

M/EM/PAED

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE PD AB8-701
 A = Add
 C = Change
 D = Delete
 Amendment Number 2 68276

DOCUMENT CODE 3

2. COUNTRY/ENTITY
BURUNDI

3. PROJECT NUMBER
695-0106

4. BUREAU/OFFICE
USAID BUJUMBURA

5. PROJECT TITLE (maximum 40 characters)
Small Farming Systems Research

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)
MM DD YY
08 22 93

7. ESTIMATED DATE OF OBLIGATION
(Under 'B' below, enter 1, 2, 3, or 4)
A. Initial FY 83 B. Quarter 4 C. Final FY 83

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

A. FUNDING SOURCE	FIRST FY <u>83</u>			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	<u>2,279</u>		<u>2,279</u>	<u>11,790</u>		<u>11,790</u>
(Grant)	(<u>2,279</u>)	()	(<u>2,279</u>)	(<u>11,790</u>)	()	(<u>11,790</u>)
(Loan)	()	()	()	()	()	()
Other U.S.	1.					
	2.					
Host Country		<u>1,546</u>	<u>1,456</u>		<u>4,018</u>	<u>4,018</u>
Other Donor(s)						
TOTALS	<u>2,279</u>	<u>1,546</u>	<u>3,825</u>	<u>11,790</u>	<u>4,018</u>	<u>15,808</u>

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	<u>211</u>	<u>070</u>		<u>7,790</u>				<u>7,790</u>	
(2) SS	<u>211</u>	<u>070</u>				<u>4,000</u>		<u>4,000</u>	
(3)									
(4)									
TOTALS				<u>7,790</u>		<u>4,000</u>		<u>11,790</u>	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
071 072 073 968 963 964

11. SECONDARY PURPOSE CODE
221

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)
 A. Code BSW R/AG XLL TNG TECH PVOV ENN
 B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

a. To build the capacity of ISABU to develop technological innovations and policy recommendations that will facilitate agricultural production and marketing, and

b. To make available to Small Farmers in Burundi innovations in production technology, including seeds and increased access to competitive markets for agricultural products.

14. SCHEDULED EVALUATIONS
 Interim MM YY 07 91 Final MM YY 03 93

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify) 935 (DFA)

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

The attached PP supplement amends the goal, purposes outputs, and activities of SFSR to support more effectively the objectives of the Burundi Enterprise Promotion Program. This document also extends the PACD and increases the authorized U.S. Government contribution to the project.

Clearance: RFMC: AHulliang Date 3/28/90

17. APPROVED BY
 Signature [Signature]
 Title A.I.D. Representative, Burundi
 Date Signed MM DD YY 03 12 90

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

ACTION MEMORANDUM FOR THE A.I.D. REPRESENTATIVE, USAID/BURUNDI

From: Leon S. Waskin, REDSO/ESA/PROJ

Date: March 26, 1990

Subject: Project Paper Supplement and Project Authorization Amendment, Small Farming Systems Research Project (SFSR, 695-0106)

ACTION: Your approval of the attached Project Paper Supplement and amendment to the Project Authorization for SFSR is required to permit:

1. An increase in the authorized Life-of-Project A.I.D. contribution from \$7,790,000 to \$11,790,000.
2. The planned obligation in FY 1990 of \$2,000,000 in DFA grant funds in the form of project assistance.
3. The extension of the Project Assistance Completion Date from September 30, 1991 to August 22, 1993.
4. The amendment of the project's goal and purpose, as set forth in Section II.C and in Annex I, "Revised Logical Framework", of the Project Paper Supplement.
5. The addition of two new components, Marketing Support and Analysis and Private Sector Seed Production, to the project.
6. The revision of the project's budget and the modification of its technical assistance effort.

DISCUSSION:

1. Background.

This project was first authorized on August 23, 1983 at U.S. \$7,790,000. Implementation activities began in 1986. Working through the Government of Burundi's (GRB's) Institute of Agricultural Sciences (ISABU), the project funds training, commodity procurement, and the technical assistance from the University of Arkansas in support of farming systems research activities carried out by ISABU. All of the authorized A.I.D. contribution has been obligated. Total accrued expenditures as of March 31, 1990 will approximate \$4,372,000.

Two developments raise the need to amend the project and provide additional funding. These are:

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a. Changes in Burundian Government Policies.

Since 1986, the GRB has been engaged in an extensive process of policy reform in all sectors of its economy, including agriculture. The pace of reform accelerated with the advent to power of President Pierre Buyoya on September 3, 1987, and has continued to gain momentum over the life of the Third Republic.

The focus on reform is reflected in Burundi's participation in the World Bank/IMF Structural Adjustment Program. The first phase of this program led to a major devaluation of Burundi's currency and to greatly liberalized import procedures, and the GRB is now midway through implementation of the second phase of the structural adjustment effort. Design of a third phase is underway.

To maintain political balance in changing circumstances, however, the GRB has increased spending in health and education, raised salaries in the civil service, and proceeded slowly toward privatization of the parastatal sector. This, in conjunction with expenditures occasioned by the ethnic unrest of August 1988, has led to difficulties in adhering to an ambitious policy reform program. These difficulties have been compounded by intermittent problems with the harvest, marketing, and pricing of coffee, most recently by the 1989 collapse of the quota system under the International Coffee Agreement.

The donor community, including A.I.D., believes that Burundi's fundamental commitment to the reform program remains unchanged, and that, over time, these reforms will increase the relative wealth and power of Burundi's disadvantaged rural population. Accordingly, the Bank and Fund expect to disburse in March 1990 a second tranche of \$30 million from the planned \$90 million SAL II Program, which aims at consolidating progress made under the first phase of structural adjustment while addressing a number of additional subjects such as export development and the liberalization of financial markets.

b. Changes in the A.I.D. Strategy for Burundi.

Burundi will need significant support from donors to improve its technical capacity to implement successfully the policy changes implicit in the reform program's ambitious objectives. To respond to this need, A.I.D. has reshaped its development strategy for Burundi. The centerpiece of A.I.D.'s portfolio will be the Burundi Enterprise Promotion Program (BEPP, 695-0125), a policy-based assistance program that was approved by AID/Washington this month. As articulated in its Program Assistance Approval Document, BEPP's goal is to increase employment and net income for Burundi's poor, a task identified by an early 1989 AID/Washington assessment team as one of the principal economic development objectives in Burundi. This now forms the goal of the entire A.I.D. portfolio, including SFSR.

BEPP will move toward this goal by helping the GRB develop and implement, over a multiyear time frame, policy reforms designed to support private sector development, especially among small and medium enterprises (SME's). To limit the program's focus to a manageable level, BEPP's definition of the SME sector deliberately excludes small farms. Thus, there is an important role for SFSR to play in helping extend the policy reform process to the farming sector.

More importantly, research supported by SFSR will help make possible increased production of the agricultural crops that are the key inputs to the small firms toward which BEPP is directed. SFSR will also identify and recommend solutions to policy constraints that may hinder the marketing of those crops. These proposals will be integrated into the policy dialogue supported by BEPP. This focus on production and marketing will complement the activities of the BEPP Program, which, by facilitating private sector growth, aims in part to increase consumption of the agricultural commodities that SFSR will help produce. The combination of the amended SFSR Project and the BEPP Program will effectively involve the A.I.D. program in Burundi in all three aspects of the production, marketing, and consumption chain. In this manner, the two activities will complement each other well.

2. Proposal.

The Project Paper Supplement justifies amending the goal, purposes, outputs, and activities of SFSR to support more effectively the objectives of BEPP. This document also justifies extending SFSR's Project Assistance Completion Date (PACD) from September 30, 1991 to August 22, 1993, increasing the life of project to ten years. Lastly, this PP Supplement justifies increasing the authorized LOP level by \$4,000,000 from the present total of \$7,790,000 to a new total of \$11,790,000. The GRB contribution to the project would increase from the present total of \$1,546,000 to a new total of \$4,018,000, or 25.4% of total LOP costs.

As amended, SFSR seeks to achieve a twofold purpose:

(a) To build the capacity of ISABU to develop technological innovations and policy recommendations that will facilitate agricultural production and marketing; and

(b) To make available to small farmers in Burundi innovations in production technology, including seeds, and increased access to competitive markets for agricultural products.

4

To achieve this, the PP Supplement reorganizes the principal component of the project, Farming Systems Research (FSR), and adds two new components, Marketing Support and Analysis and Private Sector Seed Development, that will add a focus on agricultural policies, marketing, and the eventual development, if and as feasible, of the capacity of Burundi's private sector to produce and sell a key agricultural input, seeds.

The elements of the amended project are described below.

a. Farming Systems Research.

The revised project will support a reoriented approach to farming systems research at two regional research workshops, or "Ateliers", an innovation in agricultural research that ISABU, with the active support of the International Service for National Agricultural Research (ISNAR) and USAID/Burundi, is now pursuing. Each atelier will consist of a team of researchers working on a locus of actual farms where on-farm trials are conducted. Research efforts will thus focus on constraints expressed by farmers, and the technologies flowing from research results should be more readily adopted by farmers than results produced by other FSR approaches.

Two types of inputs will be provided:

(1) Technical Assistance.

Of the four existing long-term technical assistance positions, two -- the FSR Agronomist and the FSR Extension Specialist -- are to be continued through project completion. The Agronomist will remain in Gitega; the Extension Specialist will live in Bujumbura while working in nearby Cibitoke. The A.I.D.-funded Research Agronomist at Karuzi will be phased out in March 1991. The Agricultural Economist now stationed at Gitega, who also serves as the Chief of Party for the technical assistance team, will continue in both these capacities through September 1991. He will move the project headquarters to Bujumbura no later than August 1990.

Additionally, two new long-term positions will be added:

- An FSR Production Economist, who is to arrive in July 1990 and serve through September 1991. He or she will live in Bujumbura, and will develop standardized data collection and analysis procedures for all ISABU-supported ateliers. After September 1991, these functions are to be assumed by a Burundian economist currently in training in the U.S.
- An Agricultural Policy Economist, who will arrive in July 1990 and continue through the PACD. He or she will also live and work in Bujumbura, and is to be responsible for translating the farm-level and micro-economic data gathered by the extended project into specific policy recommendations. This economist will then work with the GRB to outline the implications of various agricultural policy options.

Under this revised technical assistance plan, there will be a maximum of five SFSR staff living in Bujumbura at any one time. This component will also fund four person-months of short-term technical assistance on selected farming systems research topics.

(2) Training.

This component provides funds for: (a), long-term M.S. degree studies in the U.S. for nine individuals; (b), ten person months of short-term U.S. training, and 48 person months of short-term third-country training, for ISABU employees; and (c), four months of in-country training. It will also support in-country thesis research by four Master's Degree candidates, two research grants for local academicians, field trips for cooperating farmers, and long-term training for Burundian personnel of the Regional Potato Improvement Program for Central Africa (PRAPAC).

b. Marketing Support and Analysis.

This new component of SFSR is intended to enhance ISABU's ability to contribute to national policy dialogue on issues such as marketing systems reform, food and input pricing, and rural infrastructure policies. Two types of inputs will be provided:

(1) Technical Assistance.

The amended Project will fund a Marketing Economist, who is to arrive by July 1990 and serve through the extended PACD. This advisor will be based within ISABU in Bujumbura, and will work closely with the Directorate of Internal Commerce of the GRB's Ministry of Commerce and Industry (MCI), the GRB body chiefly responsible for developing policies concerning the marketing of agricultural products and inputs. The Marketing Economist will thus serve as a bridge between MCI and policy-oriented research carried out by ISABU. He or she will conduct marketing studies on agricultural inputs and products, and will use these as the basis for a series of papers on marketing constraints and needed reforms. These recommendations are then to be explored with the MCI in tandem with the policy dialogue and reform efforts supported by BEPP. To assure that the work of the Marketing component is translated into policy recommendations, the FY 1990 Project Grant Agreement Amendment for SFSR will include a Covenant requiring that ISABU and the MCI develop a formal protocol detailing how they will work together in this regard. Additionally, this component will fund 14 person months of short-term technical assistance on marketing-related issues.

(2) Training.

This component will fund: (a), M.S. degree training in the U.S. for two candidates; (b), 12 person months of U.S. short-term training; (c) eight person months of third-country training; and (d), two months of in-country training for both ISABU personnel and individuals from the private sector. The component also includes funds for in-country thesis research by two Master's Degree candidates, and two research grants for local academicians.

c. Private Sector Seed Development.

Through this component, A.I.D. will become one of several donors assisting the GRB in the development and implementation of a national seed plan. The GRB has formally established a National Seed Commission to provide policy guidance in this sector. It plans to establish two other institutions, a National Seed Service (SSN), which is to provide quality control for the industry, and a National Seed Society (SSB), which is to be responsible for the production, multiplication, and marketing of improved seed. The objective of this institutional structure will be to move the responsibility for seed production and marketing (except for breeder seed produced by ISABU) away from the GRB and toward, if and as feasible, private producers and sellers.

Discussions with Pioneer Overseas Corporation and the Seed Co-op Company of Zimbabwe, Ltd., revealed that the production scheme outlined in the national seed plan is technically sound, but uncertainty persists about the potential long-term economic viability of private sector seed production. The revised SFSR Project, therefore, focuses on this issue. For example, long-term technical assistance will help the MOAL gather and analyze data on private seed production. This topic will also be addressed by a mid-term evaluation in FY 1991.

A.I.D. believes that the importance of improved seeds as an input to more intensive, higher-yielding agricultural technologies, as well as the political commitment the GRB has demonstrated to carrying out a national seed plan, justify proceeding at the proposed modest level of effort while further analyzing the prospects for private sector involvement.

Three types of inputs will be provided under this component:

1

(1) Technical Assistance.

The PP Supplement adds a Seed Specialist to SFSR, who will work under the GRB's Director General for Agriculture. This expert is scheduled to arrive in July 1990 and to continue in this capacity through the extended PACD. The Seed Specialist will be the GRB's principal advisor on seed sector development. He or she will help the GRB to gather and analyze data on the feasibility of private sector seed production and marketing. This expert will work with both the GRB and private producers to evaluate this data, and will help prepare, as feasible, a plan for achieving increased private involvement in these areas. While this research proceeds, the Seed Specialist will advise the the GRB as it establishes a National Seed Service and a National Seed Society. He or she will also facilitate linkages between the National Seed Commission and ISABU, maintain a dialogue with SFSR personnel concerning research results, work closely with the Marketing Economist to develop recommendations for a seed pricing policy, advise the GRB on alternative methods of organizing seed production, and assist in developing producer associations. The Seed Specialist will give particular attention to the development and advocacy of policies for attracting private sector entrepreneurs to sell improved seeds commercially. The amended budget also includes funds for 14 person-months of short-term consultancies.

(2) Training.

This component provides funds for: (a), M.S.-level training in the U.S. for two participants; (b), 12 person months of short-term U.S. training; and (c) two months of in-country training to develop the seed-related skills of appropriate technicians and farmers.

(3) Local Currency Support for Implementation of the National Seed Plan.

To assist the GRB in establishing the institutions called for in its national seed plan, local currency to support certain administrative expenses (e.g. travel, conferences, publication and distribution of reports) will be part of the GRB's contribution to the project.

d. Support to the CIP/PRAPAC Potato Research Network Project.

In addition to its three major components, SFSR will also finance certain expenses of the Burundi portion of the A.I.D.-funded Regional Potato Improvement Program for Central Africa (PRAPAC) and related activities of the ISABU Potato Program. These funds will be used for a buy-in to the CIP/PRAPAC regional project to purchase equipment,

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supplies, and short-term technical assistance to conduct a survey of potato utilization and marketing. Additionally, as part of its contribution to SFSR, the GRB will provide local currency for commodity procurement, in-country training, and operating expenses. The costs of one technical assistance position will continue to be provided by the International Potato Center (CIP). In view of these changes in the organization of this activity, USAID will request that CIP's Regional Coordinator work with the mission to develop a revised administration and management plan.

3. AID/W Concerns.

In its review of earlier drafts of the PP Supplement, AID/W raised several concerns. These were set forth in State 17920 of January 18, 1990 (copy attached). This final version of the PP Supplement responds to the issues raised in that cable. Specifically:

- a) In response to AID/W's comment that planned outputs might be too ambitious, the outputs have been revised to make it clear that the Seed Development component is responsible only for providing advice and assistance to the GRB in organizing the seed sector and for gathering and analyzing data on potential private sector involvement. It is not responsible for the production of improved seed during the life of this project, although the GRB may begin such production using other resources.
- b) The document now outlines the conceptual and organizational links between SFSR and BEPP. It stresses the fact that together, BEPP and SFSR involve the A.I.D. program in all three aspects of the production-marketing-consumption chain. The scopes of work for evaluations of SFSR will also require an assessment of how effectively the project supports and reinforces BEPP.
- c) The PP Supplement and its Technical Analyses describe how the innovations in production technology developed by SFSR will be transferred to farmers through the GRB's existing Comite de Transfert system.
- d) The document notes that the GRB has already begun to gather the information on pesticides required as a condition to approval of a Negative Determination for the Seed Development component, thereby responding to AID/W's concern that the GRB might not be able to do so promptly.

4. Revised Cost Estimate and Obligation Schedule.

The total life-of-project cost of the amended SFSR Project is estimated at \$15,808,000, of which A.I.D. will contribute \$11,790,000 and the GRB \$4,018,000, or 25.4%. Total expenditures through March 31, 1990 are estimated at \$5,726,000, of which A.I.D. has contributed approximately \$4,372,000 and the GRB approximately \$1,354,000. The additional A.I.D. funding required, \$4,000,000, is scheduled to be provided through obligations of \$2,000,000 in the fourth quarter of FY 1990, \$1,500,000 in FY 1991, and \$500,000 in FY 1992.

A.I.D.'s contribution to the project will be divided among the components as follows:

<u>Component:</u>	<u>LOP Total (\$ '000):</u>
Farming Systems Research:	8,232
Marketing Support:	1,242
Seed Development:	1,130
Other Costs:	504

Sub-Total:	11,108
Contingency:	145
Inflation (5%):	537

Total:	11,790

WAIVERS:

The University of Arkansas is to continue to provide long- and short-term technical assistance, procure commodities, and manage all project-funded training through an A.I.D. direct contract. A memorandum justifying less than full and open competition in the extension of this contract has been prepared by USAID and forwarded to A.I.D./Washington for approval. A copy of this memorandum is attached. The contract is expected to be amended in May 1990.

GRAY AMENDMENT REQUIREMENTS:

Pending finalization of revised Gray Amendment contracting procedures, the amended contract will contain a provision requiring, to the extent required and practical, at least 10% subcontracting to Gray Amendment firms. In Annex XI to the PP Supplement, you certify that Gray Amendment requirements have been met.

611 (A) REQUIREMENTS:

Section 611(a)(1) of the Foreign Assistance Act mandates that financial and other plans necessary to carry out the planned assistance, as well as a reasonably firm estimate of the costs to the U.S. Government of providing this assistance, be completed. Section 611(a)(2) mandates that such legislative action as may be necessary to achieve project objectives may reasonably be anticipated to be completed in time to permit the orderly accomplishment of those objectives. The PP Supplement concludes that these requirements have been met.

INITIAL ENVIRONMENTAL EXAMINATION (IEE):

A revised IEE is included as Annex VIII to the PP Supplement. This revised IEE provides a Categorical Exclusion to the activities encompassed by the amended Project. Subject to the provision of certain information about the use of pesticides in seed multiplication, the IEE also provides a Negative Determination to the activities of the Private Sector Seed Development component. The information required is set forth in a Condition Precedent to disbursement that will be included in the FY 1990 Project Grant Agreement Amendment (see below). This revised IEE has been reviewed and approved by the Regional Legal Advisor, the Director of REDSO/ESA, and the Africa Bureau Environmental Officer (State 37340 of February 4, 1990).

EVALUATION AND AUDIT:

Three evaluations of the amended project are planned. First, REDSO and USAID will conduct an internal review in the fourth quarter of FY 1990 to assess the results and implications of SFSR research. This will serve as a guide during implementation of the revised project, and will help establish benchmarks by which to assess achievements. Second, a mid-term evaluation of progress in launching the revised project is scheduled for the fourth quarter of FY 1991. It will assess progress made in organizing the planned research ateliers and in organizing research, and will examine the steps taken to gather and interpret data on the viability of private seed production and marketing. Third, a final evaluation of SFSR is scheduled to be conducted in the second quarter of FY 1993. This evaluation will provide information as to future directions in the areas encompassed by this project.

The revised budget also includes funds for an independent, non-Federal audit that will be conducted no later than FY 1992.

CONDITIONS, SPECIAL PROVISIONS, AND COVENANTS:

The Project Grant Agreement Amendment will include a Condition Precedent requiring that, prior to any disbursement of funds for the seed sector component or to the execution of a funded or unfunded amendment to A.I.D.'s contract with the University of Arkansas for this project, the GRB must provide certain information to A.I.D. on the use of pesticides in project-assisted seed production activities, and assure that any pesticide use complies with relevant U.S. Government regulations, including A.I.D. Regulation 16.

Second, this Amendment will include a Special Provision requiring the GRB to establish in ISABU's name a special non-commingled account for the GRB's local currency contribution to the project.

Finally, the amendment will include Covenants by which the GRB will agree to (1), undertake within two years a comprehensive evaluation of the effectiveness of the atelier concept; (2), consult with A.I.D. on an annual basis as to GRB actions being taken to increase the level of its contributions to the operations of ISABU's research ateliers, and to assign and make available counterparts to the project technical assistance team; (3), develop and approve by September 30, 1991, in consultation with A.I.D., a multiyear research plan on Burundi's agricultural marketing structure and existing and projected inter-regional trade flows, constraints and marketing potential; (4), furnish, within one year of the arrival in Burundi of the A.I.D.-funded Seed Specialist, a plan, in form and substance satisfactory to A.I.D., for implementing a national seed program; (5), propose in consultation with A.I.D., within one year of the signing of the Project Grant Agreement Amendment, policies, if and as appropriate, to promote and provide for the increasing participation of the private sector in the production, multiplication and sale of improved seeds; and (6), prepare and approve by December 31, 1990, a Protocol or equivalent document, in form and substance satisfactory to A.I.D., describing and governing how the MCI and ISABU will work together to translate the findings of ISABU's marketing research into specific policy recommendations.

PROJECT ANALYSES

Annex IV.A, "Technical Analyses", describes the work that is to be carried out by the three major project components and their expected achievements. Annex IV.B, "Economic Analysis," concludes that the internal rate of return of the amended project should be approximately 44%, a finding consistent with previous work on the value of agricultural research. Annex IV.C, "Institutional Analysis," describes how ISABU has been reorganized to support the atelier approach to farming systems research, discusses the changes made within the Ministry of Agriculture and Livestock (MOAL) to support extension, and summarizes the structure of Burundi's National Seed Plan. The overall conclusion is that the Burundian institutions involved in the amended project are capable of carrying out their responsibilities.

12'

JUSTIFICATION TO THE CONGRESS:

Formal notification of A.I.D.'s intention to amend SFSR was sent to the Congress on March __, 1990. That notification expired without objection on March __, 1990.

AUTHORITY:

Section 4.A.(2) of Africa Bureau Delegation of Authority Number 551, as revised on March 19, 1989, delegates to you the authority to amend Project Authorizations executed by any A.I.D. official unless the amendment would:

- a. Result in total LOP funding of more than \$30 million;
- b. Present significant policy issues or deviate from the original project purpose; or
- c. Require the issuance of waivers that may be approved only by the Assistant Administrator or the Administrator.

None of these exceptions applies in this case.

Additionally, Section 4.A.(3) of DOA 551 delegates to you the authority to approve extensions of the Life of a Project, provided that the extension does not result in a Life of Project of more than ten years. The proposed amendment does not exceed this limitation.

For Schedule B posts such as Burundi, the exercise of these authorities requires the concurrence of the Director, REDSO/ESA. Subject to that concurrence, you have authority to approve the Project Authorization Amendment and Project Paper Supplement.

RECOMMENDATION:

That you sign the attached Project Authorization Amendment and the attached amended Project Data Sheet.

ATTACHMENTS:

1. Project Authorization Amendment.
2. Project Data Sheet
3. Project Paper Supplement.

PROJECT AUTHORIZATION AMENDMENT
NUMBER ONE

Name of Country: Burundi
Name of Project: Small Farming Systems Research
Number of Project: 695-0106

This Project Authorization Amendment Number 1 hereby replaces the Original Project Authorization for the Small Farming Systems Research Project in its entirety and substitutes the following thereof:

"1. Pursuant to Part I, Chapter 1, Section 103 of the Foreign Assistance Act as amended, I hereby reaffirm the authorization of the Small Farming Systems Research Project (the "Project") for the Republic of Burundi (the "Cooperating Country") as originally authorized on August 23, 1983, involving planned obligations are not to exceed Seven Million Seven Hundred and Ninety Thousand United States Dollars (\$7,790,000) in grant funds and the determinations, certifications and waivers therein. Further, pursuant to Title II of the Foreign Operations, Export Financing and Related Programs Appropriations Act of 1990 (Sub-Saharan Africa, Development Assistance) of the Foreign Assistance Act, as amended, I hereby authorize an additional planned obligation not to exceed Four Million United States Dollars (\$4,000,000). The total planned obligations are not to exceed Eleven Million Seven Hundred Ninety Thousand United States Dollars (\$11,790,000) in grant funds over a ten (10) year period from the date of the initial obligation, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing certain foreign exchange and local currency costs of the project.

2. The Project will finance technical assistance, training, commodities, construction, and support to the Ministry of Agriculture and Livestock, and evaluation and audit costs to:

A. Build the capacity of the Institute of Agricultural Sciences (ISABU) to develop technical innovations and policy recommendations that will facilitate agricultural production and marketing; and

B. Make available to small farmers in Burundi innovations in production technology, including seeds, and increased access to competitive markets for agricultural products.

3. I hereby authorize the initiation of negotiations and execution of the Project Agreement and Amendments thereto by the officer to whom such authority has been delegated in accordance with A.I.D. Regulations and Delegations of Authority, subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

4. Source and Origin of Commodities, Nationality of Services.

Except as A.I.D. may otherwise agree in writing:

A. Commodities financed by A.I.D. under the Project as originally authorized pursuant to Part I, Section 103 of the Foreign Assistance Act as amended shall have their source and origin in countries included in A.I.D. Geographic Code 941. Commodities financed by A.I.D. under the Project as further authorized pursuant to Title II of the Foreign Operations, Export Financing and Related Programs Appropriations Act of 1990 (sub-Saharan Africa, Development Assistance) of the Foreign Assistance Act, as amended, shall have their source and origin in the countries included in A.I.D. Geographic Code 935.

B. Except for ocean shipping, the suppliers of commodities or services financed by A.I.D. under the Project as originally authorized pursuant to Part I, Section 103 of the Foreign Assistance Act as amended shall have countries included in A.I.D. Geographic Code 941 as their place of nationality. Except for ocean shipping, suppliers of commodities financed by A.I.D. under the Project as further authorized pursuant to Title II of the Foreign Operations, Export Financing and Related Programs Appropriations Act of 1990 (sub-Saharan Africa, Development Assistance) of the Foreign Assistance Act, as amended, shall have countries included in A.I.D. Geographic Code 935 as their place of nationality.

All reasonable efforts will be used to maximize U.S. procurement whenever practicable. Air travel and transportation to and from the U.S. shall be upon certified U.S. flag carriers.

C. Ocean shipping financed by A.I.D. under the Project as originally authorized pursuant to Part I, Section 103 of the Foreign Assistance Act as amended shall be financed only on flag vessels of the countries included in A.I.D. Geographic Code 941 and Burundi. Ocean shipping financed by A.I.D. under the Project as further authorized pursuant to Title II of the Foreign Operations, Export Financing and Related Programs Appropriations Act of 1990 (Sub-Saharan Africa, Development

15

Assistance) of the Foreign Assistance Act, as amended, shall be financed only on flag vessels of the countries included in A.I.D. Geographic Code 935, subject to the 50/50 shipping requirements under the Cargo Preference Act and the regulations promulgated thereunder.

5. Conditions Precedent

A. Prior to any disbursement, or to the issuance of any commitment documents under the Project Agreement to finance construction of facilities, the GRB shall, in form and substance satisfactory to A.I.D.:

1. furnish evidence that suitable sites have been selected and land provided for construction and field testing plots at Murongwe and Karuzi;

2. provide appropriate plans, specifications, cost estimates, and time schedules for construction.

B. Prior to any disbursement, or to the issuance of any commitment documents under the Project Agreement to finance procurement of pesticides, and the subsequent use thereof, the Assistant Administrator for Africa, or his designee, shall approve in writing such pesticide procurement and use. When such pesticides have been identified, the procedures outlined in A.I.D. Environmental Procedures, Section 216.3(b)(i) through (iv) will be followed prior to approval of their procurement or use.

C. Prior to any disbursement of funds for the Seed Sector component of the Project or to the execution of a funded or unfunded amendment to the existing contract number AFR-0106-C-00-6004-00 between AID and the University of Arkansas for this Project, the GRB shall provide to A.I.D., in form and substance satisfactory to A.I.D., a list of pesticides projected to be used by ISABU or the Ministry of Agriculture and Livestock under said project component in trials at experimental stations, on controlled plots, and in seed production activities, including generic names, manufacturer's environmental data, recommended tolerance rates, planned application frequency, storage arrangements and procedures, and a description of how users of pesticides are to be protected. Said projected list of pesticides, storage procedures and arrangements, and utilization procedures are required to comply with United States Government rules and regulations (e.g. Regulation 16), which rules and regulations shall be provided by A.I.D. to the GRB by Project Implementation Letter.

6. Covenants

The Cooperating Country shall covenant in substance as follows:

A. To provide appropriate supporting professional personnel on timely basis;

B. That housing constructed under the Project shall be used exclusively by A.I.D.-financed advisors in this or subsequent projects until or unless A.I.D. otherwise agrees in writing. In addition, the GRB will rebuild and renovate buildings at Karuzi for project use;

C. To make available qualified candidates for long term academic training in the U.S. and to insure by bonding or other means these persons are assigned to the same or other suitable positions as may be mutually agreed upon between the parties within the Cooperating Country's Ministry of Agriculture and Livestock for a period to equal at least twice the period of training financed under the Project. In addition, all participants for non degree programs of 18 months or less and M.Sc. participants already working for the GRB will receive salaries and benefits to support their families in Burundi while they are receiving training abroad;

D. That all equipment, including vehicles, procured under the Project will be used exclusively for Project activities, and that the use of all vehicles, excluding motorcycles, will be under the direction and supervision of the U.S. Team Leader and the Ministry of Agriculture's Director of Agriculture, or their respective designees;

E. That within two years of the signing of the Fourth Amendatory Agreement, the GRB will undertake and complete a comprehensive evaluation of the progress, effectiveness, and sustainability of the Atelier (research workshop) concept as the primary approach to agricultural research in Burundi. The GRB will provide USAID/Burundi with a copy of the report of the findings of this evaluation;

F. That by September 30, 1991, the GRB shall, in consultation with A.I.D. develop and approve a multiyear research plan to identify Burundi's agricultural marketing structure, its operating characteristics, and the existing and projected interregional trade flows, constraints and marketing potential. This plan shall provide a schedule for the submission of analyses of policy constraints and the development of recommendations to address those constraints;

G. That within one year of the arrival in Burundi of the A.I.D.-funded Seed Specialist, the GRB shall furnish a plan, in form and substance satisfactory to A.I.D., for implementing a national seed program. This plan shall address: (a) setting seed production, marketing, and pricing guidelines; (b) providing central seed inspection and quality control services; and (c) the necessary multiplication, processing, and marketing of improved seeds;

H. This Project is designed to stimulate increased participation of the private sector in seed production. Within one year of the signing of the Fourth Amendatory Agreement, the GRB shall propose, in consultation with A.I.D., policies, if and as appropriate, to promote and provide for the increasing participation of the private sector in the production, multiplication and sale of improved seeds. Progress in implementing these policies will be subject to a special GRB-USAID review to be completed by December 31, 1991.

7. Special Provisions: The Fourth Amendatory Agreement shall contain the following Special Provision:

"The GRB shall establish in the name of the Burundi Institute of Agricultural Sciences (ISABU) a special, non-commingled interest-bearing account entitled "Burundi Institute of Agricultural Sciences ("ISABU") - 1990" in a bank in Burundi for deposits of the GRB's local currency contribution to the Project as required by this Agreement. The funds in this account shall be utilized by ISABU to finance local costs of the Project as mutually agreed to by A.I.D. and ISABU in writing. The GRB shall provide USAID/Burundi with no less than semi-annual reports, including bank statements and supporting documents as required, on the use of funds from this account. The GRB further agrees that A.I.D. shall have the right to audit this account and the activities financed thereby."

