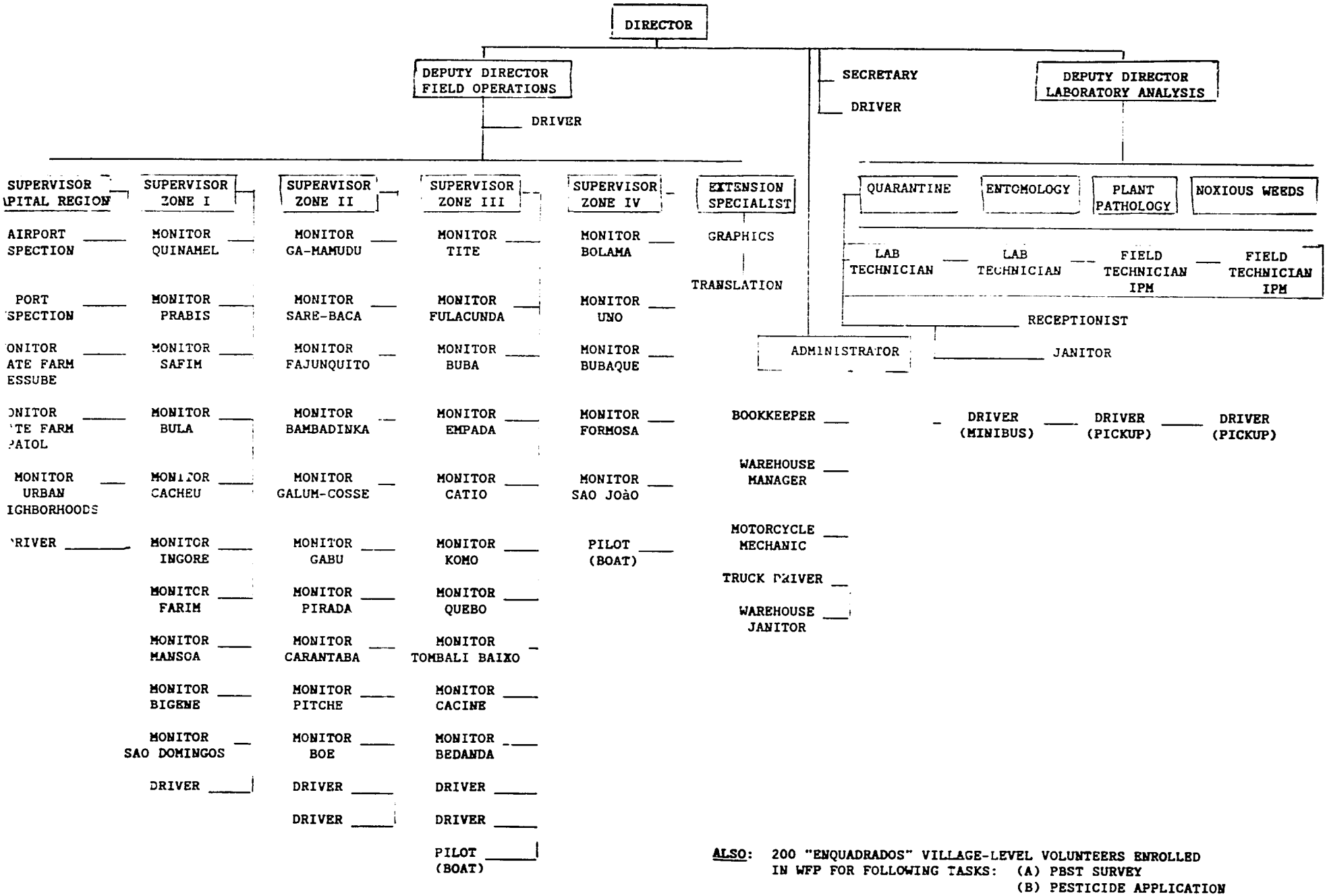
As a direct-hire employee, he receives the same benefits and support as regular USAID employees. The cost of benefits, such as housing or travel, however, is charged against project funds rather than USAID OE.

Whereas, the Plant Protection advisor has frequent need to produce technical documents in both English and Portuguese, beyond the capacity of present USAID support staff, provision of a bilingual secretary is budgetted for other PASA support funds.

MINISTRY OF RURAL DEVELOPMENT AND FISHERIES



PROPOSED ORGANIZATIONAL CHART OF THE CROP PROTECTION SERVICE
1990



ALSO: 200 "ENQUADRADOS" VILLAGE-LEVEL VOLUNTEERS ENROLLED IN WFP FOR FOLLOWING TASKS: (A) PEST SURVEY
(B) PESTICIDE APPLICATION

PROPOSED NETWORKING

Introduction

In order for the Crop Protection Service to become a self-sustaining entity by the end-of-project, it will need to actively participate in networks being established to exchange IPM research results, and itself promote the integration of crop protection concepts into other activities of GOGB. Advantages to be gained include:

1. The higher visibility within Ministry and the GOGB needed to assure adequate counterpart funding, and collaboration in implementing plan of work;

2. A broader research base with access to research results from neighboring countries, or similar ecological zones may help generate ideas and shortcut years of preliminary research;

3. Linkages to international organizations working in crop protection may help GOGB identify potential donors to support initiatives beyond the scope or resources of AID project.

Collaboration Within Ministry

The CPS plans to strengthen its linkage within the Ministry by supporting four activities:

1. Continue to sponsor a monthly seminar on crop protection topics for a "Jovens Quadros" (returned participants) in which all other departments learn of planned or ongoing CPS activities;

2. Assist other departments, when requested, in planning activities which impact upon pest problems, or their resolution. The key collaborators in planning these activities are the Department of Agricultrual Research (DEPA), the Green Belt Project, the National Seed Laboratory, and the Planning/Management Unit. The CPS should also strive to ensure adequate integration of its activities into the plans of work of each of the agricultural production zones.

3. The CPS is to assume a more active role in the cross-training of agents of the diverse extension projects (see training plan).

4. The CPS will continue to collaborate with the documentation/communication units in the development of rural radio programs, press releases, and articles for Bem Tem.

Inter-Ministerial Collaboration

The two main areas of concern are how best to sensitize the rural population about pest problems so that control measures begin at farmer, or village level rather than awaiting government intevention, and how, if government intervention is necessary, to assure all concerned ministeries actively participate.

The CPS has collaborated in the past with the Ministry of Health, and the Ministry of Plan on alfatoxin surveys, and stored product pests,

respectively. The present plan of work calls for CPS to training and certify Ministry of Health agents in pesticide application, and to intensify efforts to protect imported food stores from pests. Collaboration with Ministry of Education will be sought for the local language translation, and distribution of crop protection books appropriate for adult education, or sensitization of rural populations about pest problems.

As IPM strategies are drafted, implementation of some components will be beyond the mandate of MDRP. In these cases, the strategy should be discussed with authorities of other ministries, approval sought, and action plans prepared.

Regional or International Organizations

Whereas the Ministry has just completed "year one of agricultural research", the CPS will remain heavily dependent for some time to come on research results emanating from regional or international reseach organizations. Considering the high costs of original research in terms of money, and highly specialized manpower, the design team feels the role of CPS scientific staff should be to interpret existing research results, and conduct these in-country trials necessary to verify efficacy or appropriateness to conditions in Guinea-Bissau.

