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NEED TO REASSESS
AID'S STRATEGY FOR
FOOD CROP PROTECTION IN WEST AFRICA

Audit Report No. 7-625-84-5
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AID's long-term strategy to help reduce crop losses in West Africa is focused on improving the crop protection practices of food crop farmers through the introduction of integrated pest management techniques. To achieve this strategy, AID has provided assistance through the Regional Food Crop Protection project and Integrated Pest Management project. AID recognizes that it must reassess its strategy through an evaluation of both projects. The evaluation will aim at redirecting the projects' activities more toward applied research in crop protection at the farmer level. This report discusses the following issues, which the evaluation should address:

- constraints to integrated pest management related to pesticide usage;
- need for increased technical assistance at each participating country; and
- need for increased staffing on the Regional Food Crop Protection project.

The report also suggests ways to improve management of the Regional Food Crop Protection project.

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EXECUTIVE SUMMARY

Introduction

Food self-sufficiency by the year 2,000 is a major goal of the eight Sahelian countries of West Africa. Increasing agricultural productivity is AID's highest regional priority in supporting this goal. One way to increase agriculture production is by reducing food crop losses caused by pest epidemics and related diseases. Pest infestations have destroyed as much as 40 percent of the crop yields during a single season.

AID's long-term strategy to help reduce crop losses in West Africa is focused on improving the crop protection practices of food crop farmers through the introduction of integrated pest management (IPM) techniques. IPM is a pest control system which emphasizes cost effective, ecologically safe, non-chemical methods. Under IPM, chemicals (e.g. pesticides) are applied prudently and only when necessary. To achieve its strategy AID has authorized \$44.7 million for two major regional projects:

--- The Regional Food Crop Protection (RFCP) project, authorized in 1975, is primarily an institution-building project to help participating countries establish crop protection programs through the creation and/or strengthening of National Plant Protection Services (NPPS). Project assistance focused primarily on strengthening NPPS capabilities to extend IPM concepts and techniques to food crop farmers. As of April 1984, \$15.9 million had been granted, of which about \$10.9 million had been spent.

--- The Integrated Pest Management project started in 1977 to produce research results on priority pests that can be extended to farmers. In effect, this project develops IPM technical packages adapted to the needs of each country. By March 1984, about \$8.8 million of the \$28.8 million granted had been spent.

Purpose of Review

The purpose of our review was to assess the status of AID's strategy. To accomplish this we reviewed the RFCP project (Phase II) and, because of the linkage with IPM, we inquired into the progress and problems of that project. However, we did not audit the IPM project. In our audit of the RFCP project we focused on determining whether management was effective in achieving project goals to strengthen the host countries' institutional capabilities.

Findings

The RFCP project has made little progress in achieving its principal Phase II objective to extend IPM techniques to food crop farmers. This has occurred primarily because the IPM project has yet to develop technical packages adapted to the needs of each participating country. As a result, IPM has not become, and it is doubtful that it will become in the near future, a major portion of the host countries' programs to reduce (1) crop losses, and (2) pesticide usage.

The success of AID's long-term crop protection strategy in the Sahel depends on the linkage between research under the IPM project and institution-building under the RFCP project. Because of the poor timing and coordination problems in the two projects, this linkage has not been effective. AID plans to

reassess its strategy through an evaluation of both projects which will focus on consolidating the two projects.

We support AID's decision. However, if IPM techniques are to become part of the participating countries' crop protection programs, there are several obstacles which must be addressed in AID's evaluation. These obstacles include (1) changing the participating countries' and specifically the farmers' attitudes toward and dependency on pesticides, and (2) reducing the participating countries' rate of pesticide subsidization.

Even if the technical packages had been developed, we found that the participating countries do not have the capability to effectively deliver these packages to the farmer. Developing the institutional capability of the NPPS in each participating country is a major objective of the RFCP. The project has made progress in establishing NPPS's. However, we found that much remains to be done in developing the institutional capabilities of the participating countries. We found that the participating countries have made slow progress in developing their (1) training and extension programs, (2) management capabilities, and (3) technical capabilities. For example:

- In some participating countries extension agents are not receiving adequate training to extend crop protection techniques to the farmers.
- Adequate follow-up systems have not been established so that the NPPS can determine the effectiveness of its training and extension programs.
- NPPS's have given limited attention to crop protection practices aimed at determining (1) the percentage of crop losses by specific pests, and (2) the economic viability of chemical and non-chemical pest control methods.

Project implementation and management problems have slowed the development of the institutional capabilities of the host country NPPS. These problems occurred because of ineffective project management resulting from diffused management responsibilities and the lack of continuity in filling management positions. In addition, AID's arrangement with the U.S. Department of Agriculture to fill positions at the host country level has not been effective. As a result, we found that (1) sufficient and trained technical assistance staff was not provided, and (2) measurable project objectives and an effective management information system were not established. AID and the U.S. Department of Agriculture have taken positive steps to improve project monitoring and coordination.

Recommendations and Management Comments

As part of its evaluation of the RFCP and IPM projects, we recommend that AID's Africa Bureau evaluate the impact of the following matters on IPM development: (1) farmers' favorable attitudes toward pesticides, and (2) participating countries' pesticide subsidization policies. We also recommend they evaluate the need for increased (1) technical assistance at each participating country, and (2) project staffing. Regarding other management matters, we recommend that USAID/Senegal develop a management information system and establish measurable goals and objectives.

In response to our draft report, the Africa Bureau and USAID/Senegal generally agreed with the focus of our recommendations. They are taking appropriate action to implement them.

BACKGROUND

INTRODUCTION

Food self-sufficiency by the year 2,000 is a major goal of the eight Sahelian^{1/} countries of West Africa. The food production sector, involving the majority of the people, has the potential to make a significant impact on rural incomes and living standards. Increasing agricultural productivity is AID's highest regional priority in supporting this food self-sufficiency goal. To achieve this, AID is involved in a long-term assistance effort which emphasizes agricultural research, institutional development, and structural and policy reforms. AID provides assistance in several ways, including regional projects when more than one country can benefit and/or there is a common sharing element to the project.

One way to increase agricultural production is by reducing food crop losses caused by pest epidemics and related diseases. In the Sahel and surrounding areas, pest infestations have destroyed as much as 40 percent of crop yields during a single season. AID's long-term assistance to help reduce crop losses is focused on improving the crop protection practices of food crop farmers. AID has provided assistance through two major regional projects:

--The Regional Food Crop Protection Project (RFCP), authorized in 1975 as a three-phase, ten-year effort to help participating countries create and/or strengthen crop protection programs through the establishment of National Plant Protection Services (NPPS).

--The Integrated Pest Management (IPM) project started in 1977 to strengthen pest management research programs of national research agencies.

