PD-AAZ-323

PROJECT ASSISTANCE COMPLETION REPORT

Basic Food Crops Project Report
(April, 1989)

I. Project Purpose:

The purpose of the project is to make available to small farmers in the high altitude food production program area improved varieties of seeds/plant materials for basic food crops as well as improved cultivation techniques. In addition, the project supports bacterial wilt research and storage design research for Irish potatoes.

II. Project Description:

A. This project is the seed production component of a larger umbrella project financed by the European Development Fund, the High Altitude Village Food Crops Project (CVHA). The CVHA Project was designed to: (1) increase food production in the tea perimeters along the Zaire/Nile Crest at altitudes of 1900 to 2500 meters, principally for on-farm consumption; (2) supply wheat and maize to a local flour mill to reduce wheat imports; and (3) to increase small farmer income. The ten year program includes production of maize, wheat, triticale, peas, beans, and irish potatoes with some swine and small ruminants. Basically, the CVHA is dependent on four basic components:

Research: The National Agricultural Research Institute (ISABU) conducts high altitude varietal tests and produces breeder and foundation seed, which is sold to CVHA seed multiplication centers.

Seed Multiplication: Seed and plant materials are multiplied for distribution to farmers by the CVHA extension system. USAID's Basic Food Crops Project (695-0101) was responsible for the development of CVHA's major seed production farm, the Kajondi Seed Farm, which produces maize, wheat and irish potatoes seeds and plant materials.

Extension Program: This is most important element of CVHA and receives most of its financial support from the European Development Fund (FED). The extension program is a ten year, two phase project within CVHA. It will enter its second phase in 1989. Extension activities include: development and dissemination of technical extension packages; distribution of improved seed; and soil fertility/erosion control while stressing low cost inputs, and soil fertility maintenance measures. This extension system operates through a network of extension agents, assistants and demonstration farmers in the Mugamba and Buyenzi high altitude ecological zone.

Marketing: This is tied to a previous and successful program financed by the European Development fund to introduce tea production into the high altitude area. The marketing emphasis of CVHA is tea. In addition, wheat marketing for the Muramvya flour mill has been tried with very limited success. Currently, less than five percent of the mill's processing consists of locally produced grains). Twenty thousand farm families are the beneficiaries participating in the CVHA program.

The objective of the Basic Food Crops Project was to establish a seed multiplication at the location Kajondi to produce wheat, triticale, maize and potato seeds for distribution by the CVHA extension service. The resulting seed farm, the Kajondi Seed Farm (KSF), lies south of the Mugamba ecological zone and is about 110 Kilometers south east of Bujumbura. Originally designed as a 300 hectare fully mechanized seed farm, the project currently cultivates about 150 hectares. The farm is situated in the 1800-1900 meter altitude zone on largely terraced slopes averaging between 5 and 15%. Soil types are diverse and patchy making precision farming, soil treatment and intensive management necessary. The farm produces, drys, processes, and stores seed for distribution by the CVHA extension service to some of 20,000 farm families participating in the CVHA project. Maize, wheat, triticale, and irish potatoes are the principal seed crops produced. Foundation seed is procured from the national agricultural research organization, ISABU.

Management of the Basic Food Crops project (BFC) was accomplished by the director of the CVHA project. Working for him is the farm manager for the Kajondi Seed Farm Manager, currently a 1987 BS level graduate of Mississippi State University who the project trained. The director of CVHA reports directly to the Minister of Agriculture and Livestock.

The principal technical assistance contractor in the project was the U.S. Department of Agriculture through PASA. The total amount of the PASA was $922,175.

B. Summary of Financial Information ($000):

Date of Authorization:	2/4/80
Authorized LOP Funding	$6,690
Date of Initial Obligation:	4/03/82
PACD: Original	9/30/85
Revised	9/30/86
11/30/88 (for full assistance),	
6/15/89 (for one participant only)	
Cumulative Obligation:	$6,690
LOP Expenditures:	$6,220 *
Cost of Inputs:	

Element	Description	Amount
01	Technical Assistance	$1,818
02	Participant Training	224
03	Commodities	1,230
04	Construction	1,823
05	Other Costs	1,125
	TOTAL	$6,220

* The remaining funds of $470,000 were deobligated from the project.

C. Project Implementation:

The Project Paper was prepared with the technical assistance of Mississippi State University (which drew heavily on a 1978 feasibility study prepared by a Burundi/European Consulting firm, SOMEBU, Société Mixte des Etudes du Burundi). The project was authorized February 4th, 1980 by the AID Assistant Administrator for Africa. A project grant agreement was jointly signed April 3, 1980 with an initial grant obligation of $2,000.000.