Linkages with the following institutions should be strengthend by observations visits, and collaborative field trials:

(a) West African Rice Development Association (WARDA), espeically in area of mangrove rice IPM;

(b) International Institute of Tropical Agriculture (IITA), especially in areas of root and tuber improvement, and biocontrol;

(c) French Office of Overseas Research & Scientific Technology (ORSTOM), especially in areas of nematology, and plant virology;

(d) Brazilian Enterprise for Agricutural Research (EMBRAPA), especially in areas of upland rice IPM, and Portuguese language training materials;

(e) UN Food and Agriculture Organization (FAO), in areas of armyworm monitoring, pesticide specifications, and International Plant Protection Convention;

(f) Organization of African Unity's Interafrican Phytosanitary Council (ONU/IPC), as regards reporting pest outbreaks, biocontrol releases, and concerns of Pan-African nature;

(g) International Center for Research in Semi-Arid Tropics (ICRISAT), as concerns IPM, and host plant resistance to pests of millet and sorghum;

U.S.-Based Resources

Whereas the U.S. is the world leader in agricultural research, including that done in tropical areas, it is essential to strengthen linkages of the

(a) United States Department of Agriculture (USDA), especially the Plant Protection and Quarantine (PPQ) division of the Animal and Plant Health Inspection Agency (APHIS). Proposed linkages include several consultancies of PPQ specialists, summer internships within PPQ of project-funded academic participants, and life-of-project technical backstopping. Other USDA agencies which may provide support include Agricultural Reseach Service (ARS), National Agricultural Library (NAL), and Office of International Development and Cooperation (OICD).

(b) Denver Wildlife Research Center (DWRC), especially in areas of biological control of rodents and grain-eating birds.

(c) United States Environmental Protection Agency (USEPA), as regards regulatory aspects of pesticide usage.

(d) U.S. Land Grant Universities - Contacts made by Guinean participants as undergraduate or graduate students should be utilized to identify collaborative programs and additional funding sources. Additionally, land grant universities have active cooperative extension programs, which may serve as sites of summer internships, or models for programs to be developed in Guinea-Bissau.

ANNEX E-v

ENVIRONMENTAL ASSESSMENT

SUMMARY

With respect to environmental concerns and pesticide usage, the objective during Phase III remains the same as during Phase I and II. The objective is to increase food productivity in Guinea-Bissau through the most environmentally compatible means possible. The chosen means is the practice of Integrated Pest Management (IPM), a crop protection technology that emphasizes ecological and social considerations in addition to the economic consideration of traditional crop protection. The implementation of IPM is paramount to the project's goals. The national crop protection Director and other host country Ministry personnel involved in the project are committed to the development of IPM as a crop protection technology to the extent possible.

The country personnel are acquainted with Regulation 16, as well as the environmental and health implications of using pesticides such as BHC and its isomer Lindane, and the USEPA regulatory actions against such pesticides. They are also aware of the long-term toxicological and environmental hazards which are associated with the use of these pesticides. In recognition of the foregoing, the host country Ministry personnel have shown evidence in the recent past that the use of these pesticides is being gradually eliminated and plan to completely replace the pesticides in question during the course of Phase III.

The concerned host country believes that during the period these pesticides are still in use, the immediate benefits to be derived from their use in terms of agricultural productivity greatly outweigh any possible adverse environmental effects. Such effects, as may occur, will be confined to the countries where the pesticides are used since they will not be used on export crops. Bearing in mind the strong emphasis being placed upon the safe and effective use of their materials, and pending the substitution of environmentally acceptable pesticide or non-pesticide alternatives, the incremental risks associated with the use of these pesticides in Phase III are considered negligible and outweighed by the benefits.

PURPOSE

I. DESCRIPTION OF PROPOSED ACTION

Under Phase III of the Food Crop Protection (FCP) Project, AID proposes to furnish assistance to the Government of Guinea-Bissau for training of National Crop Protection Services (CPS) to implement Integrated Pest Management (IPM) in subsistence food crop agriculture. The training will involve National Crop Protection Service personnel in their current role of practicing crop protection functions as well as the teaching of IPM to individual farmers through extension demonstration and other appropriate methods. Details of the proposed actions are contained in other sections of the Project Paper.

II. REASON FOR PROJECT

productivity in basic food crops for subsistence farmers. The method of increasing food crop productivity under this project is through the introduction and improvement of crop protection in the participating countries. The preferred technology to be introduced is IPM. While IPM purportedly relies most heavily on non-pesticide tactics such as host plant resistance, biological control, and other procedures including cultural practices, incipient programs are characterized by the lack of any alternatives. This has necessitated the reliance in the past by the Regional Food Crop Protection on the use of pesticides to achieve the project aim (i.e., increased productivity). While appropriate non-pesticide technology is being developed at AID-funded international research centers, such as IITA, WARDA, and ICRISAT and adapted to local conditions by the national CPS, there will continue to be a need for the CPS to occasionally rely on proved pesticide technology to achieve the project goal. The RCP project must therefore promote the use of pesticides that have minimal environmental impact as regards both selection and use, as well as to introduce appropriate alternatives as they become available.

For the purpose of the Environmental Assessment, the major questions to be addressed are:

1. Are the pesticides used in the FCP project compatible with USAID policy on pesticide use as contained in 22 CFR Part 216?

2. If not, will the proposed action under FCP result in compliance within a reasonable time frame?

III. ALTERNATIVES

The proposed action of Phase III of the FCP Project involves a wide variety of activitis relating to training and extension. These are described in detail in the Project Paper. This Environmental Assessment stresses only those aspects of the project pertaining to pesticides.

Background of FCP as it Relates to Pesticide Use

The stated goal of the FCP Project is to increase food crop production by subsistence farmers. During Phases I and II, National Crop Protection Services were provided assistance whereby they now have greatly increased capability for delivering crop protection to affected areas. To the present, the form of crop protection delivered has been primarily pesticide technology. As part of RFCP Phases I and II, CPS personnel were provided training in the safe use of pesticide equipment to apply pesticides, calibration of this equipment, safety gear including protective clothing and other devices, vehicles to enable personnel to reach affected areas, and facilities for safe storage and handling of pesticides. In addition they were provided training in pest recognition and the proper methods of pesticide selection. The participating country now has a functioning Crop Protection Service that is qualified to apply USEPA registered pesticides including "restricted use" materials.

In September 1984, the Guinea-Bissau component of project 625-0928 became administratively separate from the Regional project due in part to greater success in implementing IPM compnents, such as biocontrol of cassava mealy-bug, and the extension of suggested IPM practices to the

training of CPS personnel in the IPM approach to crop protection and the delivery of IPM to the farmer's level. Even in Phase III, however, much of the assistance given to the farmers will of necessity still be pesticide orientated. Even as IPM packages are developed for specific crops and sites, it is unlikely that the role of pesticides will be greatly diminished during the life of this project. Therefore, the alternatives to be considered for this Environmental Assessment must assume a continuing role of CPSs in the use of pesticides for crop protection.