Approved: _____

Disapproved: _____

Date: _____

Burundi Small Farming Systems Research Project

(SFSR, 695-0106)

Project Paper Supplement

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND SUMMARY	1
A. Description of Amendment	1
B. Linkages with the Burundi Enterprise Promotion Program (BEPP, 695-0125)	3
II. RATIONALE FOR AND DESCRIPTION OF THE AMENDED PROJECT	4
A. Background	4
1. Changes in Burundian Government Policies	4
2. The Changing A.I.D. Strategy for Burundi	5
B. Rationale for Amendment of the SFSR Project	6
1. Objectives and Accomplishments of the Present Project	6
2. Need for Amendment of SFSR	9
C. The Amended Farming Systems Research Project	10
1. Amended Project Goal and Purpose	10
2. Project Elements	10
a. Farming Systems Research	10
b. Marketing Support and Analysis	13
c. Private Sector Seed Development	14
d. Support to the CIP/PRAPAC Potato Research Network Project	17
3. Expected Achievements	18
a. Anticipated Outputs	18
b. Anticipated Beneficiaries	20
III. COST ESTIMATE AND FINANCIAL PLAN	20
A. Cost Estimates and Expenditure Projections	20
B. Financial Plan	20
IV. IMPLEMENTATION AND PROCUREMENT PLAN	23
A. Implementation Plan	23
B. Procurement Plan	25
V. MONITORING EVALUATION, AND AUDIT PLAN	27
A. Project Monitoring	27
B. Evaluation Arrangements	27

VI. CONDITIONS, SPECIAL PROVISIONS, AND COVENANTS	28
A. Condition Precedent	28
B. Special Provision	29
C. Covenants	29
VII. SUMMARIES OF ANALYSES	31
VIII. 611 (A) ASSESSMENT	31
ANNEXES:	
I. Logical Framework	
II. Statutory Checklist	
III. GRB Request for Assistance	
IV. Project Analyses:	
A. Technical	
1. Farming Systems Research	
2. Marketing Support and Analysis	
3. Private Sector Seed Development	
4. Construction Activities	
B. Economic	
C. Institutional	
V. Summary Budget Estimate and Expenditure Projections	
VI. Summary of Amendments to SFSR	
VII. Seed Sector Studies	
VIII. Initial Environmental Examination and Categorical Exclusion	
IX. Agreement for Collaboration Between ISABU and the General Directorate for Extension	
X. Legislative Action Requirements - FAA 611(a)	
XI. Certification for Compliance with Gray Amendment.	

I. INTRODUCTION AND SUMMARY

A. Description of Amendment.

This Project Paper Supplement amends the goal, purposes, outputs, and activities of the Burundi Small Farming Systems Research Project (SFSR, 695-0106) to support more effectively the objectives of the Burundi Enterprise Promotion Program (BEPP, 695-0125), a policy-based assistance activity that will provide the central, unifying theme for A.I.D.'s Burundi portfolio. This document also extends SFSR's Project Assistance Completion Date (PACD) from September 30, 1991 to August 22, 1993, thereby increasing the authorized life of project to ten years, and increases the authorized A.I.D. LOP contribution to SFSR by \$4,000,000 from the present total of \$7,790,000 to a new total of \$11,790,000. The total life-of-project cost of the amended SFSR Project is estimated at \$15,808,000, of which the Government of the Republic of Burundi (GRB) will contribute \$4,018,000, or 25.4%.

As amended, SFSR will seek to achieve a twofold purpose:

(a) To build the capacity of ISABU to develop technological innovations and policy recommendations that will facilitate agricultural production and marketing; and

(b) To make available to small farmers in Burundi innovations in production technology, including seeds, and increased access to competitive markets for agricultural products.

Achievement of these purposes is expected to increase the production of agricultural crops for emerging markets. Other than fisheries, these farm products are the only significant primary commodities in Burundi, and are thus the key inputs to the small and medium-sized processing and marketing firms toward which BEPP is directed. By helping to make possible expanded production of these crops, SFSR will contribute to achievement of the overall A.I.D. program goal of increasing employment and income for Burundi's poor.

To achieve these objectives, this PP Supplement reorganizes the principal component of the project, Farming Systems Research (FSR). The changes made support the creation of a network of regional research workshops, or "Ateliers", an innovation in agricultural research that the Institut des Sciences Agronomiques du Burundi (ISABU) is, with the active support of the International Service for National Agricultural Research (ISNAR) and USAID/Burundi, now pursuing. These workshops form the core of ISABU's new philosophy of critical constraint research involving direct contact with farmers and emphasizing on-farm work. This research will be oriented toward the development of sustainable, low-input, ecologically sound agricultural technologies. Accordingly, while SFSR is not per se a natural resources project, a principal output of its research will be the transfer to farmers of agricultural methods capable of increasing productivity with reduced damage to the resource base.

Additionally, this PP Supplement creates two new components, Marketing Support and Analysis and Private Sector Seed Development. These will complement the reorientation of the FSR component by adding to the project a focus on agricultural policies and marketing, and on the production and ultimate sale of a key agricultural input, seeds.

21

To support these revised and expanded emphases, four new positions will be added to the SFSR technical assistance effort being carried out under an A.I.D. direct contract with the University of Arkansas. First, under the FSR component, a Production Economist based in Bujumbura is to join the team for 15 months. He or she will then be replaced by a Burundian economist now in training. The Production Economist is to support the work of the five research workshops by developing standard methodologies for the collection and analysis of production and marketing data, and by examining the economic viability of all technical packages developed.

Second, as SFSR's emphasis evolves toward the development of policy recommendations, an Agricultural Policy Economist will be added. This economist will also be based at ISABU headquarters in Bujumbura, and is to be principally responsible for the development of, and the provision of support to, USAID's dialogue with the GRB on agricultural policy. Recommendations in this area are to be developed through research carried out by the SFSR team and other elements of ISABU. The Policy Economist is to arrive in July 1990 and remain through the extended PACD.

Third, under the Marketing component, this PP Supplement adds a Marketing Economist to the SFSR team. This economist, who is to be based in Bujumbura within ISABU's Service Economie Rurale (SER), will enhance the project's (and thus ISABU's) ability to contribute to national policy dialogue and formulation regarding issues such as marketing system reform, food price policy, and rural infrastructure policies. He or she would arrive in July 1990 and serve through the extended PACD.

Finally, the amended project will include a Seed Specialist to help the GRB implement its National Seed Plan (NSP). A principal objective of this assistance will be to assess the feasibility of moving the responsibility for seed production and marketing away from the GRB and toward private producers and sellers better able to sustain these activities on an ongoing basis. The SFSR Seed Specialist is to work in Gitega under the supervision of the GRB's Director General for Agriculture, and will help the GRB to continue to gather and analyze data on private sector seed production and marketing. He or she will work with both the GRB and private producers to evaluate this data in order to assess the long-term viability of private sector seed production and marketing, and will help prepare, as feasible, a plan for achieving increased private involvement in these areas. Representatives of two private firms with long experience producing improved seeds in Africa, Pioneer Overseas Corporation and the Seed Co-op of Zimbabwe, were involved in the design of this PP Supplement and will return periodically to Burundi to assist in this analysis and planning. Pending completion of this plan, the importance of improved seeds as an input to more intensive, higher-yielding technologies, as well as the political commitment the GRB has demonstrated to implementation of the NSP, justify proceeding now at the modest level of effort described in this PP Supplement while analytical work continues.

In addition to his or her work on privatization, the Seed Specialist will also work with the Marketing Economist and the Agricultural Policy Economist to develop recommendations for a market-determined seed pricing policy, will advise the GRB on the establishment of seed quality control procedures, and will facilitate linkages between seed multiplication and varietal development efforts within ISABU.

In concert with the above amendments, a revised training plan supportive of SFSR's new objectives is to be carried out, and a number of short-term consultancies designed to supplement the work of the long-term technicians are to be provided.

The major differences between the existing SFSR Project and the project as revised by this PP Supplement are summarized in Annex VI.

B. Linkages with the Burundi Enterprise Promotion Program (BEPP, 695-0125).

As noted, at the goal and purpose levels, the amended SFSR Project will directly support the objectives of BEPP, and thus of A.I.D.'s whole Burundi portfolio, by making possible increased production of the agricultural crops that are the key inputs to the small and medium-sized firms toward which BEPP is directed. SFSR will also identify and recommend solutions to policy constraints that may hinder the marketing of those crops. These proposed policy changes will be integrated into the policy dialogue supported by BEPP. Thus, while BEPP focuses principally on the development of Burundi's private sector, and will thereby help increase demand for the consumption of agricultural (as well as other) commodities, SFSR will focus on helping to increase the production and facilitate the marketing of those commodities. The combination of the amended SFSR Project and BEPP will thus effectively involve the A.I.D. program in Burundi in all three aspects of the production, marketing, and consumption chain.

Additionally, several mechanisms exist or will be devised to link, at the operational level, the redesigned SFSR Project with BEPP. These include the following:

1. The Director General of ISABU will serve as a member of the GRB's Export Promotion Committee, which will be the de facto board of directors for Burundi's newly-planned Export Promotion Service. One of BEPP's major objectives is export promotion, and this new Service will be a principal recipient of long-term technical assistance provided by BEPP's companion project, Burundi Enterprise Support and Training (BEST, 695-0124). By virtue of his position on this Committee, the Director General of ISABU will be ideally placed to incorporate the policy recommendations that will flow from the revised SFSR Project into the GRB's deliberations on export marketing.
2. The SFSR Marketing Economist will work closely with the Ministry of Commerce and Industry's (MCI's) Directorate of Internal Commerce, which is the GRB entity chiefly responsible for developing policies re the marketing of agricultural products. The work of this expert will be linked to MCI through a memorandum of understanding that the two organizations will develop to govern his or her activities. The Marketing Economist will thus serve as a bridge between policy-oriented research carried out by SFSR and other elements of ISABU and the MCI's ongoing process of policy development.
3. All the new technical expertise being added by this -- the Production Economist, the Policy Economist, and the Seed Specialist, as well as the Marketing Economist -- will help translate the findings of SFSR-supported research into policy recommendations.

4. The Scopes of Work for the Chiefs of Party of both SFSR and BEST will require them to include in their regular reports to USAID and the GRB a description of the extent to which policy recommendations stemming from SFSR-supported research are being integrated into the policy dialogue supported by BEPP and BEST.

5. Similarly, the Scopes of Work for all evaluations of both SFSR and BEST will require an assessment of the extent to which policy recommendations stemming from SFSR-supported research are being integrated into the policy dialogue supported by BEPP and BEST.

6. SFSR will share a Project Support Office in Bujumbura with BEST. This common link will serve as a precedent for substantive contact and interdependence between the members of the SFSR and BEST technical assistance teams.

These steps will help assure that the amended SFSR Project directly supports BEPP by developing and then helping to advocate the enactment of policy recommendations designed to increase employment and income for Burundi's poor.

II. RATIONALE FOR AND DESCRIPTION OF THE AMENDED PROJECT.

A. Background.

1. Changes in Burundian Government Policies.

Burundi faces a wide array of development problems: reliance on one major agricultural export crop (coffee) with little potential for expansion, limited domestic industry, and a rate of population growth (over 3 percent per year) that is increasing pressure on limited land resources and jeopardizing current levels of income and productivity. The effects of population growth are particularly acute in the agricultural sector, as certain regions of the country approach a population density that will not be sustainable given current levels of local food production. New technologies that will permit food crop production increases on a limited arable land base must be introduced and disseminated.

Within the last three years, Burundi has moved toward a style of governance radically different from that of the past. The GRB has since 1986 been engaged in an extensive process of policy reform in all sectors of its economy, including agriculture. The pace of reform accelerated with the advent to power of President Pierre Buyoya on September 3, 1987, and has continued to gain momentum over the life of the Third Republic.

These changes are reflected in the reforms adopted under the framework of a structural adjustment program developed with the World Bank and the International Monetary Fund. Reforms have included removal of the restrictions on internal population movements, a hefty devaluation combined with liberalization of foreign trade, an increasing role for individual private enterprise in the economy, and measures to increase fiscal and monetary stability. The majority of them favor rural over urban dwellers, producers over consumers, and farmers over the salaried and educated classes.

2/1

Implementation of the IBRD/IMF program was initially impressive. Although not all targets were met, the Bank and Fund were sufficiently satisfied with the results to agree to follow-on programs in 1988. To maintain political balance in complex and changing circumstances, however, the GRB has increased spending in health and education, raised salaries in the civil service, and proceeded only slowly toward privatization of the parastatal sector. This, in conjunction with expenditures occasioned by the ethnic unrest of August 1988, has led to difficulties in adhering to what, in retrospect, was clearly an overly ambitious program. These difficulties have been compounded by intermittent problems with the harvest, marketing, and pricing of coffee, most recently by the 1989 collapse of the quota system under the International Coffee Agreement. Nonetheless, A.I.D. believes (as do the Bank and the Fund) that Burundi's fundamental core commitment to the reform program remains unchanged, and that over time, these reforms will increase the relative wealth and power of Burundi's disadvantaged rural population. It is clear, though, that Burundi will need significant support from donors other than the Bank and the Fund to improve its technical capacity to implement successfully the policy changes implicit in its ambitious objectives.

2. The Changing A.I.D. Strategy for Burundi

In response to this need for support to the reform process, A.I.D. is significantly reshaping its development strategy for Burundi. This action is particularly timely, for while the GRB's progress to date in implementing the reform program has been substantial, much remains to be done. If properly tailored, the A.I.D. program could have an important, favorable effect on the process of change.

The centerpiece of A.I.D.'s program in Burundi will be the Burundi Enterprise Promotion Program (BEPP, 695-0125), a policy-based assistance activity. BEPP was approved by AID/Washington in March 1990; USAID and the GRB expect to sign the Program Grant Agreement for BEPP before the end of April. As articulated in the PAAD, BEPP's goal will be to increase employment and net income for Burundi's poor, a task identified by an early 1989 AID/Washington assessment team as one of the principal economic development objectives in Burundi. This will form the goal of the entire A.I.D. portfolio, including SFSR.

BEPP will move toward this goal by assisting the GRB to develop and implement over a multiyear time frame a series of policy reforms designed to expand and increase the efficiency of marketing and distribution of the products and inputs of Burundi's private sector, especially those of small and medium enterprises. Reforms in the first year of the program will focus on decentralization of customs and related licensing procedures and on increasing the availability of foreign exchange to business travellers. The reform agenda for subsequent years may include further customs decentralization, customs simplification, simplification of business registration procedures, increased availability of market price information, establishment of legal protections for the informal sector, development of an export promotion plan, and development of a plan for increasing the access of small and medium enterprises (SME's) to credit and related support services.

25

Consistent with its purpose-level emphasis on promotion of the SME sector, BEPP will approach the development of all these reforms from the perspective of their potential for impact on that sector. BEPP defines the SME sector to encompass "all non-farm, privately-owned businesses with less than FBU 50 million capitalization and/or less than 50 employees." While this definition includes agricultural processing enterprises, it deliberately excludes, in the interest of limiting the program's focus to a manageable level, small farms. Thus, there is a clear role for SFSR to play in helping to extend the policy reform process to the farming sector. More importantly, research supported by SFSR will help make possible increased production of the agricultural crops that are the key inputs to the small and medium-sized firms toward which BEPP is directed. SFSR will also identify and recommend solutions to policy constraints that may hinder the marketing of those crops. These proposed policy changes will be integrated into the policy dialogue supported by BEPP. Thus, while BEPP focuses principally on the development of Burundi's private sector, and will thereby help increase demand for the consumption of agricultural (as well as other) commodities, SFSR will focus on helping to increase the production and facilitate the marketing of those commodities. In this manner, the two activities will complement each other.

B. Rationale for Amendment of the SFSR Project.

1. Objectives and Accomplishments of the Present Project.

The Small Farming Systems Research Project was authorized in 1983, but did not begin field operations until 1986. The project was to introduce the concept of farming systems research to the GRB's Institut des Sciences Agronomiques du Burundi (ISABU), beginning first in the remote northeastern part of the country and evolving into a national program. The project was also to make a substantial investment in establishing a new ISABU research station at Karuzi. The GRB had a particular interest in research station and infrastructure development since the northeastern part of the country had few development activities in progress and was receiving little active support from ISABU.

The project successfully introduced farming systems methodology at Karuzi. In the process, it involved other ISABU scientists in much of its innovative work and assisted ISABU leadership in examining the institution's program objectives and research methodology. Over a two-year period this led to ISABU's inviting the collaboration of the International Service for Agricultural Research (ISNAR) to assist ISABU in undertaking an analysis of the orientation and management of its research program. The final report on this collaboration has become the blueprint for the current reorganization of ISABU and the reorientation of its research programs. This redesign of SFSR supports these efforts.

Development of a research station was never started, since USAID and ISABU agreed that the infrastructure outlined in the Project Paper was unnecessary for the conduct of farming systems research, and that the recurrent costs for an additional research station were beyond the financial means of ISABU. Some PL 480 funds were made available for scaled-down construction of housing, laboratory, storage and office facilities which are now in process.

26

The original project provided support in the form of technical assistance, training, and commodities. The A.I.D. share of the Life-of-Project budget is \$7,790,000; all these funds have been obligated. USAID estimates that total accrued expenditures as of March 31, 1990 will approximate \$4,372,000.

In March 1989, responding to the recommendations of a 1988 audit of SFSR conducted by the Regional Inspector General's office, USAID/Burundi submitted a Project Implementation Report (PIR) that re-articulated the End of Project Status Indicators (EOPS) and Objectively Verifiable Indicators attached to the project's purpose and outputs. These targets were linked to specific quantifiable measures of project progress. In an attachment to that report, USAID identified five discrete but complementary project purposes; progress toward each of these purposes is summarized below.

a. To build the institutional capacity of ISABU to provide the technology base for Burundi's agricultural sector.

-- SFSR funded a study by ISNAR, the results of which have led ISABU to begin a major reorientation of its research programs to focus on the needs and priorities of farmers. By Presidential Decree, three directors have been appointed to head departments within ISABU's new organizational structure. These include two research directors, one responsible for Commodity Research and the other for Studies of the Environment and Production Systems, as well as a director of the Administrative and Financial Department. An ISABU Board of Directors including members representing small farmers, commercial livestock and dairy farmers, and agricultural industry was also appointed by Presidential Decree. Additionally the ISABU Scientific Commission, which includes a representative of the SFSR technical assistance team, has been reactivated and has met several times to review and evaluate research results and proposals.

-- The project has organized adaptive research teams that are now carrying out work at the farm level in the Buyenzi, Kirimiro, Muyinga, and Cibitoke regions.

b. To assist the GRB in focusing research on critical constraints expressed by farmers.

-- SFSR conducted diagnostic surveys that collected and analyzed farming systems data in five of the country's eleven natural regions. This data was used to identify and prioritize farm-level problems and constraints, and to define new research themes directly applicable to small farmers. ISABU researchers are now required to justify their research programs and to focus them on the problems identified by these diagnostic surveys.

c. To provide Burundi's agricultural sector with relevant innovations in production technology and improved marketing of agricultural commodities.

- The project is working with various ISABU programs to conduct adaptive research on corn, beans, sorghum, potatoes, wheat, triticale, and soybeans. It is also testing two anti-erosion strategies. Two new varieties of corn and four improved bean varieties have shown promise. For some of these varieties, SFSR has started to produce small quantities of seeds for distribution to farmers. 300 kg. of an improved variety of corn seed were distributed in 1989 to 153 participating farmers.
- d. To strengthen the GRB institutional linkages between the agricultural research and extension organizations and the farming community.
 - SFSR has conducted on-farm and on-station field demonstrations, and has organized five farmers' meetings in which some 2,500 farmers (800 of them women) have participated. Most project trials are conducted on farmer's fields, thus requiring regular dialogue between SFSR researchers, extension agents, and farmers.
 - SFSR sponsored in 1989 a three-day seminar in farming systems research in which, for the first time in Burundi, academic and applied researchers, personnel from development projects, and personnel from a regional research institute (IRAZ) discussed the concepts, approaches, and methodology of farming systems research and shared their experiences and research results.
 - The Director General of ISABU and the Ministry of Agriculture and Livestock's (MOAL's) Director General signed an agreement formalizing the cooperative relationship between ISABU's research workshops and the MOAL Extension Service. A copy of that agreement is included as Annex IX to this PP Supplement. The Director of ISABU's Department of Studies of the Environment and Production Systems is negotiating a similar agreement between ISABU and the GRB's Regional Development Societies (SRDs) and other development projects with extension functions.
- e. To upgrade the professional skills of the MOAL's research and extension staffs.

The project has provided, or is providing:

- long-term degree training in the U.S. for seven ISABU researchers;
- short-term training at International Agricultural Research Centers (IARC's) and at U.S. universities for 13 ISABU technicians; and
- in-service training to ISABU technicians and communal extension agents by integrating them in work teams for diagnostic surveys, incorporating them in the conduct of on-farm and station trials, and by involving them in the planning, conduct, and analysis of farm surveys. This training includes instruction in the use of personal computers and software such as Lotus, DataBase, and WordPerfect.

Closely related to ISABU's work are the seed production facilities in Burundi. These take the results of varietal research and reproduce them for use by farmers. Through a separate, now completed project, USAID has been involved in seed activities in Burundi since 1980. Originally this assistance was to help the GRB develop a project-based and state-operated regional seed farm. During the final two years of this project USAID assisted the GRB in a comprehensive examination of its seed sector. This culminated with the Ministry of Agriculture and Livestock developing a National Seed Plan (NSP) designed not only to improve the quality and efficiency of seed production in Burundi, but also to develop private sector participation in the seed sector. While A.I.D. has decided not to support another full seed project in Burundi, the importance of the successful implementation of the NSP to the transfer of the results of research to farmers has led USAID to propose incorporation of a small seed component in SFSR to assist the GRB in initiating the NSP. At the GRB's request, this component will provide the services of an expert who will be their principal advisor in the seed sector. The outlines of the assistance to be provided to the NSP are set forth in Section II.C.2 of this PP Supplement, and presented in more detail in Annex IV.A.3.

2. Need for Amendment of SFSR.

SFSR's present goal and purposes (as expressed in the attachment to the March 1989 PIR) are not inconsistent with the revised A.I.D. program goal of increasing employment and net income for Burundi's poor. It is nonetheless clear that SFSR could be redesigned to support this goal more fully. First, SFSR and ISABU could use on-farm research and marketing studies to identify and articulate reforms to ease policy constraints that may now hinder the growth of agricultural production and marketing. Second, SFSR could work with the GRB to conduct the analyses and help develop the institutional basis that could eventually allow a private sector seed industry to take root in Burundi. Third, SFSR's ongoing farming systems research efforts could be reoriented to focus more explicitly on constraints expressed by farmers. This research could thus make a more effective contribution to the development of new technologies to permit food crop production increases on a limited arable land base. Such a focus on increasing production and facilitating marketing would complement the activities of the BEPP Program, which, by facilitating the growth of Burundi's private sector, aims in part to increase consumption of the agricultural commodities that SFSR will help produce. The addition of an amended SFSR Project to the recently-approved BEPP Program would thus effectively involve the A.I.D. program in Burundi in all three aspects of the production, marketing, and consumption chain.

This PP Supplement reorients SFSR accordingly. It amends the project's existing Farming Systems Research (FSR) component to support the fundamentally different, farm-level approach to agricultural research that ISABU is, with USAID/Burundi's active support and encouragement, now pursuing. Further, this document creates two new components, Marketing Support and Analysis and Private Sector Seed Development, that will add to the project a focus on agricultural policies, marketing, and the potential production by the private sector of a key agricultural input, seeds. To support these revised and expanded foci, this PP Supplement adds four technical assistance positions, revised the project's training plan, and provides funds for short-term consultancies designed to supplement the work of the long-term technicians will be provided.

24

SFSR's goal, purpose, and outputs are amended by this PP Supplement to reflect the project's broadened focus. The A.I.D. contribution to the project is to be increased by \$4,000,000 to a new total of \$11,790,000. USAID/Burundi plans to obligate these additional funds in Fiscal Years 1990, 1991, and 1992. To permit implementation of all activities foreseen under the amended design, the PACD is to be extended from September 30, 1991, to August 22, 1993.

The elements of the amended project are described in more detail below.

C. The Amended Small Farming Systems Research Project.

1. Amended Project Goal and Purpose.

The goal of the amended SFSR Project will be synonymous with that of the Burundi Enterprise Promotion Program, and thus of the entire A.I.D. program in Burundi; i.e., to increase employment and net income for Burundi's poor. The amended project purpose will be twofold:

(a) to build the capacity of ISABU to develop technological innovations and policy recommendations that will facilitate agricultural production and marketing; and

(b) to make available to small farmers in Burundi relevant innovations, including seeds, and increased access to competitive markets for agricultural products.

This re-articulation consolidates most of the elements of the purpose statements attached to the March 1989 PIR while adding a more direct focus on market development, policy formulation, and seed production.

Achievement of the revised purpose will lead to achievement of the revised goal. If the amended SFSR project develops technological innovations, makes these available to small farmers, and helps convince the GRB to implement policies that increase access to markets for agricultural products, then production of agricultural crops will increase, markets will expand, and farmers' incomes will grow.

2. Project Elements.

The revised SFSR Project is to have three major elements -- Farming Systems Research, Marketing Support and Analysis, and Private Sector Seed Development. Each of these is described in summary form below. More detailed descriptions of planned project activities may be found in Annex IV.A, "Technical Analyses." Implementation of these components, as amended, will begin in the third quarter of FY 1990.

a. Farming Systems Research.

The revised project will support ISABU's new directions in farming systems research at two of the five ateliers, Kirimiro and Cibitoke, that ISABU has organized. These ateliers, or research workshops, consist of a team of researchers working (in collaboration with extension agents) on a locus of farms where on-farm trials are conducted. Research efforts will thus

tend to focus on constraints expressed by farmers, and the technologies flowing from research results should be more readily adopted by farmers than results produced by other FSR approaches. This atelier-based research will be oriented toward the development of sustainable, low-input, ecologically sound agricultural technologies. Accordingly, while SFSR is not per se a natural resources project, a principal output of its research will be the transfer to farmers of agricultural methods capable of increasing productivity without damage to the resource base.

To support this reorientation of ISABU's efforts, two types of inputs will be provided:

(1) Technical Assistance.

165 person-months of long-term technical assistance are to be provided between April 1990 and the August 22, 1993 PACD. (See Annex VI for a summary of long-term technical assistance to be provided under all components of the amended project.) Of the four existing long-term positions, two -- the FSR Agronomist and the FSR Extension Specialist -- are to be continued through project completion. The FSR Agronomist is to continue his work at the project-supported atelier in the Kirimiro Region, and the FSR extensionist is to work in the project-supported atelier at Cibitoke while residing in nearby Bujumbura. The current project site of Karuzi will become a sub-activity of the Kirimiro Atelier. The A.I.D.-funded Research Agronomist currently at Karuzi will be phased out in March 1991. Research visits will thereafter be continued by Burundian scientists under the supervision of the Kirimiro Atelier. The Agricultural Economist now stationed at Gitega, who serves not only as the economist for the project-supported ateliers but also as Chief of Party for the University of Arkansas technical assistance team, will continue in both these capacities through September 1991, but will move his offices and the project headquarters to Bujumbura no later than August 1990. After this expert's departure, team leadership will be passed to one of the other technical assistance team members, as proposed by the contractor and agreed upon by USAID.

Two new technical assistance positions will be added:

- An FSR Production Economist, who is to arrive by July 1990 and be based in Bujumbura through September 1991. This individual will be charged with developing standardized data collection and analysis procedures for all ISABU-supported ateliers. These procedures will be used, inter alia, to evaluate the economic results of the technical packages tested by the ateliers to ensure that these options are economically viable under the costs and prices likely to prevail as domestic and international markets are more fully developed. After September 1991, these functions are to be assumed by a Burundian economist currently in training in the U.S.

An Agricultural Policy Economist, a new position to be filled in July 1991 that will continue through the PACD. This economist will reside in Bujumbura. He or she will be responsible for translating the farm-level and micro-economic data gathered during the first two years of the extended project into specific policy recommendations, and for working with the GRB to outline the likely implications of various agricultural policy options it may be considering. It is also possible that this technician may assume the responsibilities of Chief of Party upon completion of the work of the Agricultural Economist, though this decision is one to be made by the contractor in consultation with USAID and the GRB.

Given that the technical assistance team will be living and, for the most part, working in different parts of the country, special care will be taken by the technical assistance contractor to coordinate its technical assistance efforts such that members work as a team.

The services of these technicians will be secured via SFSR's existing A.I.D. direct contract for technical assistance with the University of Arkansas. Scopes of work for the new positions, and revised scopes of work for the Agricultural Economist and the FSR Agronomist, are provided in Annex IV.A.1.

Through the U of A contract, this component will also provide approximately four person-months (i.e., one person-month over each year of the extended project) of short-term technical assistance on farming systems research topics. The areas of expertise required, and the scopes of work for these consultancies, will be determined by USAID in consultation with the GRB and the U of A team. Among other disciplines from which expertise will be drawn, USAID and Arkansas have already agreed that the University will provide the services of a sociologist as needed.

(2) Training.

Three types of training are to be provided under this component. First, nine MOAL employees (five of them from ISABU) are scheduled to be sent for long-term M.S. degree training in the United States. These are expected to include two candidates in agricultural economics, one in agricultural extension, and two in farming systems agronomy. USAID and ISABU are confident of the latter's ability to continue normal operations while these trainees are away.

Second, this PP Supplement reserves funds for ten person months of short-term U.S. training, and 48 person months of short-term third-country training in farming systems research for ISABU employees at various international agricultural research centers (IARC's). It is planned that the bulk of this type of training will take place at IARC's such as CIMMYT, the International Rice Research Institute (IRRI), the International Institute for Tropical Agriculture (IITA), and Montpellier University in France. Training could also be provided in collaboration with the A.I.D.-funded Farming Systems Research Project in Rwanda. Again, specific training opportunities are to be identified by the University of Arkansas COP as implementation of the amended project proceeds.

230

Finally, funding is reserved for four months of in-country courses for ISABU employees in farming systems research. It is expected that each course will last 3 to 4 weeks and will include about 15 students. These courses are expected to focus on topics such as research methodology, experimental design, biometrics, and the use of computers in FSR.

The farming systems research component also includes funds to support in-country thesis research by four project-funded Master's Degree candidates, two research grants to be awarded to local academicians in topics related to FSR, field trips for cooperating farmers, and long-term training for Burundian counterpart personnel involved in the Regional Potato Improvement Program for Central Africa (PRAPAC).

b. Marketing Support and Analysis.

This new component of SFSR is intended to address the relatively undeveloped nature and low productivity of agricultural marketing structures. Its objective is to enhance ISABU's ability to contribute to national policy dialogue and formulation on issues such as marketing systems reform, food and input pricing, and rural infrastructure policies. Two types of assistance will be provided:

(1) Technical Assistance.

The amended project will fund a Marketing Economist, who is to arrive by July 1990 and serve through the extended PACD. This advisor will be based within ISABU's Service Economie Rurale (SER) in Bujumbura, and will also be required to work closely with the Directorate of Internal Commerce of the GRB's Ministry of Commerce and Industry (MCI), the GRB body chiefly responsible for developing policies concerning the marketing of agricultural products. The Marketing Economist will thus serve as a bridge between policy-oriented research carried out by SFSR and other elements of ISABU and the MCI's ongoing process of policy development. He or she will be responsible for conducting micro-level marketing studies on agricultural inputs and products, and for using these studies as the basis for a series of at least four analytical papers on agricultural marketing constraints and on needed institutional and policy reforms. This work is to be related to and supportive of the more macro-oriented policy analyses funded under BEPP, in that the Marketing Economist will help to generate a data base and an analytical framework for the development of policy recommendations in the agricultural sector. These recommendations are then to be explored with the Directorate of Internal Commerce in tandem with the policy dialogue and reform efforts supported by BEPP. To assure that the work of the SFSR Project's Marketing Support and Analysis component is translated into policy recommendations developed in collaboration with the MCI, the FY 1990 Project Grant Agreement Amendment for SFSR will include a Covenant requiring that ISABU and the MCI develop a formal protocol detailing how the Marketing Support component and the MCI will work together.

The services of the Marketing Economist will be obtained through the project's contract with Arkansas. A detailed Scope of Work for this position is included in Annex IV.A.2.

27

Additionally, funding is reserved for 14 person months of short-term technical assistance on marketing-related issues. These are to supplement the work of the Marketing Economist (who will likely, at least initially, be oriented primarily toward micro-markets) by focusing on national level issues of policy and market system reform and international trade. Additional consultancies in specialized areas such as transportation, price analysis, processing and handling, and the establishment of grades and standards are also planned. This assistance will be obtained under the U of A technical assistance contract. The expertise required, and the scopes of work for these consultancies, will be determined by USAID in consultation with the GRB and the Arkansas team.

(2) Training.

Four types of training will be funded under this component. First, SFSR will send two candidates to the U.S. for M.S.-level training in marketing. Second, approximately 12 person months of U.S. short-term training are planned. This will focus on marketing-related areas such as international trade, agricultural transportation and handling, and food processing. Participants may include both ISABU employees and private individuals. The precise curricula should be identified in an assessment of ISABU training needs to be completed within six months of the start of the amended project, i.e., by September 1990. Third, approximately eight person months of third-country training in marketing-related courses at IARC's are planned. Finally, approximately two months of in-country training in marketing-related subjects are to be provided. These courses will be devoted to the application of computers, information systems, and analytical models in market analysis. This training is to be provided both to GRB personnel and to private individuals.

The Marketing Support and Analysis component will also include funds for in-country thesis research by two project-funded Master's Degree candidates, and two research grants to be awarded to local academicians.

c. Private Sector Seed Development.

Through this new component of SFSR, A.I.D. is to become one of several donors assisting the GRB in the development and implementation of its national seed plan. (1) The GRB has already formally established a National Seed Commission, which is providing policy guidance in this

(1) Belgium appears poised to become the largest foreign contributor to the GRB's efforts in the seed sector. It now plans to provide approximately \$7.0 million over a five-year period to fund the costs of training, equipment, and local operations, as well as the services of two long-term technicians. The objectives of Belgian assistance to the NSP will differ somewhat from those of A.I.D., in that their efforts will focus on three seed farms at which foundation seed will be produced for subsequent distribution to various donor and GRB-funded projects in the agricultural sector. SFSR, which aims to assist the GRB in moving toward the private production of certified seed for sale to the general public, will not directly aid any of the three locations to be assisted by Belgium. Thus, there is little if any overlap between the two programs. In any case, the National Seed Commission is expected to take the lead in coordinating the efforts of the various donors in this sector.

24

sector. It plans to establish two other key institutions, the National Seed Service (SSN), which is to provide quality control for the industry, and the National Seed Society (SSB), which is to be responsible for the production, multiplication, and marketing of improved seed. The ultimate objective underlying creation of this institutional structure will be to move the responsibility for seed production and marketing (other than that for breeder seed produced by ISABU) away from the GRB and toward, if and as feasible, private producers and sellers better able to sustain these activities on an ongoing basis.