The first in-depth evaluation of the project was concluded April 10, 1984 by a seed expert, an agricultural economist and an engineer. The evaluation took into consideration two earlier reviews carried out by REDSO/ESA in 1982 and 1983. The 1982 review emphasized a need for improved farm planning, production management, and closer professional ties with ISABU. It also noted that additional US/GRB funding of approximately $500,000 would be needed to complete the project within its original time frame. The 1983 review noted the need for addition of a project administrative officer and lack of a progress in farm planning. The 1984 in-depth evaluation pointed out that the first two years of project implementation were largely devoted to preparatory activities to include:

- the contracting for technical services,
- the recruitment of staff,
- the ordering commodities, and
- the construction of staff housing and farm buildings.

While some early seed crops were planted with rented equipment, it was not until early 1983 that construction had progressed to the point where it could support the professional farm staff. At the time of the evaluation, only a beginning had been made in producing potatoes, wheat and maize seed. Many factors contributed to the start-up delay such as Burundi's land-locked location, an unimproved, 110 km road from Bujumbura to the farm which required 11 hours of rough travel round trip, and USAID's limited management support capability.

Rising costs of farm inputs at the time signaled a potential problem for the GRB in supporting recurrent costs after project completion (at that time September 30, 1986). In addition, the FED supported CVHA project with its extension component, which was to serve as the outlet and disseminating agency for Kajondi Farm produced seeds, was three years late in approval and only became functional in early 1983. By early 1984, the FED staff was just getting organised. The evaluation also revealed that no organized record keeping system existed. Data on field operations, costs, maintenance operations, and sales and delivery of seeds were disorganized making quantitative analysis and determination of production inputs and outputs almost impossible.

Later in 1984, it was recognized that GRB, Project technical assistance management and REDSO/ESA backstopping of the project did not meet project needs. It was then recommended to execute a PASA with the U.S. Department of Agriculture (USDA). Farm management and administrative support improvements were seen as a priority to decrease operating cost and increase productivity; however, only long term technical training was emphasized. It was recognized that there was a need for development of annual farm plans, a comprehensive farm budget, a management information system, a training plan for each major area of farm operation, personnel management improvement and equipment maintenance and repair. Other priority areas of emphasis were the lack of improvements in meeting agronomic objectives, poor financial management of the farm, inadequate relations with other institutions, projects and agencies, and deficiencies in in-service training.

A mini-review conducted in 1985 by REDSO/ESA found that while positive program progress had been made, management deficiencies still existed.

A second in-depth evaluation (August 1986) indicated that considerable progress had been made in the farm's operational status since the previous evaluation and reviews. These improvements included:

- more land had been brought under cultivation (130 ha. of the 300 ha planned in the project paper),
- crop yields had increased,
- the process of farm mechanization was nearing completion,
- improved production and farming technologies were being developed and implemented, and
- a management information system (MIS) for farm records was providing production and cost data.

Continuing problems surfaced by the evaluation included:

- improved but lower seed production than anticipated in the project paper,
- management decisions at the farm level were hampered by multi-directional management from CVHA, USAID, and GRB officials/ministries,
- farm equipment maintenance and repair were deficient,
- the farm (GRB) had not developed the capability to replace commodities requiring foreign exchange,
- a system for ensuring timely farming operation was still lacking, and

In addition, the price of seed was established below open market level for food uses of items being produced and well below production costs. An effective seed pricing policy did not exist. The size of the work force was at least double that required. Security was a problem with as much as 25% of the maize crop being

stolen each year. Farm inputs were still lagging behind demand. The supply of foundation seed from ISABU was inadequate in quantity and quality, and the introduction of new varieties was rare. Most important was the fact that the farm was not close to paying its way and GRB capability to support the farm after project completion (Sept 30, 1988 at that time) was highly improbable.

The situations described in the above reports were brought about by a number of factors not the least of which was the location of the Kajondi Seed Farm on poor soils and well south of the Mugamba area which it was intended to serve. The soils situation was brought out in the project paper which noted that the high acidity and aluminum toxicity made the prospects of producing seed crops on the selected site questionable. In fact, the conditions precedent recommended in the project paper required that, prior to any project disbursement, that land of adequate quality and verified by soil tests and maps be provided. In any event, this condition was satisfied, if only on paper.

The first interim farm management consultant was Heinz Graetz, an agronomist, from January-April 1981 while the project was under the leadership of the Department of Agronomy, Ministry of Agriculture. Until that time the project had been coordinated by the USAID/ADO, H. Fisher. By mid-January 1981, three Burundi counterparts had been assigned to the project: Pascal Sinzinkayo, Farm Manager; Fabien Sibomana, field supervisor; and Pégase Banyankiye, assistant. The first two of these had been working with the project since April and November 1980 respectively.