With this assumption in mind, the following three alterntives, including the preferred alternative, are identified:

Alternative 1

Use only pesticides registered by USEPA for the same or similar uses in the United States, and/or pesticides which have USEPA-established tolerance on the affected food crop. This alternative would require the participating CPS to suspend the use of several pesticides (e.g., Deltamethrin, Pirimphos-Methy L, Lindane) currently in use even if use of specific products can be justified, or if use is the preferred method of disposal of unwanted stocks.

This alternative would result in a more immediate amelioration of adverse environmental impacts than Alternative 2, but would cause significant disruption in operation of CPS as related to the goals of the project (i.e., increased food crop productivity). The environmental consequences of this alternative are identical to Alternative 2, with the exception that ameliorating environmental effects of discontinued use of USEPA cancelled/suspended pesticides would be accelerated.

Alternative I is not preferred on the basis of the potential disruption to the present crop protection operation in the case of pesticides, but does provide assistance to CPSs for the application of pesticides. Some pesticides are purchased with government funds, but since most governments in the project have little or no hard currency for pesticide importation, the bulk of pesticides are acquired fortuitously from a multiplicity of international donors. The non-USEPA registered pesticides (principally lindane) that are used are generally of low acute toxicity, broad spectrum and of comparatively lower cost than proposed substitutes. While considerable progress has been made during the course of Phases I and II of RFCP, it is estimated that two more years are required to phase-out these non-approvable pesticides from the project. All the pesticides used in the project are listed in Table I and are discussed in detail in the Appendix to this Annex.

TABLE 1

Pesticides Used by the Crop Protection Service of Guinea-Bissau During the Last Two Years, 1983-84

	Pesticide	Formulation	Crops Treated	Approval Status
1.	Bacillus thuringiensis	WP	Vegetables	Approvable
2.	Benomyl	WP	Vegetables	Approvable
3.	Carbaryl	WP	Rice, Millet, Sorghum	Approvable
4.	Carbofuran	G	Rice	Approvable
5.	Cypermethrin	EC	Millet, Sorghum, Rice	Approvable
6.	Diazinon	EC	Millet, Sorghum, Maize, cowpeas, cabbage	Approvable
7.	Deltamethrin	ULV, EC	Millet, Sorghum, Maize, Rice, Vegetables	Approved
8.	Dimethoate	EC, D	Sorghum, Millet Squash	Aprovable
9.	Endusulphan	EC, D	Sorghum, millet, Maize, Rice, Cowpeas, Vegetables	Approvable
10.	Lindane	WP	Sorghum, Millet, Maize, Rice, Vegetables, Stored Grain	Not Approvable 1/
11.	Malathion	EC, D, WLV	Sorghum, Millet, Maize, Rice, Vegetables, Stored grain	Approvable
12.	Phostoxin	F (tablets)	Stored products in ships/warehouses	Approvable
13.	Pirimphos Methyl	WP, D	Stored seed grain	Approved
14.	Propoxur	WP, WLV	Sorghum, millet, Maize, beans	Approvable

15.	Thiram	D	Sorghum, millet, seed treatment	Approvable
16.	Trichlorfon	WP	Vegetables	Approvable
17.	Warfarin	Tracking Powder	Stored grain	Approvable

1/ This pesticide should be phased out of FCP because of proven environmental and health risks, or because of its questionable status as regards USEPA registration and/or tolerance. Acceptable alternatives are increasingly available.

Alternative 2 (The preferred alternative)

Use only pesticides registered by USEPA for the same or similar uses and/or pesticides which have USEPA-established tolerances on the affected food crops, with some exceptions. This alternative will accomplish the same environmental benefits as Alternative 1, but within a somewhat longer time frame. Additionally, it will allow participating CPSs a reasonable interim to substitute effective alternative pesticides for non-USEPA-registered materials without the disruptive effects on project goals associated with Alternative 1. The adverse environmental impacts associated with the transitional use of non-USEPA-registered pesticides during the early stages of Phase III are considered acceptable in view of the expressed intent of the participating country to bring its pesticide use pattern in compliance with USAID pesticide policies in an orderly manner during the course of Phase III. Evidence to date indicates that this is a reasonable expectation. The current status as regards to the participating country's use of non-USEPA-registered pesticides is as follows (also see Table 1 and Appendix).

USEPA non-approved pesticides used in Guinea-Bissau are Deltamethrin (DECIS), Pirimiphos-Methyl (Actellic) and Lindane (G isomer and BHC). The use of DECIS in Guinea-Bissau is not deemed s serious problem. DECIS is a synthetic pyrethroid insecticide of low mammalian toxicity that is closely related to a number of USEPA-registered materials. The producer of DECIS (ICI International) has chosen not to seek USEPA registration because it already has a large international market and does not envision any major return on investment in a promotional campaign for U.S. sales. While there are no currently approved tolerances on USEPA, FAO/WHO has established tolerances on affected food crops similar to levels of pesticides (i.e. Cypermethrum). DECIS is then technically approvable under USAID guidelines, and its use in the project is compatible with the intent of Regulation 16. Likewise, the same producer has not sought USEPA registration for Pirimiphos-Methyl (Actellic) although it is highly effective against stored product pests, and is rapidly substituting malathion for that use worldwide. FAO/WHO have established approval tolerances on affected food crops. Because Actellic is then technically approvable under USAID guidelines, its use in the project is compatible with the intent of Regulation 16.

The insecticide Lindane (isomer of BHC), however, underwent an RPAR in 1983 and use on food crops was suspended by the USEPA. Approximately 3 Mt of Lindane 90 WP is currently in stock. The CPS proposes to discontinue any additional purchases and to use the remaining stocks as an insecticide incorporated into grasshopper baits along crop borders, and for pest control on ornamentals.

The environmental consequences of Alternative 2 as they affect the participating countries are discussed in detail under Section 5 of the Environmental Assessment.

Alternative 3

Use no pesticides. This alternative would produce no adverse environmental consequences due to pesticides. Its selection, as the preferred alternative, would eliminate the necessity for an Environmental Assessment. However, it is not the preferred alternative for the following reasons:

1) The elimination of pesticide use in the RCP project would result in the inability of the project to achieve its stated goal (i.e., increased food crop productivity);

2) Gains in food crop productivity to date under RFCP are almost entirely attributable to pesticide use (see Economic Analysis);

3) The elimination of pesticides prior to the development of practical alternatives would seriously disrupt gains to date, and would definitely be unacceptable to the government of the participating country;

4) Credibility of future USAID crop protection programs would be seriously jeopardized.

It is completely unrealistic to believe that the elimination of pesticides in crop protection can be accomplished in all aspects of food crop protection within the foreseeable future.

IV. AFFECTED ENVIRONMENT

Guinea-Bissau is situated on the west coast of Africa between 11° and 13° North Latitude and between 13° and 17° West Longitude. It is a wedge-shaped country bordered by Senegal on the north, Guinea on the southeast and the Atlantic Ocean on the southwest. The Atlantic coastline is almost entirely composed of estuary areas of the Cacheu, Geba and Corubal Rivers. Much of the country is a low coastal plain rising to a savannah in the east. The climate is tropical with a mean average temperature of 23°C. Average rainfall for the city of Bissau is 177cm.

The soils are primarily alluvial. Palm trees and mangrove thickets cover most of the lowland along the rivers and coast.