The RFCP is presently in the second of its three planned phases. During Phase I (1975-1978), the project helped (a) organize the NPPS's in Cameroon,^{2/} Cape Verde, Chad, The Gambia, and Senegal; and (b) construct regional training centers in Cameroon and Senegal. Two other countries, Mauritania and Guinea Bissau^{2/} entered the project near the end of Phase I. Phase II (1979-1984) was authorized to continue strengthening the NPPS's institutional capabilities and to implement and extend IPM concepts and techniques to food crop farmers. IPM is a pest control system which emphasizes cost effective, ecologically safe non-chemical (biological) methods. For example the introduction of a natural enemy is one means of non-chemical pest control. Under IPM, chemicals (e.g. pesticides) are applied prudently and only when necessary. IPM is considered an alternative to the increasing use of chemicals which could be harmful to humans and/or the environment.

The objectives of Phase II of the RFCP are:

1/ Cape Verde, Chad, The Gambia, Mali, Mauritania, Niger, Senegal, and Upper Volta.

2/ Cameroon and Guinea Bissau are not Sahelian countries. They are included in the RFCP because they contain areas of arid subsistence agriculture similar to the Sahel.

1. To encourage and facilitate the extension of IPM concepts and techniques to food crop farmers by:
 - a. strengthening the organization, training and equipping of the National Plant Protection Services (NPPS) in each of the participating countries;
 - b. developing and strengthening a system for extension to farmers of IPM concepts and techniques, using training and demonstration; and
 - c. using national agricultural extension cadre and agricultural training facilities as elements in the above system, including training of those cadres in IPM concepts and techniques, and incorporating such training in institutional curriculums.
2. To strengthen the capacity of the NPPS's to anticipate pest infestations, resurgences and other pest crises through surveillance and applied technology capability.
3. To strengthen the capacities of the NPPS's to combat and control pest infestations of major threat to food crops which are beyond the control capacity of individual farmers.

The success of AID's long-term crop protection strategy in the Sahel depends upon the linkage between the RFCP and IPM projects. The purposes of the IPM project are to (a) help establish and strengthen Sahelian institutional capacity to carry out IPM research, and (b) produce research on high priority pests that can be extended to farmers in Sahelian countries. In effect, the IPM project integrates physical, biological, and chemical pest controls into IPM technical packages adapted to the needs of each country. The RFCP project develops host country institutional capabilities so they can train personnel on the IPM technical packages and extend the benefits of these packages to the farmer. The successful adoption of these packages should increase domestically produced crops available for local consumption.

AID has authorized \$44.7 million for the RFCP and IPM projects. Of this, IPM accounts for \$28.8 million and RFCP for \$15.9 million. Expenditures amounted to \$8.8 million at the end of March 1984 for IPM and \$10.9 million for the RFCP project at the end of April 1984. RFCP Phase I accounted for \$3.8 million and Phase II \$7.1 million. RFCP funding was used for construction, technical assistance, commodities, training, and operating costs.

RFCP Phase II was originally authorized for a three-year period ending June 30, 1982. It has been extended twice to September 30, 1984. The RFCP is monitored out of a project office located in the USAID Mission in Senegal. Since May 1982, the RFCP has been managed by the U.S. Department of Agriculture (USDA) through a series of personnel on temporary assignment, and since January 1984 by a permanent project manager located in Dakar, Senegal. The USDA, through a Participating Agency Service Agreement (PASA) with AID, has been responsible since 1976 for filling the training officer and country project officer positions.

OBJECTIVES, SCOPE AND METHODOLOGY

We wanted to assess the status of AID's strategy to help protect food crops in the participating countries. To do this, we reviewed the RFCP project (Phase II) and, because of the linkage with IPM, we inquired into the progress and problems of that project. We did not audit the IPM project.

In our audit of the RFCP project we focused on determining whether:

- The project was meeting its objectives and goals. Because the RFCP is primarily an institution building project, we evaluated how the project has helped develop and strengthen host country crop protection programs.
- AID funds were expended properly and in compliance with AID's policies and procedures.
- Project management was effective and efficient.

Our examination included a review of RFCP, AID, and host government records, as well as discussions with appropriate officials of these agencies. In addition, we talked with farmers who are expected to benefit from the project. We also spoke with Government of Senegal and USAID/Senegal officials who are involved with the IPM project. We reviewed various evaluations and reports on the IPM project.

The audit included a review of and visits to selected regional activities in Dakar, Senegal, and crop protection programs of The Gambia, Guinea Bissau and Senegal. These countries account for \$4.5 million of the \$7.1 million spent under Phase II. We also discussed the crop protection program with USAID officials in Cameroon.

We followed up on the findings and recommendations in a 1981 AID Inspector General Audit Report^{1/} dealing with local currency expenditures under the RFCP and IPM projects in The Gambia.

We tested the internal control systems at the RFCP project, AID and host government levels. Our review was made in accordance with the Comptroller General's Standards for Audit of Governmental Organizations, Programs, Activities and Functions.

We made our review between December 1983 and May 1984.

^{1/} "Memorandum on Audit of Local Currency Expenditures - Food Crop Protection and Integrated Pest Management Projects in The Gambia; Audit Report No. O-635-81-61 dated March 27, 1981.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

OBSTACLES IN THE DEVELOPMENT AND USE OF INTEGRATED PEST MANAGEMENT

The RFCP project was originally envisioned as a three-phase, ten-year effort. By the end of Phase II in September 1984, the first two phases will have used over eight of these years. Even though the first two phases covered a longer time period than planned, the project has made little progress in achieving the primary Phase II objective: extending IPM techniques to food crop farmers.

The IPM project has yet to develop IPM techniques to any appreciable extent. As a result, IPM has not become, and it is doubtful that it will become in the near future, a major portion of the host countries' program to reduce (1) crop losses, and (2) pesticide usage. AID plans to reassess its crop protection strategy for West Africa by performing an evaluation during the period October-December 1984. The evaluation will aim to improve AID's crop protection program by establishing better linkage between the RFCP and IPM projects. We support AID's move in this direction; but we also believe there are major constraints to IPM development and use which AID needs to consider in its evaluation.

Need to Improve Linkage Between the RFCP and IPM projects

IPM is the control of pest populations with ecologically sound techniques which maximize the use of non-chemical methods. These techniques include introducing natural enemies, pest-resistant seed varieties, crop rotation, soil tillage, and destruction of crop residues. IPM also includes the ecologically safe and efficient use of chemicals through pesticide application (1) of the correct type, (2) in the proper amounts, and (3) at the right time. In effect, it is hoped that the introduction of non-chemical IPM techniques in conjunction with chemical IPM techniques will result in a reduction of pesticide use.

The IPM project is responsible for developing a technical package adapted to the needs of each participating country in the Sahel. After six years, no such package has been developed. Numerous experts say that it will be 1986 or 1987 before a technical package is produced. The primary purpose of the RFCP project in Phase II is to encourage and facilitate the extension of the IPM techniques developed through the IPM project. Therefore, the two projects are linked and are key elements to the success of AID's crop protection strategy in West Africa.