Before agreeing to add this component to SFSR, USAID/Bujumbura called on two private firms with long experience producing and selling improved seed in sub-Saharan Africa, Pioneer Overseas Corporation and by the Seed Co-op Company of Zimbabwe, Ltd., to assess the potential for developing a successful private seed industry in Burundi. The results of these assessments are attached as Annex VII to this PP Supplement. While both agreed that the production scheme outlined in the NSP is technically sound, uncertainty persists about the potential long-term economic viability of private sector seed production. Pioneer pointed out that additional "Detailed information needs to be collected and analyzed in order to make [a] meaningful assessment of the viability of a private seed organization in Burundi." USAID shares this view, and the revised SFSR Project will therefore devote considerable attention to this issue. Accordingly, long-term technical assistance provided under this component will help the MOAL gather and analyze the data Pioneer believes are necessary, and representatives of both Pioneer and the Seed Co-op Company will return periodically to assess progress in attracting private involvement in seed production and marketing and to make recommendations for furthering such progress. This topic will also be addressed by a mid-term evaluation in FY 1991.

Nonetheless, A.I.D. believes that the importance of improved seeds as an input to more intensive, higher-yielding agricultural technologies, as well as the political commitment the GRB has demonstrated to carrying out the NSP, justify proceeding now at the modest level of effort described below even in the face of some remaining uncertainties. Other donors have reached a similar conclusion. Moreover, A.I.D.'s positive involvement in this effort will help continue the focus of the plan on the need for private sector involvement and a market-oriented pricing policy for seeds.

Three types of inputs will be provided under this component:

(1) Technical Assistance.

This PP Supplement adds a Seed Specialist to the project. This technician is to be based in Gitega under the direction of the GRB's Director General for Agriculture. He or she will begin work in the fourth quarter of FY 1990, and will remain with the project through the extended PACD.

The Seed Specialist is to be the GRB's principal advisor regarding improved seeds. This expert will help the GRB to continue to gather and analyze data on private sector seed production and marketing. He or she will work with both the GRB and private producers to evaluate this data in order to assess the long-term viability of private sector seed production and marketing, and will help prepare, as feasible, a plan for

achieving increased private involvement in these areas. While this research proceeds, the Seed Specialist will be responsible, inter alia, for advising and assisting the GRB in establishing 1), a National Seed Service (SSN) that will test and control the quality of all agricultural seed produced in the country; and 2), a National Seed Society (SSB) that will be charged with seed multiplication, production, and marketing. He or she will also be expected to facilitate linkages between the National Seed Commission and seed research and varietal development efforts carried out by ISABU, to establish and maintain a dialogue with SFSR-supported personnel at atelier sites so as to analyze and assimilate research results, to work closely with the SFSR Marketing Economist in developing recommendations for a market-determined seed pricing policy, to help the GRB identify alternative methods of organizing seed production, and to assist in the development of producer associations. The Seed Specialist will be expected to give particular attention to the development and advocacy of policies for attracting private sector entrepreneurs to sell improved seeds commercially.

To complement the services of this long-term expert, the amended project also includes funds for 14 person-months of short-term consultancies. These are to cover the following topics: Research and Quality Control, Production and Handling, Inspection and Certification, Drying and Storage, and Pricing and Marketing. Other areas may be added upon the recommendation of the Seed Specialist as needs become clearer.

The services of the Seed Specialist and the various short-term consultants described above are to be obtained via SFSR's contract with the University of Arkansas through a subcontract with a U.S. academic institution with recognized expertise in the field. Detailed Scopes of Work for both long-term and short-term technical assistance envisioned under this component of SFSR are included in Annex IV.A.3.

(2) Training.

Three types of training will be offered under this component. First, funds are reserved for two candidates to receive long-term M.S.-level training in Seed Technology in the U.S. One participant should receive specialized training in quality control that will enable him or her to work with the National Seed Service upon returning to Burundi. The other should focus on seed multiplication and production, fields that will enable him or her to work with the National Seed Society.

Second, 12 person months of short-term U.S. training are budgeted. This will permit four persons to attend the Summer Seed Improvement Training course offered at Mississippi State University under the auspices of the U.S. Department of Agriculture. This program provides lectures and laboratory exposure covering all aspects of seed production, and is reinforced by an extended tour of U.S. seed enterprises and industries.

Finally, approximately two course months of in-country training should be provided to develop the seed specialization skills of appropriate technicians and farmers. Three one week courses are to be designed to convey appropriate seed sector technology to the eventual users. This training is to cover topics related to those planned for, and held during, the short-term consultancies described above.

(3) Local Currency Support to the National Seed Plan.

To assist in establishing the three new institutions called for in the NSP, SFSR will provide the local currency equivalent of \$175,000 between the third quarter of FY 1990 and the August 1993 PACD to support certain administrative expenses (e.g. travel, conferences, publication and distribution of reports) of those institutions. This local currency will be part of the GRB's contribution to SFSR.

d. Support to the CIP/PRAPAC Potato Research Network Project.

In addition to the three major components described above, SFSR will also finance the Burundi portion of the A.I.D.-funded Regional Potato Improvement Program for Central Africa (PRAPAC) and the related research activities of the ISABU Potato Program. Support from SFSR to PRAPAC is particularly appropriate in that PRAPAC is now the chief existing link between ISABU research efforts and the process of seed multiplication. PRAPAC does this by providing basic potato seed on ISABU's behalf to various GRB agricultural projects for subsequent multiplication. Moreover, at present, PRAPAC represents the only demonstrably commercially viable seed production and marketing activity in Burundi, inasmuch as a large private market already exists for potato seed. PRAPAC thus serves as a paradigm for the structure of the seed production and marketing system that could be developed for other crops.

Dollar funds made available for this purpose will be used for a buy-in to the CIP/PRAPAC regional project. These funds will purchase equipment and supplies, as well as to support the costs of short-term technical assistance to conduct a survey of potato utilization and marketing. Additionally, to finance the costs of commodity procurement, in-country training, and local operating expenses, the equivalent of approximately \$155,000 in local currency will also be provided by the GRB. These funds will be managed by the University of Arkansas TA team, which will sign an agreement or agreements with PRAPAC and the GRB for this purpose. The costs of one technical assistance position will continue to be provided by the International Potato Center (CIP) in Lima, Peru. In view of these changes in the organization of this ongoing activity, USAID will request that CIP's Regional Coordinator, who is based in Nairobi and also serves as the PRAPAC Project Manager, work with the mission to develop a revised management plan. This plan should be operational by October 1, 1990.

By including funds to support potato research in Burundi, the revised SFSR Project will fulfill the recommendation of the April 1989 evaluation of this activity that "Financial support for the potato research programs of each [participating] country should be included in the regular programs of each USAID mission in support of agricultural research." Moreover, by funding U.S. degree training for potential counterparts, SFSR will also implement the evaluation's recommendation that steps be taken to train and assign host-country counterparts to the expatriate advisors furnished by CIP to help assure that the program can be continued post-PACD.

37

3. Expected Achievements.

a. Anticipated Outputs.

The expected achievements, or outputs, of each of the three components of the revised SFSR Project, and the assumptions linking these outputs to achievement of the project purpose, are discussed in detail in Annex IV.A, "Technical Analyses", and illustrated in Annex I, "Revised Logical Framework." Planned outputs for each of the project components are presented in summary fashion below.

1) Of the Farming Systems Research Component:

Efforts under this component are intended to lead to the following major outputs by the PACD:

- ISABU research is to be focused on critical constraints as expressed by small farmers. This is to be achieved by the conduct of diagnostic surveys in each of those areas and the development of a research program based on the results of those surveys.
- Institutional linkages between agricultural research and extension organizations and the farming community are to be strengthened. By the PACD, MOAL extension agents in the project research zones (i.e., in each of the two agro-ecological zones in which project-supported ateliers will function) should be directly involved in on-farm trials controlled by the host farmers, and all pre-extension materials prepared by SFSR should be produced in collaboration with the MOAL's Extension Service.
- The professional skills of ISABU's research staff and the MOAL's extension staff are to be upgraded through long-term U.S. degree training, short-term U.S. and third-country training (at IARC's) and in-country training.
- Standardized methods for collecting and analyzing on-farm trial and related data are to be developed and in use. Some 20 research themes should be selected in response to initial data analyzed through these standard methods.
- ISABU's capacity to produce improved technologies that will be adopted by farmers is to be improved. It is expected that approximately 2% of farmers, or 5,000 individual farmers, in project research zones will be using at least one technical innovation or improved input promoted by SFSR.
- The outreach capacity of the MOAL extension service in project research zones is to be strengthened. Extension workers in those zones will be doing collaborative work with ISABU, and should be familiar with (and capable of extending) at least two technical innovations or inputs promoted by SFSR.

2/3

- Farm-level and micro-economic data gathered during the first two years of the extended project are to be translated into at least four specific policy recommendations pertaining to agriculture and agricultural marketing. These recommendations should be set forth in technical papers produced by SFSR team. They should then be negotiated with the GRB, and, if approved, enacted by issuance of the appropriate Executive Decree or Ministerial Ordinance.

2) Of the Marketing Support Component.

The outputs of this component are expected to include:

- ISABU research that generates information for GRB decision makers on policies concerning the marketing of agricultural inputs and products. ISABU should produce at least one report per year between 1990 and 1993 that clarifies a marketing problem and that can be used as the basis for making policy recommendations.
- Improved GRB capacity to continue, post-PACD, agricultural marketing research directly applicable to Burundian input and product markets. Mechanisms are to be established that will facilitate communication between private merchants, the MCI, ISABU, and the MOAL Extension Service.

3) Of the Seed Development Component:

By the PACD, outputs are expected to include:

- Expanded knowledge of the actual and potential market for improved seeds in Burundi.
- Standardized rules for evaluating the quality of seed produced by ISABU and the National Seed Society (SSB) are to be put in place using a combination of U.S. and International Seed Testing Association (ISTA) rules.
- There should be a measurable increase in the capability of Burundian personnel working in institutions included in the National Seed Plan to carry out quality control, production, multiplication, and marketing functions.

b. Anticipated Beneficiaries.

Direct beneficiaries from achievement of the outputs of the revised SFSR project will continue to be those identified in the Social Soundness Analysis that accompanied the original Project Paper: the farm families (in this case, the 120 or so farm families in the two SFSR-supported ateliers) who will be direct beneficiaries of improved agricultural technologies developed, distributed, and tested under the auspices of the project; the additional 2,500 or so farmers who will participate in training sessions at the ateliers; the estimated 5,000 farmers in the two project research zones who, by the PACD, will have adopted one or more of the technologies promoted by SFSR, and the trainees who will participate in project-funded degree, short-term, and in-country training. The primary institutional beneficiaries will be the Ministry of Commerce and Industry, particularly its Directorate of Internal Commerce, and the Ministry of Agriculture and Livestock, particularly its Extension Service and ISABU. Indirect beneficiaries are likely to include consumers who will benefit from a greater variety of higher-quality agricultural products, the estimated 80% of Burundi's farmers who may ultimately use and thus benefit from the improved technologies and agricultural inputs supported by SFSR, and the 100% of Burundi's population that may benefit from the improved policy environment to which the project will contribute

III. COST ESTIMATE AND FINANCIAL PLAN

A. Cost Estimates and Expenditure Projections.

Table I on the following page presents a summary estimate of anticipated project costs by component. Annex V sets forth a more detailed summary of the cost of the various planned inputs. As shown in Table II on the following page, the total life-of-project cost of the amended SFSR Project is estimated at \$15,808,000, of which A.I.D. will contribute \$11,790,000 and the GRB \$4,018,000, or 25.4%

B. Financial Plan.

1. Obligation Schedule.

The additional A.I.D. required, \$4,000,000, is scheduled to be provided through obligations of \$2,000,000 in the fourth quarter of FY 1990, \$1,500,000 in FY 1991, and \$500,000 in FY 1992.

2. Financial Management Procedures.

a. Management of U.S. Dollar Funds.

Implementation of the revised SFSR Project will continue to adhere to the A.I.D. Payment Verification Policy Guidance dated December 30, 1983. Specifically, A.I.D. will continue to pay the University of Arkansas for allowable costs incurred in contract performance through one of the preferred modes of payment, the Federal Reserve Letter of Credit, listed in Policy Statement 3 of that guidance. Payment to the International Potato Center under the proposed \$79,000 buy-in to the Regional Potato Improvement Project (CIP/PRAPAC) will also be made through Federal Reserve Letter of Credit. USAID anticipates that it will execute direct contracts for evaluation and audit activities. Payment under these contracts will be made by direct reimbursement.

40

TABLE I: Summary Budget Estimates and Expenditure Projections by Project Component (\$000)

Component:	Estimated Expenditures, 3/31/90	FY 1990	FY 1991	FY 1992	FY 1993	Totals:
I. FSR:	/	/	/	/	/	/
A. TA:	3,328	449	983	557	515	5,832
B. Training:	341	76	315	599	260	1,491
C. Commodities:	522	284	0	8	0	814
D. Other:	0	21	29	25	20	94
Sub-Total:	4,191	830	1,327	1,089	795	8,232
II. Marketing:	/	/	/	/	/	/
A. TA:	0	43	260	260	228	792
B. Training:	0	0	96	143	65	304
C. Commodities:	0	146	0	0	0	146
Sub-Total:	0	189	356	403	293	1,242
III. Seeds:	/	/	/	/	/	/
A. TA:	0	52	224	224	165	666
B. Training:	0	36	111	141	66	354
C. Commodities:	0	108	2	0	0	110
Sub-Total:	0	195	338	365	231	1,130
IV. Other Costs (incl. audit):	181	79	72	100	72	504
Sub-Totals:	4,372	1,293	1,958	1,892	1,391	11,107
Contingency:	0	10	52	49	35	146
Inflation (5%):	0	0	107	206	225	538
GRAND TOTALS:	4,372	1,302	2,253	2,212	1,651	11,790

TABLE II: Planned A.I.D. and GRB Contributions.

	Previous	Additional	Totals:
A.I.D. Contribution	7,790	4,000	11,790
GRB Contribution	1,546	2,472	4,018
Totals:	9,336	6,472	15,808

N.B. Totals do not agree completely due to rounding. Annex V, "Summary Budget Estimate and Expenditure Projections," provides precise figures for FY's 1990 - 1993.

11

Further, as recommended in Policy Statement Number 6 of that guidance, the revised SFSR budget includes funds for an independent audit of all project expenditures. This audit is to be conducted no later than FY 1992.

b. Management of Local Currency.

Over the life of SFSR, the GRB will provide the local currency equivalent of approximately \$4,018,000, or 25.4% of total planned LOP costs, to support the local expenses of the project. This total includes the equivalent of \$1,354,000 that USAID estimates the GRB has provided to SFSR since the beginning of implementation in FY 1986, plus the estimated equivalent of \$2,664,000 that the GRB will provide from the beginning of the revised project on April 1, 1990, through the extended PACD of August 22, 1983.

During the revised project, this GRB contribution will be managed by ISABU's Administrative and Financial Department, which will be required by the Project Grant Agreement Amendment to establish a special, non-commingled account for this purpose. The GRB will submit regular reports to USAID, including bank statements, on the disposition of funds from this account. The University of Arkansas technical assistance team and ISABU's Administrative and Financial Director will negotiate an agreement concerning the means by which funds necessary for the local operations of the technical assistance team will be made available to it. At present, ISABU envisions that the U of A Chief of Party will have the right to sign on his own authority checks issued against this account up to an agreed-upon maximum amount per individual transaction.

ISABU may also agree to advance funds to a special, non-commingled account that Arkansas would establish for routine local expenditures. In this case, the U of A Chief of Party would be required to present to the GRB regular (e.g. quarterly) estimates of planned expenses over a given period, as well as regular reports on expenses versus approved budgets for previous periods.

42

IV. IMPLEMENTATION AND PROCUREMENT PLAN

A. Implementation Plan.

The following summarizes major actions and benchmarks set to take place under each of the three project components. Actions are listed by the quarter of the Fiscal Year in which they are scheduled.

1. Farming Systems Research.

<u>Action:</u>	<u>Action Agent:</u>	<u>Scheduled:</u>
Kirimiro atelier begins operations	ISABU	Done
Extension Specialist moves to Cibitoke	U of A	Done
Cibitoke atelier begins operations	ISABU/U of A	Done
Specifications for commodities prepared	U of A/USAID	3Q FY 90
PIO/T issued for U of A contract amendment	USAID	3Q FY 90
U of A contract amended	USAID/REDSO/GRB	3Q FY 90
PIO/P issued for five M.S. candidates	USAID/U of A	3Q FY 90
PIO/T issued for CIP/PRAPAC buy-in	USAID	3Q FY 90
Subcontract for renovation of Cibitoke buildings	U of A	3Q FY 90
Impact monitoring review conducted	REDSO/USAID/ISABU	4Q FY 90
Renovation of Cibitoke buildings begins	U of A	4Q FY 90
Production Economist arrives	U of A	4Q FY 90
Policy Economist arrives	U of A	4Q FY 90
Commodity orders placed	U of A	4Q FY 90
Five M.S. candidates depart for U.S.	ISABU/USAID	4Q FY 90
Training needs assessment conducted	ISABU/U of A	4Q FY 90
Short-term training plan submitted	ISABU/U of A	4Q FY 90
Short-term training plan approved	USAID	1Q FY 91
Renovation of Cibitoke buildings completed	U of A	2Q FY 91
Commodities arrive	U of A	2Q FY 91
Short-term training begins	ISABU/U of A	2Q FY 91
Research Agronomist completes contract	U of A	2Q FY 91
PIO/P issued for four M.S. candidates	USAID	3Q FY 91
Mid-term evaluation conducted	USAID/REDSO/ISABU	4Q FY 91
Four M.S. candidates depart for U.S.	ISABU/USAID	4Q FY 91
Agricultural Economist completes contract	U of A	4Q FY 91
Production Economist completes contract	U of A	4Q FY 91
Agricultural Policy Economist arrives	U of A	1Q FY 92
Orders placed for additional commodities	U of A	1Q FY 92
Non-Federal audit conducted	USAID/RFMC	1Q FY 92
Additional commodities arrive	U of A	3Q FY 92
Final Evaluation conducted	USAID/REDSO	2Q FY 93
Project Assistance Completion Date		4Q FY 93

b. Marketing Support and Analysis.

<u>Action:</u>	<u>Action Agent:</u>	<u>Scheduled:</u>
PIO/T issued for U of A contract amendment	USAID/REDSO	3Q FY 90
U of A contract amended	USAID/REDSO	3Q FY 90
PIO/P issued for first M.S. candidate	USAID/U of A	3Q FY 90
Impact monitoring review conducted	REDSO/USAID/ISABU	4Q FY 90
Marketing Specialist arrives	U of A	4Q FY 90
Specifications for commodities prepared	U of A/USAID	4Q FY 90
Begin developing marketing research plan	Mktg. Spec.	4Q FY 90
Begin design of training program	Mktg. Spec.	4Q FY 90
First M.S. candidate departs for U.S.	ISABU/USAID	4Q FY 90
Commodity orders placed	U of A	1Q FY 91
Marketing research plan approved	ISABU/USAID	1Q FY 91
Training program submitted to ISABU & USAID	Mktg. Spec.	1Q FY 91
Marketing research begins	Mktg. Spec.	1Q FY 91
1st report on policy recommendations	Mktg. Spec.	2Q FY 91
Training program approved	ISABU/USAID	2Q FY 91
Commodities arrive	U of A	3Q FY 91
3rd-country and in-country training begins	ISABU/Mkt.Sp.	3Q FY 91
PIO/P issued for second M.S. candidate	USAID/U of A	3Q FY 91
Mid-term evaluation conducted	USAID/REDSO	4Q FY 91
Second M.S. candidate departs for U.S.	ISABU/USAID	4Q FY 91
2nd Report on policy recommendations	Mktg. Spec.	1Q FY 92
Non-Federal audit conducted	USAID/RFMC	1Q FY 92
3rd Report on policy recommendations	Mktg. Spec.	4Q FY 92
Final Evaluation conducted	USAID/REDSO	2Q FY 93
4th Report on policy recommendations	Mktg. Spec.	3Q FY 93
Project Assistance Completion Date		4Q FY 93

c. Private Sector Seed Development.

<u>Action:</u>	<u>Action Agent:</u>	<u>Scheduled:</u>
Subcontract issued	U of A	3Q FY 90
PIO/P issued for M.S. candidate in seed production and handling	USAID/U of A	3Q FY 90
Commodity specifications developed	U of A	3Q FY 90
M.S. candidate in seed production and handling departs for U.S.	MOAL/USAID	3Q FY 90
Impact monitoring review conducted	REDSO/USAID/ISABU	4Q FY 90
Seed Specialist arrives	U of A	4Q FY 90
PIO/P issued for 1st S.T. trainee at MSU	USAID	4Q FY 90
Commodity order placed	U of A	4Q FY 90

<u>Action:</u>	<u>Action Agent:</u>	<u>Scheduled:</u>
First short-term trainee departs for MSU	MOAL/USAID	1Q FY 91
Commodities arrive	U of A	2Q FY 91
PIO/P issued for 2nd S.T. trainee at MSU	USAID	2Q FY 91
PIO/P issued for M.S. candidate in seed quality control	USAID/U of A	3Q FY 91
2nd S.T. trainee departs for MSU	MOAL/USAID	3Q FY 91
M.S. candidate in seed quality control departs for U.S.	MOAL/USAID	4Q FY 91
Mid-term evaluation conducted	USAID/REDSO	4Q FY 91
Non-Federal audit conducted	USAID/RFMC	1Q FY 92
PIO/P issued for 3rd S.T. trainee at MSU	USAID	2Q FY 92
3rd S.T. trainee departs for MSU	MOAL/USAID	3Q FY 92
Final Evaluation conducted	USAID/REDSO	2Q FY 93
PIO/P issued for 4th S.T. trainee at MSU	USAID	2Q FY 93
4th S.T. trainee departs for MSU	MOAL/USAID	3Q FY 93
Project Assistance Completion Date		4Q FY 93

B. Procurement Plan.

The University of Arkansas is to continue to provide long- and short-term technical assistance to the revised SFSR Project, and to procure required commodities in accordance with the procedures set forth in Section C.4 of its contract with A.I.D. for SFSR. Arkansas will also carry out, through local subcontractors, minor renovations of the small building that will be the office for the Cibitoke atelier. A memorandum justifying less than full and open competition in the extension of this contract has been prepared by USAID, cleared by the Regional Contracts Officer, and forwarded to A.I.D./Washington for approval. Upon that approval, USAID/Burundi will issue the required PIO/T. USAID expects that negotiations will be completed, and the contract amended, before the end of May 1990. Pending finalization of revised Gray Amendment contracting procedures, the amended contract will contain a provision requiring at least 10% subcontracting to Gray Amendment firms (see Annex XI).

A list of the commodities U of A will under the revised project, together with the estimated cost (CIF Bujumbura) and the likely geographic source and origin of those goods, is set forth in Table IV on the following page. Unless otherwise indicated, orders for all these commodities are to be placed in FY 1990. Project management will endeavor to use only DFA funds for procurement of these commodities, thereby obviating the need to seek waivers for goods procured from non-Code 000 countries.

TABLE IV: Required Commodities and Estimated Costs

<u>No.</u>	<u>Description</u>	<u>Unit Cost</u>	<u>Total Cost</u>	<u>Source/ Origin</u>
6	Mitsubishi 4X4 Vehicles or equiv.(1)	\$22,000	132,000	Code 935
7	Peugeot 504 Pickups or equivalent(1)	\$16,000	112,000	Code 935
1	Minibus	\$16,000	16,000	Code 935
20	Motorbikes	\$ 2,500	50,000	Code 935
10	Computers, Software, Power Supp. (2)	\$ 8,000	80,000	Code 935
7	Photocopiers	\$ 1,200	8,400	Code 935
7	Sets Office Equipment (3)	\$ 3,000	21,000	Code 941
6	Sets Field Research Equipment (3)	\$ 2,300	13,800	Code 000
3	Sets Household Furnishings	\$35,000	105,000	Code 941
1	9.5 KVA Generator for Seeds TA	\$10,000	10,000	Code 935

Total Estimated Value:			13,800	Code 000
			126,000	Code 941
			408,400	Code 935

Grand Total, Commodities:			\$ 548,200	

Notes:

- (1) Procurement of vehicles will not be limited to Mitsubishi or Peugeot models; rather, specifications will be developed that call for bidders to offer these models or their equivalent.
- (2) One computer will not be ordered until FY 1992.
- (3) Detailed lists of the office equipment and field research equipment that will be required are presented in Annex IV.A.1, "Farming Systems Research", and Annex IV.A.3, "Private Sector Seed Development."

N.B.: The figures above reflect the estimated delivery cost CIF Bujumbura, and include the anticipated U of A procurement fee.

V. MONITORING, EVALUATION, AND AUDIT PLAN

A. Project Monitoring.

USAID/Burundi will continue to monitor progress under the revised SFSR Project through regular meetings with senior-level ISABU and MOAL officials, site visits, and reports from the technical assistance team. Additionally, USAID's Agricultural Development Officer, who will continue to serve as Project Officer for this activity, will monitor progress under the Marketing Support component by serving as a member of the informal working group discussed in Annex IV.A.2, "Marketing Support and Analysis." This group, for whose organization ISABU will take the lead, is to seek to coordinate research efforts in the marketing field by bringing together ISABU researchers with appropriate representatives from other divisions of the Ministry of Agriculture and other private and public organizations in Burundi active in this area.

It should be noted that the 1988 audit of SFSR observed that reports from the technical assistance team were inadequate to allow USAID to keep abreast of progress toward project objectives at the purpose and output levels without what it considered to be an unduly high number of visits to project activities in the field. The auditors were concerned that this imposed an unacceptably "intensive" management burden on USAID's small staff. They recommended that, to correct this, U of A's periodic reports henceforth include detailed information on the status of progress toward these objectives. USAID and U of A are implementing this recommendation, and plan to continue to do so under the revised project. U of A's periodic reports will include detailed information on progress toward the EOPS and output indicators set forth in Annex I, "Revised Logical Framework", to this PP Supplement. This information should include the TA team's comments on (a), technological advances emerging in the research program; (b), patterns of adoption by participating farmers and the broader farming population; and (c), public and private institutional change and development in research and extension resulting from SFSR activities. The requirement for this information will be included in the extended U of A contract. This should help ease the oversight burden placed on USAID's limited staff resources, whose time is expected to be stretched even more thinly by the management burden that will be imposed as implementation of BEPP proceeds.

B. Evaluation Arrangements.

Three evaluations of the amended SFSR project are planned. First, an effort will be made immediately (i.e., no later than the fourth quarter of FY 1990) to assess the results and implications of SFSR research carried out in 1988-89. This will serve as a programmatic guide during implementation of the activities described in this PP Supplement, and will help establish benchmarks by which participants in the subsequent mid-term and final evaluations (see below) will be able to assess the project's achievements. This stock-taking review is to be focused on research directions and programmatic implications. It is to be done quickly and at low cost by a small USAID/REDSO team.

Second, a mid-term evaluation is scheduled to take place in the fourth quarter of FY 1991. This is intended to be a process evaluation of progress made in launching the revised project. It will devote particular attention to progress made by ISABU in organizing the planned research ateliers, the integration of SFSR into ISABU's normal operations, and progress made by the new Marketing component in organizing research designed to develop policy recommendations. Perhaps most importantly, this evaluation will examine critically the initial steps taken by the seed component to gather and interpret the data necessary to assess the prospects for attracting private involvement in seed production and marketing.

To carry out this work, the mid-term evaluation team should include an expert in farming systems research, a specialist in agricultural marketing, a specialist in seed production and marketing (preferably from the private sector), an agricultural economist, and the Regional Environmental Advisor. A Project Development Officer will also participate, as will representatives of ISABU, other divisions of the MOAL, and the University of Arkansas.

Additionally, a final evaluation of SFSR is scheduled to be conducted in by the second quarter of FY 1993. This final evaluation is to take place in advance of the PACD, for it is expected that its results will inform the design of any future directions in the areas encompassed by this project.

All these evaluations will make use of the data being gathered by SFSR in its ongoing diagnostic survey. This information, as well as that compiled by USAID in 1989 through a Household Income Survey carried out in connection with design of BEPP, will serve as a baseline for the establishment of benchmarks and the assessment of progress toward SFSR's planned objectives. Further, the mid-term and final evaluations will both analyze and assess how effectively the revised SFSR Project supports and reinforces the Burundi Enterprise Promotion Program (BEPP).

The revised SFSR budget also includes funds for an independent, non-Federal audit of all project expenditures. This audit is to be conducted no later than FY 1992.

VI. CONDITIONS, SPECIAL PROVISIONS, AND COVENANTS

A. Condition Precedent.

One Condition Precedent to disbursement will be included in the authorization and Project Grant Agreement Amendment. Even though SFSR itself will not procure any pesticides for use in the Seed Sector component, the use of some pesticides is an essential element in the production of improved seeds. The MOAL will purchase the required pesticides with other resources. To help assure that the MOAL, and the producer associations it plans to sponsor, use these pesticides in an environmentally sound manner, the Grant Agreement Amendment will include the following provision:

HS

"Prior to any disbursement of funds for the Seed Sector component of the Project or to the execution of a funded or unfunded amendment to the existing contract Number AFR-0106-C-00-6004-00 between A.I.D. and the University of Arkansas for this Project, the GRB shall provide to A.I.D., in form and substance satisfactory to A.I.D., a list of pesticides projected to be used by ISABU or the Ministry of Agriculture and Livestock under said project component in trials at experimental stations, on controlled plots, and in seed production activities, including generic names, manufacturer's environmental data, recommended tolerance rates, planned application frequency, storage arrangements and procedures, and a description of how users of pesticides are to be protected. Said projected list of pesticides, storage procedures and arrangements, and utilization procedures are required to comply with United States Government rules and regulations (e.g. Regulation 16), which rules and regulations shall be provided by A.I.D. to the GRB by Project Implementation Letter."

The GRB is already gathering the data required to fulfill this Condition Precedent. USAID/Burundi therefore expects that the GRB will be able to meet this condition before the end of the third quarter of FY 1990.

B. Special Provision.

To assure that proper procedures are in place for the management of the GRB's contribution to SFSR, the Project Grant Agreement Amendment to be executed in the third quarter of FY 1990 will include the following Special Provision:

"The GRB shall establish in the name of the Burundi Institute of Agricultural Sciences (ISABU) a special, non-commingled interest-bearing account entitled "Burundi Institute of Agricultural Sciences ("ISABU") - 1990" in a bank in Burundi for deposits of the GRB's local currency contribution to the Project as required by this Agreement. The funds in this account shall be utilized by ISABU to finance local costs of the Project as mutually agreed to by A.I.D. and ISABU in writing. The GRB shall provide USAID/Burundi with no less than semi-annual reports, including bank statements and supporting documents as required, on the use of funds from this account. The GRB further agrees that A.I.D. shall have the right to audit this account and the activities financed thereby."

C. Covenants.

All covenants included in the existing Project Grant Agreement, as amended, will be retained. In addition, the following covenants will be added:

"1. Research - Evaluation:

Within two years of the signing of this Amendatory Agreement, the GRB will undertake and complete a comprehensive evaluation of the progress, effectiveness, and sustainability of the Atelier (research workshop) concept as the primary approach to agricultural research in Burundi. The GRB will provide USAID/Burundi with a copy of the report of the findings of this evaluation.

2. Research - Financial and Technical Support:

The GRB will consult with A.I.D. on a no less than annual basis in each year from 1990 through 1993 as to GRB actions being taken to increase the level of its contributions to the operations of ISABU's research ateliers. This increase in the GRB contribution may include contributions in-kind. The GRB will also assign and make available in a timely manner counterparts to the University of Arkansas technical assistance team.

3. Marketing:

By September 30, 1991, the GRB shall, in consultation with A.I.D., develop and approve a multiyear research plan to identify Burundi's agricultural marketing structure, its operating characteristics, and the existing and projected inter-regional trade flows, constraints and marketing potential. This plan shall provide a schedule for the submission of analyses of policy constraints and the development of recommendations to address those constraints.

4. Seeds - Implementation Plan:

Within one year of the arrival in Burundi of the A.I.D.-funded Seed Specialist, the GRB shall furnish a plan, in form and substance satisfactory to A.I.D., for implementing a national seed program. This plan shall address: (a) setting seed production, marketing, and pricing guidelines; (b) providing central seed inspection and quality control services; and (c) the necessary multiplication, processing, and marketing of improved seeds.

5. Seeds - Privatization:

This Project is designed to stimulate increased participation of the private sector in seed production. Within one year of the signing of this Amendatory Agreement, the GRB shall propose, in consultation with A.I.D., policies, if and as appropriate, to promote and provide for the increasing participation of the private sector in the production, multiplication and sale of improved seeds. Progress in implementing these policies will be subject to a special GRB-USAID review to be completed by December 31, 1991.

6. Cooperation Between ISABU and the Ministry of Commerce and Industry on Policy Development.

By December 31, 1990, the GRB shall prepare and approve a Protocol or equivalent document, in form and substance satisfactory to A.I.D., describing and governing how its Ministry of Commerce and Industry (MCI) and its Institute of Agricultural Sciences (ISABU) will work together to translate the findings of marketing research supported by ISABU into specific recommendations on GRB policies required for the marketing of agricultural products and inputs."

VII. SUMMARIES OF ANALYSES.

Technical analyses of the three major components of the revised SFSR Project are included in Annex IV.A to this Project Paper Supplement. These analyses describe in detail the work that is to be carried out by each component and the expected achievements (or outputs) of those components. They also set forth detailed Scopes of Work for each of the new long-term technical assistance positions that will be created, suggest (where appropriate) Scopes of Work for planned short-term technical assistance, and list the commodities that will be required to allow each component to reach its objectives. Additionally, Annex IV.A.4 describes and provides an estimated budget for the minor construction and renovation activities that will have to be performed by local subcontractors at Cibitoke.