The population is over 800,000 and 90% engage in agriculture. The major food crops are rice, sorghum, millet, maize, cowpeas and cassava.

V. ENVIRONMENTAL CONSEQUENCES

1. Introduction

The environmental consequences of the preferred alternative stated in Section III above are discussed below. Alternative 1 will not be treated. The consequences of Alternative 1 are identical to the preferred alternative with the exception of those related to the use of USAID non-approvable pesticides (i.e., Lindane). Since Alternative 3 does not include pesticide use, it would have no environmental consequences of note.

a. The USAID Status of Pesticides used by National Crop Protection Services

Although all pesticides which may become available to the CPS in the future cannot be identified at this time, those which have been used in the participating countries recently are listed in Table 1 and discussed in detail in the Appendix. During the course of the Project, the lists will be updated and should reflect the impact of the technical comments

of the Project Proposal. A significant consequence of the Project should be the elimination of the use of USAID non-approvable pesticides.

b. The Basis for Selection of the Pesticides by the National Plant Protection Services

The basis for selection of pesticides has largely been protection in the sense that an undetermined fraction are furnished by a multiplicity of international donors and the remainder purchased with national resources. At the inception of the original RFCP, pesticides were selected on the basis of their lack of acute toxicity to users, relatively low cost, and broad spectrum of activity. There was little consideration of their possible environmental impact and their long-term effects upon human health. RFCP Phases I and II have made significant inroads on these practices (see Section III, Alternatives). As a result of training in pesticide use as a component of IPM, and the introduction of environmentally acceptable alternatives with less long-term effect on human health, the complete elimination of pesticides non-acceptable to AID is anticipated well prior to the end of Phase III.

2. Relationship of Proposed Action to Plans for Land and Resources Use

This aspect of FCP Phase III is discussed in the Technical Analysis (Annex E-1).

3. Reasonably Foreseeable Impact of Proposed Action on the Human Environment and Assessment of Positive and Negative Effects

The use of pesticides to control pests always contributes to the occupational hazard of the use as well as to the general contamination of the human environment as a result of the inherent toxicities of their materials. However, in FCP, where potential users are largely illiterate, the hazard is greatly increased despite the low toxicities of the pesticides that will be used. Without the emphasis that IPM places on alternatives to pesticides, the selection of pesticides with reduced environmental consequences, and the elimination of unnecessary pesticide use, the future tendency would be for large increases in pesticide use. Even with IPM technology, pesticide use will increase as increased productivity is achieved through their use. In general, the adverse environmental impacts of pesticides discussed below will be significantly reduced as a result of Phase III implementation.

a. Acute and Long Term Toxicological Hazards, Either Human or Environmental, Associated with the Proposed Uses, and Measures Available to Minimize Such Hazards

Any pesticide can result in adverse environmental impact when introduced in an unmitigated fashion, as in excessive use on an improper site, with an accidental spill, or through deliberate dumping of excess tank-mix or dust. Insect resistance to insecticides, as well as disruption of target and non-target ecosystems, are predictable results of frequent and continued use of the same chemical against the same pests, particularly when the more persistent broad spectrum pesticides are used without

taking these factors into account. Some areas of Sahelian subsistance farming that have been treated with BHC for grasshopper infestation with the greatest frequency are beginning to exhibit the first signs of resistance as indicated by the need to repeat treatments. The problem of insecticide resistance can be mitigated by non-reliance on long lasting pesticides, implementation of IPM pesticide use tactics, and the use of non-pesticide alternatives -- all components of FCP Phase III.

Mitigation of identified adverse impacts can be achieved through the training and extension programs proposed under Phase III. Also, simple educational demonstrations on the safe use of pesticides, regulations of pesticides available to minimally or non-literate farmers, and the extension of IPM alternatives are absolutely essential components of the program.

Mitigation of potential adverse impacts can be achieved by discontinuing the use of the persistent chlorinated hydrocarbon insecticide BHC. The mitigation of these potential adverse effects is now predictable under Phase III (see Section 3 above, Alternative 2).

b. The Effectiveness of Pesticides for the Proposed Use

The use of any pesticide should be based upon assessment of the need for use. This should be accomplished scientifically by determining the extent of pest-caused reduction in crop productivity through crop loss assessment research. Frequently, crop loss is perceived as being sufficient to justify pesticide use simply because the damage is directly observable and rather easily quantifiable (i.e., bird depredation, grasshopper infestation, rat destruction of stored grain). Indirect proof of these justifications is evidenced by increased productivity when these pests are controlled. However, many pests can cause crop yield reduction indirectly (e.g., aphids reduce plant vigor and diminish yield; a soil nematode infestation causes reduced yield). These types of prejudices to productivity need to be assessed before pesticide intervention is proved justifiable.

This situation will be mitigated through more extensive pest survey and crop-loss assessment studies under Phase III. Incorporation of crop-loss assessment findings into Phase III activities will enhance the decision-making potential of CPSs in participating countries and tend to eliminate unnecessary use of pesticides.

c. Compatability of the Proposed Pesticides with Target and Non-target Ecosystems

This is partially covered above under a and b. The problem with the use of broad spectrum pesticides insofar as their effects on non-target organisms including beneficial invertebrates, vertebrates and humans are concerned will be additionally ameliorated under FCP Phase III by the promotion of more target-specific alternatives, including biological control, varietal resistance, microbial insecticides, and the use of more specific, short residual chemicals.

d. The Conditions Under which the Pesticides are to be Used, Including Climate, Flora,

The affected environment is described under Section IV above. The objective of the Project is to increase the productivity of Guinean food crops. The environment where these crops, principally rice, sorghum and millet are grown is mainly agricultural, where wildlife does not occur broadly. The effects of the proposed uses on native wildlife will be minimal. Furthermore, all project areas are in the tropical zone, and the associated high temperatures and generally arid conditions lead to a more rapid photo-chemical breakdown of pesticide residues than takes place in more temperate climates.

e. The Extent to Which Pesticide Uses by National Crop Protection Services are Part of an Integrated Pest Management Program

A principal thrust of FCP Phase III is to implement IPM through training and extension. The incorporation of IPM tactics including non-chemical alternatives and damage thresholds will minimize pesticide use. Some IPM tactics are already available or will be available early in Phase III. These include the biological control of mealybug on cassava, the establishment of action thresholds for grasshoppers on sorghum and millet, and improvement in cultural, sanitation and traditional practices on subsistence farms in most areas of the country. As linkage with the Regional Research Centers, such as IITA or WARDA, are strengthened, additional IPM tactics, such as use of resistant varieties will aid in decreasing the Ministry's reliance on pesticides to resolve pest problems.

f. Methods of Application, Including the Availability of Appropriate Application and Safety Equipment

The great majority of sprayers and dusters that are used are hand-operated. User hazards associated with field application of low concentrations of the pesticides used in the project with few exceptions are minimal. However, all pesticides have the potential for causing acute negative effects if they are improperly used. There has been a strong emphasis during RFCP's Phases I and II on training of CPS personnel in the proper methods of handling pesticides, calibrating application equipment, dilution and formulation, and in application practices that minimize user exposure (e.g. personal sanitary measures to include washing of hands prior to eating, not smoking during application operations, washing of contaminated clothing, and spraying or dusting only during proper weather conditions).