USAID officials told us that, at AID/Washington's insistence, the RFCP project started three years before the IPM project. Due to technical, administrative and design problems, the IPM project was extensively revised in August 1983. Consequently, the RFCP project has been proceeding for over eight years without providing the required training and extension of IPM techniques.

The only new IPM technique currently being used by the RFCP project is the biological control of the cassava mealybug which attacks the tropical cassava plant. This technique was developed by the International Institute for Tropical Agriculture and uses wasps as the natural enemy to kill mealybugs. Although several RFCP participating countries are utilizing this technique, its effectiveness is still uncertain.

The first linkage between the RFCP and IPM projects to develop IPM techniques began in April 1984 through a pilot project in three villages in The Gambia. Research will be conducted on weeding techniques, fertilizer use, and traditional pest control techniques in order to determine where changes can be made that will positively affect crop production. Results from this pilot project will not be available for at least one more year.

A 1981 evaluation of both the RFCP and IPM projects recognized the need for closer coordination of their activities. Although the IPM project had not yet developed the new IPM technical packages, the 1981 evaluation concluded that the RFCP project should extend existing traditional crop protection techniques to farmers. However, we found that poor coordination between the host country institutions responsible for implementing the RFCP and IPM projects has further delayed IPM development.

For example, NPPS officials in Senegal told us that they are waiting for the IPM project to develop new techniques for extension to farmers. Senegal IPM project officials told us that although they have not developed an IPM technical package for Senegal, they have published approximately 200 techniques focusing on both traditional and chemical means. However, they acknowledged that these techniques must be field-tested and demonstrated by the RFCP project. Senegal RFCP project officials, who have had only limited contact with IPM officials, told us they expected the IPM project to field-test and demonstrate IPM techniques. As a result, the RFCP project in Senegal has performed only a small amount of pilot testing and demonstrations. On the other hand, the Senegal NPPS has performed research on new IPM techniques, which is the responsibility of the IPM project. This research was performed mainly by contractors, who were assisted by NPPS personnel.

At the completion of our audit, AID had not approved any future assistance to the RFCP project beyond September 30, 1984. AID/Washington plans to further extend the project until December 31, 1985. This extension would be funded by redirecting a portion of the IPM project funds to the RFCP project. For the long term, 1986 and beyond, an AID/Washington "West Africa Pest Management Task Force" recognized that the activities of the RFCP and IPM projects might be better coordinated by consolidating the two projects.

In order to determine the future direction of AID's pest management program in West Africa through a consolidated project, AID plans to make an evaluation of the projects in October-December 1984. We understand the evaluation will focus on redirecting the projects' activities more toward applied research in crop protection at the farmer level. This redirection is consistent with AID's strategy for crop protection in West Africa.

However, as discussed below, we believe there are serious constraints to IPM, related to pesticide usage, which AID needs to consider in its evaluation.

Farmer Attitudes

Farmers must be convinced that they should use IPM techniques instead of, or as an adjunct to, pesticides. The 1981 evaluation of both projects concluded that the RFCP project had not shown significant progress in extending IPM technology to farmers. The evaluation recommended that the RFCP project extend traditional non-chemical methods until the IPM project develops new IPM

techniques. The NPPS's are still developing training curriculums directed at those methods. From our discussions with over 100 farmers in Senegal and The Gambia, we concluded that they prefer pesticides over traditional non-chemical methods because pesticides are effective, while the other methods are not. In fact, both host country officials and farmers stated that IPM, or any other new pest control method, will not be used unless it is as effective as pesticides.

In commenting on our draft report, USAID/Senegal stated that IPM methods are usually aimed at preventing pest populations reaching an "emergency state." Once an emergency situation occurs, control measures are needed which work quickly. In most cases, this means the use of pesticides. We acknowledge that IPM is not a complete alternative to pesticides, especially in emergency situations. We believe, however, that unless the farmers' favorable attitudes towards pesticides change, it is doubtful that IPM will become a significant factor in preventing pest infestations.

Subsidies for Pesticides

The 1981 evaluation also concluded that the most harmful impediment to IPM in West Africa was the continued host country emphasis on increased pesticide usage. Officials in several participating countries told us that pesticide use is increasing because the farmer accepts it. This is understandable because in the three countries visited, pesticides were provided free of charge. Therefore, the farmers have little incentive to use any other pest control method. In fact, the effectiveness of pesticides is so well known that the majority of farmers we talked with stated that they would be willing to pay for pesticides.

The NPPS director in Senegal said his country is now only using the minimum amount of pesticides needed, but added that if Government of Senegal funds were available, pesticide purchases and usage would increase sevenfold.

Even when developed, several USAID, USDA and host country officials questioned whether IPM is a viable alternative to pesticide use. Chemicals are a proven, effective method in both the developing and developed world. Some officials believe the project design over-estimated IPM's potential. A commonly raised question is: how does AID expect implementation of IPM techniques at the subsistence farmer level in West Africa when it is not commonly used in the United States? It may be over-ambitious to expect uneducated farmers to use IPM, which can be quite complicated, over pesticides, which are generally applied and subsidized for the farmer.

Conclusions and Recommendation

IPM techniques adapted to the needs of each participating country will probably not be developed for at least several more years. As a result, the RFCP has been on-going for over eight years without providing the required IPM training and extension. The linkage between the research aspects of the IPM project and the IPM implementation/institution-building aspects of the RFCP project is very important if AID is to achieve its long-range crop protection strategy in West Africa. Due to poor timing and coordination problems in the two projects, this link has not been effective.

AID plans to address this matter through an evaluation of both projects which will focus on consolidating the two projects into one. Through a combined project, AID intends to redirect efforts toward AID's original crop protection strategy in West Africa -- development of more applied research activities in crop protection at the farmer level.

We support AID's decision. However if IPM techniques are to become part of the participating countries' crop protection program, there are several obstacles which must be addressed. These obstacles include (1) changing the participating countries' and specifically the farmers' attitudes toward and dependency on pesticides, and (2) reducing the participating countries' rate of pesticide subsidization.

Accordingly, we recommend that:

Recommendation No. 1

Bureau for Africa, Office of Sahel and West African Affairs, in the evaluation of the RFCP and IPM projects, determine how AID can deal with the following constraints to integrated pest management development:

- participating countries' and farmers' favorable attitudes toward and dependency on pesticides, and
- participating countries' pesticide subsidization policies.

Management Comments

The Africa Bureau agreed to include the two pesticide constraints to integrated pest management development in the scope of work for the evaluation team.

USAID/Senegal comments are also addressed in the text of the report.

RIG/A/Dakar Comments

We are retaining the recommendation until the evaluation addressing these pesticide issues is completed.

NEED TO FURTHER DEVELOP THE INSTITUTIONAL CAPABILITY OF THE NATIONAL PLANT PROTECTION SERVICES

Even if IPM technical packages adapted to the needs of each participating country had been developed, we found that these countries do not have the capability to effectively deliver these packages to the farmer. Developing the institutional capability of the NPPS in each participating country is a major objective of the RFCP. The project has made progress in helping the participating countries to establish NPPS's through participant training, construction, and technical assistance. Although the basic NPPS organizational structure has been established, we found that much remains to be done in developing (1) training and extension programs, (2) management capabilities, and (3) technical capabilities, before the RFCP can be considered successful in meeting its institution-building objectives.