Annex IV.B, "Economic Analysis," concludes that the internal rate of return from the activities of the amended project should be approximately 44%, a finding consistent with previous work on the value of agricultural research generally. The Annex notes, however, that this analysis was conducted in the face of uncertainty about which technologies would be recommended and the extent to which they would be adopted, and in the absence of detailed farm budgets. The authors state that they "look forward to the [planned First Quarter FY 1991 mid-term] evaluation when more complete data will be presented."

Annex IV.C, "Institutional Analysis," describes in detail how ISABU has been reorganized to support the research workshop (atelier) approach to farming systems research that both ISNAR and USAID/Burundi encouraged it to adopt. The analysis then discusses the changes made in the internal structure of the Ministry of Agriculture and Livestock (MOAL) in light of (a), the high priority the MOAL now places on extension; and (b), the MOAL's realization that many of the social and agricultural support services formerly performed by its extension service could be carried out more effectively by the private sector. The analysis explains how ISABU research results at the atelier level will be fed into the extension service. Finally, the analysis summarizes the structure of Burundi's National Seed Plan. The overall conclusion is that the Burundian institutions that will be involved in all components of the amended SFSR Project are capable of carrying out their responsibilities.

VIII. 611(A) ASSESSMENT.

Based upon the A.I.D. Representative's review of the SFSR Project documentation, as well as his consultations with GRB, A.I.D., and external experts, it is his assessment that the financial and other plans necessary to carry out the planned assistance, as well as a reasonably firm estimate of the costs to the U.S. Government of providing this assistance, have been completed.

Based upon the A.I.D. Representative's review of the SFSR Project documentation and consultations with senior GRB officials, it is his assessment that upon execution of the Project Grant Agreement Amendment, such legislative action as may be necessary to meet the objectives of this project may reasonably be anticipated to be completed in time to permit the orderly accomplishment of those objectives (See Annex X).

ANNEX I: REVISED LOGICAL FRAMEWORK

Project Title: Small Farming Systems Research
Project Number: 695-0106
U.S. Government Contribution: \$11,790,000

<u>NARRATIVE SUMMARY:</u>	<u>OBJECTIVELY VERIFIABLE INDICATORS:</u>	<u>MEANS OF VERIFICATION:</u>	<u>ASSUMPTIONS:</u>
<u>Goal:</u>	<p>A. Increased employment levels. B. Increased real per capita GNP.</p>	<p>A. Examination of GRB and multilateral donor statistics. B. Updates to household baseline survey done in 1989.</p>	<p><u>Assumptions for achieving goal:</u></p> <p>A. Availability of improved seeds and production technologies will, in an appropriate policy environment, lead to production and marketing of a wider variety of agricultural crops and increased farmer income.</p> <p>B. A sufficient number of SFSR policy recommendations will be implemented by the GRB in response to the policy dialogue effort to be launched under the AEPRP.</p> <p>Assumptions for</p>
<u>Project Purpose:</u>			<u>Assumptions for achieving purpose:</u>
<p>A. To build the capacity of ISABU to develop technological innovations and policy recommendations that will facilitate agricultural production and marketing.</p>	<p>A.(1) ISABU completes examination of its research policy, organization, and management and makes changes as recommended by ISNAR report. (2) ISABU produces at least one research paper per year making policy recommendations.</p>	<p>A.(1) Survey of ISABU internal management procedures; interviews with ISABU decision-makers. (2) Survey of ISABU research papers produced between 1989 - 1993.</p>	<p>A,B (1) Focusing ISABU research on constraints expressed by farmers and strengthening its links with the extension service will result in technological innovations more likely to increase production. (2) Marketing of agricultural products and inputs is constrained by inappropriate policies to which feasible alternatives can be identified. (3) Improved capacity of MOAL Extension Service will help it transfer technologies developed by SFSR to small farmers (4) GRB willing to divest itself of involvement in production and multiplication of improved seeds; private sector entities stand ready to assume these functions. (5) Burundian small farmers will be willing to purchase improved seeds at a price suff-</p>
<p>B. To make available to small farmers in Burundi relevant innovations in production technology, including seeds, and increased access to competitive markets for agricultural products.</p>	<p>B.(1) Technologies and seeds proven through adaptive research and introduced to farmers; (2) Key agricultural inputs such as seeds uniformly available throughout Burundi</p>	<p>B.(1) Review of project research records; small farmer survey at EOP. (2) Market survey at EOP.</p>	

<u>NARRATIVE SUMMARY</u>	<u>OBJECTIVELY VERIFIABLE INDICATORS:</u>	<u>MEANS OF VERIFICATION:</u>	<u>ASSUMPTIONS:</u>
<u>Project Purpose (cont.):</u>	(3) 10% increase in export of Burundian agricultural commodities between 1989 and EOP. (4) Market-determined seed pricing policy in place.	(3) Examination of GRB and multilateral donor records. (4) Issuance of decree or ordinance mandating that no official constraints be placed on the price of improved seed.	<u>Assumptions for achieving purpose:</u> icient to allow private producers to recover their costs and earn a profit that will induce them to encourage production. (6) BEPP and BEST identify policy constraints to marketing, and the GRB then enacts policy reforms to alleviate those constraints.
<u>Project Outputs:</u>			<u>Assumptions for achieving outputs:</u>
A. ISABU research focused on critical constraints expressed by farmers.	A. Diagnostic surveys completed in each of Burundi's natural zones and research program based on them developed.	A. Survey of ISABU records.	A. ISABU willing to use results of diagnostic surveys to orient its research toward constraints expressed by farmers.
B. Institutional linkages strengthened between agricultural research and extension organizations and the farming community.	B.(1) MOAL extension agents directly involved in on-farm, farmer-controlled trials. (2) All extension materials produced by SFSR prepared in collaboration with Extension Service.	B.(1) Survey of farmers and extension agents. (2) Discussions with Extension Service personnel; examination of ISABU records; contractor reports.	B. Involvement of MOAL extension agents in atelier research will lead to enhanced and ongoing collaboration between ISABU and the MOAL extension service.
C. Professional skills of ISABU and MOAL research and extension staffs upgraded.	C. ISABU and extension personnel participate in degree, short-term, and in-country training.	C. Project records.	C.(1) Trainees will participate in courses that offer instruction in skills they now lack. (2) Trainees capable of assimilating material taught in these courses.
D. Standardized methods for collecting and analyzing on-farm trial and related data developed and in use.	D.(1) Systems completed and in operation for information collection, analysis, and reporting. (2) 20 research themes and on-farm sites selected as a result of information analyzed.	D.(1) Examination of ISABU procedures for data-gathering and analysis. (2) Literature survey of ISABU research papers prepared 1989-1993.	D. Agro-ecological circumstances at various sites at which data will be gathered lend themselves to application of standardized procedures.
E. Improved capacity of ISABU to produce improved technologies that are adopted by farmers.	E.(1) 120 farmers collaborating in on-farm adaptive research at EOP (2) 5000 farmers in project research zones using at least one technical innovation or inputs promoted by SFSR.	E.(1) Atelier records (2) Sample survey of farmers in project research zones.	E. Orientation of ISABU research toward constraints expressed by farmers will lead to development of technologies that farmers will be more willing to accept.

OBJECTIVELY VERIFIABLE INDICATORS:	MEANS OF VERIFICATION:	ASSUMPTIONS:
<u>Project Outputs (cont.):</u>		
F. Strengthened outreach capacity of MOAL extension service in project research zones.	F.(1) Extension workers in project research zones working with SFSR and doing collaborative work with ISABU. (2) Extension workers in project research zones familiar with at least two technical innovations or inputs promoted by SFSR.	F.(1) Survey of ISABU records; interviews with extension workers. (2) Interviews with extension personnel in project research zones.
G. ISABU research generates information for GRB decision-making re the marketing of agricultural inputs and products.	G. ISABU produces at least one analytical paper per year to be used as a basis for making policy recommendations; these papers shared with MCI.	G. Survey of ISABU papers published between 1990 - 1993. G.(1) Marketing of agricultural products is constrained by inappropriate policies. (2) Studies can identify these policies and produce recommendations to change them.
H. Improved capacity of ISABU to conduct agricultural marketing research directly applicable to Burundian input and product markets.	H.(1) Mechanisms established to provide communication between private merchants and SFSR and extension workers. (2) Methodology in place for collection of agricultural input & product market information.	H.(1) Study of ISABU records; interviews with merchants, SFSR, and extension workers. (2) Examination of ISABU procedures for collection of market data.
I. Standardized rules in place for evaluating quality of seed produced by ISABU and SNS.	I. ISABU and INSS adopt combination of AOSA and ISTA rules.	I. Study of ISABU and SNS records. I. GRB will set up the institutional structure called for in the National Seed Plan.
J. Measurable increase in the capability of Barundi personnel to administer and transfer seed technology.	J. Barundi personnel in SSM and SSB carrying out their duties in as per accepted professional standards.	J.(1) Reports by SFSR short-term TA personnel. (2) Final evaluation. J.(1) Trainees will participate in seed technology courses offering skills they now lack. (2) Trainees capable of assimilating curricula offered in these courses.
K. Increased knowledge of actual and potential markets for improved seeds.	K. Establishment of baseline data set on seed needs and preferences of farmers.	K. Completion of studies by Seed Specialist and other elements of MOAL. K. Replies of farmers to questions concerning their need for seeds accurately reflect their desires and likely market behavior.

Assumptions for achieving outputs:

<u>NARRATIVE SUMMARY:</u>	<u>OBJECTIVELY VERIFIABLE INDICATORS:</u>	<u>MEANS OF VERIFICATION:</u>	<u>ASSUMPTIONS:</u> Assumptions for achieving outputs:
<u>Project Inputs.</u>	<u>IMPLEMENTATION TARGETS:</u>		
A. Technical Assistance.	A. Technical Assistance.		
(1) Long-Term: a. COP/Ag Economist b. FSR Agronomist c. FSR Extension Specialist d. FSR Production Economist e. Ag Policy Economist f. Research Agronomist g. Marketing Economist h. Seed Specialist	(1) Long-Term: a. 18 months b. 41 months c. 41 months d. 15 months e. 38 months f. 12 months g. 38 months h. 38 months		
(2) Short-term: a. Farming Systems Consultants b. Marketing Consultants c. Seed Sector Consultants d. Evaluation	(2) Short-term: a. 4 person months b. 14 person months c. 14 person months d. 4 person months		
B. Training.	B. Training.		
(1) Long-Term U.S. a. FSR/Agronomy b. Marketing c. Seed Production d. Other MOAL	(1) Long-term U.S. a. 5 degrees b. 2 degrees c. 2 degrees d. 4 degrees		
(2) Short-term U.S. a. Farming Systems b. Marketing c. Seed Production	(2) Short-term U.S. a. 10 person months b. 12 person months c. 12 person months		
(3) Third Country (IARC's) a. Farming Systems b. Marketing	(3) Third Country (IARC's) a. 48 person months b. 8 person months		
(4) In-Country Training: a. Farming Systems b. Marketing c. Seed Production	(4) In-Country Training: a. 4 course months b. 2 course months c. 2 course months		
(5) Thesis Support: a. Farming Systems b. Marketing c. Seed Production	(5) Thesis Support: a. 4 participants b. 2 participants c. None.		
C. Commodities.	C. Commodities.		

See Section IV.B of this Project Paper Supplement.

ANNEX II: STATUTORY CHECKLIST

N.B. As agreed with GC/AFR, USAID is using the FY 1989 Checklists pending issuance of Standard FY 1990 Checklists.

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; B(2) applies to projects funded 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 1989 Appropriations Act Sec. 523; FAA Sec. 634A. If money is sought to obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified?
Congress has been notified, the waiting period expired without objection.
2. FAA Sec. 611(a)(1). Prior to an obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?
(a) Yes
(b) Yes
3. FAA Sec. 611(a)(2). If legislative action is required within recipient country, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?
See Annex X, which describes how laws are enacted in Burundi and summarizes steps already taken by the GRB to help assure the success of the amended Project.

4. FAA Sec. 611(b); FY 1989 Appropriations Act Sec. 501. If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See AID Handbook 3 for guidelines.) N/A
5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively? 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; (c) encourage development and use of cooperatives, 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. The project is designed to improve the productivity of small farmers. This will enable them to participate more fully in domestic trade, thereby supporting objectives (b), (d), and (e) of FAA 601(a). The project is not expected to have a significant impact on objectives (a) (c), or (f)
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). The project is intended to help increase income for Burundi's poor. In concert with the reforms supported by AID's private sector policy reform program, this will lead to an expansion of overall private sector activity in Burundi.

9. FAA Sec. 612(b), 636(h). 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. The GRB will contribute the local currency equivalent of 25.4% of total planned project costs.
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? The U.S. owns no Burundian currency.
11. FY 1989 Appropriations Act Sec. 521. 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
12. FY 1989 Appropriations Act Secs. 549. Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel? N/A
13. FAA Sec. 119(g)(4)-(6) & (10). Will the assistance (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other (a) Yes. the project trains farmers in the use of agricultural technologies designed to increase productivity with minimal environmental damage. (b) No.

- wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?
- (c) No
- (d) No
14. FAA Sec. 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (either dollars or local currency generated therefrom)? N/A
15. FY 1989 Appropriations Act. If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government? N/A
16. FY 1989 Appropriations Act Sec. 538. If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.? N/A
17. FY 1989 Appropriations Act Sec. 514. If funds are being obligated under an appropriation account to which they were not appropriated, has prior approval of the Appropriations Committees of Congress been obtained? N/A
19. State Authorization Sec. 139. (as interpreted by conference report). Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same officers? (See Handbook 3, Appendix 6G for agreements covered by this provision). The amended Project Grant Agreement will be below the minimum amount necessary for application of this provision.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

- a. FY 1989 Appropriations Act Sec. 548 (as interpreted by conference report for original enactment). If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity: or (b) in support of research that is intended primarily to benefit U.S. producers?

(a) (No

(b) No

- b. FAA Secs. 102(b), 111, 113, 281(a). Describe 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, dispersing investment 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 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

By promoting appropriate agricultural technologies designed to increase the productivity and income of small farmers in the rural interior of Burundi, the project helps extend access to the economy at the local level, increases labor-intensive production, and facilitates wider participation of the poor in the benefits of development. The project will not have a direct effect on cooperatives or local government institutions. By helping the private initiatives of individual farmers, however, it will support self-help among Burundians.

institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

Women, who are disproportionately represented among the small farmers the project assists will be among its chief beneficiaries. The project will have little effect on regional cooperation.

c. FAA Secs. 103, 103A, 104, 105, 106, 120-21; FY 1990 Appropriations Act (Development Fund for Africa). Does the project fit the criteria for the source of funds (functional account) being used?

This amendment is funded from the DFA.

d. FAA Sec. 107. Is emphasis placed 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

e. FAA Secs. 110, 124(d). Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

Yes

f. FAA Sec. 128(b). If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority?

Yes. The chief beneficiaries of the program will be poor farmers in rural Burundi.

- 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. The amended project will provide over 100 person months of training for Burundians, thereby helping build the country's own intellectual development.
- h. FY 1989 Appropriations Act Sec. 536. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? No
- Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilization? No
- Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning? No
- i. FY 1989 Appropriations Act. Is the assistance being made available to any organization or program which has been determined to support or participate in the management of a program or coercive abortion or involuntary sterilization? No
- If assistance is from the population functional account, are any of the funds to be made available to voluntary family planning projects which do not offer, either directly or through referral to or information about access to, a broad range of family planning methods and services? N/A

- j. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes
- k. FY 1989 Appropriations Act. What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 20 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)? To the extent required and practical, at least 10% of the funds budgeted for technical assistance, training, and commodity procurement will be channelled to such enterprises and institutions.
- l. FAA Sec. 118(c). Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16? Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (a) stress the importance of conserving and sustainably managing forest resources; (b) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (c) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (d) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (e) help conserve forests which have not yet been degraded by helping to increase Yes, the project is in compliance with Regulation 16. The other items in this section are not applicable.

production on lands already cleared or degraded; (f) conserve forested watersheds and rehabilitate those which have been deforested; (g) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (h) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation, (i) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation, and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (j) seek to increase the awareness of U.S. government agencies and other donors of the immediate and long-term value of tropical forests; and (k) utilize the resources and abilities of all relevant U.S. government agencies?

- m. FAA Sec. 118(c)(13). If the assistance will support a program or project significantly affecting tropical forests (including projects involving the planting of exotic plant species), will the program or project (a) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land, and (b) take full account of the environmental impacts of the proposed activities on biological diversity?

N/A

- n. FAA Sec. 118(c)(14). Will assistance be used for (a) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; or (b) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas?
- (a) No.
- (b) No.
- o. FAA Sec. 118(c)(15). Will assistance be used for (a) activities which would result in the conversion of forest lands to the rearing of livestock; (b) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undegraded forest lands; (c) the colonization of forest lands; or (d) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?
- (a) No
- (b) No
- (c) No
- (d) No
- p. FY 1990 Appropriations Act. If assistance will come from the Sub-Saharan African DA account, is it (a) to be used to help the poor majority in Sub-Saharan Africa through a process of long-term development and economic growth that is equitable, participatory, environmentally sustainable, and self-reliant; (b) being provided in accordance with the policies contained in section 102 of the FAA;
- (a) The project is specifically designed to help increase employment and net income for Burundi's poor.
- (b) Yes

(c) being provided, when consistent with the objectives of such assistance, through African, United States and other PVOs that have demonstrated effectiveness in the promotion of local grassroots activities on behalf of long-term development in Sub-Saharan Africa; (d) being used to help overcome shorter-term constraints to long-term development, to promote reform of sectoral economic policies, to support the critical sector priorities of agricultural production and natural resources, health, voluntary family planning services, education, and income generating opportunities, to bring about appropriate sectoral restructuring of the Sub-Saharan African economies, to support reform in public administration and finances and to establish a favorable environment for individual enterprise and self-sustaining development; and to take into account, in assisted policy reforms, the need to protect vulnerable groups; (e) being used to increase agricultural production in ways that protect and restore the natural resource base, especially food production, to maintain and improve basic transportation and communication networks, to maintain and restore the natural resource base in ways that increase agricultural production, to improve resource base in ways that increase agricultural production, to improve health conditions with special emphasis on meeting the health needs of mothers and children, including the establishment of self-sustaining primary health care systems that give priority to preventive care, to provide literacy and mathematics especially to those outside the formal educational system and to improve primary education, and to develop income-generating opportunities for the unemployed and underemployed in urban and rural areas?

(c) No.

(d) Yes. The project seeks to develop new technologies that will expand the productivity of Burundi's limited land base, thereby supporting one of AID's critical priorities in the agricultural and natural resource sector.

(e) Yes. The project is developing technologies designed to increase agricultural production while protecting Burundi's natural resource base.

- q. FY 1990 Appropriations Act Sec. 515. If deob/reob authority is sought to be exercised in the provisions of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same general region as originally obligated, and have the Appropriations Committees of both Houses of Congress been properly notified? N/A

2. Development Assistance Project Criteria (Loans only)

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

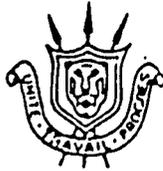
- b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest? N/A

- c. FAA Sec. 122(b). Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities? N/A

3. Economic Support Fund Project Criteria

- a. FAA Sec. 531(a). Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA? N/A

- b. FAA Sec. 531(e). Will this assistance be used for military or paramilitary purposes? N/A
- c. 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



ANNEX III: GRB Request for Assistance

MINISTRE DE L'AGRICULTURE ET DE L'ELEVAGE

CABINET DU MINISTRE

A Monsieur le Représentant de l'USAID

à

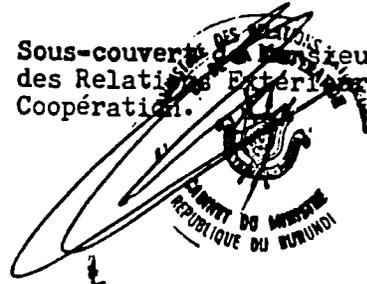
BUJUMBURA,

Réf. : 710/355/1989

Tel. : 2.2087

Objet : Complément de Financement SFSR.

Sous-couvert de Monsieur le Ministre des Relations Extérieures et de la Coopération.



Monsieur le Représentant,

J'ai l'honneur de porter à votre connaissance qu'après analyse du dossier "Burundi SMALL FARMING SYSTEMS RESEARCH PROJECT" (SFSR, 695-0106), il apparaît que la restructuration envisagée pour ce projet va entraîner des coûts supplémentaires s'élevant à U.S. \$ 6.794.000 (SIX MILLIONS SEPT CENT QUATRE-VINGT-QUATORZE MILLE DOLLARS DES ETATS-UNIS).

Etant donné la nécessité de cette restructuration, je vous prierais d'envisager la possibilité de financer ce supplément de ressources nécessaires à concurrence de U.S.\$4.000.000 (QUATRE MILLIONS DE DOLLARS), le reste constituant la contre-partie du Gouvernement Burundais.

Vous trouverez, ci-joint, le tableau de répartition des estimations budgétaires du projet restructuré sur la période 1990-1993.

Veillez agréer, Monsieur le Représentant, l'assurance de ma considération très distinguée.

COPIE POUR INFORMATION A

- Monsieur le Directeur Général de l'ISABU à BUJUMBURA.

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Stamp: REPUBLIQUE DU BURUNDI - MINISTERE DE L'AGRICULTURE ET DE L'ELEVAGE

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Handwritten signature: *[Signature]*

A. TECHNICAL ANALYSES.

1. Farming Systems Research.

a. Introduction.

The Small Farming Systems Research Project (SFSR, 695-0106) was created to address long standing problems concerning the adoption by farmers of research recommendations. Prior to the project, virtually all ISABU agronomic research in Burundi was done on research stations or on multi-locational sites managed entirely by ISABU research staff rather than in collaboration with farmers and extension agents. Structurally, nothing required researchers to solicit the reaction of farmers to the new technologies they were proposing to the extension service for dissemination to farmers. Few researchers did this on their own. This resulted in the stagnation of food crop production technology as farmers found reasons for rejecting technologies proposed to them by the extension service. Only cash crops, which tend to be grown in pure stands, and which benefited from the bulk of research resources up until the debut of the project, showed much improvement.

Over the past few years, in important measure because of the efforts of the existing SFSR Project, farming systems and integrative research have become appreciated by ISABU for their potential for improving the economic effect of commodity research programs there. This effort received a major boost under the direction of the last director of ISABU. He elicited the help of the entire ISABU research staff, USAID and ISNAR in a joint effort to define a more relevant research structure for ISABU. Farming systems research, in a somewhat innovative form, is now to become the driving force behind commodity research programs throughout ISABU (see Annex IV.C, "Institutional Update"). As a consequence of this restructuring, the context for conducting farming systems research will change somewhat. It is, therefore, necessary to modify the SFSR Project to take better advantage of these emerging opportunities.

To support ISABU's new directions, the revised SFSR Project will facilitate expansion of the farming systems research program to cover five principal agricultural regions of Burundi. It will provide financing and technical assistance for two of the proposed FSR teams, technical assistance for the economic and marketing aspects of all farming systems research at ISABU, technical assistance in seed production, and training and intellectual support to consolidate and extend accomplishments of the existing project.

b. Future Organization of Farming Systems Research.

As described in Annex IV.C, "Institutional Analysis," future FSR research will be conducted in the context of the Ateliers Regionaux de Recherche (regional research workshops). A research workshop consists of a team of researchers working on a locus of actual farms where farming systems researchers place their on-farm trials. Like FSR, the ateliers will focus on the transfer of technologies to farmers.

ISABU anticipates establishing ateliers in five distinct agro-ecological zones over the next four years. USAID has agreed to finance two of these through SFSR. In addition, the SFSR team will provide modest advisory support as needed for the other ateliers as they are established. Each atelier will be staffed with one head or coordinator, two technicians and four field agents.

As with conventional FSR, the content of on-farm trials in the ateliers will be guided by a diagnostic survey of the agro-ecological region in which the atelier is to work. FSR researchers, atelier staff, technical researchers, extension agents and extension supervisors will all participate in the diagnostic surveys.

The coordinator of each atelier will be an ingenieur agronome (agronomic engineer) or higher level ISABU researcher, and will be assisted by a project funded farming systems researcher during the establishment of each atelier. For the first ateliers, USAID estimates that this will cover a period of three to four years. The technicians should have training at least to the tenth grade level plus four years of technical training in agriculture. The field agents should have tenth grade plus two years of technical training. USAID believes that ISABU has a reasonable chance of being able to sustain this level of staffing from its own resources by the end of the project.

Although the coverage of the ateliers may change from location to location and from time to time, depending on several factors, ISABU anticipates that each atelier will work intensively with about 15 farmers per field agent, or 50-60 in total. In most cases we anticipate that each agent will be assigned to a different colline, the lowest level administrative grouping in Burundi. In general, two collines will be covered in each of two communes (out of an average of 11 communes per region). This will give the atelier adequate geographical coverage and help assure the suitability of technologies over a wide area.

The manner of working with farmers in the ateliers will differ from the way FSR is conducted in many countries in that the ateliers will work largely with the same farmers for the entire duration of the atelier. Each atelier will also have its own staff of field agents, as opposed to working only through existing extension agents. This approach should assure adequate supervision and control and should build relationships between researchers and farmers that will facilitate an in-depth analysis of farmer motivations, behavior and constraints. It will also speed feedback concerning the suitability of technologies being tested, and will economize on transportation costs. On the negative side, there may be a tendency for both the farmers and the extension agents participating in the work of the atelier to become researchers in their own right, compromising their representativeness for purposes of confirming acceptance by other farmers. It might therefore, be necessary to change the locus of the atelier every three to five years, especially where annual cropping systems are concerned. USAID and ISABU do not, however, anticipate that such a change will be necessary or desirable during the remaining life of the amended SFSR Project, since there will be much learning and testing of the approach going on during this next phase.

Once the operation of the atelier has been refined, ISABU will need to establish criteria for deciding when it is time to change the locus of the research activities of an atelier. These might include such considerations as cropping systems, crop rotation, the particular technology being tested, colline rotation and the impact of the atelier on the surrounding collines. Eventually, the impact of an atelier in one location will reach a point of diminishing returns. This should occur before farmers become too unlike their untouched brethren.

The ateliers will involve in their field trial programs all project or Ministry of Agriculture (MOAL) extension agents working on the same collines as the atelier. The Ministry has agreed to release the agents one day per week for this work. In this way, an increasing number of regular extension agents will be trained in FSR methodology. This should make them more effective in their regular work programs. Moreover, these agents can continue to provide supervision for FSR experiments that require a longer period of evaluation than the three to five year average duration of an atelier. Eventually, as researchers understand the rural environment better, and a larger number of Ministry of Agriculture and project extension agents become experienced in FSR, ISABU may be able to abandon the ateliers and work directly with extension agents over a larger area. This would reduce ISABU operating costs for the FSR program.

The Pre-Extension Service of ISABU will work with both the atelier and the MOAL extension service to help them produce the educational and demonstration materials required to disseminate the new technology effectively.

c. Proposed Activities of the Revised FSR Component.

1) Technical Assistance.

165 person-months of long-term technical assistance are to be provided under this component of the revised SFSR Project between April 1990 and the August 22, 1993 PACD. Of the four existing long-term positions, two -- the FSR Agronomist and the FSR Extension Specialist -- are to be continued through project completion. The FSR Agronomist is to continue his work at the project-supported atelier in the Kirimiro Region, and the FSR Extension Specialist is to work in the project-supported atelier at Cibitoke while residing in nearby Bujumbura. Both of these ateliers have already begun operations, and a Burundian agronomes has been assigned to Cibitoke.

The work of the two other current technical assistance positions will be completed before the extended PACD. First, the SFSR Research Agronomist currently at Karuzi will be phased out in March 1991. Thereafter, Karuzi will become a sub-activity of the Kirimiro Atelier, and research visits will be continued by Burundian scientists under the supervision of that Atelier. Second, the Agricultural Economist now stationed at Gitega, who serves not only as the economist for the project-supported ateliers but also as Chief of Party for the Arkansas technical assistance team, will continue in both these capacities through September 1991. After this expert's departure, team leadership will be passed to one of the other technical assistance team members, as proposed by the contractor and agreed upon by USAID.

During the remainder of his tenure with SFSR, the COP/Agricultural Economist should spend one-half of his time on administration, coordination, networking and training, and one-half on FSR field activities. He will backstop the Burundian agronomist stationed at the Buyenzi atelier until financing from other donors can be secured. He will also assist the new ateliers with the design and execution of their diagnostic surveys and publication of the results. With his remaining time he will support the work of the production economist in the Rural Economy Service. He will provide the overall guidance necessary to realize the full potential of the FSR program. To facilitate this coordinative role in light of the planned expansion of the TA team and the relocation of most of its members to the Bujumbura area, the Chief of Party/Agricultural Economist will move his offices and the project headquarters to Bujumbura no later than August 1990.

To complement the work of the existing TA team, two new long-term technical assistance positions will be added:

- An FSR Production Economist, who is to arrive by July 1990 and be based in Bujumbura through September 1991. With guidance from the Commission Nationale de Transfert, and in conjunction with his or her counterpart, this person will develop standardized data collection and analysis procedures to be used by all ateliers. Among other things, they will evaluate the economic results of the technological packages being tested by the ateliers in order to ensure that they are economic under costs and prices likely to prevail once markets are more fully developed. In addition to being responsible for supplying data to the Commission de Transfert that will enable it to decide when to authorize extension of a technology or redesign of an on-farm trial, they will evaluate the effectiveness of the ateliers themselves. This will help assure that new technologies are sustainable once they are transferred to farmers. After September 1991, these functions are to be assumed by a Burundian economist currently in training in the U.S.

- An Agricultural Policy Economist, a new position to be created in July 1990 that will continue through the PACD. It is anticipated that this economist will reside in Bujumbura. He or she is to be assigned principal responsibility for translating the farm-level and micro-economic data gathered during the first two years of the extended project into specific policy recommendations, and for working with the GRB to outline the likely implications of various agricultural policy options it may be considering. It is also possible that this technician may assume the responsibilities of Chief of Party upon completion of the work of the Agricultural Economist, though this decision is one to be made by the contractor in consultation with USAID and the GRB. Alternatively, this position could be filled by the Current Chief of Party if USAID and Arkansas agree on such a step.

Given that the technical assistance team will be living and, for the most part, working in different parts of the country special care will be taken by the technical assistance contractor to coordinate its technical assistance efforts such that members work as a team.

The services of these technicians will be secured via SFSR's existing contract for technical assistance with the University of Arkansas. That contract will be amended to incorporate the changes described above. Detailed scopes of work for the new positions, and a revised scope of work for the COP/Agricultural Economist, are set forth at the conclusion of this Technical Analysis.

This component of SFSR is also to provide approximately four person-months (i.e., one person-month over each year of the extended project) of short-term technical assistance on farming systems research topics. This assistance will continue to be provided under the U of A technical assistance contract. The exact areas of expertise required, and the scopes of work for these consultancies, will be determined by USAID in consultation with the GRB and the U of A team as implementation proceeds. Among other disciplines from which expertise will be drawn, USAID and Arkansas have already agreed that the University will provide the services of a sociologist as needed.

2) Training.

Through May 1989, SFSR had sent seven ISABU/MOAL staff members for degree training. It is expected that one of them, an agricultural economist, will return and eventually assume the Production Economist position at the Rural Economy Service. Two others are slated to assume, or release others to assume, the position of research coordinator of an atelier. Nine lower level technicians have been trained, and two of these will be assigned to the project supported ateliers, in addition to one already assigned.

Nonetheless, ISABU's training needs remain significant. According to the ISNAR report, ISABU needs to expand its training program for research and technical staff, especially the latter. The scarcity of technical staff requires researchers to perform many tasks that could be performed more economically by junior technical staff. Expanding training of technician level personnel, and providing financing to put additional technicians on the ISABU payroll during the first years of the project, will free researchers to concentrate on tasks more appropriate to their background.

To respond to these needs, the FSR component of the revised SFSR Project will provide three types of training. First, nine MOAL employees (five of them from ISABU) are scheduled to be sent for long-term M.S. degree training in the United States. These are expected to include two candidates in agricultural economics, one in agricultural extension, and two in farming systems agronomy.

Second, this PP Supplement reserves funds for ten months of short-term U.S. training, and 48 person months of short-term third-country training in farming systems research for ISABU employees at various international agricultural research centers (IARC's). It is planned that the bulk of this type of training will take place at IARC's such as CIMMYT, the International Rice Research Institute (IRRI), the International Institute for Tropical Agriculture (IITA), and Montpellier University in France. Training could also be provided in collaboration with the A.I.D.-funded Farming Systems Research Project in Rwanda. Again, specific training opportunities are to be identified by the University of Arkansas COP as implementation of the amended project proceeds.

Finally, funding is reserved for four months of in-country courses for ISABU employees in farming systems research. It is expected that each course will last approximately 3 to 4 weeks, and that each will include about 15 students. These courses are expected to focus on topics such as research methodology, experimental design, biometrics, and the use of computers in FSR.

In addition to training provided to ISABU, the project will provide:

- a) funds to support in-country thesis research by four project-funded Master's Degree candidates;
- b) two research grants to be awarded to local academicians in topics related to FSR;
- c) training for SRD extension agents and extension supervisors in farming systems methodology (ten agents per year per atelier);
- d) cooperating farmer training (one two-day field trip to another region for 20 farmers from each atelier each year) to observe appropriate new practices being applied by other farmers;
- e) field days for MOAL officials to visit/discuss the on-farm trial programs with farmers and researchers;
- f) two-week short courses given to all atelier personnel by FSR short-term consultants on various topics (e.g., different stages of FSR methodology, use of appropriate software packages for data analysis, etc.); and
- g) long-term training for Burundian counterpart personnel involved in the Regional Potato Improvement Program for Central Africa (PRAPAC).

3) Expected Outputs.