This emphasis will be continued during Phase III as part of the training component.

g. The Availability and Effectiveness on Non-Chemical Control Methods

This topic has been covered under (e) above.

h. The Countries' abilities to Regulate or Control the Distribution, Storage, Use and Disposal of Pesticides

Pesticide control legislation is essential to the mitigation of both identified and potential adverse impacts. The GOGB has requested assistance under Phase III in the drafting of Pesticide Legislation and Regulations. Initial steps were taken in 1984, as CPS Director compared legislation passed in neighboring countries of Gambia, Cape Verde and Senegal. He also participated in the 1985 AID-sponsored West African Conference on Pesticide legislation. The GOGB will eventually be able to implement regulations that would be compatible with AID pesticide policies.

During Phases I and II of RFCP, a high priority was placed on storage capabilities of participating countries. Satisfactory facilities for both short and long-term storage have been constructed. All facilities are considered adequate with concrete floors above surface water levels, sound roofs without leaks, and adequate natural ventilation through windows or the use of ventilators.

The problem of pesticide disposal is not so easily dealt with because designated disposal sites are not available anywhere in the region. The next best disposal method is to use up the pesticides promptly in pest-control application. This exposes the materials to natural photo-and bio-degradation and makes use of what would otherwise be wasted. Any other means of disposal, including incineration, are currently unpracticable under the conditions of West Africa.

Nevertheless, the elimination of certain pesticides from country programs (i.e. parathion, and small quantities of other pesticides) has already created a problem. This problem will be further exacerbated as additional pesticides are eliminated from use. Some pesticides, such as aldrin, dieldrin and heptachlor, can be utilized in treating below ground areas around construction providing the quantities are not large. However, disposal of highly toxic materials such as parathion is not resolvable in this manner. In recognition of this problem, a pesticide disposal expert has visited Senegal to study applicable prevailing conditions. A pesticide disposal site is contemplated but awaits further study, it is possible that such a site will have to be planned for each country. This problem, not unique to the Sahel or the developing world, should be addressed during Phase III.

i. Provisions Made for Training of Users and Applicators

The PID addresses this component.

j. Provisions for Monitoring and Use of Pesticides

During Phase II, each participating CPS was instructed by the Country Project Officer on the merits of monitoring pest populations and keeping adequate records of pesticide use. This practice has been adopted by each CPS and the intent has been to publish annual reports that would summarize the observations and records for each year's activity and provide a permanent record of CPS performance. However, the annual reports in most cases have been late, inconsistent in content, and generally somewhat less than accurate. During Phase III, the CPO should make a concerted effort to standardize monitoring and pesticide u[illegible]

records and encourage the timely preparation of annual reports. These reports are extremely valuable for each CPS in measuring progress in crop protection, and in providing information that will be useful in future policy determination.

4. Reasonably Foreseeable Adverse Environmental Impacts Which Cannot be Avoided

There will undoubtedly be a small build-up of residues of Gamma BHC in various environmental media, but the rate of this build up should be dramatically reduced as a result of the phase out of this pesticide during the initial stages of Phase III. The maximum levels which will be attained, while unknown, will probably be far below those which were previously reached in many of the developed countries.

5. Relationship Between Local Short-Term and Long-Term Effects

The local short-term effects were discussed under Section 4 above. In time and as Gamma BHC is eliminated, the residue levels in various environmental media can be expected to decline.

6. Irreversible and Irretrievable Commitments of Natural or Cultural Resource

None.

7. Policy Offsets to Adverse Environmental Effects

By providing the proposed training, particularly as it relates to the elimination of Gamma BHC and the implementation of IPM, and as detailed in the Project Analysis, a significant increase in food productivity should be achieved thus increasing the availability of basic food commodities and decreasing the need for importation of such commodities.

8. List of Preparers

Allen L. Steinhauer, Ph. D Professor and Chairman Dept. of Entomology University of Maryland College Park, Md. U.S.A. 20742	Prepared initial E.A. in March 1983, for the Regional Project
Carl W. Castleton, Entomologist Dept of State - Bissau Washington, D.C. 20520	Modified initial report in March '85 to exclude information extraneous to Guinea-Bissau component & update pesticide usage information.

APPENDIX TO ANNEX I

DESCRIPTION OF PESTICIDES USED BY GUINEA BISSAU CPS DURING THE PAST TWO YEARS, 1983-1985

1. Bacillus thuringiensis (Thuricide, Dipel)

Type: Microbial insecticide
Toxicity: Harmless to humans, animals and beneficial ins...
Use in Project: For control of lepidopterous larvae (caterpillars) on vegetable crops.
USAID Status: USEPA registered for proposed use; exempt from requirement for tolerance. Approvable.

2. Benomyl (Benlate, Tersan)

Type: Systemic Fungicide
Toxicity: Acute oral LD_{50} (RAT) greater than 10,000 mg/kg. Acute dermal (RAT) greater than 10,000 mg/kg.
Use in Project: Application as wettable powder against a wide range of diseases of nuts, vegetable, and field crops.
USAID Status: Registered for same or similar use by USEPA. Approvable.

3. Carbaryl (Sevin)

Type: Broad spectrum carbamate insecticide.
Toxicity: Acute oral LD_{50}(female rat), 500 mg/kg; (male rat), 850 mg/kg; acute dermal LD_{50} (rat), greater than 4000 mg/kg.
Use in Project: For control of blister beetles, stink bugs and army worms on sorghum, millet, and rice.
USAID Status: Registered for same or similar uses by USEPA. Tolerances established on all relevant food crops. Underwent RPAR review triggered on basis of oncogenicity, mutagenicity, and teratogenicity, but returned to registration with recommendations to change label to minimize exposure. Uses in this project deemed approvable.
Comments: Because of high toxicity to bees, its use should be avoided on flowering plants at time of bloom.

4. Carbofuran (Furadan)

Type: Broad spectrum carbamate insecticide, nematicide and miticide with systemic and contact activity.
Toxicity: Acute oral LD_{50} (rabbit); 10,200 mg/kg.
Use in Project: For control of stem borers and scarabs in rice. Used in granular formulation.
USAID Status: Registered for same or similar use by USEPA. Tolerances established on rice. Liquid formulations of 40% or higher are classified as restricted-use pesticides. Granular formulations of 10% or less are not classified as restricted, and are th...

a final determination has not yet been made. If use in the project is limited to granular formulations of 10% or less, applied only by training applicators using proper protective gear, and spread with a mechanical dispenser (not by hand), its use in the project would be deemed approvable.

Comments: This highly effective pesticide that controls many insects will probably be desired by CPSs on an increasing scale in future years. While it is deemed safe for trained operators, it should never be distributed to untrained personnel.

5. Cypermethrin (Cymbush)

Type: Synthetic pyrethroid insecticide.
Toxicity: Acute oral LD_{50} (female rat), 1741 mg/kg in oily suspension, 4123 mg/kg in aqueous suspension.
Use in Project: For control of grasshoppers and blister beetles on sorghum, millet, and rice.
USAID Status: Temporary tolerance on food crops established by USEPA in 1981. Because of low toxicity and established tolerance, use in project should be deemed approvable.
Comments: This relatively environmentally safe pesticide should be considered a candidate for supplanting BHC in many situations.