We found that the lack of adequate and timely technical assistance to each of the participating countries is a major reason for the limited progress in developing NPPS institutional capabilities. Therefore, we believe that AID's future assistance to this project should emphasize technical assistance which focuses more on individual country needs.

The USDA, through a PASA arrangement, is responsible for providing technical assistance to the participating countries. We discuss problems with this arrangement in the following section of this report.

Training and Extension Programs

Project training facilities have not been used to provide training on a regional basis as planned. Thus, a heavier burden than expected was placed on participating countries to develop their own in-country training program. This development was slow due to limited technical assistance by (1) the project's technical assistance team and (2) the regional training centers. As a result, in some countries extension agents have not received adequate training to allow crop protection techniques to be passed on to farmers.

The project funded construction of two regional training centers in Dakar, Senegal and Yaounde, Cameroon. This is one of the project's principal regional aspects. However, the centers were utilized predominantly for national rather than regional training needs. For example, the Dakar Training Center (DTC) in Senegal was expected to train personnel from five other countries. Our review at the DTC showed that from 1979 to 1983 only 27 percent of the trainees were from countries other than Senegal, and only eight percent of total course time was spent on regional programs. The DTC was not used more for regional training because it did not have the trained instructors and written materials in the languages (English and Portuguese) of the other countries. The senior DTC instructors now have the capability to instruct in English but not Portuguese. Even with this capability, the DTC has provided limited training in English.

The project agreement also required the DTC to assist the participating countries in developing their crop protection programs. NPPS personnel in several countries told us they received little assistance from the DTC in developing (1) training curriculums, (2) training materials, and (3) data collection procedures. The lack of DTC assistance and, more importantly, the shortage of country project officers is a prime reason the participating countries have been slow in developing their training programs.

For example, the DTC and The Gambia are still developing curriculums focusing on non-chemical IPM techniques. The need for this emphasis was previously raised in the 1981 evaluation. In the past, courses developed by these countries concentrated on pest identification and safe use of pesticides. Only general references were made to the use of non-chemical IPM techniques. This is understandable, in part, because the IPM project has not provided the anticipated IPM technical package for extension. However, some traditional IPM techniques are known, while others are known but have not been tested or demonstrated. Lacking technical assistance, NPPS personnel were uncertain as to what an IPM course should focus on. Five years after joining the project, Guinea Bissau is currently finalizing its training curriculum. This country was without a country project officer for over two years.

USAID/Senegal stated that Guinea Bissau lacked a country project officer for such a long period of time in part because the Government of Guinea Bissau did not agree to the placement of a country project officer until sometime after the bilateral agreement was signed. USAID/Senegal could not tell us the length of the time gap between the project agreement and the government's request for a country project officer.

The 1981 evaluation concluded that the project failed to show progress in developing and strengthening a system for extending IPM technology to the farmers. If this situation continued, the evaluation further concluded that any IPM technology that may develop under the IPM project will remain at the experimental level if an extension system is not established. We found some progress being made in establishing extension systems in some countries, but further development is needed.

One of the ways the project expected to encourage extension of IPM concepts to farmers was through the:

"Utilization of national agricultural extension cadre and agricultural training facilities as elements in the above system, including training of those cadres in IPM concepts and techniques, and incorporating such training in institutional curriculums."

The NPPS in The Gambia and Guinea Bissau have extension agents assigned directly under their responsibility. The Gambia is making the most progress in reaching farmers because their agents have received training over several years. Guinea Bissau has made less progress because its agents have only recently received training on pest identification and survey techniques. Lack of transportation and fuel further constrained Guinea Bissau's efforts. The NPPS in both countries provided limited training to the other agricultural extension agencies in their respective countries. The need to train these other agencies is imperative if the crop protection programs are to be disseminated country-wide.

In Senegal, the NPPS has no extension agents of its own. The Government of Senegal created parastatal agencies specialized in agricultural extension services in the various provinces. Technicians in these agencies are organized to work closely with farmers and, in our view, should have been the DTC's primary target for training in crop protection. Instead, the training mainly focused on Ministry of Rural Development personnel holding positions at

the higher level who are not directly involved in providing extension services. Generally we found that these personnel were not passing on their training to the individuals who have contact with the farmers.

The DTC was under-utilized in meeting not only regional but also Senegal's national training needs. Project officials told us that they established an informal goal to use the DTC 26 weeks per year for training. Against that criteria, we found that the DTC was used only 37 percent of the available time between 1979 and 1983. Of the approximately 2,600 extension agents in Senegal, the DTC has trained only eight percent. This percentage could be inflated because, based on DTC records, we could not determine if the agents received training more than once. Use of the DTC for project training is not improving in 1984. Of the scheduled eleven training weeks, only three are directed towards Senegal's extension agents. During these three weeks, 44 of the expected 60 agents attended the courses.

Project and NPPS officials cited the following reasons as to why the DTC was not used more for project training:

- lack of technical assistance to develop training curriculums and training schedules;
- lack of qualified instructors;
- inadequate host government funding; and
- uncertainty over future AID funding.

In responding to our draft report, USAID/Senegal made the following comments about the training program in Senegal.

"In terms of who should be trained first the audit is critical of the top down approach. While this can be subjected to considerable discussion the projects effort was to first work with senior personnel then move to their subordinates who have greater contact with farmers. Programs that begin in reverse tend to fail for lack of management support. While top down takes longer its chances for program success tend to be greater over the long term due to management understanding and involvement."

"While use of the DTC for training may not improve in 1984 what is expected to improve is the number of hours of training provided overall by the DTC staff. More emphasis is being placed on conducting programs away from the DTC. These will tend to be more cost effective and can reach greater numbers of government workers who work more closely with farmers than those CPS (NPPS) participants and Sector Chiefs who have normally attended DTC programs in Dakar. We would also like to note that there are two aspects to DTC training. The first deals with the training of NPPS staff and those who most directly interface with them. The second involves the extension agents and their work with farmers. It is agreed the second aspect has not received as great an emphasis as the first. This is for the very reasons cited in the audit: lack of IPM results."

We agree that programs which are supported by top management have a better chance of success. But, in our opinion, after five years of project training in Senegal, it is time for that training to reach the farmer.

We also recognize that the DTC intended to perform more training away from the DTC in 1984. We found that this training was originally directed at other levels besides extension agents. We commend the effort to reach government workers who have contact with farmers. However, we do not see how such training away from the DTC can be as effective as training at the DTC. The DTC has classrooms, living facilities, equipment, and materials. Since concentrated classroom instruction was provided to top management, we believe that such training is even more important for extension agents who must teach what they learned to farmers. We believe training away from DTC should be directed at following up on those individuals who have received classroom instruction at the DTC.