The amended SFSR Project will support expanding the use of farming systems research methodology to cover five of the natural regions of Burundi. Each region will be represented by an atelier that conducts research directly useful to small farmers in the area of the atelier. The project will also develop and put in operation standardized methodologies for collecting and analyzing on-farm trial and related data, especially the economic attractiveness under long-run unsubsidized conditions of technologies proposed for extension. It will increase the flow of information among farmers, extension workers and researchers, and increase the capacity of ISABU to produce improved technologies that are adopted by farmers. It will strengthen the outreach capacity of the extension service in research zones served by the project, and will result in definable technologies of being adopted by farmers on a measurable scale. The project will also improve the skills of Burundian researchers, technicians and research managers.

4) Commodity Requirements.

To assist the two ateliers that are to receive direct support from SFSR, the project plans to provide each of them with a complete set of commodities needed to carry out their research. This will include vehicles for the coordinator and the SFSR-funded technical assistant, motorbikes for the technicians, and motorcycles for the field agents. It will provide a computer, a backup power supply, software, a manual typewriter, a small photocopy machine and desks, chairs and bookcases for an office at each site. It will provide scales and field equipment for the field agents and the research staff at each atelier, as well as research supplies and agricultural inputs for cooperating farmers. All such supplies will be purchased by the contractor in the U.S. or in-country as appropriate. The atelier offices will be located in the headquarters of the organization responsible for agricultural extension in the region.

To support the production economist attached to the Rural Sociology and Economy Program, the project will provide one computer for the technical advisor and his counterpart, office equipment and two vehicles, one for the USAID technician and his counterpart, and one for the Directorate of the new Department of Environment and Productions Systems Research. Both the economist and his counterpart will have offices in an addition to the existing structure, construction of which will be financed by SFSR. The project will also provide supplies and equipment for conducting surveys.

In addition to equipment for the new positions and the new atelier, the project will replace three vehicles currently used by project technicians.

5) Financial Requirements.

Because of the financial crisis related to the social unrest Burundi experienced in 1988, budgetary allocations of all ministries and public organizations in 1989 were below the previous year's levels, and in many cases were not even sufficient to pay salaries. The situation has improved only slightly in 1990. ISABU will therefore need operating support to cover its share of the cost of operating the ateliers for at least two years. This will have to cover salaries, per diem for researchers engaged in the diagnostic surveys, vehicle operation, research supplies, publications, utilities, and possibly rent for atelier offices located in regional towns if ISABU is unable to make other arrangements. Such operating budget support is absolutely necessary for project success and should be provided on a declining basis over the life of the project. Annex V, Table 1, outlines the planned budget for the USAID and ISABU shares of costs for the amended SFSR. Annex V, Table 2 details the cost of operating an atelier for one year.

d. ISABU Resources to be Provided.

ISABU plans to assign two of the researchers now in training to staff two of the five ateliers that it expects will attract donor support. In addition, it plans to replace any of the staff assigned to the ateliers who might be sent for training during the life of the project. ISABU is also to ensure that other technicians, field staff, office support staff, office facilities, and operating budgets are available for the ateliers on an increasing share basis as needed. ISABU plans to assume 100% of financing for these components by the end of the project in 1993.

PROPOSED SCOPES OF WORK**A. Agricultural Economist/ Chief of Party****1. Duties**

The team leader will be assigned to the Rural Economy Service of ISABU and will be stationed in Bujumbura. He will have a one-half time set of technical duties and the rest of his time will be devoted to administration, promoting FSR research at ISABU, and coordinating the project's training program. His specific duties will be to:

- a. Provide administrative support to all team members.
- b. In conjunction with the Director of Training of ISABU, coordinate project training activities, assist with the selection of candidates, prepare project specific travel documents, and program training activities so as to ensure meaningful, ongoing Burundian participation in all activities of the project.
- c. Provide assistance to the Director and technical backstopping to the newly created Department of Environmental and Production Systems Research (DEMSP)
- d. Coordinate preparation of the diagnostic surveys for all of the ateliers, especially those supported by SFSR, as requested by the atelier coordinators. This would include taking a lead role in contacting technical researchers at ISABU who are responsible for research programs that could benefit the research program of the atelier. It will also include arranging CIMMYT in-country training for researchers unfamiliar with FSR and diagnostic survey methodologies.
- e. Assist the atelier coordinators in preparing reports on the diagnostic surveys conducted in their areas of action, and provide project resources for publication and dissemination of the reports as appropriate.
- f. Support the work of the Production Economist in the Rural Economy Service. This will include assistance in developing questionnaires, analytical methodologies and supervising field level data collection activities as necessary.
- g. Report regularly to USAID/Burundi and the GRB on the extent to which policy recommendations stemming from SFSR-supported research are being integrated into the policy dialogue supported by the Burundi Enterprise Promotion Program (BEPP, 695-0125)

2. Qualifications.

This person should have a Ph.D. in agricultural economics or an equivalent amount of experience. He/she should have French language skills of at least FS-3+, and should be a good communicator and a good listener. The Team Leader should have at least three years experience living in sub-Saharan Africa, at least some of that in francophone Africa. He or she should have substantial experience in farming systems research in Africa and in working with upper level civil servants. This person should have demonstrated good analytical skills that will help support the institution building goals of SFSR. He or she should also possess appropriate computer skills, including fluency with a variety of word processing (e.g. WordPerfect 5.0) and spreadsheet (e.g. Lotus 1-2-3 and DataBase III) programs.

B. Production Economist.

1. Duties

This person will be assigned to the Rural Economy Service and will be stationed in Bujumbura. He or she will support the economic analysis component of all ISABU atelier/FSR research, whether or not financed by SFSR. This person will work in a collaborative manner with all researchers of the Service, concentrating on farming systems related research. The specific duties of the position will include:

- a. Assist ISABU's atelier coordinators in the design of on-farm trials so as to permit an economic analysis of the results.
- b. In collaboration with researchers in the Rural Economy Service, take the lead in preparing a standardized methodology for gathering essential technical and economic data relating to the farms involved with, and the on-farm trials being conducted by, the ateliers.
- c. Take the lead in gathering socioeconomic and technical data on the farmers participating in the on-farm trials sufficient to evaluate the influence of major non-design variables on the experimental results obtained.
- d. Conduct an economic analysis of all atelier research results that offer technical promise. This analysis should include the costs and returns associated with the technologies under both current market prices and conditions and prices and conditions that will exist following implementation of policy reforms supported by the Burundi Enterprise Promotion Program (BEPP, 695-0125)

- e. Supply economic and other data as necessary to the National Transfer Commission to inform its decisions about whether to authorize transfer of a proposed technology to the extension service or to continue or redesign an experiment.
- f. In conjunction with researchers of the Rural Economy Service, determine and execute a methodology for evaluating the effectiveness of the ateliers as a research testing and diffusion methodology. Prepare a report on this subject for the project evaluation team scheduled to arrive near the end of the third year of the project.
- g. Train at least one Burundian researcher in the above methodologies so that he/she can conduct an independent analysis of a technology being tested in an atelier by the time the technician completes his first contract.

2. Qualifications.

The Production Economist should have at least four years experience in Sub-Saharan Africa, and two years field experience with farming systems research. He should have at least a masters degree in agricultural production economics, and should be able to speak and write French at a FS-3+ level. He should have a demonstrated ability to live and work in rural areas, and to communicate effectively with illiterate farmers. He should be a team player and have demonstrated a prior ability to do the kinds of economic analyses required from the person holding this position. He or she should also possess appropriate computer skills, including fluency with a variety of word processing (e.g. WordPerfect 5.0) and spreadsheet (e.g. Lotus 1-2-3 and Database III) programs.

C. Agricultural Policy Economist.

1. Duties.

This individual will be assigned to the Rural Sociology and Economy Service (SER) of ISABU and will be stationed in Bujumbura. He/she will spend sixty percent of the time on technical duties. The rest of his/her time will be devoted to administration, promoting FSR research at ISABU, and coordinating the project's training program. The technical duties of this position are designed to place the work of ISABU in a broader, more macro oriented perspective. He or she will be expected to carry out, inter alia, the following tasks:

- a. In conjunction with the Director of Training of ISABU, coordination of project training activities, assist with the selection of candidates, prepare project specific travel documents, and program training activities so as to ensure meaningful, ongoing Burundian participation in all activities of the project.
- b. In collaboration with a Burundian counterpart, prepare an orderly catalogue of existing agricultural policies in Burundi and examine the implications of these policies on the production and marketing of agricultural products, and on ISABU's research agenda.
- c. In collaboration with the SFSR Marketing Economist and other researchers at ISABU, estimate the impact of alternative policy options on the production and consumption of food, regional and/or international flows of Burundi agricultural products, income distribution, and national income.
- d. Utilizing the existing data sets developed by this project and such other sources as are appropriate, and in collaboration with a Burundian counterpart, develop working-paper, discussion documents to present alternative policy considerations to GRB officials.
- e. Organize one or more policy seminars to allow Burundian economists (and others as appropriate) to present economic analyses having policy implications to influential GRB officials.

2. Qualifications

This person should have a Ph.D. in agricultural economics or an equivalent amount of experience. He or she should have French language skills of at least FS-3+, should be a good communicator and a good listener, and should have at least three years experience living in Sub-Saharan Africa, at least some of that in francophone Africa. He or she should have substantial experience in agricultural policy research in Africa and in working with upper level civil servants. This person should have demonstrated analytical skills that will help support the institution building goals of the project. Additionally, he or she should also possess appropriate computer skills, including fluency with a variety of word processing (e.g. WordPerfect 5.0) and spreadsheet (e.g. Lotus 1-2-3 and DataBase III) programs.

2. Marketing Support and Analysis.

a. Introduction.

The redesigned SFSR Project will address the production marketing conundrum in an integrated manner. Its principal objective will be to develop, assess, and advocate policy recommendations designed to overcome the bottlenecks that an underdeveloped marketing system creates. This approach will help enable Burundi to realize potential production gains made possible by new farm-level technologies. In addition to strengthening the research and extension linkage by developing the SFSR/research workshop (Atelier) framework, the redesigned project will enhance the linkage between research and policy development.

Institutionalizing marketing research within ISABU's existing program will enhance its ability to contribute to national policy dialogue and formulation regarding market system reform, food price policy and rural infrastructure policies. A sustained and integrated research agenda on rural and food marketing, in combination with ongoing production research, is necessary to establish a sound information base about the need for reformed public policies in the agricultural sector. This component of the amended SFSR Project will provide that base.

The original project design addressed the relatively low productivity of the small farmer. The redesigned SFSR Project broadens the scope of the original by addressing an additional problem, i.e. the relatively undeveloped and low productivity of agricultural marketing structures. In addition to development and testing of new production technologies at the farmer level, the redesign broadens Burundi's research agenda by examining the implications for the structure and development of input and product markets. As a consequence, the project should identify technologies which are not only technically superior, but which are also economically feasible as supported by accommodating input and product markets. This will lead to a faster rate of technology adoption, diffusion and national gains to both producers and consumers.

The addition of the Marketing Support and Analysis component therefore expands the project's focus to include the conduct of research that will lend support to policies intended to provide farmers and consumers of Burundi with greater and more diversified domestic and international markets through technical and institutional innovations. This will improve the capacity of ISABU to support research planning by identifying constraints and market potentials, and will contribute to the design and implementation of research activities which lead to regional production specialization and production mix and growth consistent with the dietary and consumption needs of the Burundian people. These are important and legitimate contributions which a national agricultural research institute can and should expect from its agricultural marketing research program.

b. Rationale for a Marketing Component.

Markets in Burundi have not developed in large part because 90% of consumption is based upon household production. This results from two major factors:

- 1) the level and rate of urbanization in Burundi is extremely low, especially relative to those of many other developing countries; and
- 2) the relative resource endowments of the various regions of the country have been able to accommodate adequate diets for a growing population. This has recently been achieved by intensifying traditional production practices and bringing into production the marais (valley bottoms) along with marginal land of poorer soils and steeper slopes.

Thus the preconditions for market trade, i.e. excess demands and supplies, have not developed to any significant and sustained degree.

The low level and rate of urbanization is explained by numerous factors. These include:

- 1) a cultural tradition of dispersed rural settlement as opposed to village settlement;
- 2) a policy of selective mobilization which served to limit the size and growth of major commercial cities; and
- 3) a lack of industrial investment and supporting social and physical infrastructure (e.g. education and roads) needed to facilitate urban development.

The ability of the relative resource endowments to provide locally for subsistence diets has not until recently been a significant issue when comparing various regions. Yet it is clear today that certain regions are quickly approaching a population density that is not sustainable on the basis of local food production.

The other source/basis for trade is excess supply. Market development has not taken place in part because productivity levels based on traditional production methods, even under increasingly intensive systems, have not generated large surpluses. Thus the basic driving forces for market development -- urban population and income growth, regional population growth in excess of food output growth, and agricultural productivity increases leading to crop regionalization and surpluses -- have operated only weakly.

Policy constraints, to the extent that they have limited market development and private enterprise initiative, must be evaluated in the context of how they have affected population density, urbanization and agricultural productivity. One must also consider direct commercial policies, including taxes and non-tariff barriers for inter-regional and international trade, which serve as constraints to market flows.

The decision to add a marketing component to the SFSR Project is based upon the dynamics of change now taking place. Agricultural research and extension must in the future be technology-based. Intensive use of the land through increased use of marginal lands and multiple-cropping using traditional techniques can no longer support the necessary increases in agricultural productivity. Implementation of technology-based farm production systems will create a market for purchased inputs.

On the product demand side, with certain regions becoming deficit as population growth outpaces output growth, and with further growth in Bujumbura and smaller towns, the product market trade must develop. The role of SFSR Marketing Support and Analysis component will be to provide a research base which contributes to the development of policies that in turn promote a progressive and efficient vertical integration of the agricultural marketing system.

The success of technology adoption is based upon eliminating the causes of low productivity. Technical inefficiency is caused by inadequate information and/or insufficient technical skills. In the short term, allocative inefficiencies are likely due to inadequate information, market failure in input supply and risk effects of input use. Over the longer term, specialization and scale allocative inefficiencies may be due to capital constraints, risk of specialization, inadequate information, and market failure in the product demand. Thus, marketing research conducted under the auspices of SFSR should focus on input and product markets as key constraints to improved productivity of farmers through new technology.

Constraints to improving productivity also reflect inadequacies in the rural institutions -- agricultural research, extension and education -- that participate in the development and dissemination of information and skills to farmers. Institutional changes typically lag in adapting to potential technology interventions. Nevertheless, these institutional changes are critical to realizing the potential of new production technologies. Through the addition of a Marketing component, the revised SFSR Project will contribute to the necessary process of institutional change.

Additionally, the private sector must play a key role in providing better market information to farmers. In industrialized countries, the private sector has overtaken many of the extension service's traditional activities -- adaptive research, advertising, promotion, demonstration plots and dissemination of specialized information. In developing nations, the private sector is usually slow to acquire a capability to handle technical input distribution at the farm level. Its capacity and knowledge of local use of new inputs related to new technologies is typically low. This in large part is due to the lack of communication and training of private sector merchants in the new technology. They must often also compete with government subsidized distribution. Therefore, a key aspect of market development research should be to address the issue of the roles of public and private enterprise.

c. Proposed Activities.

- 1) Technical Assistance.
- a) Long-Term Technical Assistance.

A long-term Marketing Economist will be posted with ISABU/SER (Service Economie Rurale) in Bujumbura. The proposed Scope of Work for this position is attached to this technical analysis. In conjunction with a counterpart to be named by ISABU, this person will develop a marketing research plan, including:

- a diagnostic information system for describing the agricultural market structure, operating characteristics and inter-regional flows;
- analytical studies to assess marketing constraints encountered by farmers, merchants and other marketing agents in order to make recommendations for policy changes that would improve the vertical coordination of agricultural input and product markets in Burundi; and

- a training program to ensure the development of institutional capacity of ISABU to conduct marketing research.

Development of the diagnostic information system will have as its major outcome a needs assessment and prioritization of market research and reform issues. Inputs into this outcome will include:

- a review of previous research and existing secondary data on market structure, operating characteristics, flows and constraints;
- surveys and case studies of farmers who are cooperating with SFSR-supported ateliers;
- surveys and case studies of current and potential input market merchants; and
- surveys and case studies of current and potential product market merchants.

Development of the diagnostic information system should be the primary focus of the marketing economic research agenda in the first year. In 1989, in connection with the design of the Burundi Enterprise Promotion Program (BEPP, 695-0125), USAID/Burundi funded several important studies, including one on rural markets, one on constraints to private enterprise development, and one on rural household incomes. These and the research activities to be supported by BEPP's companion technical assistance activity, the Burundi Enterprise Support and Training Project (BEST, 695-0124), should serve as important background studies for agricultural marketing research. The Marketing Support and Analysis component of SFSR should seek, as appropriate, to continue or extend this set of market-related studies.

The needs assessment analysis should be developed within the context of a working group which would seek to coordinate research by bringing together ISABU researchers with appropriate representatives from other divisions in the Ministry of Agriculture and Livestock (MOAL) and other public and private institutions in Burundi. This would provide a broader set of decision-makers who will necessarily be involved with any real reform in the future. ISABU should create this working group to evaluate analyses and assist in the planning of programs and policies leading to progressive and efficient agricultural marketing system reforms. The action-oriented needs assessment would prescribe what the role of public and private enterprise should be with regard to a broad set of market functions.

The second major component of the marketing research plan will focus on the development of a set of analytical studies to provide a framework within which to evaluate policy recommendations on market reform. This set of studies would include:

- Development of marketing cost models and estimates focusing on market margins throughout the market channels for major food crops. Knowledge of costs associated with marketing activities is absolutely essential in order to make useful decisions on the need for market development and reform.
- Development of programming models (transportation, spatial equilibrium, goal, etc.) of regional and national input and product markets based on the cost models and estimates discussed above and the flow and market structure data generated by the diagnostic studies. Such models would lend themselves not only to evaluation of potential market reforms, measuring costs and benefits, but also be an extremely valuable set of tools by which to make research planning recommendations to ISABU leadership.
- Development of food demand models capable of forecasting future changes and levels in the consumption mix of Burundi. Such models should attempt to embody as many economic structural parameters as possible (including price and income elasticities). The recent UNDP study on demand projections and the 1989 study funded by USAID on household income, as well as the annual updates to that study that the BEST Project will fund, should be carefully evaluated.
- Development of input demand models that include estimation and analysis of the derived demand for input and product marketing services, based on collaboration with the production economist, seed specialist, and the atelier research teams. An early activity will be the assessment of the potential market for improved seeds.

Whereas the economic potential of input use is determined by the input response functions and prices of crops and inputs, actual input demand is also affected by the coordination and efficiency of agricultural research, extension, credit, input supply and distribution channels. The contribution of the marketing study will be to limit the disequilibrium between actual input use and the economically optimum use. The rate at which this disequilibrium is reduced is a function not only of generating the production research knowledge of the response surface, but also of the development and coordination of the associated set of activities which facilitate input use.

The next area of responsibility shall be to ensure the development and integration of Burundian agricultural marketing economists in the research program development. Both formal and informal training assistance will be necessary to ensure that ISABU is left with the institutional capacity to conduct marketing research at the end of the project. The details of the required training program are set forth below.

Finally, the Marketing Economist will be responsible for using the results of the analytical work described above as the basis for a series of at least four analytical papers on agricultural marketing constraints and on needed institutional and policy reforms. This work is to be related to and supportive of the more macro-oriented policy analyses funded under BEPP, in that the Marketing Economist will help to generate a data base and an analytical framework for the development of policy recommendations in the agricultural sector. These are then be explored with the Directorate of Internal Commerce of the GRB's Ministry of Commerce and Industry (MCI) in tandem with the policy dialogue and reform efforts supported by BEPP. This Directorate is the GRB entity principally responsible for the development and advocacy of policy recommendations concerning domestic marketing. To assure that the work of the SFSR Project's Marketing Support and Analysis component is translated into policy recommendations developed in collaboration with the MCI, the FY 1990 Project Grant Agreement Amendment for SFSR will include a Covenant requiring that ISABU and the MCI develop a formal protocol detailing how the Marketing Support component and the MCI will work together in this process.

The services of the Marketing Economist will be obtained through the project's contract with Arkansas. A detailed Scope of Work for this position is included below.

b) Short-term Technical Assistance.

Short-term technical assistance designed for the Marketing Support and Analysis component will complement the diverse sets of research activities specified for this component. The activities of the long-term Marketing Economist will have a micro-market orientation. This leaves open a broad area of research on marketing issues such as international trade, national level issues of policy and marketing system reform and financing.

Due to the lack of basic, fundamental data and research in agricultural marketing, the research task and challenge facing this component is enormous. It is envisioned that specialists in the area of transportation, price analysis, marketing cooperatives and associations, processing and handling, grades and standards (to name only a few areas) will be needed as these issues arise in the course of the project's research timetable. The exact areas of expertise needed will be left to be determined by ISABU and the SFR technical assistance team.

2) Training.

The primary focus of the training program will be to develop a cadre within ISABU/SER which is capable of conducting marketing research on agricultural inputs and products. A minimum commitment of ISABU scientists to this objective shall be 2 M.S. trained agricultural marketing economists and four trained marketing specialists/technicians.

Candidates for these positions should be identified soon. It is important that the M.S. candidates begin training as soon as possible so that their thesis research can be completed and they can be integrated back into the project before it has ended. One candidate should be sent to the U.S. in the first year of the amended project, and should return for thesis research in the second year. A second candidate should begin in year two and complete thesis research in year three.

A total of 2 person-months of short-term U.S. training will be needed to provide continuing training opportunities for the M.S. trained scientists and to help develop the specialization of the technicians. Areas of specialization are difficult to specify at present, but should be identified in the needs assessment study to be completed by year two. Likely areas would include an inter-regional/international trade specialist, an agricultural transportation and handling specialist, a price and market information specialist, an input market specialist, a food processing specialist, etc. This list is offered to be illustrative of the needs for research support by areas of specialization.

In addition to training in the U.S., opportunities should be provided for training in third countries, especially taking advantage of training opportunities offered by international agricultural research centers (IARC's) and francophone countries. An average of at least three person-months per year of such third-country training is to be provided under the auspices of the marketing component.

In-country training will be a critical input to the development of the marketing specialists. At least two training workshops should be held. Technicians in ISABU/SER should be well trained in computer use and information systems including data bases and analytical models which will be essential for the institutionalization of marketing expertise in SER. The training workshops should have this as a primary focus.

d. Planned Outputs of the Marketing Support and Analysis Component.

- 1) Improved capacity of ISABU to generate information to be used in national policy decision-making regarding agricultural input and product price policies, market infrastructure policies affecting marketing services, credit, transportation, storage, processing, grades and standards, etc.

- 2) **Improved capacity to support ISABU research planning by identifying constraints and market potential for emerging domestic and international markets consistent with regional specialization.**
- 3) **Improved capacity of ISABU to conduct agricultural marketing research directly applicable to Burundian input and product markets. This would entail:**
 - a) **Better trained marketing economists including**
 - 2 marketing economists
 - 4 extension marketing specialists:
 - transportation
 - prices, grades and standards
 - cooperatives and product marketing
 - input markets
 - b) **The establishment of mechanisms to provide communication between private market (input and products) merchants and research and extension workers.**
 - c) **The establishment of a methodology for collecting agricultural input and product market information flows, prices and costs of marketing activities. SER will use both formal and informal methods for developing a data base on marketing characteristics and constraints at the farmer level.**
- 4) **Greater acceptability and economic feasibility of ISABU production research. This should result as technologies are tested for the degree to which markets and their development can support the derived demand for inputs and the increased supply of production.**
- 5) **Improved capacity to supply production inputs including seeds, fertilizers, pesticides, etc. to farmers through private enterprise.**
- 6) **Improved capacity to supply product marketing services for assembly, transportation, processing and distribution through private enterprise.**

e. Commodity Requirements.

The marketing economist will be posted with ISABU/SER in Bujumbura. Commodities required will be one all-terrain vehicle and a minibus to provide for logistical support on survey and other team activities. The usual office equipment will be required including desks, chairs, files, etc. Four computers will be purchased, two for use by the economists and two for use by the short-term technical assistants and SER technicians to develop computerized data bases and for use in training workshops. Other equipment will include audio-visual equipment such as overhead projectors, a slide projector and screen, a camera, a photocopier, and a printer. Survey equipment will include scales, and miscellaneous items necessary to implement primary data collection.

PROPOSED POSITION DESCRIPTION
AGRICULTURAL MARKETING ECONOMIST

A. Qualifications.

1. M.S. or Ph.D. training in agricultural economics with a specialization in agricultural marketing. Additional training with policy and production economics is desirable.
2. 2 years working in sub-Saharan Africa.
3. Experience in survey design, implementation, and analysis.
4. Demonstrated ability to work productively as a member of research teams composed of expatriate and indigenous professionals.
5. French language skills, (speaking and reading S-3 and R-3).
6. Computer skills, including fluency with a variety of word processing (e.g. WordPerfect 5.0) and spreadsheet (e.g. Lotus 1-2-3 and Database III) programs.

B. Duties and Responsibilities.

The Marketing Economist will be expected to conduct micro-level marketing studies on input and product markets in rural Burundi. He/she will be expected to conduct marketing surveys, develop analyses and prepare a series of at least four analytical papers on agricultural marketing constraints and needed institutional and policy reforms. He/she will be expected to provide information to help ISABU integrate marketing considerations in its research planning process and help the GRB integrate marketing considerations into its input and product pricing and market infrastructure policies. The Marketing Economist will be responsible for:

1. In collaboration with his/her counterpart designing, implementing, and analyzing diagnostic micro-level marketing surveys and case studies. This will be implemented at two levels: a), with the atelier (research workshops); and b), at regional levels for all major agricultural regions. The objective will be to describe market structure and operating characteristics, including flows and constraints.

2. In collaboration with the atelier staff and production economists, estimating and analyzing the derived demand for input and product marketing services based on technological interventions under consideration for extension.
3. Developing marketing costs estimates for major agricultural products through the market channel including assembly, transportation, processing and distribution. In combination with the flow data, cost estimates will be used to develop programming models (transportation, spatial equilibrium, goal, etc.) of regional and national input and product markets.
4. Developing in collaboration with SFSR/Atelier staff and the production economists, research material for extension education and training for farmers and merchants on input and product marketing developments necessary to complement new production technologies
5. Identifying emerging domestic and international markets for Burundi agricultural products. This will be based upon studies of rural/urban household expenditures, analysis of demand parameters (price and income elasticities), and export market potential studies.
6. Conducting and organizing in-country training, seminars, and conferences to share research methods, analysis and policy implications with policy decision-makers, ISABU and other GRB researchers, University faculty and students, private enterprise and technicians.
7. Using the results of the analytical work described above as the basis for a series of at least four analytical papers on agricultural marketing constraints and on needed institutional and policy reforms. This work is to be related to and supportive of the more macro-oriented policy analyses funded under BEPP, in that the Marketing Economist will help to generate a data base and an analytical framework for the development of policy recommendations in the agricultural sector.
8. Working with the Directorate of Internal Commerce of the GRB's Ministry of Commerce and Industry (MCI) to translate the recommendations of the analytical papers described in point 7 above into specific recommendations for policy changes, and assisting the MCI, in collaboration with the Chief of Party of the University of Arkansas technical assistance team and USAID/Burundi, in advocating the adoption by the GRB of these proposed policy changes.

3. Private Sector Seed Development.

a. Problem Description.

Seeds are essential to agriculture, and high quality seeds of new and improved varieties are necessary to achieve the objective of crop breeding research, which is to increase crop productivity and food production. In traditional agriculture, the farmer saves some grain from his preceding crop and plants it as seed. Although this practice serves a useful and necessary purpose, little (if any) attention is given to proper seed selection, quality evaluation, and varietal purity. On the contrary, "Traditional Seeds" are often intentionally mixed with hopes of some survival to ensure crop production.

For seeds to contribute fully to agricultural productivity, appropriate seed activities (seed programs) require a systematic approach whereby the genetic improvements in crop varieties can be rapidly and systematically transferred from the research station to the farmer. Traditional methods are inadequate to accomplish this task.

A well-organized seed program is as important as (if not more so than) a program for supplying other inputs. Although short-term gains can often be realized by introducing quantities of improved seeds from an external source, without an internal system and method for maintaining varietal purity and quality control, field contamination and mechanical mixtures will soon dilute the improved varieties.

Some elements essential to the successful development of an aggressive and functional National Seed Plan are already present. For example, the ISABU research program includes crop breeding, varietal improvement and testing of introduced varieties to determine adaptability and varietal performance. As new and improved varieties emerge from the ISABU research program, small quantities of Breeder Seed (pre-basic seed) are released to seed multiplication centers and sometimes even to farmers with hopes that the seeds will be multiplied and distributed properly. Occasionally, such "distribution" schemes succeed - to a point. More often they do not. Superior crop varieties become a significant agricultural input only when pure, high quality seeds are available to and planted by farmers. Thus, plant breeding research and varietal testing is extended to the logical end of producing seed. This is effectively and efficiently accomplished through an organized, systematic and cooperative effort involving both public and private sectors, institutions and personnel -- in other words, by organized seed activities or seed programs.

The task facing Burundi is one of organizing and promoting a uniform seed service to promote improved, high quality seeds while encouraging private sector participation, agricultural research working closely with the farmer, and greater coordination among research, extension, and the farmer

Some specific constraints identified as impediments to the development and implementation of successful seed activities in Burundi are as follows:

- 1) Lack of a "seed mentality" to recognize and identify seed for planting purposes compared to consumer grain for feeding or commercial use.**
- 2) Lack of confidence in performance and quality of the limited available seed supply. Few, if any, demonstrations have been directed towards this end.**
- 3) Lack of appropriate technology and knowledge required for specialized seed production and handling methods and techniques.**
- 4) Lack of knowledge of the advantages of using improved, high quality seeds as opposed to commercial grain.**
- 5) Lack of effective marketing and distribution channels and techniques, and a complete absence of promotional and marketing strategy such as appropriate bag size, labels, etc.**
- 6) The absence of an equitable seed pricing policy that prices seeds at their real value.**

The National Seed Plan recently adopted by the GRB seeks to overcome these constraints. The GRB has become fully aware that past attempts to produce improved seeds on elaborate government seed farms or widely dispersed project-oriented seed centers have not proven successful. Adequate quantities of seed have not been produced, and the quality has not been acceptable for planting purposes. These experiences are typical examples illustrating that seed production systems totally run by governments afford little incentive to produce adequate quantities of high quality seeds to meet the needs of the agricultural sector.

The proven solution to this lingering problem is to bring the private sector into the seed multiplication and production systems at the appropriate time. The GRB fully recognizes the need to adopt this new direction in seed program activities. If fully implemented, the National Seed Plan will treat the development of breeder seed of improved varieties as a public sector (ISABU) responsibility. The subsequent production of foundation and certified seed will rely heavily on the efficiency and expertise of the private sector. The new Plan provides the logical framework for moving the high quality seeds from the ISABU research stations through a systematically organized and controlled multiplication, production and distribution system.

The GRB has adopted the new National Seed Plan. The stage is now set to implement this plan. The likelihood of success is quite good, since the plan provides for substantial participation of the private sector in seed production, promotion, and marketing. However, if the plan is to be successful, substantial donor assistance, especially in the formative years, will be required.

In the redesign of the SFSR Project, a small seed component is proposed to provide substantial assistance towards initial implementation of the National Seed Plan. A combination of technical assistance and training is designed to assist the GRB in fulfilling the objective of the SAL II Policy Reform Program. However, to fully implement the total National Seed Plan concept, other donor assistance is needed. This assistance could well be directed towards long-term technical assistance in the areas of quality control and inspection services, and in the coordination of the private seed sector enterprises in the multiplication, production, and distribution aspects of the plan. Such a coordinated effort would help ensure rapid and successful implementation of the overall seed activities. In addition, GRB resources will be needed to assist with the development of small farm seed production associations.

While adding this new dimension to the revised SFSR Project, it should be emphasized that the GRB will have to pursue certain reforms if this component is to succeed. These include:

- 1) The GRB should divest itself of management and operation of all seed production farms except for those related to breeder seed production by ISABU.
- 2) The GRB should accept the policy of "on-Farm Seed Production" as the basic tenant of its National Seed Program.

- 3) The GRB should not be involved in the production of producer or "certified seed", and should not be involved in pricing or subsidizing seed produced at this level.
- 4) The prices of all foundation seed sold in the seed system should reflect production costs or, as a minimum be priced at 150% above food market prices when subsidies appear appropriate to promote new crops or new technology.

These policies are essential to the successful implementation of the National Seed Plan.

b. Proposed Activities.

In the redesigned SFSR Project, a private sector seed component will be added to provide specialized technical assistance and training to assist the GRB's Ministry of Agriculture and Livestock (MOAL) in implementing the National Seed Plan. Given the importance of seeds as an essential input in Burundian agriculture, ISABU's role in producing this technology, and the role ISABU will play in the Plan, this new component of the revised Project will help ensure the ultimate availability of improved seeds and seed technology to the farmer. The target crops will be beans, corn, sorghum, rice, wheat and Irish potatoes.

The redesign of SFSR will provide support to Burundi's National Seed Plan in the form of one long-term Seed Specialist, appropriate short-term seed consultancies, and training programs to assist in the initial implementation of the National Seed Plan.