6. Diazinon (Basudin, Spectracide)

Type: Organo-phosphate insecticide-nematicide.
Toxicity: Acute oral LD_{50} (rat), 300-400 mg/kg; acute dermal LD_{50} (rabbit); 3600 mg/kg.
Use in Project: For control of stem borers, blister beetles, army worm, grasshoppers, stink bugs, pod borers, and sucking insects on millet, sorghum, maize, rice, and cabbage.
Countries Where Used: The Gambia, Cape Verde, Mali
USAID Status: Registered for the same or similar uses by USEPA. Appropriate tolerances established. Use in project deemed approvable.
Comments: General use pesticide.

7. Decis (Decamethrin, Deltamethrin)

Type: Synthetic pyrethroid insecticide.
Toxicity: Acute oral LD_{50} (rats), 128 mg/kg (oily suspension); greater than 5,000 mg/kg (aqueous suspension); acute dermal LD_{50} (rabbits), greater than 2,000 mg/kg.
Use in Project: For control of army worm, blister beetles, and grasshoppers on sorghum, millet, maize and rice.
USAID Status: FAO established tolerances for this pesticide on food crops, so its use in this project is deemed approvable.
Comments: The use of aqueous suspensions of this pesticide are deemed very safe from the standpoint of acute toxicity (for Justification for the use of Decis in project, see Annex E-I-III, Alternative 2).

8. Dimethoate (Cygon, Rogor, Perfektion)

Type: Systemic organo-phosphate insecticide-miticide.
Toxicity: Acute oral LD_{50} (male albino rate) 215 mg/kg; acute dermal LD_{50} (guinea pig), greater than 1,000 mg/kg.
Use in Project: For control of stem borers in sorghum and millet and control of fruit flies and sucking insects on squash.
USAID Status: USEPA registered for same or similar uses, tolerances established. Use in project deemed approvable.
Comments: General use pesticide.

9. Endosulphan (Thiidan, Thimul)

Type: Chlorinated hydrocarbon insecticide-miticide.
Toxicity: Acute oral LD_{50} (rat) 30-50 mg/kg; acute dermal LD_{50} (rat) 359 mg/kg. Toxic to fish.
Use in Project: For control of blister beetles, stem borers, grasshoppers, caterpillars and some sucking insects on sorghum, millet, maize, rice, cowpea and some vegetables.
USAID Status: Registered by USEPA for some or similar uses with appropriate tolerances established for crops treated. Use of this pesticide in project deemed approvable.
Comments: This pesticide should not be used in proximity to fish-containing waters because of its high toxicity to fish (LD_{50}, 12 mg/kg). General use pesticide.

10. Malathion (Mercapthion)

Type: Organo-phosphate insecticide.
Toxicity: Acute oral LD_{50} (rat), 1,000 mg/kg; acute dermal LD_{50} (rat), 4,100 mg/kg.
Use in Project: For control of blister beetles, leaf beetles (chrysomelids), army worms, stem borers and leaf hoppers on sorghum, millet, rice, maize and vegetables, and control of pests on stored products.
Countries Where Used: Guinea-Bissau, The Gambia, Senegal, Mali and Mauritania.
USAID Status: Registered for all uses by USEPA. Use in project should be deemed approvable.
Comments: General-use insecticide.

11. Phostoxin (Aluminum Phosphide)

Type: Stored product fumigant.
Toxicity: Extremely toxic if inhaled. Inhalation LD_{50} 2.8 mg/liter of air.
Use in Project: Fumigation of stored products in ships and warehouses.
Countries where Used: USEPA registered as a restricted use pesticide on the basis of inhalation hazard

to humans. This pesticide is in use widely all over the world for control of stored products pests. Its use in the project is considered approvable if used only by trained personnel using proper precautions.

Comments: General use pesticide.

12. Propoxur (Baygon)

Type: Carbamate insecticide
Toxicity: Acute oral LD_{50}(male rat), 100-200 mg/kg; acute dermal LD_{50} (male rat), greater than 5,000 mg/kg.
Use in Project: To control blister beetles and grasshoppers on maize, sorghum and millet, and for control of white flies on beans.
USAID Status: USEPA tolerance as a food additive is pending. FAO/WHO has established tolerances on food crops used in the project. Use in project should be deemed approvable.
Comments: This pesticide shows considerable promise as an alternative for BHC in project countries. Its use should be encouraged in that context. General use pesticide.

13. Thiram (TMTD)

Type: Fungicide, seed treatment, animal repellant.
Toxicity: Acute oral LD_{50} (rat), 780 mg/kg.
Use in Project: Used as a seed treatment for millet and sorghum prior to planting to control downy mildew and smut. Also acts as a bird repellant.
USAID Status: USEPA registered as a seed treatment in project. Approvable.
Comments: General use pesticide.

14. Trichlorfon (Dipterex, Dylox)

Type: Organo-phosphate insecticide.
Toxicity: Acute oral LD_{50}(rat), 150-400 mg/kg; acute dermal LD_{50}(rat), greater than 500 mg/kg.
Use in Project: Control of caterpillars on vegetables.
USAID Status: USEPA tolerances established on vegetables. Registered for uses listed. Use in project should be deemed approvable.
Comments: Pre RPAR review. Review of trichlorfon as it degrades to dichlorvos, no direct review of trichlorfon is being conducted. General use pesticide.

15. Warfarin

Type: Rodenticide, anticoagulent.
Toxicity: Acute oral LD_{50}(rat), 3 mg/kg.
Use in Project: Rat control around stored products.
USAID Status: Registered for same use by USEPA. Use in project deemed acceptable.
Comments: Used as a bait. Should present no problem if used with appropriate care. General-use pesticide.

Carl

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PP RUFHPBI
DE RUEHC #9372 1792343
ZNR UUUUU ZZH
P R 2823432 JUN 85
FM SECSTATE WASHDC
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INFO RUFHPBI/AMEMBASSY BISSAU 4075
BT
UNCLAS STATE 199372

AMERICAN EMBASSY
1 JUL 85 0 51 Z
BISSAU

ACTION: AID
INFO: CDA
CHRON

AIDAC, ABIDJAN FOR REDSO/WCA

E.O. 12356: N/A
TAGS:
SUBJECT: GUINEA BISSAU FOOD CROP PROTECTION (655-8613)

REFERENCES: (A) STATE 147900, (B) ABIDJAN 1655A

1. EA WAS NOT CIRCULATED WITH PID FOR APPROVAL IN AID/W. BEO AND REGIONAL PESTICIDE ADVISOR, REDSO/WCA REVIEWED DRAFT EA WHILE IN LOME, TOGO COMMENTS FOLLOW:

-- PAGE 5 TABLE 1: DELTA METHRIN AND PIRIMPHOS METHYL ARE DELTA METHRIN AND APPROVED BY WHO/FAO.

2. REQUEST COPIES OF LABELS FOR ALL PESTICIDE USES BE FORWARDED TO AID/W, S/T/AGR.

3. THE PESTICIDES NOT REGISTERED FOR USE IN U.S. SHOULD BE USED IN CONFORMITY TO THE USE PATTERNS UPON WHICH WHO/FAO MAXIMUM RESIDUE LEVELS WERE ESTABLISHED.