Management Capabilities

The RFCP is funding the participant training of host country personnel at both the bachelor's and master's degree level in the United States. This training is focusing on technical areas such as plant pathology and entomology. These participants are returning to their countries and assuming positions of responsibility requiring management skills. However, they and other individuals occupying management positions have received little management training from either (1) college courses or (2) RFCP technical assistance. As a result, we found many areas in which basic management practices were not performed.

For example, a follow-up system is essential so that the NPPS can determine the effectiveness of its training and extension programs. The system should provide information in determining (1) how well the trainees learned what they were taught, (2) what these trainees did with their training and (3) if the training was extended to and used by the farmer.

We found that the follow-up systems need improvement in all three countries visited. This was especially evident in Senegal. Officials at the Senegal NPPS and the DTC could not provide information in many cases concerning (1) who attended a particular training session, (2) the location of the trainee (3) the course taught during a training session, and (4) trainee test results. DTC and NPPS personnel rarely visited the trainees for the purpose of follow-up. As a result, NPPS and DTC officials were not aware of several significant issues. For example, our visits to the trainees and farmers disclosed:

- Trainees were not extending their training to the agents who have contact with the farmers.
- Limited crop protection training is being provided to farmers.
- Trainees believe the training courses provided too much technical information in too short a period of time.
- Farmers prefer pesticides which are effective to traditional IPM techniques which are not effective.

The Senegal NPPS and DTC Directors stated that the need for a follow-up system was not emphasized by the project technical assistance group.

The lack of an adequate management information system at the NPPS level is another management issue which needs to be addressed. Without this system, the NPPS does not have the information to determine the project's impact in reducing crop losses, increasing farmer income, increasing crop production, and reducing pesticide usage. The information system should also tell the NPPS if the training is reaching the ultimate beneficiary -- the farmer.

NPPS officials in both Senegal and The Gambia informed us that the project's technical assistance group provided little management assistance, as needed, to establish or strengthen follow-up and management systems. They stated that they were not prepared to assume positions which required management skills in supervising personnel and in establishing and administering training and extension programs and management control systems.

The current regional project manager, who assumed his position in January 1984, stated that in the past some RFCP project officials did not emphasize developing NPPS management and technical capabilities. To help address this problem, the RFCP held a two-week management training session in May 1984 for selected NPPS management personnel. This training, which is long overdue, is a good start. However, in our opinion, technical assistance is still needed to provide on-the-job management training to NPPS personnel. The current regional project manager is more management oriented than his predecessors and recognizes the need for such assistance.

Technical Capabilities

The project agreements emphasized the need for the NPPS's to perform various crop protection practices. However, the NPPS's gave little attention to these practices, mainly because their personnel were not adequately trained. For example:

- Crop loss assessments are necessary to determine the percentage of losses by specific pests related to specific crops in a geographical area. However, in the three countries reviewed, only three assessments have been initiated and none finalized. These assessments were performed mainly by contractors and Peace Corps personnel, with some assistance from host country personnel.
- Economic threshold analyses are necessary to determine the levels at which different means (chemical and non-chemical) become economically viable for all major crops and key pests. This practice has received only limited attention by some of the NPPS's in the participating countries.

The NPPS's were making varying degrees of progress in performing technical practices which require less technical assistance than the crop loss assessments and threshold analyses discussed above. For example:

- Project documents specified that information on non-chemical pest control methods should be assembled and used in pilot extension programs, including testing and demonstration of IPM methods at the village level. Gambia has been performing village-level demonstrations for several years. Guinea Bissau is just starting such demonstrations, while the Senegal NPPS has made very little progress.

--It was expected that the project would assist the NPPS's in developing their capability to anticipate pest infestations, resurgences, and other pest crises. One way to anticipate pest infestations is through data collection to determine the (1) type of pests (2) level of infestation, and (3) type of infested crops. The Gambia and Guinea Bissau have taken initial steps to collect such data. Senegal has yet to establish a data collection system.

Project personnel and participating country officials stated that the project was overambitious to expect the NPPS's to perform these practices without a concentrated technical assistance effort.

In responding to our draft report, USAID/Senegal agreed that the NPPS's gave limited attention to various crop protection practices because they lacked the trained staff. USAID/Senegal further stated that the lack of trained staff occurred because the NPPS personnel who were key to carrying out these practices were absent for extensive periods of time while in the U.S. for academic training. But even after these individuals had returned to their countries for a period of time, we found that like their associates who remained in-country, they lacked the necessary training.

In some cases we found that NPPS officials were not aware of project requirements to perform crop loss assessments, economic threshold analyses, pilot demonstration programs, and pest surveys. In our opinion, it was the responsibility of project technical assistance personnel to (1) emphasize the importance of and (2) develop NPPS capabilities to perform such practices.

Conclusions

The RFCP is mainly an institution-building project to strengthen NPPS capabilities to (1) extend IPM concepts to food crop farmers (2) anticipate pest infestations, and (3) combat and control pest infestations. The organization of an NPPS in the participating countries has basically been accomplished. Even though AID's assistance to the RFCP started over eight years ago, there still is much to be done before the project can be considered a success in developing host country institutional capabilities.

Management Comments, RIG/A/Dakar Response and Recommendation

In order to develop the participating countries' institutional capabilities, our draft report contained a recommendation that USAID/Senegal provide technical assistance to each participating country directed at improving 1) training and extension programs, 2) management capabilities, and 3) technical capabilities.

In response to our draft report, the Bureau for Africa, Office of Sahel and West African Affairs, stated:

"Recommendation No. 2, 3, and 4: We, too, have already recognized these problems as indicated by our decision earlier this year to forego (a) any Phase III effort in support of RFCP and (b) any additional funding or, for that matter, continuation of the activity beyond monitoring the phase-down and closure of current RFCP activities. We have also questioned the reasonableness of the project's stated goals, e.g., acceptance of non-pesticide methods, and determined that neither of current projects is

as presently designed, managed and implemented, an effective vehicle for realizing the objectives we have established regarding pest research and extension in the Sahel."

"The Africa Bureau's decision to undertake, this year, a major evaluation of the two (IPM and RFCP) projects with the intention of restructuring our entire approach to pest research and extension by FY 86, makes it impossible to respond fully to the audit's recommendations, until such time as the evaluation has been completed, reviewed in AID/Washington, and -- assuming evaluation results so allow -- a redesigned project incorporating audit and evaluation findings developed, i.e., mid-FY 85."

"Except for Rec. No. 1 for which the soon forthcoming scope of work (SOW) will be responsive, we believe in view of the above, that Rec. Nos. 2-4 are not actionable within the prescribed six-month audit compliance timeframe. Although they, too, will be addressed in the SOW. Based upon receipt of an adequate SOW which proves responsive to the underlying audit concerns, RIG/A perhaps can consider deleting the recommendations from the final audit report. Alternatively, RIG/A could consider deferral of final report issuance combined with re-wording of recommendations so that they become actionable after the evaluation is completed."