1) Technical Assistance:

One long-term Seed Specialist will be posted with the office of the Director General (DG) of Agriculture in Gitega and will be responsible to the Director General for implementation of the seed sector component of the revised Project. In conjunction with his Burundian counterpart, who will be identified by the DG, this Seed Specialist will provide assistance in implementing the National Seed Plan. Among other objectives, his or her principal tasks will be to:

- a) **Advise and assist in the establishment of a National Seed Service (SSN), which will be the focal point for establishing a centralized seed quality evaluation and control program. This comprehensive quality control center will provide complete and unbiased seed testing and inspection services which will include guidelines for quality control during seed handling, storage and distribution phases of the program.**
- b) **Advise and assist in organizing and establishing a National Seed Society (SSB) that will be responsible for seed multiplication, production, and distribution.**
- c) **Facilitate and expedite linkages between seed research and varietal development within ISABU and the seed multiplication/production centers and farmer-contract producers of the SSB.**
- d) **Establish and maintain continuous dialogue with the SFSR research agronomists at the atelier sites in order to analyze and assimilate pertinent research data emanating from the ateliers concerning varietal testing, performance, and demonstrations.**
- e) **Advise the GRB on alternative methods of organizing seed production and assist the GRB with the development of producer associations.**
- f) **Work with the SFSR Marketing Economist to formulate an equitable, market oriented seed pricing policy recommendation. Analyze existing marketing channels as a means for marketing seeds and survey the potential for developing new and aggressive marketing outlets.**
- g) **Help the GRB to continue to gather and analyze data on private sector seed production and marketing. The Seed Specialist will work with both the GRB and private producers to evaluate this data in order to assess definitively the long-term viability of private sector seed production and marketing.**
- h) **Assist the GRB in preparing, if and as feasible, a plan for achieving increased private involvement in seed production and marketing**

The ultimate success of the Private Sector Seed Development component depends in part upon the GRB's establishment of the institutional framework called for in the National Seed Plan; i.e., a National Seed Commission (CNS), a National Seed Service (SSN), and a National Seed Society (SSB). It is important, however, to emphasize the role of ISABU in providing the necessary seed input into the system to ensure a continuous supply of new and improved pre-basic seeds.

The CNS, which the GRB has already established, will function as a policy and guideline directorate. It will establish initial policy and guidelines and then periodically review and analyze feedback from ISABU, the SSN and the SSB. The commission should be flexible enough in its structure to redesign policy as needed and to "fine-tune" the linkages among its institutional framework. The commission must not become a full-time administrative hierarchy, but it should include top-level administrative personnel from existing GRB offices who will become involved with the seed program. The Council will be chaired by either the Minister of Agriculture or his designated appointee, and will need to convene no more than twice a year.

The SSN, located in Gitega, will be primarily responsible for service activities such as seed inspection and quality control. It will develop unbiased seed standards and regulations so that seed quality will be improved in all seed-related activities.

The SSB will constitute the final link of the "seed chain" and will ultimately determine the success of the seed plan. The SSB will be the production-marketing arm of the seed plan and should develop strong linkages with its seed producing centers such as CVHA, Agricultural Associations, Rural Development Societies (SRDs), and private farmers.

Thus, the long-term Seed Specialist will play a role in the initial organizational and planning phases as the governing structure is put into place. Afterwards, he or she will provide appropriate training, assistance, and advice in developing proper testing and inspection procedures, and will work closely (in collaboration with a Burundian counterpart) with private farmers and enterprises to encourage participation in seed production. This expert is to interact continually with the Marketing Economist and the Agricultural Policy Economist of SFSR in assessing market demand and developing seed pricing and marketing policy, and with the research agronomists of the ateliers to obtain vital data on varietal testing and performance of the on-farm trials.

An appropriate amount of short-term technical assistance is programmed to support the long-term Seed Specialist. This activity is essential to provide adequate and necessary specialized backstopping assistance in those areas already expected to need specialized short-term assistance or in those areas identified by the long-term specialist in which additional help is required. Technical expertise is envisioned in the areas of research and quality control, inspection and certification, production and handling, drying and storage, and pricing and marketing. This short-term TA is planned to coincide with crop-specific planting and harvesting patterns in the agro-ecological zones. Also, the short-term specialists will assist in conducting in-country training courses organized by the long-term Seed Specialist.

Proposed Scopes of Work for the long-term Seed Specialist and the various short-term consultants are attached to this technical analysis.

2. Training.

The primary focus of the training provided under the Private Sector Seed Production component of SFSR is to be the identification of appropriately qualified persons who will become instrumental in the implementation of the National Seed Plan. Two candidates to receive M.S. degree training in Seed Technology at Mississippi State University will be identified and committed to receive this training by the DG of Agriculture. One M.S. candidate will receive specialized training in quality control to return to the quality control and inspection service at Gitega. The other M.S. candidate will return to assume responsibility for coordinating the seed multiplication and production network for the SSB. Ideally, this person should be posted with the SSB to provide guidance and coordination in seed production and handling strategy.

Candidates for these two training slots must be identified as soon as possible so that they can begin their program in a timely manner and return to their respective assignments to interact with the long-term Seed Specialist prior to completion of the SFSR Project. Tentative candidates have been identified for this training. Of these, one should be programmed for departure in May 1990 to receive three months language training prior to entering degree training in August 1990. A second candidate should be programmed for departure in August 1991 (no language training is necessary) to begin immediate degree training. Both will complete their degree programs no later than December 1992 and return to their assigned duty station.

To provide additional expertise in seed sector activities, 12 person months of short-term U.S. training is needed. This will enable four persons to attend the USDA/OICD/MSU Summer Seed Improvement Training Course (TC-130-3). This course is conducted each year during the approximate interval May 25 - August 10. This program includes appropriate lecture and laboratory exposure in every aspect of a total seed program, and it is reinforced by an extended field study tour of US seed enterprises and related industries.

It will be appropriate for the DG of Agriculture to participate in this training in view of the significant role that the office of the DG will have in the overall execution of the National Seed Plan. Other participants could well represent the SSB and its seed multiplication centers, especially the private sector. It is noteworthy that this program is conducted in English without any translation. However, it should be pointed out that the Mississippi State Seed Technology staff have many years of international seed experience and can relate quite well to individuals with limited English capability.

Finally, in-country training should be provided to develop seed specialization skills of appropriate technicians and farmers. Three one-week training courses are to be specifically designed to include pertinent subject matter areas and to convey appropriate technology to the eventual users in the seed sector. It is planned that training will be conducted during the short-term TA consultancies. Each training course should be limited to no more than 20 participants.

c. Outputs.

Specific outputs of the Private Sector Seed Production component are to include:

- 1) Standardized seed testing rules and procedures for impartially evaluating seed quality of seed produced by ISABU and the SSB. These will probably be a combination of the AOSA Rules for Testing Seeds utilized in the U.S. and those used by the International Seed Testing Association (ISTA).
- 2) An illustrated field inspection guide to convey acceptable methodology appropriate for field inspection and certification.
- 3) Measurable increase in the capability of Burundian administrators, scientists and technicians to administer and transfer seed technology and methodology:

- a) Two MS degree-trained seed technologists:
 - i) Seed Quality Control to administer and coordinate the overall seed testing and inspection service of the SSN.
 - ii) Seed production and handling to coordinate seed multiplication and production activities of the SSB.
- b) Four short-term trainees in seed improvement and privatization:
 - i) Director General of Agriculture
 - ii) Representative of the SSN
 - iii) Seed multiplication centers (SRDs, C,HA)
 - iv) Private enterprise
- 4) Expanded knowledge of the actual and potential market for improved seeds in Burundi.

d. Commodity Requirements.

The long-term Seed Specialist is to be posted in the office of the Director General of Agriculture in Gitega, as is his GRB counterpart. The DG Agriculture has agreed to provide office space; however, basic office furnishings and equipment will be required for these two offices. Such equipment includes desks, chairs, files, paper, pens, pencils, staplers, photocopier, etc.

In addition, two computers will be needed. One IBM/60 will be used in the office to develop computerized seed production schedules for the SSB, to maintain records of seed production, and to assist in developing schedules and materials for training workshops. A second portable laptop computer will be needed as the Seed Specialist travels to various seed production sites to maintain accurate production schedules, contracts and pricing and marketing information.

Minimum field supplies such as a portable scale, seed sample bags, field-type seed moisture tester, a sling psychrometer to determine relative humidity, selected sizes of hand screens, and other minor expendables are necessary.

Two all-terrain vehicles (including one for the GRB counterpart) will be required. These must be road worthy to withstand secondary road conditions into remote seed producing areas and must be spacious enough for small quantities of seeds and supplies. The usual gasoline, oil, tires and general maintenance expenditures will be required. It is anticipated that these vehicles will travel 30,000 to 40,000 km per year.

The long-term Seed Specialist will need the usual set of household furnishings including appliances, furniture, utensils, etc. Also, a 9.5 KVA generator will be needed to provide necessary power during periods of shortages in Gitega.

The following summarizes the commodity requirements of this component of the amended SFSR Project:

- one set office equipment
- two computers
 - IBM/60
 - PC- laptop
- Backup Power Supplies
- One Photocopier
- Two all terrain vehicles
- Field Equipment and Supplies
- One set Household Supplies
- One backup household generator

SCOPES OF WORK**A. Long-Term Seed Specialist.**

1. **Objectives.**
 - a. Advise and assist in organization of National Seed Society and development of private seed industry.
 - b. Advise and assist in the establishment of a quality evaluation and control program to include quality evaluation, production, handling, storage and distribution.
 - c. Facilitate and expedite linkages between seed research and development at ISABU and seed multiplication/production centers and farmer-contract growers in the National Seed Service.
 - d. Advise the GRB on alternative methods of organizing seed production.
 - e. Glean appropriate technology emanating from ateliers applicable to on-farm seed production.
 - f. Assist the GRB in preparing, if and as feasible, a plan for achieving increased private involvement in seed production and marketing.
2. **Responsibilities.**
 - a. Advise and assist in the establishment of a National Seed Service (SSN), which will be the focal point for establishing a centralized seed quality evaluation and control program. This comprehensive quality control center will provide complete and unbiased seed testing and inspection services which will include guidelines for quality control during seed handling, storage and distribution phases of the program.
 - b. Advise and assist in organizing and establishing a National Seed Society (SSB) that will be responsible for seed multiplication, production, and distribution.
 - c. Facilitate and expedite linkages between seed research and varietal development within ISABU and the seed multiplication/production centers and farmer-contract producers of the SSB.
 - d. Establish and maintain continuous dialogue with the SFSR research agronomists at the atelier sites in order to analyze and assimilate pertinent research data emanating from the ateliers concerning varietal testing, performance, and demonstrations.

- e. Advise the GRB on alternative methods of organizing seed production and assist the GRB with the development of producer associations.
- f. Work with the SFSR Marketing Economist to formulate an equitable, market oriented seed pricing policy recommendation. Analyze existing marketing channels as a means for marketing seeds and survey the potential for developing new and aggressive marketing outlets.
- g. Help the GRB to continue to gather and analyze data on private sector seed production and marketing. The Seed Specialist will work with both the GRB and private producers to evaluate this data in order to assess definitively the long-term viability of private sector seed production and marketing.
- h. Through on-the-job training, develop qualified Burundian technicians to operate and maintain seed laboratory equipment and to organize and direct a seed testing laboratory.
- i. Work closely with quality control personnel at seed multiplication and production centers to assure that high quality seeds are produced.
- j. Assist in identifying qualified job-related personnel to receive long- and short-term U.S. training.
- k. Submit, through the SFSR Chief of Party, annual reports to USAID/Burundi and the GRB on the use of pesticides in MOAL-assisted seed production effort.

3. Qualifications.

TRAINING: M.S. degree in Agronomy, Seed Technology
LANGUAGE: S-3, R-3 in French
HEALTH: Excellent health
EXPERIENCE: Extensive experience in fundamental seed technology concepts including production/handling techniques, seed laboratory organization and operation, and organizational skills at the farmer level. Previous experience in Africa is highly desirable.

COMPUTER SKILLS: Fluency with a variety of word processing (e.g. WordPerfect 5.0) and spreadsheet (e.g. Lotus 1-2-3 and Database III) programs.

4. Other.

The Seed Specialist is to reside in Gitega and be posted with the office of the Director General of Agriculture. He or she is to be responsible to the Director General of Agriculture. This technician will be expected to travel to the sites of seed multiplication/production centers and farmer-seed producer associations. He or she will also be expected to work with the SFSR ateliers and with appropriate ISABU seed research stations and with IRAZ research staff.

B. Short-Term TA Consultants.

1. Research-Quality Control Consultant.

This consultant should be well versed in appropriate research priorities and methodologies applicable to developing seed programs with special emphasis in seed laboratory design, organization and operation. He or she must have the capacity to demonstrate proper use and maintenance of quality control equipment. He or she is to:

- a. Provide assistance to the seed laboratory of ISABU.
- b. Advise ISABU researchers on appropriate methodology for varietal identification and maintenance.
- c. Assist in the development of standardized seed quality evaluation techniques and procedures for the National Seed Service.
- d. Provide in-country training to selected personnel from seed sector enterprises.

2. Production-Handling Consultant.

This consultant should be experienced in appropriate seed production and handling techniques, especially at the on-farm (small farmer) level. He or she must be familiar with selection, harvesting and cleaning procedures for producing varietally pure high quality seeds. He or she is to:

- a. Provide guidance to seed multiplication centers and farmers in the appropriate methodology for producing high quality seed.
- b. Illustrate techniques for selecting best seed for planting purposes.
- c. Provide in-country training to selected personnel from private and public seed sector organizations and enterprises.

3. Inspection-Certification Consultant.

This consultant must be familiar with the general concepts of a seed production program with special emphasis in appropriate field and equipment inspection techniques. He or she must also possess experience in varietal identification procedures and fundamental certification policies. He or she is to:

- a. Demonstrate proper field inspection procedures to ensure production of varietally pure seed.
- b. Assist in developing field inspection guide.
- c. Provide in-country training to selected personnel from private and public seed sector organizations and enterprises.

4. Drying-Storage Consultant.

This consultant must be experienced in proper seed drying and storage principles. He or she should be resourceful in demonstrating appropriate on-farm storage practices to protect seeds from insects and disease. This consultant should be able to advise on the selection of timely seed harvest intervals to secure the highest quality seeds. He or she is to:

- a. Illustrate need for timely harvest of seeds for highest quality.
- b. Advise multiplication centers and farmer-seed producers on proper and adequate storage facilities.
- c. Illustrate need for selecting good seeds for storage and planting.
- d. Provide in-country training to selected personnel from private and public seed sector organizations and enterprises.

5. Pricing-Marketing Consultant.

This consultant must be experienced in marketing techniques and policy for agricultural products, especially seeds. He or she should have knowledge of product pricing policy and be able to assist in developing appropriate seed pricing policy. The consultant should work with existing marketing channels and determine if seed can be marketed in a similar manner, and should explore the possibility of establishing new seed marketing channels. Training in agricultural economics with strong emphasis in economics of seed production is desirable. The Pricing-Marketing Consultant is to:

- a. **Work with the SFSR Marketing Economist on issues related to seed marketing.**
- b. **Assist the GRB in developing an appropriate seed pricing policy.**
- c. **Work with seed production centers and farmer seed producers to develop seed marketing and distribution schemes.**
- d. **Provide in-country training to selected personnel from private and public seed sector organizations and enterprises.**

4. Construction Activities.

a. Office of Extension Advisor at Cibitoke.

(1) Need.

The SFSR Project has moved the office of the Senior Extension Advisor from the atelier at Kirimiro to the atelier at Cibitoke. This advisor and the staff of the Cibitoke atelier require office facilities there. There is an existing office building at Cibitoke being used by the ISABU's field staff. It consists of two small rooms with a covered interconnection porch. The structure consists of; reinforced concrete floor slabs, concrete block masonry walls and G.I. metal sheet roofing. It was built in 1981 and is structurally in good condition -- no signs of settlement cracking, sheer or flexural damage. Roof metal sheeting shows no rust, perforations, warping or other structural defects.

This existing building, however, is too small to provide the needed space for the extension staff and its operations (total covered office space is about 30 square meters). Also the building lacks all amenities e.g. electricity, water supply, toilets etc. Accordingly, the SFSR staff and USAID/Burundi have proposed to provide new office space for the personnel assigned to work at this site. This technical analysis examines various alternatives for providing these facilities.

(2) Planned Occupants.

The proposed office facility is required to accommodate the following staff.

- 1 FSR Extension Advisor (Dr. Bernard Delaine)
- 1 ISABU Counterpart of Dr. Delaine
- 2 Technicians
- 1 Secretary
- 4 Field Agents (periodic visitors)

(3) Alternate Schemes.

The provision of new office space can be made in four alternate ways:

- Construction of a permanent masonry building.
- Installation of a building from prefabricated units.
- Setting up of imported mobile trailers.
- Renovation of two nearby existing buildings

Each of these alternatives is examined below.

(a) Construction of a permanent masonry building.

(i) The following would be the space requirements for a new masonry building:

<u>ITEM:</u>	<u>SIZE (METERS)</u>	<u>AREA (Sq. meters)</u>
. Office for Dr. Delaine	4X4	16
. Office for Counterpart	4X4	16
. Office for 2 Technicians (with occasional presence of some of the 4 Field Agents)	6X4	24
. Space for Secretary	3X3	9
. Computer Room (2 computers)	4X3	12
. Storeroom	3X3	9
. 2 Toilets, other space	2X2X4	16
. 1 Hallway		15
. Walling		3
Total area (sq. meters):		120

(ii) Cost Estimate for masonry office building.

The project does not intend to provide a normal, long lasting, permanent office building. This office building would be intended for use over a limited (5 year) period. Therefore the proposed office building will be a simple low cost but practical structure constructed of:

- Rubble stone masonry foundations
- Cement screeded brick floor on grade
- Concrete block masonry walls
- Galvanized iron sheet metal pitched roofing with soft board false ceilings

The building would be provided with: portable wall mounted air conditioning units for three offices and the computer room. An outside septic tank will be constructed to receive and treat sanitary waste water. Electric power would be brought to the site from an existing transmission line located about 300 meters away. This would require wiring, poles and a step down transformer.

A rough cost estimate for the construction of this office facility is given on the following page. The amounts are given in U.S. dollars, though it is expected that local currency provided by the GRB as part of its contribution to the project would be used to finance this construction.

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Cost</u>
Building	120m ³	450	54,000
Yard work	LS		1,000
Septic Tank	LS		5,000
Power Line	LS		6,000

Sub Total:			66,000
Contingency (10%):			6,600
Inflation (10%):			6,000
A & E costs for design and supervision (16 %):			10,560

Total:			89,760
Rounded to:			90,000

(iii) Estimated Time for Construction of Masonry Building.

Estimated time for design and contract documents:	8 weeks
Estimated time for award of construction contract:	4 weeks
Estimated time for construction of building:	18 weeks

Total time required:	30 weeks

(b) Provision of Office by Imported Prefab Components.

This approach is desirable when a sizable number of units of accommodation are needed. Prefab components for the office would have to be imported from the U.S. or Europe. The costs of packaging, crating, shipping transporting, delivering and installation of a single unit as is the case here, will be excessive. Also there will be no usual discount on price because of single unit purchase. Manufacturers representative will be required to provide supervision of assembly and installation. This will further add to the cost. For this project prefab type office building is not attractive and is not therefore recommended.

(c) Provision of office by Mobile Trailers.

(i) Size of the Trailers.

The office space furnished in trailers is generally more restricted since it is of relatively more temporary nature. The office space requirement based on 3 meter wide trailers is estimated as follows:

Office/space:**Length in meters:****Trailer No. 1:**

1	Expatriate Extension Advisor	2.5
1	HCN Counterpart of Extension Advisor	2.5
1	Secretary	2.0
2	Computers	2.0
1	Toilet, filing cabinets	2.5
1	Store, other space	1.5

Total Required Length of Trailer # 1 11.0

Trailer No. 2:

2	Technicians	4.0
1	Store	3.0
1	Toilet, other space	1.5
	space for other staff e.g. field agents (who will be occasional visitors)	2.5

Total Required Length of Trailer No.2 11.0

(ii) Cost Estimate for Provision of Office by Trailers.

Two mobile trailers 11 meters long X 3 meters wide would be required. The following table provides an estimate of their cost. As these trailers would have to be imported from a country included in A.I.D. Geographic Code 935, project dollar funds would have to be used to purchase them.

<u>Item:</u>	<u>Cost (U.S.\$)</u>
Cost FOB USA (2 X 40,000)	80,000
Shipping, Transporting, Insurance	30,000
Assembly and Installation	2,000
Power Line	6,000
Yard Work	1,000
Septic Tank	4,000

Sub Total:	123,000
Contingency (10 %):	12,300
Inflation (5 %):	6,150

Total:	141,450
Rounded to:	142,000

(iii) Estimate of Time.

Preparation of specifications:	3 weeks
RFQ and Placing of order:	5 weeks
Manufacture:	6 weeks
Delivery:	18 weeks
Assembly and installation:	2 weeks

Total time:	34 weeks

(d) Renovation of Two Nearby Existing Buildings.

(i) Description of Structures.

During his TDY to Burundi in February 1990, the A.I.D. Regional Engineering Advisor travelled to Cibitoke to inspect an alternate office site. This facility belongs to the Ministry of Agriculture's Directorate of Animals, and is located in the community of Mpurambo in the Province of Cibitoke. Earlier it belonged to the Projet PARAMO, which was financed and completed with Belgian assistance.

The facility consists of a pair of buildings both approximately 5 X 15 meters in size. The structure appears to consist of hollow concrete block masonry walls on concrete screened brick masonry floor slabs. It is roofed with galvanized metal sheeting. Building #1 includes 5 rooms laid in parallel with a verandah in front and a toilet and kitchen on one side. Building # 2 includes a pair of two small rooms on each side with an interconnecting large open shed utilized as a lecture room.

Structurally, both buildings are in sound condition -- no structural cracks, settlement, erosion, rusting or roof leakage, etc. Repairs needed for the existing structure will be minor. Of course some modest modifications and renovations will be required before occupancy. These modifications would include the items listed in the rough cost estimate given below. The most significant and costly item involved will be the supply of electric power. Power can be tapped off a high tension line passing in the vicinity.

There are two alternate approaches apparently available to securing power supply. The first would be to tap it off an existing transformer located about 800 meters away. This relatively long length will involve more greater power loss or require the installation of a thicker thus more costly cable. The second would be tap it off a nearer location about 300 meters away. This would require installation of a new transformer will have to be provided. The issue will have to discussed and resolved in consultation with the Burundi Electric Supply Company.

(ii) Cost Estimate for Renovation of Buildings.

<u>ITEM:</u>	<u>COST (\$ equivalent)</u>
1. Electric Power Supply	10,000
2. Renovate Toilet (2 needed)	3,000
3. Septic Tank	4,000
4. Telephone Line	2,000
5. Refurbish Kitchens	1,000
6. Interconnect three rooms (cut openings in existing walls and finish doorways)	2,000
7. Repair Gutters	400
8. Fix damaged Window Screens	1,000
9. Minor repairs to floors and walls	1,600
10. Paint (internal and external)	3,000
11. Sub Total:	28,000
12. Contingency:	2,000

13. TOTAL	\$30,000

(4) Recommended Scheme.

Since Alternative (d) above, "Renovation of Two Nearby Existing Buildings," would have the advantages of low cost, early completion, longer life and traditional structure, it is recommended that these buildings be renovated and used as the office for the Cibitoke atelier.

b. Provision of Residential Accommodation.

(1) Need.

The project needs two residences at Cibitoke for use by its senior staff, i.e the FSR Extension Advisor and his ISABU Counterpart. There are two existing houses in Cibitoke belonging to the IMBO Project. These two houses could be made available for use by the above mentioned members of the ISABU staff.

These houses are: a two bed room house (designated No. H3) and a three bed room house (designated No. H5), both with living, dining, kitchen, garage, servant quarter, yards, water supply electricity, septic tanks and other facilities. Structurally both these houses are in acceptable condition. Before occupancy, these two units need some renovation and upgrading.

(2) Cost Estimate.

A rough cost estimate of renovation of these two houses is presented on the following page. The amounts are given in U.S. dollars, though it is expected that local currency provided by the GRB as part of its contribution to the project would be used to finance these renovations.

<u>ITEM:</u>	<u>House H3</u>	<u>House H5</u>
General Repairs of cracks and touch up	1,000	2,500
Paint interior and exterior	2,500	3,000
Repairs to roof	500	500
Kitchen cabinets, cupboards, closets	2,500	3,000
Security grills	1,500	500
Air Conditioning wall units	4,000	5,000
Yard work	0	1,000
Security lighting	1,000	1,000
Sanitary fittings/plumbing	1,000	1,500
	-----	-----
Sub Total:	14,000	18,000
Contingency (20%):	2,800	3,600
Inflation (5%):	700	900
	-----	-----
Total:	17,500	22,500

Consultant's fee to prepare BOQ and monitoring of renovation work at 10 %:

	1,750	2,250
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Total construction and consultant cost: 19,250 24,750

Rounded to: 20,000 25,000

Total for renovation of two houses: \$ 45,000

(3) Time Estimate.

Survey, BOQ, Contract Award	6 weeks
Renovation	8 weeks

Total Time: 14 weeks

c. Methodology of Implementation of Construction.

(1) Activities Involved.

Two separate activities are involved. One is contracting with an A&E firm for the design of the renovated buildings and the other is contracting for the renovations themselves. Although a turn key contract could be awarded to a single firm for both design and renovation, it is the least desirable method and probably not feasible at all in Burundi due to small number of available firms and their lack of diversity and resources. It is therefore recommended that separate design and renovation contracts be considered.

(2) Contracting Modes of Implementation.

There are three possible modes of implementing this construction as discussed in the following.

(a) A.I.D. Direct Contracting.

This approach would require USAID/Burundi to enter into direct contracts with the contractors. These contracts would be subject to the Federal Acquisitions Regulations (FAR 48 CFR 1) and the A.I.D. Acquisition Regulations (AIDAR 48 CFR7).

These regulations are relatively more stringent, involve longer lead times and also put an unacceptably large management and monitoring burden on the Mission which does not have an engineer on its staff. Reliance on the Regional Engineer from REDSO/ESA for these relatively small activities would not be cost effective and efficient. This option is therefore not recommended.

(b) Host Country Contracting.

This mode of contracting would be subject to the provisions of A.I.D. Handbook 11, Chapters 1 & 2. This approach would have the GRB entering into the required contracts and managing their implementation. USAID would provide general oversight, and would in fact only monitor the activities to assure compliance with the provisions of Project Grant Agreement and relevant Project Implementation Letters. The experience in the recent past at USAID/Burundi, however, suggests that ISABU lacks the administrative capacity to effectively manage host country construction contracts following A.I.D. regulations and procedures. This mode of implementation is also therefore not recommended.

(c) Contracting by the University of Arkansas TA Team.

This mode would require the GRB to place the local currency required for the planned renovations under the control of the TA Team. The University of Arkansas, which is the prime contractor of USAID/Burundi for the SFSR Project, has a certain amount of freedom from the application of USAID regulations. It could procure the required services more efficiently than could USAID or GOB. For example requirements of advertisement, Request for Technical Proposals, Invitation for Bids, formal competition, etc., would not strictly be applicable. In this mode the Chief of Party of the Arkansas team would have the flexibility to enter into design and construction contracts within the least amount of time and minimum of bottlenecks.

Due to the proposed simplicity of renovation work, the Arkansas TA team could manage both contracts without undue additional burden on its resources. There is an Office Manager and an Administrative Assistant on the staff of TA Team. USAID/Burundi could provide the necessary guidance with some assistance from REDSO/ESA. The advantage of this approach would be the speed and efficiency with which this renovation could be implemented. Early implementation would not only place the facilities at the disposal of its users, but would also result in lower costs. This mode of implementation appears most practical and desirable and is therefore recommended.

(3) Implementation Schedule.

For the recommended mode of implementation, i.e. by contracting through the Arkansas TA team, the following schedule is proposed.

Finalize identification of needs	Week 1
Draft SOW for A&E services	Week 3
Select A&E and award contract	Week 5
A&E prepares design and contract documents	Week 11
Renovation contractors prequalified	Week 11
Renovation bids received and evaluated	Week 13
Renovation contract awarded	Week 14
Renovation completed	Week 32

Note: USAID/Burundi, with assistance from REDSO/ESA/ENG, could provide support if required in: drafting SOW, approval of design, evaluation of renovation bids, and final acceptance of the completed works.

B. Economic Analysis.

The general conclusions found in the second Project Paper (dated February 25, 1983) regarding the risks associated with research, the need to transfer the experiment station work to farmers fields, the difficulty of estimating the benefits that will flow from the research and the need for a large number of actions to occur for reasonable returns to occur remain valid. However, reasonable assumptions can be made and an illustrative estimate of anticipated returns presented. This analysis provides a modest example of such an effort. It is hoped that given the quantity of resources that the revised project will allocate to technical assistance and training in agricultural economics, a significant improvement can be made in quality and validity of this type of analysis by the time of the mid-term evaluation.

1. The Project Area.

The proposed revision to the project concentrates the work in two agro-ecological regions (Kirimiro and Cibitoke) but does provide limited assistance to the other research workshops (ateliers). In the case of the Marketing Analysis and Support and the Private Sector Seed Production components, the work is of national scope. For the purposes of this illustrative analysis, the cost and benefits of that portion of the project impacting on Kirimiro and Cibitoke are all that are considered. It is believed that the net benefits realized in the other three atelier regions and properly attributed to the work of this project will be far greater relative to the costs of this project for three areas than is the case of this limited analysis. The rationale for the assumption is that the costs of developing much of the methodology for farming systems research work in Burundi will be allocated to these two initial regions.

2. The Costs.

The costs associated with this intervention are to be found primarily in the direct costs of the A.I.D.-supported project associated with the two ateliers mentioned above and the costs to the farmers associated with the production changes being put into practice. For the purposes of this analysis all direct costs of work of the A.I.D. assistance within the two ateliers are charged in this example. Also, the A.I.D. costs associated with the marketing and seed components together with the broader support for ISABU in training, etc. are considered to be equally allocated to the five ateliers and two-fifths of those costs are included for this illustration. The GRB costs allocated under this analysis are the direct costs for personnel and materials as a result of working in the two ateliers. The most difficult cost to determine is that to the farmer. Because of the uncertainty of which new practices which will be recommended adopted and the lack of farmer budgets for any of the possible recommendations, one could easily agree with authors of the original project paper that to continue with this analysis "would be foolhardy" (page 29). It is USAID's judgment, however, that by recommending that the project proceed, a conclusion that profitable changes will be made on the farm has already been reached.

Putting numbers to the magnitude of this change is done to: (a) reaffirm that commitment; and (b) to provoke discussion and challenge on the part of the staff of the project to develop farm budgets which can be utilized by the time of the mid-term evaluation. This being said, the procedure used in this analysis has been to simply judge a net benefit and not attempt to build a typical farm budget. The authors of this analysis look forward to the mid-term evaluation when more complete data will be presented.

3. The Benefits.

The direct beneficiaries of this project are the smallholder farmers whose productivity and income are expected to be improved. The principal assumptions which must be made involve the number of farmers that will be affected and the magnitude of increase of in farm income for those farmers who adopt the recommended practices. It is believed that because there are over three years of SFSR experience to build upon, there could be a small rate of adoption of new practice by the third year of the new design. However, no significant rate of adoption will occur until the fifth year after the start of this revised project, and it will not be until the eighth year that the maximum rate of adoption will occur. It is not believed that even a majority of farmers will change their farming practices; our illustrative analysis assumes that a maximum of thirty percent will be affected by changes resulting from this project

The total number of farmers in the two agro-ecological regions is taken from government estimates. This number of farmers is expected to increase slightly for the first few years; we assume one percent per year during four years. However, given the current density of population on the land, this increase cannot occur for a very long time period or be of any significant magnitude. This type of assumption reaffirms the judgment that increases in production must come from increases in productivity per unit of land and not from increases in area of land cultivated.

In calculating the net value for the assumed increase in value of farm production, the starting point was the average farm production found to exist as a result of the diagnostic SFSR surveys. It was then assumed that cereal crop yields would be able to increase about 25% above current production, that additional production sufficient to cover the costs of the change in production systems would occur, that legume yields would increase 20%, and that tuber crop yields would increase 10%. The prices were assumed to be 70% of estimated Bujumbura prices for these products. The exchange rate between currencies was taken at 155 Fbu per U.S. dollar. All values are expressed in constant dollars as of year one of the revised project.

The results of this set of assumptions are presented in the Table ECON 1. As would be expected from previous work on the value of research, the IRR of 44% is quite high. This is in keeping with USAID's high expectations of the value of the applied research thrust recommended by this project proposal. We look forward to the mid-term evaluation and the prospect of more solid data to verify this optimism.

It would be very desirable to have an analysis of the impact of the seed and the marketing activities on the remainder of the nation. While it is believed that the returns for these activities throughout the nation will be as great as their returns in this study area, data are not available to make an estimate of the returns. Strong encouragement to develop a better estimate of the market for seeds has been included in this Project Paper Supplement, together with sufficient resources to accomplish the task. This information should be available for the next evaluation.

4. The Recurrent Costs.

While the cost burden that this new FSR approach imposes on the GRB is significant, it is clearly recognized that the atelier approach is much less expensive than the conventional FSR activities. A principal difference between the two methods is that the extensive travel costs incurred in the conventional approach are minimized under the atelier approach. Nevertheless, the ateliers will stretch and reorder GRB resources after the support of this project ends.

The estimated ISABU 1988-98 budget is 190,000,000 FBU (approximately U.S. \$1,226,000). Eighty-five percent of the budget is allocated for salaries. The estimated budget to operate one atelier is 10,173,890 FBU (approximately \$66,000). The cost of operating five ateliers is 50,869,450 FBU (approximately U.S. \$328,000), or a possible increase in ISABU's budget of 27%. If one-half of the personnel are reallocated from other tasks, than the increase in costs drops to 39,316,913 FBU (U.S. 254,000), or 21% of the budget.

The most severe problem, however, will be the strain on the ISABU budget of the atelier operating expenses and capital expenditures. Only 15% of ISABU's current budget is for these non-salary items. In 1988-89 their budget was approximately 28,500,000 FBU (U.S. \$184,000) for these items. The budget for non-salary expenses for five ateliers is 27,764,375 FBU (U.S. \$179,000), i.e., almost all of the current money available for non-salary expenditures. Even though USAID believes that the productivity of this applied research will be very high, it is doubtful that the GRB can be expected to reallocate funds and expand their agricultural research budget to this extent. As a consequence, external donor funding can be expected to be needed for a number of years if these applied research activities are to be sustained.