4. BELIEVE EA SUITABLE FOR APPROVAL WITH CHANGES IN TABLE 1 PER PARA 1 ABOVE. SHULTZ
BT
#9372

TELEGRAM

☐ COLLECT
☐ CHARGE TO

FROM	CLASSIFICATION
AMEMBASSY BISSAU	UNCLASSIFIED

E.O. 11652:
TAGS:
SUBJECT:

ACTION: AMEMBASSY E ABIDJAN IMMEDIATE

INFO: EA AMEMBASSY DAKAR

ACTION: UNCLASSIFIED BISSAU 2026

ADM AID

FOR: G. MACARTHUR, REDSO/WCA

E.O.12356: N/A
SUBJECT: NEGOTIATION/REVISION OF GRANT AGREEMENT-
FOOD CROP PROTECTION III (657-0012)

DIST
AID
CHARGE
CHRON

REF: A) BISSAU 1857; B) ABIDJAN 12329; C) BISSAU 2000
D) ABIDJAN 13159

1. DURING THIRD AND WHAT MISSION EXPECTED TO BE FINAL NEGOTIATING SESSION PRIOR TO SIGNATURE OF GRANT AGREEMENT, GOGB TEAM LED BY MINISTER OF RURAL DEVELOPMENT, CARLOS CORREIA, RAISED SUBSTANTIVE AND POLITICAL OBJECTIONS TO ONE OF THE CONDITIONS PRECEDENT AND THREE OF THE COVENANTS. CORREIA OPENED THE SESSION BY STATING THAT WHILE THE GOVERNMENT HAD NO PROBLEMS WITH PROVISIONS OF THE AGREEMENT REQUIRED BY U.S. LEGISLATION AND A.I.D. REGULATIONS, THE LANGUAGE AND NATURE OF SOME OF THE CPS/COVENANTS MADE GOGB ACCEPTANCE DIFFICULT. GOGB CONCERN ARE AS FOLLOWS:

DRAFTED BY:	DRAFTING DATE	TEL. EXT.	CONTENTS AND CLASSIFICATION APPROVED BY:
GLDaniels:or	12/8/85		Gussie L. Daniels III AID REP

CLEARANCES:

NLGARNER_____ CCASTLETON_____

UNCLASSIFIED
CLASSIFICATION

50153-101

OPTIONAL FORM 153
(Formerly FS-413)
January 1975
Dept. of State

A.. SECTION 4.1(c) "A STATEMENT NAMING A DEPUTY DIRECTOR FOR THE CPS..." THE MINISTRY CONTENDS THAT-

(a) NO PROVISION EXISTS WITHIN THE CIVIL SERVICE LEGISLATION INHERITED FROM PORTUGAL AND STILL BEING APPLIED, FOR APPOINTMENT OF DEPUTY DIRECTORS IN ANY DEPARTMENT OR DIVISION.

(b) THE CREATION OF SUCH A POSITION WITHIN ONE DEPARTMENT OF THE MINISTRY WOULD REQUIRE CHANGES IN K GOGB LEGISLATION AND WOULD SPARK SIMILAR DEMANDS FROM OTHER DEPARTMENTS.

(c) IF THE POSITIONS WERE TO BE CREATED, THE INCUMBENTS WOULD WARRANT A SALARY INCREASE, AND SUCH INCREASES WOULD BE IN CONFLICT WITH IMF AND GOGB GUIDELINES ON SALARY INCREASES AND HIRING NEW PERSONNEL.

B. SECTION 5.2; PARTICIPATION OF WOMEN.

DESPITE THE RATHER FLEXIBLE LANGUAGE OF THIS SECTION 5.2, HAVING TO DO WITH "PARTICIPATION OF WOMEN", THE GOGB HAS STRONG RESERVATIONS ABOUT M THIS COVENANT AND FELT IT SHOULD NOT BE INCLUDED IN THE GRANT AGREEMENT. THE GOGB ARGUMENT WAS THAT THE LANGUAGE IS TOO BROAD STRESSING INCREASED PARTICIPATION OF WOMEN AT ALL LEVELS. AND THAT THE CONSTITUTION AND LAWS OF GUINEA-BISSAU ALREADY GUARANTEES THE EQUALITY OF WOMEN IN THEIR SYSTEM. THEY DO AGREE THAT THERE REMAINS SOCIAL AND CULTURAL BARRIER THAT INHIBIT THE PARTICIPATION OF WOMEN IN

ECONOMIC AND OTHER ACTIVITIES BUT THAT IN TIME THESE WILL BE WORKED OUT. THIS COVENANT WOULD HAVE LITTLE TO NO IMPACT ON SOLVING THESE PROBLEMS.

C. SECTION 5.4 "STATUS OF EMPLOYEES" THE MINISTRY ARGUES THAT-

(a) THE PRACTICE OF EMPLOYING UNIVERSITY GRADUATES AS TEMPORARY HIRES IS USEFUL MECHANISM TO ENSURE IMME UTILIZATION OF THEIR SKILLS, RATHER THAN HAVE HER AWAIT THE EXTREMELY LONG AND OFTEN FUTILE ATTEMPTS ENTER PERMANENT CIVIL SERVICE ROLLS.

(b) THE NUMBER OF PERMANENT EMPLOYEES CONTINUES TO BE STRICTLY LIMITED BY IMF CONSTRAINTS.

(c) PREFERENCE CANNOT BE GIVEN TO GRADUATES WORKING IN THE CROP PROTECTION SERVICE.

(d) THE MINISTRY IS FULLY AWARE OF THE PROBLEM, BUT IT'S SOLUTION CAN ONLY BE ATTEMPTED AT HIGHER LEVELS.

D. SECTION 5.5ECONOMIC REFORMS

GOVERNMENT POSITION IS THAT-

(a) MRDP'S ROLE IN ECONOMIC REFORMS IS VERY LIMITED AND MARGINAL. THIS RESPONSIBILITY IS INVESTED AT HIGHER LEVELS OF THE GOVERNMENT, I.E. MIN OF PLAN, FINANCE NATIONAL BANK.

(c) CPSIII PROJECT COULD NOT INFLUENCE GOVT'S ECONOMIC REFORMS POLICY AS ECONOMIC REFORMS ARE OUTSIDE THE FRAMEWORK OF THIS ACTIVITY.

(c) COVENANT 6.5 IS UNCLEAR AS TO WHETHER AGREEMENT IS REFERRING TO PRESENT GOGB ECONOMIC REFORMS NOW UNDERWAY OR ADDITIONAL ECONOMIC REFORMS.

2. FOLLOWING THE MINISTER'S PRESENTATION THE A.I.D. REP INFORMED HIM THAT WE WOULD HAVE TO CONSULT REDSO/ ABIDJAN REGARDING HIS CONCERNS. MISSION IS DRAFTING REVISED LANGUAGE AND SCHEDULING MONDAY MEETING WITH GOGB TO DISCUSS MODIFICATIONS OF CPS AND COVENANTS. WILL COMMUNICATE PROPOSED NEW LANGUAGE BY SEPTEL. WOULD APPRECIATE REDSO RESPONSE ASAP, AFTER RECEIPT OF SEPTEL SO THAT HOPEFULLY AGREEMENT CAN BE SIGNED NLT FRIDAY AUGUST 16.