In view of the RFCP's uncertain future pending the results of the evaluation of both projects, we recognize that providing technical assistance at this time may not be the most efficient use of the available funding resources. We agree with the Africa Bureau plans to include in the evaluation's scope of work -- the need for technical assistance. Accordingly, we have redirected the recommendation at the Africa Bureau instead of USAID/Senegal in order to ensure that the evaluation team determines the need for technical assistance to each of the participating countries.

USAID/Senegal comments are also addressed in the text of the report.

Recommendation No. 2

Bureau for Africa, Office of Sahel and West African Affairs, evaluate the technical assistance needs of each participating country in the Regional Food Crop Protection project in developing their (a) training programs and training curriculums, (b) crop protection extension programs, (c) follow-up systems on training and extension, (d) management systems and procedures, and (e) technical capabilities such as crop loss assessments, economic threshold analyses, pest surveys and demonstration programs.

PROBLEMS IN PROJECT IMPLEMENTATION AND MANAGEMENT

Project implementation and management problems have slowed the development of the institutional capability of the host country NPPS. We found that:

- sufficient and trained technical assistance staff was not provided; and
- measurable project objectives and an effective management information system were not established.

These problems occurred because of ineffective project management resulting from diffused management responsibilities and the lack of continuity in filling management positions. In addition, AID's PASA arrangement with USDA has not been effective in assuring adequate technical assistance.

AID has recently better defined the relationship between the RFCP project personnel and the individual AID missions. This should improve coordination and project management.

Technical Assistance Problems

Inadequate staffing through PASA arrangements with the USDA has been a continuous problem since project inception. Key positions were either unfilled for lengthy periods, or filled by inexperienced personnel. In some cases, one person occupied several positions at the same time. This contributed to inabilities in performing the required technical assistance and in monitoring the project.

To achieve the project objectives, AID entered into a PASA agreement with the USDA to provide qualified personnel who are responsible for (1) monitoring U.S. assistance, and (2) providing technical assistance to the participating countries. The project paper and PASA identified key positions to perform the following major responsibilities:

- The Regional Training Officer assists and advises the Regional Project Manager (RPM), Country Project Officers, and NPPS directors in identifying the project's training needs. He assists in: (1) planning and implementing training classes, (2) developing in-country training programs, and (3) developing farm-level pilot extension and training programs.
- The Country Project Officers (CPO) are to be assigned to each participating country serving as advisors to the NPPS directors on crop protection techniques, IPM techniques and alternatives to chemical control, and management matters. They are also responsible for monitoring AID assistance to each country and reporting on progress toward project purposes and goals.

We found that the RFCP project has been continuously understaffed. From 1976 to March 1984, CPO positions were filled on average less than 50 percent of the time. For example, for fiscal years 1977-1978 Senegal's CPO covered anywhere from three to four countries at the same time. This was reflected in his performance, which was considered poor by both RFCP and host country

officials. After he left the country in late 1978, the CPO position in Senegal remained vacant until late 1981.

When key positions were filled, some individuals lacked the necessary work experience and management skills. For example, in September 1981 a former Peace Corps Volunteer with limited managerial experience filled the vacant CPO position in Senegal, as well as being responsible for serving The Gambia. For about a seven-month period, this individual occupied simultaneously the RPM, regional training officer, as well as the Senegal and Gambia CPO positions. He informed us that his effectiveness was seriously impaired because his time was spread too thin among these various positions. In addition, he stated that he did not have the necessary managerial background. Our review of project documentation and discussions with project personnel disclosed that other personnel have also lacked the necessary work experience and management skills.

A lack of adequate personnel still exists today. The current RPM is also occupying the regional training officer position and CPO positions for Senegal, The Gambia and Cape Verde.

In its response to our draft report, the Office of the AID Representative in Guinea Bissau stated:

"Country Project Officer (CPO) feels that Phase II design team failed to realize the complexity of the (project) tasks and severely understaffed the project. The frequent need to have one staff member assume several positions has only aggravated the situation."

USDA officials attribute the problems in project staffing to (1) indecision on the part of AID to approve the RPM's job description and extend the project completion date, (2) AID regulations on medical and security clearances, and (3) the lack of technicians with adequate language proficiency and the time needed for language training.

USAID and USDA officials agreed with us that the unfilled positions and the lack of personnel with technical and managerial skills largely contributed to the slow progress in furthering the institutional capabilities of the NPPS's.

In USAID/Senegal's response to our draft report, USDA officials believed that we were too critical of USDA's role in filling the country project officer positions. In addition to the various reasons listed above, they stated that the failure of the regional project managers to request the filling of vacant positions in a timely manner was also a major reason why the positions were not filled. For example, they stated that although the Senegal country project officer position was vacated in late 1978, the USDA did not receive a request to fill the position until August 1980. The USDA fills positions based on a request from the regional project manager. Since the regional project manager for the period January 1976 to May 1982 was either a USAID direct-hire or a USAID personal services contractor employee, they do not believe the USDA should be blamed for a gap in filling the position which was beyond their control. They also believed a similar situation may have occurred in other countries. However, we were unable to substantiate this situation because neither the USDA nor USAID were able to document when the USDA was requested to fill the Senegal or other country project officer positions.

For the period (May 1982 to the present) when USDA was responsible for managing the project, USDA officials in USAID/Senegal's response to our draft report stated that the uncertainty as to whether the project would continue was a prime reason for not filling positions in a timely manner. The project was first extended from June 1982 to June 1983 to September 1984. As a result of these year-to-year extensions, project officials had not initiated or they had delayed lengthy recruitment actions because they believed the project would end soon. We believe that these extensions demonstrate the need for a project evaluation so that AID can decide what it expects to accomplish in the project during a stated period of time.

Regarding the qualifications of some personnel, USDA officials in USAID/Senegal's response to our draft report gave details of the selection process and made the following comment:

"The reason for elaborating this process is to illustrate USAID actively participated in the selection process and in effect certified USDA nominations as qualified and acceptable. We also understand the RPM (an USAID employee) actually recruited several (4) of the CPO's declaring them to be highly qualified. With this in mind it may be difficult to build a case blaming the USDA for providing unqualified personnel unless some documentary evidence exists that the RPM objected to selections or USAID advised the USDA that the personnel they supplied were unacceptable. We aren't aware of any such documentation. In retrospect some of us, including probably the USDA, are inclined to agree that some of the CPO's were not as knowledgeable as would have been desired, and some who had the training and knowledge did not perform as well as might have been desired."

Need to Establish Measurable Objectives and a Management Information System

AID handbooks stress the need to continually assess project objectives and design. In order to do this, project goals and objectives should be stated in measurable terms, and milestones established so that actual progress can be compared to plans. Once objectives are so stated, management needs a system to obtain periodic information to effectively monitor the project. RFCP project objectives have not been clearly defined nor stated in measurable terms. Also, a management information system has yet to be developed to allow identification and correction of problems.