C. Updated Institutional Analysis.

1. Restructuring of ISABU.

Following appointment of a new Director General at ISABU in 1987, ISABU requested that the International Service for National Agricultural Research (ISNAR) assist it improve its effectiveness in producing technologies more apt to be accepted by farmers. ISNAR was asked to make recommendations for improvements in structure, organization and management of ISABU. The resulting study became the blueprint for restructuring the organization of research at ISABU.

ISABU has adopted ISNAR's recommendations for developing more effective functional relations between research programs within a department on the one hand, and between commodity research programs and integrative research programs such as FSR on the other. By Presidential Decree, three directors have been appointed to head departments within ISABU's new organizational structure. These include two research directors, one responsible for Commodity Research and the other for Studies of the Environment and Production Systems (DEMSP), as well as a director of the Administrative and Financial Department. An ISABU Board of Directors including members representing small farmers, commercial livestock and dairy farmers, and agricultural industry was also appointed by Presidential Decree. Additionally, the ISABU Scientific Commission, which includes a representative of the SFSR technical assistance team, has been reactivated and has met several times to review and evaluate research results and proposals.

All research on commodities is now grouped into a single Department of Commodity Research. All research on environmental factors and production systems is grouped under the DEMSP. Within each department there are no subdivisions other than research programs. This has simplified lines of communication and facilitated monitoring, evaluation, planning and programming. This is expected to promote the development of improved production technologies that have a greater likelihood of being adopted by farmers.

Within this new structure FSR has become a program within the DEMSP. Initially, it will continue as the SFSR Project, integrating FSR as part of the research program of the Ateliers Regionaux de Recherches, or Regional Research Workshops, a new concept that ISABU feels will validate the reorganization of commodity research programs. For the remainder of the amended project, FSR research will be conducted in the context of these Ateliers de Recherche.

An Atelier de Recherche in the Burundi context is essentially a hybrid between conventional FSR and model farms. It is a locus of actual farms where farming systems researchers place on-farm trials. Like FSR, the ateliers focus on the transfer of technologies to farmers. But, in addition, the ateliers reflect an attempt to control the environment for on-farm research more than is normally the case with FSR. This is felt to be necessary given ISABU's present weak capacity to respond to farmers' problems. ISABU feels this approach will force a greater degree of integration between commodity researchers because the ateliers have a defined location and provide field support for appropriately designed integrated research protocols. It also will reduce the operating resources required to sustain an effective FSR program, reducing a major impediment to the adoption of FSR by African research institutes. USAID believes that this approach represents a thoughtful response to the problem of conducting useful agricultural research in Burundi.

ISABU anticipates establishing ateliers in five distinct agro-ecological zones over the next four years. Each atelier will be staffed with one head or coordinator, two technicians and four field agents. The coordinator will be responsible for establishing the program of research of the atelier and for monitoring and evaluating the on-farm trials.

In establishing the on-farm research program for the atelier, the coordinator will be advised by a Commission de Transfert de l'Atelier. This commission will consist of the technical staff of the atelier, the extension program administrator and supervisor for the area covered by the atelier, the agronome de commune for the communes included in the atelier, and researchers from the technical research programs most likely to possess technologies suitable for testing in the area. When there are no available technologies that meet the particular problem or constraint identified in the diagnostic survey, the coordinator may request help from the research program concerned. Once he has established the atelier's proposed research program and identified a need for support from the commodity research programs, the coordinator of the atelier will seek approval for his research program and assistance in executing it from a national transfer commission.

This commission is to review and coordinate the research programs proposed by the various atelier coordinators. It will assist them in obtaining an inventory of available research results that offer promise for testing in a particular atelier. It will also be responsible for officially soliciting any additional research needed by the ateliers from the commodity research programs. Each atelier coordinator and his expatriate counterpart will be an ex-officio member of the national commission, as will the heads of the Pre-Extension and the Rural Economy Services and the Director of Environment and Production Systems. The commission will invite researchers from the various commodity research programs as needed.

This new structure is expected to lead to a redefinition of commodity research programs along lines more appropriate to the needs of farmers. The fact that the FSR program now has a department head on equal footing with commodity research programs will help assure that conflicting demands for the time and resources of commodity researchers between the two departments will be resolved expeditiously by the Committee of Directors. This is a working group consisting of all the directors of ISABU. It meets twice each month to review the progress of research activities and to resolve administrative and other problems that arise.

In addition to the Committee of Directors, the Scientific Commission will provide an additional forum for resolution of possible conflicting demands on commodity researchers' time. The Scientific Commission meets twice each year to advise the Committee of Directors on matters pertaining to utilization of ISABU research facilities.

2. Ministry of Agriculture and Livestock (MOAL).

a. Agricultural Extension.

During the past year the Ministry of Agriculture and Livestock (MOAL) has been in the process of reestablishing administrative control over extension activities. Beginning in 1980, extension services in the agriculturally important areas of the country were turned over to Regional Development Societies (SRDs), which have a good deal of administrative autonomy and are largely financed by external donors, and to other regional development projects. Since then, the Government of Burundi and the donor community have recognized that they cannot continue the level of financing for social services and agricultural support services that have characterized such projects in the past. The level of operating subsidies for agricultural support services and inputs is not sustainable. As a result, the MOAL is transferring as many social and agricultural support functions and commercial-type activities (e.g. fertilizer and other input sales) to the private sector as possible. Meanwhile, the MOAL is reabsorbing agricultural extension services into its newly-created General Directorate for Extension. Donors, in turn, are providing financial support to ease the transfer.

During this period, the ateliers will be working both with the SRD's and the MOAL extension services. To facilitate this collaboration, the Director General of ISABU and the MOAL's Director General have signed an agreement formalizing the cooperative relationship between ISABU's research workshops and the MOAL Extension Service. A copy of that agreement is included as Annex IX to this PP Supplement. The Director of ISABU's Department of Studies of the Environment and Production Systems is negotiating a similar agreement between ISABU and the GRB's Regional Development Societies (SRDs) and other development projects with extension functions. Elevation of the status of extension to the level of a general directorate within the MOAL indicates the very high priority that the Government of Burundi now places on agricultural research and extension.

The ateliers will incorporate into the field trial program all project or MOAL extension agents working on the same collines as the atelier. Both the Director General of Extension and the Director of the Kirimiro SRD have agreed to release the agents one day per week for the work of the ateliers. In this way, an increasing number of extension agents will be trained in FSR methodology to help make them more effective in their regular work programs. Moreover, these agents can continue to provide supervision for FSR experiments that require a longer period of evaluation than the three to five year duration of the average atelier. Eventually, as researchers understand the rural environment better and a larger number of MOAL and project extension agents become experienced in FSR, ISABU may be able to abandon the ateliers and work directly with extension agents over a larger area.

b. Agricultural Marketing.

The decision to transfer input supply and output marketing functions to the private sector is, perhaps, an even more significant shift from prior GOB policy. It is very important from the perspective of USAID development objectives and policy that this effort succeed. It is by no means obvious that the private sector will respond as expected, and as required, if improved technologies developed by ISABU/FSR are to benefit farmers. This is the reason the revised SFSR Project will include assistance to ISABU in the marketing area. ISABU and USAID need to determine whether the noticeable absence of private sector participation in interregional trade results from legal impediments, social impediments or from economic factors. Once the causes are identified, the project can suggest appropriate strategies for resolving them so as to facilitate the evolution of a dynamic and competitive private sector in marketing activities.

The Seed Sector.

Fragmented and decentralized seed activities in Burundi have resulted in a proliferation of semi-independent, project-oriented seed multiplication centers. Little coordination or standardized quality control procedures exist among these projects. In addition, the lack of an equitable seed pricing policy has not allowed seeds to be priced at their market value, thus providing little stimulus for the development of seed production activities on a commercial scale. This experience convinced the GRB of the need to develop coordinated, comprehensive policies concerning the development of new and improved varieties of breeder seed by ISABU and the subsequent multiplication and production of foundation and improved seed. The ISNAR report (ISNAR R33e) addresses these issues. It suggests roles for both ISABU and the MOAL in this undertaking, and defines the linkages necessary to achieve acceptable results.

In view of the findings of this report and its own experiences, the GRB is prepared to implement a National Seed Plan (NSP). This plan defines national seed policies, and calls for the establishment of a National Seed Commission (CNS), a National Seed Service (SSN) and a National Seed Society (SSB).

The NSC will oversee and provide guidance to the seed program by making policy for both the Seed Service and the Seed Society. The Seed Service will establish a quality control program consisting of a laboratory together with field inspection services. These will be headquartered within the office of the Directorate General of Agriculture of Agriculture in Gitega. The Seed Service's primary responsibility will be to establish and implement uniform testing and evaluation techniques for ISABU and seed production procedures for the Seed Society (SSB). Under the direction of the SSB, breeder seed from ISABU will be multiplied by producer associations and then sold to farmers. Strong linkages will be developed between the SSB and its seed producer associations, CVHA, agricultural associations, cooperatives, SRDs, and private farmers in order to ensure adequate quantities of improved seeds to meet the needs of Burundian agriculture.

ANNEX V: Summary Budget Estimates and Expenditure Projections.

TABLE I -- A.I.D. CONTRIBUTION BY COMPONENT

Description:	Unit Price	Through 3/31/90	FY 90 (6 Mo)	FY 91 (12 Mo)	FY 92 (12 Mo)	FY 93 (11 Mo)	LDP Total
I. Arkansas Contract							
A. FSR Component							
1. FSR Long-Term TA							
a. Ag. Economist/CDP	14,200/mo		85,200	170,400	0	0	255,600
b. FSR Agronomist	14,200/mo		85,200	170,400	170,400	156,200	582,200
c. FSR Extensionist	14,200/mo		85,200	170,400	170,400	156,200	582,200
d. Research Agronomist	14,200/mo		85,200	85,200	0	0	170,400
e. Production Economist	14,200/mo		42,600	170,400	0	0	213,000
f. Policy Economist	14,200/mo		42,600	170,400	170,400	156,200	539,600
g. International Meetings			5,000	10,000	10,000	10,000	35,000
2. FSR Short-Term TA	18,000/mo		18,000	36,000	36,000	36,000	126,000
Sub-Total, FSR TA:		3,328,237	449,000	983,200	557,200	514,600	5,832,237
3. FSR Training							
a. Long-Term U.S.	60,000/pr		0	210,000	390,000	180,000	780,000
b. Short-Term U.S.	9,000/mo		18,000	27,000	27,000	18,000	90,000
c. Third Country	4,000/mo		36,000	60,000	60,000	36,000	192,000
d. In-Country							
- Instructors	18,000/mo		18,000	18,000	18,000	18,000	72,000
- Thesis Support	4,000/pr		4,000	0	4,000	8,000	16,000
Sub-Total, FSR Training:		341,177	76,000	315,000	499,000	260,000	1,491,177
4. FSR Commodities							
a. 4 Mitsubishi 4X4	22,000		88,000	0	0	0	88,000
b. 5 Peugeot Pickups/sedans	16,000		80,000	0	0	0	80,000
c. 16 Motorbikes	2,500		40,000	0	0	0	40,000
d. 4 Computers/Software	8,000		24,000	0	8,000	0	32,000
e. 3 Photocopiers	1,200		3,600	0	0	0	3,600
f. 3 Sets Office Equipment	3,000/set		9,000	0	0	0	9,000
g. 2 Sets Research Equipment	2,300/set		4,600	0	0	0	4,600
h. 1 set HH Furniture	35,000/ea		35,000	0	0	0	35,000
Sub-Total, FSR Commodities:		522,005	284,200	0	8,000	0	814,205
5. Other FSR Costs:							
a. Extension Materials	5,000/yr		2,500	5,000	5,000	5,000	17,500
b. Vehicle Ins. & Spares	1,500/yr		18,000	24,000	19,500	15,000	76,500
Sub-Total, Other FSR Costs:		0	20,500	29,000	24,500	20,000	94,000
TOTAL COSTS, FSR COMPONENT:		4,191,419	829,700	1,327,200	1,088,700	794,600	8,231,619

NOTE: See Table IV below for a breakdown of how the figure of \$14,200 in average monthly long-term technical assistance costs per person was calculated.

TABLE I -- A.I.D. CONTRIBUTION BY COMPONENT (CONT.)

Description:	Unit Price	Through 3/31/90	FY 90 (6 Mo)	FY 91 (12 Mo)	FY 92 (12 Mo)	FY 93 (11 Mo)	LOP Total
I. Arkansas Contract (cont)							
B. Marketing Component							
1. Marketing Economist	14,200/mo	0	42,600	170,400	170,400	156,200	539,600
2. Marketing Short-Term TA	18,000/mo	0	0	90,000	90,000	72,000	252,000
3. Marketing Training							
a. Long-Term U.S.	60,000/pr		0	30,000	60,000	30,000	120,000
b. Short-Term U.S.	9,000/mo		0	36,000	45,000	27,000	108,000
c. Third Country	4,000/mo		0	8,000	16,000	8,000	32,000
d. In-Country							
- Instructors	18,000/mo		0	18,000	18,000	0	36,000
- Thesis Support	4,000/pr		0	4,000	4,000	0	8,000
Sub-Total, Marketing Training:		0	0	96,000	143,000	65,000	304,000
4. Marketing Commodities							
a. 1 Mitsubishi 4X4	22,000		22,000	0	0	0	22,000
B. 1 Peugeot Pickup	16,000		16,000	0	0	0	16,000
C. 1 Minivan	16,000		16,000	0	0	0	16,000
d. 4 Motorbikes	2,500		10,000	0	0	0	10,000
e. 4 Computers/Software	8,000		32,000	0	0	0	32,000
f. 3 Photocopiers	1,200		3,600	0	0	0	3,600
g. 3 Sets Office Equipment	3,000/set		9,000	0	0	0	9,000
h. 2 Sets Research Equipment	2,300/set		2,300	0	0	0	2,300
i. 1 set HH Furniture	35,000/ea		35,000	0	0	0	35,000
Sub-Total, Mktg. Commodities:		0	145,900	0	0	0	145,900
TOTAL COSTS, MARKETING:		0	188,500	356,400	403,400	293,200	1,241,500

TABLE I -- A.I.D. CONTRIBUTION BY COMPONENT (CONT.)

Description:	Unit Price	Through 3/31/90	FY 90 (6 Mo)	FY 91 (12 Mo)	FY 92 (12 Mo)	FY 93 (11 Mo)	LOP Total
I. Arkansas Contract (cont)							
C. Seed Component							
1. Seed Specialist	14,200/mo	0	42,600	170,400	170,400	156,200	539,600
2. Seeds Short-Term TA	9,000/mo	0	9,000	54,000	54,000	9,000	126,000
3. Seeds Training							
a. Long-Term U.S.	60,000/pr		0	30,000	60,000	30,000	120,000
b. Short-Term U.S.	9,000/mo		27,000	27,000	27,000	27,000	108,000
c. Third Country	4,000/mo		0	0	0	0	0
d. In-Country							
- Instructors	9,000/mo		9,000	54,000	54,000	9,000	126,000
- Thesis Support	5,000/pr		0	0	0	0	0
Sub-Total, Seeds Training:		0	36,000	111,000	141,000	66,000	354,000
4. Seeds Commodities							
a. 1 Mitsubishi 4X4	22,000		22,000	0	0	0	22,000
b. 1 Peugeot Pickup	16,000		16,000	0	0	0	16,000
c. 2 Computers/Software	8,000		16,000	0	0	0	16,000
d. 1 Photocopier	1,200		1,200	0	0	0	1,200
e. 1 Set Office Equipment	3,000/set		3,000	0	0	0	3,000
f. 3 Sets Research Equipment	2,300/set		4,600	2,300	0	0	6,900
g. 1 set HH Furniture	35,000/ea		35,000	0	0	0	35,000
h. 9.5 KVA Generator	10,000/ea		10,000	0	0	0	10,000
Sub-Total, Seed Commodities:		0	107,800	2,300	0	0	110,100
TOTAL COSTS, SEEDS:		0	195,400	337,700	365,400	231,200	1,129,700
SUB-TOTAL, ARKANSAS CONTRACT:		4,191,419	1,213,600	2,021,300	1,857,500	1,319,000	10,602,819
II. Non-Contract Costs:							
A. CIP/PRAPAC Buy-In		0	79,000	0	0	0	79,000
B. Other Training		12,777	0	0	0	0	12,777
C. Other Commodities		75,359	0	0	0	0	75,359
D. Construction		14,736	0	0	0	0	14,736
E. Operating Costs		77,999	0	0	0	0	77,999
F. Evaluation		0	0	72,000	0	72,000	144,000
G. Non-Federal Audit		0	0	0	100,000	0	100,000
SUB-TOTAL, NON-CONTRACT COSTS:		180,871	79,000	72,000	100,000	72,000	503,871
TOTAL PROJECT COSTS:		4,372,290	1,292,600	2,093,300	1,957,500	1,391,000	11,106,690
Contingencies (approx. 2.5%):		0	9,586	52,333	48,938	34,775	145,631
Inflation (5%):		0	0	107,282	205,660	224,738	537,679
GRAND TOTAL, ALL COSTS:		4,372,290	1,302,186	2,252,914	2,212,097	1,650,513	11,790,000

TABLE II -- A.I.D. CONTRIBUTION BY PROJECT ELEMENT

Description:	Unit Price	Through 3/31/90	FY 90 (6 Mo)	FY 91 (12 Mo)	FY 92 (12 Mo)	FY 93 (11 Mo)	LOP Total
I. Technical Assistance:		3,328,237	543,200	1,468,000	1,042,000	908,000	7,289,437
II. Training:		353,954	112,000	522,000	783,000	391,000	2,161,954
III. Commodities:		597,364	537,900	2,300	8,000	0	1,145,564
IV. Construction:		14,736	0	0	0	0	14,736
V. Other Costs:		77,999	99,500	101,000	124,500	92,000	494,999
TOTAL PROJECT COSTS:		4,372,290	1,292,600	2,093,300	1,957,500	1,391,000	11,106,690
Contingencies (approx. 5%):		0	9,586	52,333	48,938	34,775	145,631
Inflation (7%):		0	0	107,282	205,660	224,738	537,679
GRAND TOTAL, ALL COSTS:		4,372,290	1,302,186	2,252,914	2,212,097	1,650,513	11,790,000

TABLE III -- GRB CONTRIBUTION

Description:	Unit Price	Through 3/31/90	FY 90 (6 Mo)	FY 91 (12 Mo)	FY 92 (12 Mo)	FY 93 (11 Mo)	LOP Total
I. Estimated GRB Expenses as of 3/31/90:		1,354,000	0	0	0	0	1,354,000
II. For MQAL:							
A. Admin. Support to MSP:		0	25,000	50,000	50,000	50,000	175,000
III. For ISABU:							
A. Salaries of Collaborating Researchers:	104,000/yr	0	52,000	104,000	104,000	104,000	364,000
B. Trainee Salaries:		0	51,250	98,750	61,250	20,417	231,667
C. Atelier Staff Salaries:	19,000/at	0	19,000	38,000	38,000	38,000	133,000
D. Vehicle Operation:	5,000/ve	0	60,000	80,000	65,000	50,000	255,000
E. Atelier Rent/Utilities:	5,000/at	0	5,000	10,000	10,000	10,000	35,000
F. Atelier Office Supplies:	2,500/at	0	2,500	5,000	5,000	5,000	17,500
G. Atelier Research Supplies:	2,000/at	0	2,000	4,000	4,000	4,000	14,000
H. Extension Agent Bonuses:	1,500/at	0	1,500	3,000	3,000	3,000	10,500
I. Motorbike Operation:	1,800/ea	0	0	28,800	28,800	28,800	86,400
J. Per Diem, Diag. Surveys:	10,000/at	0	10,000	20,000	20,000	20,000	70,000
K. Publications, Extension Materials:	2,500/yr	0	1,250	2,500	2,500	2,500	8,750
L. Office Bldg. Maintenance:	3,000/yr	0	1,500	3,000	3,000	3,000	10,500
M. Burundi Travel of US TA:		0	12,025	23,275	16,300	13,790	65,390
n. Utilities for TA housing:	250/mo	0	9,000	22,500	15,000	13,750	60,250
o. Rent for TA Housing:		0	25,500	75,000	48,000	44,000	192,500
N. Training:							
1. Participants in Burundi	5,000/crs	0	10,000	40,000	40,000	10,000	100,000
2. Thesis Support:	25,000/ea	0	25,000	25,000	50,000	50,000	150,000
3. Field Days:	10,000/yr	0	5,000	10,000	10,000	10,000	35,000
D. Research Grants:	5,000/ea	0	5,000	5,000	10,000	10,000	30,000
P. SFSR Crop Insurance Fund:	7,500/yr	0	3,750	7,500	7,500	7,500	26,250
Q. Bujumbura Office Rental:	7,000/yr	0	3,500	7,000	7,000	7,000	24,500
R. Cibitoke Renovations:		0	75,000	0	0	0	75,000
T. CIP/PRAPAC Local Costs:		0	35,000	40,000	40,000	40,000	155,000
U. Local Evaluation Costs:		0	0	24,000	0	24,000	48,000
V. Local Audit Costs:		0	0	0	33,333	0	33,333
TOTAL GRB COSTS:		1,354,000	439,775	726,325	671,683	568,757	3,760,540
Contingencies (approx. 2.5%):		0	8,606	18,159	16,792	14,219	57,775
Inflation (5%):		0	0	37,224	70,569	91,892	159,684
BRAND TOTAL, ALL COSTS:		1,354,000	448,381	781,707	759,044	674,868	4,018,000

TABLE IV -- ESTIMATED ANNUAL TECHNICAL ASSISTANCE COSTS

FIELD PERSONNEL:

I. Base Salaries:

A. Ag. Economist/COP	60,000
B. FSR Agronomist	40,000
C. FSR Extensionist	50,000
D. Research Agronomist	50,000
E. Production Economist	50,000
F. Policy Economist	50,000
G. Marketing Economist	50,000
H. Seed Specialist	50,000

Sub-Total, Base Salaries	400,000
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II. Fringe Benefits (19% of Base Salaries):	76,000
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III. Travel:

A. Round Trip Air Travel (2 RT tickets @1850 x 8):	29,600
B. Shipment of HHE's (30,000/contract/4 years*8)	60,000
C. Storage of HHE's (100/month x 12 x 8):	9,600

Sub-Total, Travel:	99,200
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IV. Allowances:

A. Post Differential (25% of Base Salaries):	100,000
B. COLA: app. 11% of Base Salaries):	44,000
C. Education Allowances (app. 25% of Base Salaries):	100,000
D. At-Post Allowance (50/person x 172 days)	68,800

Sub-Total, Allowances:	312,800
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V. Other Direct Costs:

A. DBA Insurance (1,400/person/year):	11,200
B. SDS Insurance (25/person/month):	2,400
C. Personal Medical (30/month/person):	2,880
D. Passports, Visas, etc. (200/person/year):	1,600
E. Communications (25,000/year):	25,000
F. Printing and Publishing (250/month):	3,000
G. Miscellaneous (8,000/year):	8,000

Sub-Total, Other Direct Costs:	54,080
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Total Direct Costs (Field):	942,080
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Total Indirect Costs (Field) (20% of Total Direct Costs):	188,416
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TOTAL FIELD COSTS:	1,130,496
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ANNEX V: Summary Budget Estimates and Expenditure Projections.

TABLE IV -- ESTIMATED ANNUAL TECHNICAL ASSISTANCE COSTS (CONT.)

CAMPUS PERSONNEL:

V. Base Salaries:

A. Campus Coordinator (50% of 65,000):	32,500
B. Finance/Admin Coordinator (45% of 45,000):	20,250
C. Project Manager (45% of 25,000):	11,250
D. Accounting/Data Entry (50% of 15,000):	7,500
E. Training Coordinator (40% of 30,000):	12,000
F. Coordinator Assistant (50% of 15,000):	7,500
G. Secretarial/Clerical (100% of 10,500):	10,500
H. Miscellaneous Backstopping (35% of 40,000):	14,000

Sub-Total, Base Salaries: 115,500

VI. Fringe Benefits (Campus Personnel)
(19% of Base Salaries): 21,945

VII. Travel, Campus Personnel
(20,000/year): 20,000

Sub-Total, Campus Direct Costs: 157,445

VIII. On-Campus Indirect Costs:
(44% of Campus Direct Costs): 69,276
=====

TOTAL CAMPUS COSTS: 226,721

GRAND TOTAL, ALL COSTS: 1,357,217

AVERAGE COST PER MONTH PER
TECHNICIAN (GRAND TOTAL/12/8): 14,138

ROUNDED TO: 14,200

**TABLE 2: BUDGET FOR AN ATELIER REGIONAL DE RECHERCHE/ISABU
(US Dollars)**

I. PERSONNEL:	
Ingenieur Agronomes (1)	6812.00
Techniciens, ITAB (2)	6436.00
Field Agents (4)	9324.00
Chauffeurs (2)	4288.00
Secretary	2953.00

Total Personnel	29813.00
II. OPERATING EXPENSES:	
Vehicle Operation/Maint.(2 x 20000 mi/yr/ea @ .30)	12000.00
Motorcycle Operation/Maintenance	3000.00
Bicycle Maintenance	300.00
Research Supplies & Laboratory Fees	1000.00
Agricultural Inputs	500.00
Miscellaneous Office and Other Supplies	1500.00
Rental of Office Space	2000.00

Total Operating Expenses	20300.00
III. COMMODITIES/CAPITAL EXPENDITURES:	
A.Vehicles:	
All-terrain vehicles (2)	44000.00
Motorcycles (2)	4400.00
Bicycles (4)	700.00
B.Office Equipment:	
Computer System & Software	4500.00
Back-up Power Supply	2000.00
Desks (5) & Chairs (8)	1300.00
Book Cases (2)	400.00
Photocopier & Manual Typewriter	1500.00
Miscellaneous	1100.00
C.Field Equipment:	
Boots, Raincoats, Clipboards (8)	500.00
Hoes, machetes, tapes, field scales (4)	600.00
Pocket Transits (2)	300.00
Grain Moisture Meters (2)	400.00
1 kg. Laboratory Scale & 25 Kg. Scale	400.00

Total Commodities	62100.00
Total First Year Cost	112213.00
Total Recurrent Cost (1)	65638

Footnotes:

(1)Includes recurrent salary and non-salary expenses plus commodities/capital expenditures assuming four year amortization.

135

SUMMARY OF THE BURUNDI POTATO PROJECT

SUMMARY

The program is making a substantial impact on potato production in the principal areas of seed and new varieties. The latest variety Nainamagara selected by ISABU from clones provided by CIP, has been rapidly accepted by farmers and according to latest surveys, is planted on 80% of the area under potatoes.

ISABU also has another important role to play in contributing to the research of PRAPAC, the regional network which includes Burundi, Rwanda, Uganda and Zaire. ISABU's principal contribution is research on the control of bacterial wilt and post harvest storage. Both these projects are contained in the present proposal.

CIP will continue to give technical support in Burundi. Additional technical backing will be provided by the CIP team in Nairobi and visiting staff from Lima, Peru. It is felt that the potato project will continue to be extremely successful and increase production of potatoes which hopefully will lead to more modest prices in local markets.

Budget Request Burundi

I. Project Financial Implementation

This request for financial support will cover the next 4 years in order to help consolidate the development of the Burundi National Potato Program of ISABU and PRAPAC. At the present time, the Potato Program has progressed to the point that 80% of the area is planted to one of the late blight/bacterial wilt resistant varieties selected in the country. A continued follow-up to stabilize and build on the current success is crucial, as the farmer confidence is only now being seen and a major effort in technology transfer can take place in a larger scale.

II. Budget (see attached page)

BUDGET

PRAPAC POTATO RESEARCH - BURUNDI

ILLUSTRATIVE BUDGET 1989-1992 (x,000 US\$)

	YEAR				TOTAL
	1	2	3	4	
1 - Labour	17.00	18.00	19.00	20.00	74.00
2 - Travel (local)	2.50	2.50	2.50	2.50	10.00
¹ <u>3</u> - Equipment/Supplies	25.00	12.00	13.00	14.00	64.00
4 - Vehicle & Building maintenance	4.00	4.00	4.00	4.00	16.00
5 - Construction	2.00	2.00	2.00	2.00	8.00
6 - Training (including travel)	6.00	6.00	6.00	6.00	24.00
7 - Communications	0.70	0.70	0.70	0.70	2.80
8 - Services	1.50	1.60	1.90	2.00	7.00
¹ <u>9</u> - Potato utilisation and marketing survey	-	15.00	-	-	15.00
TOTAL	58.70	61.80	49.10	51.20	220.80

III. Budget Explanation:

1. Labour

Funds requested in this item include labour required to carry out potato research activities concerning trials for bacterial wilt, storage, and on-farm research throughout the country.

2. Travel

Research sites and farmers in Burundi are located and spread approximately 160 km from the main research station at Gisozi. Travel of national scientists is therefore required to carry out normal research activities on bacterial wilt, basic seed production, on-farm trials and socio-economic studies. Funds requested are to partially cover this costs. The Belgium budget will only cover expenses for the vehicle bought with their funds.

3. Equipment and supplies:

Field supplies include fertilizers, nematicides, pesticides, stickers, thermometers, tools, and other items of frequent use in research activities related to bacterial wilt, storage, and seed production.

Glassware, hormones, in-vitro propagating media and other chemicals are needed to carry out research in bacterial wilt and support the in-vitro propagation of selected materials.

On year 1 also, aphid-proof mesh for a new greenhouse and a steam generator for soil pasteurisation to support bacterial wilt research at Gisozi are considered.

All items included under this budget line must be imported. (Kenya and USA).

4. Vehicle and building maintenance

To effectively carry research activities, motorcycles and vehicles with adequate maintenance are required. Other funds are requested to improve and maintain the in-vitro laboratory facilities at Gisozi.

5. Construction:

Funds requested are to build and replace diffuse light store (DLS) on seed farms and on farmer fields in connection with storage, bacterial wilt research and seed production. These are totally constructed with local materials and using the Program's own workers for labour.

6. Training

Funds requested are directed towards in-country training (including field days for farmers).

7. Communications

Amount requested is to meet basically expenses related to mail, telex, and telephone charges.

8. Services

Under this item, car insurance, legal fees, bank charges and other operational costs are included.

9. Potato utilisation and marketing survey

To be carried in 1990.

Dr. G. Scott's report needs updating to cover issues raised during the PRAPAC evaluation last March by USAID- Bujumbura.

Funds requested include CIP staff travel, and per diem, local support and printing charges. No consultancy fees are considered since there will be taken care by CIP.

ANNEX VI: Summary of Amendments to SFSR and of Planned Long-Term Technical Assistance.

A. Summary of Amendments

<u>Item:</u> -----	<u>Existing Project:</u> -----	<u>Revised Project:</u> -----
PACD	September 30, 1991	August 22, 1993
LOP Funding	\$ 7,790,000	\$ 11,790,000
Components	(1) Farming Systems Research	(1) Farming Systems Research (2) Marketing Support and Analysis (3) Private Sector Seed Development

B. Revised Long-Term TA Plan:

<u>Position:</u>	<u>Location:</u>	<u>Starts:</u>	<u>Ends:</u>	<u>Total Person-Months:</u>
COP/Ag. Economist*	Gitega/Buj	04/90	09/91	18
FSR Agronomist*	Kirimiro	04/90	08/93	41
FSR Extensionist*	Cibitoke	04/90	08/93	41
Research Agronomist*	Karuzi	04/90	03/91	12
Production Economist	Bujumbura	07/90	09/91	15
Ag. Policy Economist	Bujumbura	07/90	08/93	38
Marketing Economist	Bujumbura	07/90	08/93	38
Seed Specialist	Gitega	07/90	08/93	41
Total Person-Months Long-Term T.A.:				241

Note:

(*) Existing Position; incumbent now in Burundi.

ANNEX VII: Seed Sector Studies.

BURUNDI NATIONAL SEED PLAN (PRIVATIZATION)

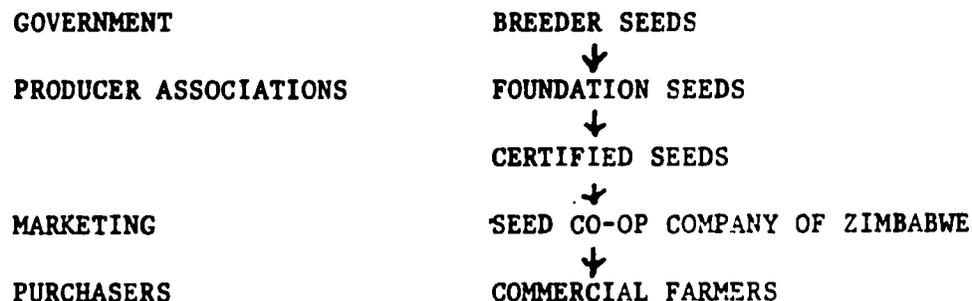
Introduction:

In the 10 days that I have been in Burundi I was called upon to review the National Seed Plan and to ascertain the possible, successful privatization of the seed sector under this plan.

The situation in Burundi at this time is much the same as it was in Zimbabwe in early 1940. In Zimbabwe, a group of farmers came together and decided to formulate a seed plan to produce high quality seeds within the private sector to complement the Government efforts of seed production.

This private group of farmers formed a producers association with the acceptance of Government using their own finances. The Government then decided to release varieties from research for multiplication by this group of private seed producers to produce certified seed. As time went by, this agreement between government and the private seed producers was formalized and a third party was brought in (the Commercial Farmer Union). A tripartite agreement was signed to ensure the Country's needs of high quality seed and to set prices for the seeds. In order to market the seeds multiplied by the private contracting farmers (Producer Association), they initially contracted with a private commercial farmer organization called the "Farmers' Co-op".