3. PLEASE CONFIRM RECEIPT THIS MESSAGE.

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O 141653Z AUG 85
FM AMEMBASSY ABIDJAN
TO AMEMBASSY BISSAU IMMEDIATE 3952
BT
UNCLAS ABIDJAN 13479

AMERICAN EMBASSY
15 Aug 85 07 36z
BISSAU
ACT AID
INFO AMB

AIDAC

E.O. 12356 N/A
SUBJECT: FOOD CROP PROTECTION III PROJECT (657-0012)
REVISION OF CP'S AND COVENANTS

REF: BISSAU 2026

1. REDSO/WCA CONFIRMS RECEIPT OF REFTEL.

2. RLA ADVISES USAID/BISSAU THAT IN ORDER TO MODIFY CP'S AND COVENANTS OF GRANT AGREEMENT, PROJECT AUTHORIZATION MUST FIRST BE AMENDED WITH REDSO CONCURRENCE THEREIN. AFTER PROJECT AUTHORIZATION IS DULY AMENDED, GRANT AGREEMENT CAN BE AMENDED, SUBJECT TO REDSO CONCURRENCE, IN ORDER TO MODIFY CP'S AND COVENANTS.

3. IN LIGHT OF PARAGRAPH 2 ABOVE, REDSO/WCA BELIEVES THAT A FRIDAY, AUGUST 16 SIGNING DATE MAY BE UNREALISTIC. THURSDAY AUGUST 15 IS A LOCAL HOLIDAY AND REDSO WILL BE CLOSED. HOWEVER, REDSO WILL MAKE EVERY EFFORT TO TAKE PROMPT ACTION ON THIS MATTER. CUNDIFF
BT
#3479

NNNN

TELEGRAM

[illegible] 85 13 42 z
BISSAU

INDICATE
☐ COLLECT
☐ CHARGE TO

FROM	CLASSIFICATION
AMEMBASSY BISSAU	UNCLASSIFIED

E.O. 11652:
TAGS:
SUBJECT:

ACTION: AMEMBASSY ABIDJAN IMMEDIATE

INFO: AMEMBASSY DAKAR

UNCLASSIFIED DISSAU 2046

ACTION:

ADM AID

FOR: REDSO/WCA

E.O. 12356: N/A
SUBJECT: FOOD CROP PROTECTION III, 657-0012:
NEGOCIATION/REVISION AND GRANT AGREEMENT

REF: BISSAU 2026

1. WE ARE PROPOSING TO THE GOGB THE FOLLOWING CHANGES TO THE DRAFT PROJECT GRANT AGREEMENT IN VIEW GOGB'S OBJECTIONS NOTED PARA 1, REFTEL. THE PROPOSED LANGUAGE CHANGES ARE AS FOLLOWS:

A. SECTION 4.1(c): A DOCUMENT IDENTIFYING A SENIOR STAFF MEMBER TO TAKE OVER THE FUNCTIONS AS ACTING DIRECTOR IN THE ABSENCE OF THE DIRECTOR.

B. SECTION 5.2: PARTICIPATION OF WOMEN. THE GRANTEE SHALL CONTINUE TO MAKE REASONABLE EFFORTS TO INCREASE THE PARTICIPATION OF WOMEN WITHIN THE CROP PROTECTION SERVICE AND IN THE ACTIVITIES OF THIS PROJECT.

C. SECTION 5.4 ECONOMIC REFORMS. THE GRANTEE AGREES TO CONTINUE WITH EFFORTS TO INCREASE THE PRODUCTIO

DRAFTED BY:	DRAFTING DATE	TEL. EXT.	CONTENTS AND CLASSIFICATION APPROVED BY
GLDANIELS,III	8/13/85		GUSSIE L. DANIELS,III AID REP

CLEARANCES:

ON INCENTIVES FOR FOOD CROPS.

2. WE WOULD APPRECIATE YOUR GIVING US, BY IMMEDIATE [redacted] CABLE, YOUR APPROVAL OF THE REVISED LANGUAGE NOTED IN PARA I ABOVE OR REDSO PROPOSED ALTERNATE LANGUAGE.

3. IT REMAINS OUR INTENTION TO SIGN THE GRANT AGREEMENT NLT FRIDAY, AUGUST 16, 1985.

MCILVAINE

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OO RUFHPRI
DE RUEHAB #3910 25-1614
ZNR UUUUU ZZH
O 221556Z AUG 85
FM AMEMBASSY ABIDJAN
TO AMEMBASSY BISSAU IMMEDIATE 3966
BT
UNCLAS ABIDJAN 13910

AIDAC

E.O. 12356 N/A
SUBJECT: FOOD CROP PROTECTION III PROJECT - NEGOTIATION/REVISION OF GRANT AGREEMENT.

REF: (A) BISSAU 2046; (B) BISSAU 2079; (C) ACCRA 5925

1. REDSO/WCA ACTING DIRECTOR, A. GORDON MACARTHUR, CONCURS IN MODIFICATIONS TO SUBJECT PROJECT AUTHORIZATION AND GRANT AGREEMENT AS PROPOSED IN REFTELS A AND B SUBJECT TO THE CONDITION THAT SUBJECT CP'S AND COVENANTS, AS MODIFIED, READ AS FOLLOWS:

- SECTION 4.1. (A) AND (B) - NO CHANGE.

- SECTION 4.1. (C) - A DOCUMENT IDENTIFYING A SENIOR STAFF MEMBER TO TAKE OVER THE FUNCTIONS AS ACTING DIRECTOR OF THE CROP PROTECTION SERVICE IN THE ABSENCE OF THE DIRECTOR.

- SECTION 4.2. - NO CHANGE.

- SECTION 4.3. - NO CHANGE.

- SECTION 5.1. - NO CHANGE.

- SECTION 5.2. - PARTICIPATION OF WOMEN. THE GRANTEE SHALL MAKE REASONABLE EFFORTS TO INCREASE THE PARTICIPATION OF WOMEN WITHIN THE CROP PROTECTION SERVICE AND ITS ACTIVITIES.

- SECTION 5.3. - NO CHANGE.
- SECTION 5.4. - PRODUCTION INCENTIVES. THE GRANTEE AGREES TO CONTINUE ITS EFFORTS TO INCREASE THE PRODUCTION INCENTIVES FOR FOOD CROPS.

- SECTION 5.5. - RECURRENT COSTS. THE GRANTEE SHALL ADDRESS IN A MEANINGFUL MANNER THE PROBLEMS OF RECURRENT COSTS IN PROJECT IMPLEMENTATION TO ENSURE THE EFFECTIVE CONTINUATION OF THE CROP PROTECTION SERVICE BEYOND THE PACD.

2. IT IS THE UNDERSTANDING OF REDSO/WCA THAT FORMER SECTION 5.4. ENTITLED QUOTE STATUS OF EMPLOYEES UNQUOTE HAS BEEN DELETED IN ITS ENTIRETY.

3. PLEASE SEND REDSO/WCA A COPY OF SIGNED GRANT AGREEMENT. CUNDIFF
BT
#3910

128

AMERICAN EMBASSY
3 AUG 85 07 41 Z
BISSAU
ACT AID
INOF AMB

126