Measurable Objectives

The main emphasis of the RFCP project is to reduce crop loss and increase farmer income by strengthening NPPS institutional capabilities. The development of country specific programs is important because of differences in (1) management capabilities, (2) pest problems, (3) geographical size, and (4) financial and staff resources. We found that neither AID nor the USDA had established criteria for determining essential NPPS capabilities for each country.

Benchmarks and periodic milestones are necessary to evaluate project progress. However, such measurements were not established concerning the (1) number and types of participating country personnel to be trained, (2) number of courses and time required to train personnel, (3) number of necessary field demonstrations, (4) number of farmers to be reached, and (5) type of information to be passed on to farmers. Lacking both the criteria for NPPS capability and appropriate benchmarks and milestones, AID cannot determine the

extent of progress each country is making in achieving the project's institution-building objectives.

Management Information System

The RFCP is a complex regional project which demands a good management information system at several levels:

- regional project management must be kept informed of events in all participating countries;
- country project management must obtain timely and complete information from the host country NPPS; and
- the NPPS itself must collect and evaluate data on results of field tests, levels of infestation, etc.

Our review disclosed a need for a better management information system at all of these levels.

At the regional level the project paper and PASA required each CPO to submit monthly reports to the RPM in Senegal. However, more than half of the required reports were not submitted. Reports which were submitted generally lacked sufficient information to determine the progress and problems within each country. For example, we found little available data on:

- host country contributions;
- pesticide use;
- impact on farmer income, crop losses, and agriculture production; and
- effectiveness of NPPS training and extension programs.

As a result, the RFCP regional office did not have sufficient information to effectively monitor the project.

This same information was also lacking at the NPPS level. None of the three countries visited was collecting essential data to judge project progress. One way data can be collected is through field inspections and survey questionnaires to determine the (1) type of pests, (2) levels of pest infestation, (3) type of infested crops, and (4) soil conditions of the affected geographical area. The NPPS's in The Gambia and Guinea Bissau have recently started to collect some of this data. In the past, the Senegal NPPS has relied on surveys performed by other Government of Senegal employees. In 1984 the Senegal NPPS plans to take a more active role in these surveys.

We believe that staffing problems at the country level have been a major cause of these problems. Lacking CPO's, the project did not have the personnel in-country to (1) monitor the project, (2) provide the needed information, and (3) help establish a management information system at the NPPS level. We noted that the current RPM is making improvements at the regional office level. However, his efforts will be difficult to implement if adequate staffing is not provided at the participating country level.

We also believe that another contributing cause has been the lack of management expertise by USAID and PASA staff. The current RPM told us that previous project officials were more interested in the technical aspects of

the project and did not give enough effort to management systems. USDA officials told us that besides themselves, several USAID officials were displeased with the ineffective management by one former regional project manager who was hired under an AID contract. Based on his previous job history, we do not believe this individual had the work experience for the regional project manager position.

Improved Project Management Arrangements

Responsibility for RFCP project management was assigned at various times to either USAID or USDA personnel. At times, the regional project manager position was filled by various personnel for short periods of time. This led to confusion on the part of some country project officers (USDA employees) and some USAID employees as to who was responsible for project management.

In addition, until a new agreement was approved in August 1983, there was little involvement in the project by some AID missions. With this agreement, a more direct link has been established between the in-country PASA group and AID missions which should help improve project management and coordination. However, this improvement is hampered because of the lack of in-country PASA personnel to provide technical assistance and project management.

AID uses a variety of management arrangements in its regional projects. Some projects are assigned to AID/Washington headquarters. Others are assigned to an AID mission, international organization, institutional contractor, or another U.S. agency through a PASA. The RFCP project paper assigned primary responsibility for administering U.S. assistance to the regional project manager (RPM). Specifically, the RPM is responsible for (1) monitoring AID financed inputs and disbursements, (2) monitoring the PASA team's performance in attaining project purposes and program goals, and (3) assisting host governments on plant protection matters, including problem identification and plans to resolve them.

During the period January 1976-May 1982, the RPM was filled by either a USAID direct-hire or a USAID personal services contract employee. From May 1982 until January 1984 the USDA assumed responsibility for project management through a series of five different individuals serving in the RPM position. According to USAID and USDA officials, this lack of continuity in the RPM position occurred because of:

- delays in AID and USDA reaching agreement on the job description;
- the lack of PASA funds;
- the failure of AID/Washington to extend the project completion date in a timely manner; and
- the reluctance of AID/Washington at times to fill the RPM position.

In January 1984 the USDA and AID provided continuity to project management by assigning a USDA employee as the full-time regional project manager. We found that this individual, who has previous experience with the RFCP project, is taking action to correct the management problems previously discussed.

Because of the lack of assigned responsibilities in the project paper and other project documentation, we found in the past that some AID missions had little involvement in the project. Therefore, USAIDs were found to be generally unaware of project problems. In some cases, this occurred because of the inadequate in-country staffing to report problems. Even when aware, the USAIDs did not always act to resolve the problems.

For example, the RFCP staffing problem in Senegal was evident for a long period of time. One individual with limited management experience was acting simultaneously in three different positions. Because USAID/Senegal responsibilities and the extent of its involvement in monitoring the RFCP project were not clearly defined, Mission officials did not intervene. The staffing problem has only been partially resolved with the assignment of an experienced RPM in January 1984. However, the new RPM is also holding several positions at the same time and, as far as we could determine, few corrective measures have been taken by USAID/Senegal.

Another example is the assignment in April 1982 of a Peace Corps Volunteer as the training officer for The Gambia NPPS. Although the volunteer's experience in education was limited, he did not receive sufficient guidance from the RFCP or USAID on his specific responsibilities. The in-country project officer located in The Gambia departed prior to the volunteer's arrival and, as yet, has not been replaced. After holding the training officer's position for about two years, this individual told us that he is uncertain if he is doing what is required. His course content and method of presentation have not been evaluated. Lacking a CPO, the channels of communication between the training officer and USAID were not operating effectively. Thus, USAID was unaware of the problem and did not take steps to intervene. Furthermore, lacking a defined role, USAID did not attempt to either fill the vacant CPO position or assume a greater project role itself.

In responding to our draft report, the Office of the AID Representative in Gambia made the following comment:

"Regarding discussion of Peace Corps volunteer assigned as training officer to Gambia Crop Protection Service (CPS), OAR/Banjul agrees volunteer would have received more supervision if Gambia country project officer (CPO) position had been filled during volunteer's service. Note that regional project manager never requested USDA to fill CPO position. Some supervision was provided by regional training officer and Senegal CPO. A second issue is that to a reader unfamiliar with Gambia, the draft report might suggest that volunteer did an inadequate job. Wish to state opinion of both OAR/Banjul and Gambia CPS that volunteer did excellent job."

In its response, USAID/Senegal agreed with Gambia's comments. In addition, they stated that:

"--we also know most of the (volunteer's) work followed to a great extent on his predecessor's work. (The predecessor) had been recruited by the regional training officer in 1976/77, (the predecessor) in turn had received input/support from the regional training officer in program development, methodology, resources, etc."