In 1965, the producers association decided to form their own marketing coop which today is known as the "Seed Co-Op Company of Zimbabwe, Ltd." The structure of the Seed industry as it is today is as follows:



Another private seed program is in Zambia, the Zambia Seed Company Ltd. (ZAMSEEDS), which is constituted the same as in Zimbabwe. ZAMSEEDS is currently a successful private enterprise. The Zambian Government involvement is limited to research for improved varieties and certification (field inspections and seed testing).

During my tour in Burundi, I visited the Kajondi Seed Farm, the Mwokora and Nybisindu Seed Farms of CVHA, and the CVHA headquarters at Muramvya.

Summary of Observations

Kajondi

Kajondi is a government seed farm that will be used in the initial pilot project of seed privatization production. The farm has a large range of farm equipment as well as seed processing plant. The farm manager mentioned that

142

the pH of the soils are between 4.5 and 5.0 and this is somewhat low for wheat and corn production. There is a further problem of aluminum toxicity in the soil (Kajondi Annual Report 1986-1987, also refer to detailed report by W.C. Couvillon Mississippi State Document No. AR. 88-4).

Nybisindu (CVHA)

This was a very short visit, but the soils appeared more fertile than Kajondi. The farm is located on top of a hill with no protection from winds and thus fungal diseases may be relatively low. This site produces potatoes and good storage and office buildings are on the site.

Mworkora (CVHA)

This was the best farm visited, even though access is difficult. This farm has good soils and is a fairly new site. It also has good storage sheds and a small office.

From the short period of time that I spent visiting these different centers, I was impressed with what I saw and the discussions that took place were fruitful. I have come to the conclusion that a privatization plan could be made to work as is the case in Zimbabwe and Zambia. I believe that the resources that are in existence can be used to implement the privatization plan in the very near future.

Considering the population growth of 3.3% a year in Burundi (World Bank 1987) the population in the year 2000 will be 7.3 million. An increase of 43% from the year 1990. Using corn as a working model, the production in 1987 was 174,000 tonnes (according to SNES's data) on 124,285 hectares of land at an average field of 1.4 tonnes to the hectare, to feed a population of 4.8 million. Consumption per head would be 36.23 kgs per year. If one multiplies 7.3 million by 36.23 kgs, this gives a total tonnage consumed in one year of 265,329 tonnes and a hectareage planted of 189,520. Thus, it is essential to have more food production using higher yielding seed varieties.

Responses to Terms of Reference

Item No. 1 (Review of National Seed Plan):

According to 1987 World Bank and F.A.O. reports, it was decided that Burundi needed a coordinated National Seed Plan. The GRB realized that its 45 independent seed projects would not provide a viable seed program. The GRB adopted and revised the National Seed Plan as proposed by consultants from Mississippi State (Report AR-88.4). In fact, the GRB is supporting the privatization of seed production in the adopted National Seed Plan.

After having read thoroughly the National Seed Plan design (Mississippi State no. AR-88.4) and having accepted it myself in its full context, I would recommend it to any country in Africa that would be starting a seed production project within the private sector. Furthermore, if the plan is followed to the "letter of the law", the privatization of the seed industry will be successful.

Item No. 2.A. (Government Resources):

- 1) The GRB has in fact begun to form the National Seed Commission (CNS) the National Seed Service (SNS), and the National Seed Society (SSB) and thus begun to develop the infrastructure to support a seed program. Other resources that the Burundian Government is providing are:
- 2) Contribution of \$2.3 million which is to be used for implementing the programme over a 4 year period.
- 3) In addition the GRB has agreed to provide storage facilities, farm machinery and seed conditioning equipment for use by the 3 pilot seed production farms.
- 4) Agricultural extension agents are available through the Ministry of Agriculture to inspect seed production fields of private farmers and to help the farmers in their early efforts to produce improved seeds in the first phase of the privatization scheme.
- 5) The Ministry of Agriculture is also in the process of negotiating the use of the ISABU's seed laboratory in Bujumbura for testing of seed. (For more details refer to Table I, GRB contribution to the revised Small Farming Systems Research Project for Burundi, MSU document no. AR-89.3)

Item No. 2.B. (USAID Resources):

Technical Assistance:

In order to ensure the implementation of the privatization plan USAID has in fact provided short and long-term assistance in the areas of seed production, seed marketing, seed conditioning, storage, and testing and in the overall planning and management of the scheme. USAID has provided support for the technicians of the Ministry of Agriculture based in Gitega, particularly to assure the implementation of the privatization scheme. This support appears to be adequate. It is difficult for me to assess the adequateness of the logistical support recommended in the USAID proposal as I have no in-depth discussions of the life-span of vehicles and equipment under Burundian conditions.

Training

From reading different reports, it is obvious that training for Burundians is required to assure the success of the National Seed Plan. Long-term training of Burundians (Mississippi State University) will be a benefit to the Burundi seed industry in the areas of seed technology, quality control, coordination of seed multiplication, handling and packaging, field inspections and laboratory testing of seeds. In-country training will be undertaken to help reinforce the support and functioning of the overall National Seed Plan. For more in-depth detail of USAID resources refer to Small Farming Systems Research Project (SFSR AR-89.3) and National Seed Plan Design (Mississippi State AR-88 4)

To the best of my knowledge and given the short time I have been in Burundi, I have not noticed any shortage of resources. In October 1989 it was reported that donor agencies, the Belgians, FED and FAO expressed interest in supporting any seed activities deemed necessary for the National Seed Plan.

Item No. 3 (Potential for Yield Improvement):

It has been shown throughout the world that improved varieties under all conditions have out-yielded traditional varieties. The following table gives an indication of trials done in Zimbabwe.

<u>CROP</u>	<u>TRADITIONAL</u>	<u>IMPROVED</u>
MAIZE	NO NAME 600 kg/H	R200. 3000 kg/H
WHEAT	NO NAME 800 kg/H	SENGWA. 5000 kg/H
SORGHUM	RED SWAZI 2000 kg/H	D.C. 99. 5000 kg/H

Source of information: Seed Coop Zimbabwe

The potential for yield improvement with existing varieties or released varieties in the short term can be achieved by correct land preparation, use of fertilizers, herbicides and insecticides. In the long term the task is a breeding programme undertaken by research (ISABU) with new varieties and new material. The ideal would be to produce hybrids for corn and sorghum and to introduce new material. I have not been in Burundi long enough to be able to comment in more depth on the self-pollinated varieties available for wheat, beans and rice.

When dealing with hybrid corn in Zimbabwe, an increase of 10% of a new variety is a major achievement as the average yields of hybrid corn are 8 tonnes/ha for an increase of 800 kgs per hectare. In dollar terms, this is a good return to the farmer (eg. 1 tonne of corn is worth \$107.00, therefore an extra 800 kgs is worth \$86.00 giving a gross margin of \$946.00 per hectare as against \$860.00 per hectare.

In Burundi the use of traditional varieties verses improved varieties would be the same as for Zimbabwe.

Item No. 4 (Conclusions/Recommendations):

In the short period of time that I have been in Burundi I have come to the conclusion that the National Seed Plan should be implemented as laid out and that all aspects as recommended should be adhered to. But there are certain areas that must be closely monitored to ensure the success of the National Seed Plan.

- 1) ISABU must be motivated and organized to come up with new improved seed varieties. They must also conduct follow-up assessments in the field and once they have released a new variety, field trials must be carried out to assess the levels of production, using fertilizers and the non-usage of fertilizers as applied with improved farming practices.

145

- 2) The program must ensure that the quality control staff do their job with diligence and enthusiasm.
- 3) The seed program must ensure that the marketing of seeds produced by the private sector will not remain in the hands of the public sector but will be passed onto private enterprise. If it remains in the hands of the public sector this will negate the incentives of the private producers in seed production.
- 4) The private producers must be assisted and advised by government extension staff on improved practices of high quality seed production.

The Kajondi Seed Farm needs to have soils improved by the application of lime (pH at present of 4.5 to 5). These levels are acceptable for potato production but have an adverse effect on the production of wheat and maize (Kajondi Seed Farm Annual Report 1986-87). There is a further problem at Kajondi with aluminum toxicity. This can be corrected with the liming, manure, and a green crop can be ploughed into the soil in order to increase soil pH. The selection of fields to be used at Kajondi needs to be carefully considered as some of the fields are better than others. In my opinion the fields are mechanically overworked affecting soil structure and thus too fine a seed bed achieved. I believe the fields at Kajondi need to be prepared to achieve a rougher seed bed and possibly a "no-till system" needs to be implemented.

Pricing for high-quality seeds must be set and maintained throughout the country. Sellers of improved seeds must be appointed within strategic market centers and they must be controlled by Government legislation (i e. certification scheme).

Packaging of improved seeds must be of high quality and a distinctive design must be printed on the packaging so purchasers of seed identify this design with high-quality seeds.

A seed-awareness campaign is the responsibility of government and can be implemented through radio, TV and well-designed posters placed in the market place to inform the people that improved varieties of seed are available.

In the long term I believe that the privatization of seed production will create a desire within the people of Burundi to achieve higher yields. As a result, the time will come when only good high quality seeds will be available in the market place and the traditional sellers of low quality seeds will disappear.

The Zimbabwe Seed Co-Op Company would be more than pleased to assist within Zimbabwe the training of Burundians in whatever fields USAID feel are appropriate.



Peter Devilliers
Production Manager
Seed Co-op Company of Zimbabwe, Ltd.

148

PIONEER OVERSEAS CORPORATION

Regional Office
98, ARMY FORCES BLDG
RABAA EL. ADAWIA Project
NASR City Cairo, Egypt
Telex: 21818 POCEO UN

Oct 10th, 1989
To: Mr. Don Miller
From: Pioneer Overseas Corporation
Subject: Burundi National Seed Plan.

A. Summary:

It is agreed that detailed quantitative information is required about the current status of the Burundi Seed Sector. This research activity will take a considerable amount of time. It is suggested that the proposed seed specialist should conduct this activity.

Only after the above information is collected and analyzed can meaningful recommendations be made regarding the privatization of the seed sector in Burundi.

Pioneer Overseas Corporation is not able to undertake the information collection activity over an extended period. However we are able to provide advice and guidance free of charge by means of short duration consultancy tours.

B. Information Required:

The Proposed National Seed Plan does not articulate on the current situation in the Burundi Seed Sector.

It is suggested that information needs to be collected and analyzed in the following areas:

1. Actual Production Data for Each Important Crops:

Growing season, hectares planted, volume produced, volume required by country, determine amount of surplus or deficit.

2. Current Germplasm Availability For Each Important Crop:

Characteristics of varieties used by farmers, constraints faced by farmers, characteristics of varieties released by ISABU, farmers' perception of released varieties and rate of acceptance source of new germplasm, methods used to test and select germplasm.

149

3. Current Production Technology For Seed Production For Important Crops

Farm size and characteristics, current cultural practices, farmers assessment of risk and technology, use of agricultural inputs, agro/forestry/soil erosion constraints and solutions, current methods of seed production and conditioning.

4. Current Distribution of Agricultural Inputs, Distribution of Commodities and Supply of Technical Service (Extension Facilities for Each Major Crop).

5. Assessment of Key Government Organizations, Donor Agencies and Private Agencies Currently Involved In Burundi Agriculture.

6. Assessment of Business Environment in Burundi:

Current relevant company legal and audit requirements, business investment and promotion incentives particularly for agro-processing, source and type of finance available, availability of resources to run business (i.e qualified manpower, fuel, general inputs, financial and legal services etc.), import/export procedures, restrictions, incentives.

C. Collection And Source of Information.

1. It is unlikely that above information can be collected and analyzed in a period of 14-21 days by visiting consultants, particularly when very little pertinent printed material is available.
2. In the national seed plan it is proposed to hire a seed specialist to guide the relevant government agency. It is suggested that during the first six months of his/her tenure the seed specialist be responsible for this study.

We hope the above assessment and suggestions will assist your program to develop the seed sector in Burundi. We regret that Pioneer is not able to conduct the above study however we would be pleased to give advice as per your requirements.

We would also like to take this opportunity to thank you and your staff for their hospitality and kindness during our visit to Burundi.

Thanks and best regards,

(FAXED COMMUNICATION)

Hardeep Grewal and Dr. Oaman Acikoglu
Representatives Pioneer Overseas Corporation

AK

ANNEX VIII:

INITIAL ENVIRONMENTAL EXAMINATION

and

CATEGORICAL EXCLUSION

Country: Burundi

Project: Small Farming Systems Research Project (95-0106)

Funding/FY: \$11,790,000 FY.1990 - 1993

IEE Prepared by: Larry Dominessy, ADO, USAID/Burundi

ACTION RECOMMENDED: X Categorical Exclusion (for all
components other than seed farm
components)
X Negative determination.
(for seed farm component)

Summary of Findings

- A. Project Description: Small Farming Systems Research (SFSR) Project Redesign: The redesign of the SFSR Project refocuses project resources to (1) better support ISABU'S reorganization around the Regional Research Workshop concept; (2) provide new project elements in marketing and agricultural policy research to increase the Project's direct support of economic reform (A.I.D.'s central strategic theme in Burundi); and (3) provide technical and training support for Burundi's new National Seed Plan, Burundi's first effort to develop a comprehensive program to make available to the farmer appropriate and high quality seeds with private sector support. In addition, the Project provides a small amount of funds for the purchase of equipment and supplies for Burundi's participation in the regional CIP/PRAPAC potato research network managed by REDSO/ESA.
- B. Categorical Exclusion: A categorical exclusion is recommended for those sub-activities related to social science economic research component per Section 216.2(c)(2)(i), (ii) and (xiv). The social science economic research consists of, micro-level marketing studies on agricultural inputs and product, for use as the basis for a series of analytical papers on agricultural marketing constraints and on needed institutional and policy reforms.

257

A categorical exclusion is recommended for those sub-activities related to the On-farm research component for the reason that such activities are confined and controlled per Section 216.2(c)(1)(iii) The On-Farm research sub-activities consist of limited, controlled and monitored varietal trials at designated sites only and training programs which contain no construction activity. Pest control is carried out largely through cultural methods such as intercropping, and biological control.

C. Negative Determination (Seed Farm Component): A negative determination is recommended for the Seed Farm component. The Seed Farm Component includes the financing by A.I.D. of technical assistance to support development of private sector involvement in certified seed production. U.S. technical assistance will work with the GRB to develop the framework and incentives that will encourage broad private sector participation in the seed sector. This technical assistance may also, incidentally, involve the provision of information on choices, storage and utilization procedures for pesticides. For this reason, the Project Agreement will include a Condition Precedent to Disbursement for the Seed Component as follows:

"Prior to any disbursement of funds obligated in United States Fiscal Year 1990 or thereafter for the Seed Farm Component of the Project or to the commitment of any said funds for said purpose, the GRB shall provide to A.I.D., in form and substance satisfactory to A.I.D., a list of pesticides projected to be used by ISABU or the Ministry of Agriculture and Livestock under said Project component in trials at experimental stations, on controlled plots, and in seed production activities, including generic names, manufacturer's environmental data, recommended tolerance rates, planned application frequency, storage arrangements and procedures, and a description of how users of pesticides are to be protected. Said projected list of pesticides, storage procedures and arrangements, and utilization procedures are required to comply with United States Government rules and regulations (e.g. Regulation 16), which rules and regulations shall be provided by A.I.D. to the GRB by Project Implementation letter."

In addition, (a) the SOW for the technical assistance will require the technical assistances to provide an annual report to USAID as to all pesticide utilized, storage procedures and arrangements and utilization procedures for each such pesticide and (b) the Regional Environmental Advisor shall serve as a member of the mid-term Evaluation of this project

This Condition Precedent and SOW for the technical assistance substantially mitigate any potential for adverse environment effects from an already incidental activity. A negative determination is therefore recommended.

Approval: Africa Bureau Environmental Officer
DATE: _____
John Gaudet

Clearance: Chief, Regional Legal Advisor
REDSO/ESA _____ DATE: 1/16/90
Stephen J. Spielman

Concurrence: Director
REDSO/ESA John DATE: 1/16/90
AIDREP/Burundi YAD DATE: 1/17/90

SJS:kew:01/08/90
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PROJET D'APPUI AUX SERVICES AGRICOLES

**Collaboration dans le cadre des essais et démonstrations en
milieu rural par les ateliers régionaux de transfert**

**Convention de collaboration entre l'Institut des
Sciences Agronomiques du Burundi (ISABU) et la
Direction Générale de la Vulgarisation**

Justification et Objet

1. L'adéquation insuffisante des programmes de recherche et des technologies proposées avec les contraintes socio-économiques du milieu rural et le manque d'efficacité des services de vulgarisation sont les deux facteurs qui, par le passé, ont bloqué le transfert dans le milieu rural des technologies issues de la recherche agronomique.

La création au sein du Ministère de l'Agriculture et de l'Elevage de la nouvelle Direction Générale de la Vulgarisation est un grand pas vers la résolution de ce problème. La nouvelle orientation des actions de l'ISABU vers une recherche plus présente dans le milieu rural en est le complément nécessaire. Il reste à établir des liens fonctionnels efficaces entre la Recherche et la Vulgarisation pour que le processus de mise au point et de transfert de technologie dans le milieu rural soit réellement fonctionnel au grand profit de l'agriculteur burundais.

2. La présente convention a pour objet d'établir ces liens indispensables pour que la Recherche et la Vulgarisation puissent jouer efficacement le rôle qui leur est dévolu.

Cadre de collaboration

3. La recherche agronomique et la vulgarisation sont deux composantes d'un seul système, le système Production-Transfert de technologie. A l'intérieur de ce système, il existe une zone commune d'intervention qui consiste notamment en des tests d'adaptabilité et d'intégration dans le milieu rural de technologies mises au point par la Recherche au niveau des stations.

L'existence de cette interface entre la Recherche et la Vulgarisation nécessite la présence d'une structure regroupant les représentants des deux services en vue de réaliser au mieux les fonctions suivantes :

- réalisation et évaluation des résultats de la recherche ;
- évaluation de l'impact des technologies dans le milieu rural.

Cette structure va donc promouvoir la collaboration de la Recherche avec les projets et services de vulgarisation pour améliorer l'efficacité de la mise au point des technologies et le processus de leur diffusion.

Modalités pratiques de collaboration

4. Evaluant son action suite à une opinion persistante critiquant le manque d'impact des résultats de la recherche sur le milieu rural, l'ISABU a constaté que les faiblesses de notre système de Transfert des Technologies sont entre autres dûs aux facteurs suivants :

- manque de moyens spécifiques de communication entre la Recherche et la Vulgarisation en ce qui concerne le flux de l'information ;
- absence de mécanismes de concertation entre la Recherche et la Vulgarisation ;
- absence d'une réelle volonté de collaboration.

5. Afin de lever ces contraintes à la percée de ces technologies dans le milieu rural, l'ISABU a amorcé depuis peu une nouvelle approche par laquelle la Recherche sera désormais centrée sur les besoins du milieu réel.

Pour ce faire, deux programmes de Recherche axés sur le milieu rural ont été initiés : le Service de Prévulgarisation et les "Ateliers régionaux de recherche"

a. Des ateliers régionaux de recherche

Un "Atelier régional de recherche" est un ensemble d'exploitations dans un environnement écologique déterminé au sein desquelles une équipe de chercheurs de l'ISABU va développer un modèle dynamique d'exploitation basé sur l'intégration des différentes activités de production et directement transférable, adoptable et adopté au niveau de l'ensemble des exploitations de la zone écologique considérée.

Au sein de l'Atelier, les agents de la Recherche et de la Vulgarisation oeuvrant dans la même région vont participer ensemble à la réalisation des essais en milieu rural. Ils devront se concerter pour la programmation et l'évaluation des programmes de recherche, devront préparer ensemble les recommandations à faire pour le milieu rural.

En atelier, la Recherche va affiner la mise au point de modèles d'exploitation que la Vulgarisation va prendre en relais pour les diffuser au profit du monde rural.

b. Le Service de Prévulgarisation

Le Service de Prévulgarisation de l'ISABU a pour activités principales la réalisation de fiches techniques et de films vidéo destinés aux agents de la vulgarisation pour développer la compréhension des thèmes techniques développés par les chercheurs de l'ISABU. La formation à la demande des cadres de la Vulgarisation est un deuxième volet de l'activité de ce service. Le Service est aussi destiné à fournir aux chercheurs un retour d'informations provenant du terrain sur l'adéquation et les problèmes qui se posent au niveau de la vulgarisation des technologies qu'ils proposent (feed back).

Le Service de Prévulgarisation agit donc comme un transmetteur dans les deux sens des informations entre les chercheurs et les agents de la vulgarisation.

Un représentant de la Direction Générale de la Vulgarisation va participer à l'élaboration et à l'évaluation du programme d'activités du Service de Prévulgarisation.

Rôle et Responsabilités des partenaires dans la Convention

6. Moyens humains

a. Personnel ISABU

1°- L'atelier est animé par une équipe de l'ISABU composée d'un chercheur national (chef d'Atelier) assisté par deux techniciens agronomes (un par colline) et par quatre moniteurs agricoles (un par colline). Dans un premier temps, cette équipe sera renforcée par un chercheur étranger. Les autres chercheurs de l'ISABU devront mettre à la disposition du Chef d'atelier les résultats de leurs recherches en stations afin qu'il puisse tester les possibilités de les intégrer et leur adaptabilité dans un système d'exploitation en milieu rural.

136

2°- Le Service de Prévulgarisation de l'ISABU va, quant à lui utiliser les ateliers de recherche comme des observatoires pour évaluer les technologies proposées au milieu rural.

b. Personnel des Services de Vulgarisation

1°- Le Responsable des Services de Vulgarisation de la SRD ou du Projet concerné sera automatiquement membre du Comité de Transfert de l'ISABU(*) et du Comité Scientifique de l'Atelier.

2°- Les agents de la Vulgarisation de la SRD ou Projet opérant dans les communes couvertes par un atelier régional de recherche.

3°- Un haut cadre de la Direction Générale de la Vulgarisation agent de liaison de cette Direction Générale au niveau du Service de Prévulgarisation de l'ISABU, et membre du Comité Scientifique du Service de Prévulgarisation.

7. Moyens matériels et financiers

a. Contribution de l'ISABU

Frais de fonctionnement de l'atelier (salaires, matériel, véhicules...) à l'exception des salaires et moyens de déplacement des agents de la vulgarisation des SRD/Projets impliqués dans l'atelier.

b. Contribution de la Direction Générale de la Vulgarisation

1°- La Direction Générale de la Vulgarisation s'engage via les SRD ou projets, à mettre à la disposition des chercheurs de l'ISABU affectés dans les ateliers les locaux et, dans la mesure du possible, logements nécessaires pour leur installation au siège du projet.

2°- Les SRD ou Projets assureront en outre, l'entièreté des salaires et les moyens de déplacement de leurs agents impliqués dans les ateliers régionaux.

(*) "Le Comité de Transfert de l'ISABU" va regrouper l'ensemble des chercheurs des Ateliers, les responsables de la Vulgarisation des SRD ou Projets abritant un atelier régional, le responsable du Service de Prévulgarisation de l'ISABU et le responsable du Service Socio-Economique Rural de l'ISABU.

Méthodologie de travail en ateliers

8. Une collaboration étroite entre agents de l'ISABU oeuvrant en ateliers et les agents de la Vulgarisation sera requise pour les différentes étapes de la création et du fonctionnement des ateliers, notamment :

- la réalisation d'un diagnostic préliminaire,
- le choix des communes, collines et des exploitations,
- la définition du programme de l'atelier,
- la réalisation des essais et démonstrations chez les agriculteurs sélectionnés,
- l'évaluation périodique des résultats de l'atelier.

9. Diagnostic préliminaire

Du point de vue méthodologique, la démarche spécifique de l'atelier s'appuie sur la réalisation d'un diagnostic préliminaire destiné à mettre en évidence les contraintes et les besoins des paysans, suivie d'une étude plus approfondie pour choisir ceux qui y participeront.

Le personnel de l'atelier, les chercheurs de l'ISABU concernés par les spéculations développées par l'atelier, les responsables et agents de la vulgarisation de la région concernée participeront à ce diagnostic préliminaire.

10. Choix des communes, collines et exploitants

Du point de vue pratique, deux communes seront choisies dans une région naturelle déterminée et dans chacune des deux communes, deux collines seront retenues. Sur chacune des deux collines, 15 exploitations seront sélectionnées. Le choix des communes et des collines est fait par l'ISABU, en étroite collaboration avec les responsables de la vulgarisation. Les critères de sélection des exploitations sont déterminés par l'ISABU en concertation avec les responsables et agents de la vulgarisation.

11. Elaboration du programme de l'atelier

Le programme de recherche au niveau de l'ensemble des ateliers régionaux de transfert est approuvé par le "Comité Transfert" de l'ISABU.

Le programme de recherche au niveau de l'atelier régional sera préparé par une équipe composée du chef d'atelier, de son conseiller éventuel, du responsable de la vulgarisation au niveau de la région, du projet ou de la S.R.D., des deux techniciens de l'atelier et des techniciens du projet ou des communes communales.

158

des communes concernées. Les responsables des principaux programmes de l'ISABU intervenant principalement dans l'atelier feront aussi partie de cette équipe.

12. Réalisation des essais et démonstrations

Dans son programme d'essais et de démonstrations en milieu rural, l'atelier prévoit une collaboration importante de tout le personnel de vulgarisation du projet ou du Ministère de l'Agriculture et de l'Elevage qui travaille sur les mêmes collines que l'atelier. Cette collaboration devra se traduire par une participation directe d'1 jour par semaine minimum et 2 jours maximum dans la conduite de ces essais.

Une participation est également prévue pour le personnel de vulgarisation de toute la commune concernée par l'atelier (en dehors des collines choisies), en fonction de certains thèmes ou sujets à définir.

De cette façon, un nombre croissant d'agents de la vulgarisation pourra être formé dans la méthodologie de la recherche sur les systèmes d'exploitation. Cette formation devrait non seulement les rendre plus efficaces dans leurs programmes de travail habituels, mais aussi, leur permettre aisément de développer en dehors de l'atelier, les modèles qui auront eu du succès.

Les vulgarisateurs impliqués dans les ateliers devront aussi assurer le retour d'information (feed-back) à l'équipe de l'atelier sur le devenir des technologies proposées par l'atelier dans la zone sous leur contrôle.

13. Evaluation périodique des résultats de l'atelier

L'évaluation est dans un premier temps faite au niveau du Comité de Transfert qui regroupe les représentants de la Recherche et de la Vulgarisation. Elle sera faite sous forme d'analyse des rapports annuels de recherche ou lors des réunions du Comité de Transfert.

14. Aujourd'hui, trois ateliers sont déjà fonctionnels bien que l'ensemble du personnel, infrastructures et équipements ne soient pas encore en place. Il s'agit de l'atelier du Bututsi centré sur l'intégration du Sahiwal dans les régions du Bututsi et du Mugarba, de l'atelier du Buvenzi centré sur la production du café et de l'atelier du Mirimiro. Deux autres ateliers seront mis en place au début de la prochaine saison culturale. Il s'agit des ateliers de Cibitoke et du Bweru. Le premier sera basé au siège du Projet Imbo-Nord, le deuxième à celui du Projet Muyinga. Les spéculations

définitives (ou motrices) au niveau de ces ateliers dépendront de la demande au niveau des agriculteurs.

Dans un premier temps, la collaboration s'étendra sur ces cinq ateliers. Si la démarche réussit, de nouveaux ateliers seront ouverts dans d'autres zones écologiques.

15. Cette convention de collaboration est d'une durée de 5 ans, coïncidant ainsi avec la durée initiale du Projet d'Appui au Secteur Agricole (PASA). Elle est renouvelable, après l'accord des deux partenaires.

Fait à Bujumbura, le 07 septembre 1989

POUR L'INSTITUT DES SCIENCES
AGRONOMIQUES DU BURUNDI,

LE DIRECTEUR GENERAL

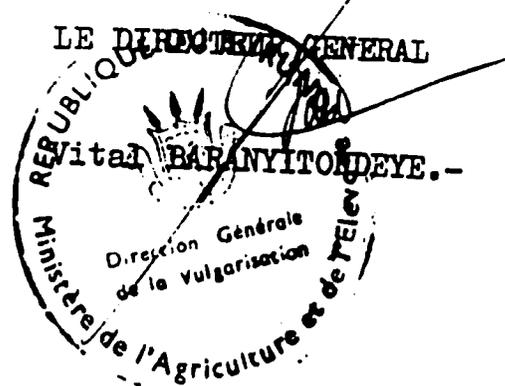
Dr. ~~Joseph~~ NDIKUMANA.-



POUR LA DIRECTION GENERALE DE
LA VULGARISATION,

LE DIRECTEUR GENERAL

Vital BARANYITONDEYE.-



Annex X: Legislative Action Requirements: FAA 611(a).

Analysis of legislative requirements and the political and administrative environment for the success of the amended Small Farming Systems Research Project (SFSR, 695-0106) strongly indicates that such legislative actions as may be necessary to accomplish the project's objectives can be expected to be achieved in a timely manner following execution of the Project Grant Agreement Amendment.

There is no legislature in Burundi. Under the Third Republic, which began with the advent to power of President Pierre Buyoya in September 1987, laws are enacted through two mechanisms. The first is the Presidential Decree. Under this mechanism, the relevant technical Ministry or Agency develops a proposal for a new law or a change in existing law. This proposal is then vetted and amended by an ad hoc interministerial committee including all the various offices of the Government that might be affected by it. Participation in these Committees is normally confined to the staff level, i.e., the highest-ranking participants are usually the Director Generals (the highest sub-Cabinet title) of the offices concerned. Once agreement and approval has been reached at this level, the proposal is then transmitted to the full Cabinet, known as the Council of Ministers. Their approval is often a formality. The Decree is then forwarded to the President for signature, after which it is published in the Official Bulletin of Burundi.

The second mechanism is the Ministerial Ordinance. These are often issued simultaneously with Decrees. Their principal function is to elaborate or further clarify the intent of Presidential Decrees at a level of detail that would be inappropriate for the President's attention. They may also be used to amend existing Decrees or previously-issued Ministerial Ordinances. The procedures for approval of Ministerial Ordinances are similar to those for Presidential Decrees. The chief difference, however, is that once approval of an Ordinance is reached by an ad hoc interministerial committee, the Ordinance is not forwarded to the full Council of Ministers. Rather, it is forwarded for signature by the relevant Minister.

Many of the legislative actions required for the success of SFSR have already been taken. For example, ISABU has adopted the recommendations of the International Service for National Agricultural Research (ISNAR) for developing more effective functional relations between research programs within a department on the one hand, and between commodity research programs and integrative research programs such as FSR on the other. By Presidential Decree, three directors have been appointed to head departments within ISABU's new organizational structure. These include two research directors, one responsible for Commodity Research and the other for Studies of the Environment and Production Systems (DEMSP), as well as a

director of the Administrative and Financial Department. An ISABU Board of Directors including members representing small farmers, commercial livestock and dairy farmers, and agricultural industry was also appointed by Presidential Decree. Additionally, the ISABU Scientific Commission, which includes a representative of the SFSR technical assistance team, has been reactivated and has met several times to review and evaluate research results and proposals.

As a result of these actions, all research on commodities is now grouped into a single Department of Commodity Research. All research on environmental factors and production systems is grouped under the DEMSP. Within each department there are no subdivisions other than research programs. This has simplified lines of communication and facilitated monitoring, evaluation, planning and programming. This change is expected to promote the development of improved production technologies that have a greater likelihood of being adopted by farmers.

One principal purpose-level objective of the amended SFSR Project is to build the capacity of ISABU to develop policy recommendations that will facilitate agricultural production and marketing. In furtherance of this objective, the FY 1990 Project Grant Agreement will include a Covenant by which the GRB will promise to approve a Protocol or equivalent document describing and governing how its Ministry of Commerce and Industry (MCI) and its Institute of Agricultural Sciences (ISABU) will work together to translate the findings of marketing research supported by ISABU into specific recommendations on GRB policies required for the marketing of agricultural products and inputs. The MCI, through its Directorate of Internal Commerce, is the GRB entity chiefly responsible for developing policy proposals in the areas of agricultural crop and input marketing. USAID/Burundi is reasonably confident that the recommendations of policy-related research supported by SFSR will be integrated into the GRB's policy-making process.

The mere development of proposals for policy change, of course, would by itself not be sufficient. If the planned reforms are to be effective, they must be enacted and implemented. Based upon assurance received from the GRB during the design of the Burundi Enterprise Promotion Program (BEPP, 695-0125) in 1989 and 1990, USAID is confident of the GRB's willingness to work with BEPP, with its companion technical assistance project (Burundi Enterprise Support and Training, BEST), and with SFSR to develop and implement policy reforms in all aspects of Burundi's economy, including agriculture, that touch upon the operations of the private sector. During the BEPP design process, the GRB repeatedly stressed to USAID its willingness to work with the Mission to develop and carry out the necessary measures. USAID/Burundi believes therefore that the policy proposals made by SFSR will receive a full hearing within the appropriate circles of the GRB, and that, if convinced of the economic validity of those proposals, the GRB possesses the political will needed to carry them out.

Annex XI: Certification for Compliance with Gray Amendment.

I, Donald F. Miller, the Principal Officer of the Agency for International Development in Burundi, do hereby certify that the acquisition plan in the Small Farming Systems Research Project Paper Supplement was developed with full consideration of maximally involving minority and women-owned firms, or Gray Amendment organizations, in the provision of required goods and services. To the extent possible at this stage, opportunities for such organizations to participate in this project have been identified. The technical assistance contract to be amended will contain a provision requiring, to the extent practical and required, at least 10% subcontracting to Gray Amendment firms, pending finalization of revised Gray Amendment contract procedures.

Donald F. Miller
A.I.D. Representative

Drafted: REDSO/LEG: KDanart:
Cleared: REDSO/LEG: SJSpielman:

Doc: BRFSR12