We believe that these comments reinforce the need for USAIDs to become more involved with aspects of this regional project, especially when a country project officer is not available. With greater involvement, USAID/Gambia would have been in a better position to (1) know that the training officer needed more assistance, and (2) justify the need for a country project officer.

Various USAID officials from several countries informed us that they give top priority to the bilateral projects and then to the regional projects.

In some cases, country project officers were led to believe that they should report to the USAID missions rather than the RPM, as specified in their scope of work. This created confusion among the parties concerned and strained the relations between USDA and USAID personnel. In other cases, we found that USAID personnel were unclear about their responsibilities in the RFCP.

In an August 1983 amendment to the PASA agreement, AID more clearly defined the role of RFCP personnel to the individual AID missions. For example, the country project officers are now responsible for reporting to the USAID in their respective country, in addition to the regional project manager. Their specific duties with the missions include:

- reporting on a monthly basis on disbursements and progress against project purposes and goals;
- maintaining close liaison on project implementation;
- providing advice on steps necessary to solve problems in meeting disbursements and project objectives; and
- assisting in the preparation of various project documents.

This is a positive step which should improve project monitoring and coordination in the future. As a result, we are not making a recommendation on this matter. However, we would like to note that these improved project management arrangements will only be successful if staffing problems, as discussed previously, are resolved, and the USAIDs take an active interest in the regional project.

In responding to our draft report, USAID/Senegal stated:

"It is clear from reading this report and the RFCP staff comments that a major problem has been a diffusion of responsibility. I would suggest that you consider a further recommendation which would suggest that management responsibility be vested in one entity - AID/Washington or the Mission.

We recognize that AID/Washington's role was, at times, an impediment to project planning and implementation, e.g., when they failed to extend the project in a timely manner. In our opinion, the latest amendment to the PASA agreement addresses the major problem in management responsibilities in the past -- delineation of responsibilities between USAID and USDA. In addition, we understand personnel changes in Washington have resolved some of the past difficulties between USAID/Senegal and AID/Washington. Instead of making a recommendation on this matter, we suggest that the future evaluation assess the roles of all entities in this project.

Conclusions, Management Comments, RIG/A/Dakar Response,
and Recommendations

Project implementation and management problems have slowed the development of the host country NPPS's. Project management has not been effective in ensuring (1) the participating countries received adequate technical assistance, and (2) the project received adequate management attention. As a result, we found:

- inadequate and inexperienced technical assistance staff;
- poorly defined goals and objectives; and
- inadequate management information systems.

We found that AID and the USDA have taken positive steps to better define the relationship between PASA personnel and the individual AID missions. This action should improve project monitoring and coordination.

In our draft report, we recommended that USAID/Senegal develop (a) plans to fill the vacant regional training officer and country project officer positions, and (b) procedures to fill vacant positions in a timely manner.

In response to our draft report, USAID/Senegal stated:

"We would like to concur. However, with a project assistance completion date (PACD) of September 30 (there is the possibility of an extension for another 12 or 15 months) there is a question as to whether we can fill the vacant positions from the PASA within such a short timeframe. In addition, there are no funds available to do so. With sufficient funds personnel services contractors (PSC's) are possible."

As stated on pages 13 and 14 of this report, the Bureau for Africa, Office of Sahel and West African Affairs, in their comments believed this recommendation would be better addressed in the evaluation of the RFP and IFM projects. We agree for the same reason provided on page 14. Accordingly, we have redirected the recommendation at the Africa Bureau instead of USAID/Senegal in order to ensure that the evaluation determines the need to fill the vacant positions when necessary.

Recommendation No. 3

Bureau for Africa, Office of Sahel and West African Affairs evaluate the need to (a) fill the vacant regional training officer and country project officer positions, and (b) develop procedures to fill vacant positions in a timely manner.

We also recommend that:

Recommendation No. 4

USAID/Senegal (a) develop a system so that management information flows between the RFCP regional office, country project officers, National Plant Protection Services, and USAID; (b) specify the items that should be reported on in the management information system; and (c) establish measurable goals and periodic benchmarks against which management can assess project progress.

Management Comments and RIG/A/Dakar Response

For the same reasons discussed on pages 13 and 14, the Africa Bureau, Office of Sahel and West African Affairs, believed that Recommendation No. 4 should be revised so that it can be addressed as part of the evaluation of both the RFCP and IPM projects. We do not agree. This recommendation concerns a management issue which USAID/Senegal should address. As such, we are retaining the recommendation as stated in our draft report.

USAID/Senegal concurred with the recommendation. The Mission believes the improvements they are incorporating in their management for all the projects in their portfolio are very similar to the issues in Recommendation No. 4 to improve management information. Some of these improvements include periodic evaluation of project assumptions and objectives, comparison of results with project objectives, and the improvement of reporting procedures.

Specifically regarding RFCP, USAID/Senegal has made progress at the regional level in improving and establishing management information systems, reporting methods, and in some cases measurable goals and benchmarks. These improvements include the establishment of a (1) regional workplan, (2) regional monthly report on progress toward established objectives, and (3) monthly financial reports. USAID/Senegal also stated:

"While progress has been made, it is agreed much yet remains to be done. A management information system has been developed and, while limited, it is a priority of the regional project manager to clean up the total issue of measurable project objectives and measuring progress towards their accomplishments."

The Mission recognizes that more needs to be done at the participating country level to establish management information systems, measurable goals and objectives, and reporting methods. The regional project manager plans to prepare a model document for all the participating countries which delineates how a National Plant Protection Service should operate.

Other comments by USAID officials in Senegal, The Gambia, and Guinea Bissau are addressed in the text of the report.

LIST OF REPORT RECOMMENDATIONS

Recommendation No. 1

Bureau for Africa, Office of Sahel and West African Affairs, in the evaluation of the RFCP and IPM projects, determine how AID can deal with the following constraints to integrated pest management development:

- participating countries' and farmers' favorable attitudes toward and dependency on pesticides; and
- participating countries' pesticide subsidization policies.

Recommendation No. 2

Bureau for Africa, Office of Sahel and West African Affairs, evaluate the technical assistance needs of each participating country in the Regional Food Crop Protection project in developing their (a) training programs and training curriculums, (b) crop protection extension programs, (c) follow-up systems on training and extension, (d) management systems and procedures, and (e) technical capabilities such as crop loss assessments, economic threshold analyses, pest surveys and demonstration programs.

Recommendation No. 3

Bureau for Africa, Office of Sahel and West African Affairs evaluate the need to (a) fill the vacant regional training officer and country project officer positions, and (b) develop procedures to fill vacant positions in a timely manner.

Recommendation No. 4

USAID/Senegal (a) develop a system so that management information flows between the RFCP regional office, country project officers, National Plant Protection Services, and USAID; (b) specify the items that should be reported on in the management information system; and (c) establish measurable goals and periodic benchmarks against which management can assess project progress.

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