The first fields on the farm had actually been laid out during February and March of 1980. Three hundred hectares of undulating land had been allocated to the farm by the GRB. Orders had been placed for some machinery. A short term consultant (Mr. A. Salem) had been providing assistance from October 1979-February 1980 in preparation for farm building and housing construction. As of mid-January 1981, 151 hectares of land had been "opened up" and ploughed. Farm operations were managed from an abandoned "Rugo" (a few mud huts). Initial soil samples were taken and analyzed. Results confirmed high soil acidity and aluminum toxicity.

Sweet potato tuber production for seed was investigated during the early years of the project and it was found that the planting material could not be produced in time for farmer's planting requirements. Peas and beans were dropped from the project because ISABU had found no exceptional varieties surpassing those that the farmers customarily planted. Thus, sweet potatoes, beans and peas were removed from the project's agenda early-on even though periodically such seeds were grown in relatively small quantities throughout the life of the project. Early-on, it was discovered that the manure and lime required to correct the soil acidity and aluminum toxicity were either unavailable in the quantities

envisioned in the project paper or the price was too high ($128/Ton for lime, 800-1000 FBu/Ton of manure). Currently, the price of lime is double this amount. In addition, only 100 Tons of manure (enough for five hectares) was available in 1981 for planting on the 15 hectares of prepared land. All operations were conducted with rented/loaned equipment.

A project coordinator, Mr. Novat Niyungeko, (BS in agronomy), was appointed at this time. On September 29, 1981, a contract was signed with RONCO Consulting Corporation to provide technical services to the project as a subcontract with the Small Business Administration. Under this contract, the first senior advisor to the project, John McAllister, was assigned in December 1981. However, there was some dispute as to whether he was an advisor, farm manager or farm director. On a personal services contract, a logistics/administrative support officer (W. Grant) was brought on board in March 1982. Both contracts were for two year periods with Grant serving somewhat longer. A two year personal services contract was also negotiated for a mechanics advisor, R.L. Ernott, somewhat earlier in April 1981. Thus, theoretically the project was well into its implementation.

Performance of consultants varied. The Ronco senior advisor lacked experience in mechanized farming and farm management. His contract was not renewed. The first mechanics advisor faced lack of housing and no equipment at the farm site indicating inappropriate timing. The second equipment advisor (May-83/May 84), while having living quarters and farm machinery on site, was deemed unsuited for the position. The administrative, logistics support officer performed well, although still plaguing the project today is inappropriate equipment procured which has never been used.

In September 1984, a PASA with USDA was signed (later extended in April 1986) to provide two long-term and various short-term technicians for a total cost of $922,175. The two long-term technicians, a senior advisor and an agronomist, John Fitzmaurice and Suzanne Poland, served from December 20, 1984 to November 14, 1987 respectively. During this period, much more attention was paid to improving production management practices, agronomic and management record keeping, farm planning and evaluation. Training support was shifted to short-term U.S and third country specialists in management principles and seed production management.

Short term specialists, in addition to the interim agronomist Graetz who, incidently, arrived after machinery and fertilizers had been ordered, were:

- Agronomist/Soil specialist (July/August 1982). Produced an excellent report which should have been produced two years earlier.
- Erosion Control Specialist (RONCO-May 1983). This consultant produced a voluminous report on different methods of erosion control but produced no terraces, contours, training etc.

- An accountant/information Systems Specialist (January and May 1985). The Management Information System (MIS) he devised proved inappropriate and was later revised. In any event, this consultation was ill-timed coming much too late after initiation of farming operations.
- Weed control Specialist (REDSO/ESA - three TDY's in 1985-1986) trained the farm staff in practical weed control.
- Seed multiplication expert (May-July 1983). This TDY resulted in a study of the potential for small farmer contract seed production and resulted in no recognizable impact on the seed industry.

III. Project Status as of September 30, 1988

A. Project Grant Agreements and Amendments:

Under the original grant agreement (April 4, 1980), AID was to finance technical assistance, participant training, commodities, construction and other miscellaneous operating costs for a total of $6,669,000.

Technical assistance was to consist of approximately 11 person-years of long-term advisory services including a U.S. project manager, a U.S. engineer/machinery advisor and a U.S. administrative/logistics officer. In addition, AID was to have financed 17 person-months of consultancies as needs dictated.

Training was to include: one long-term U.S. degree participant, two short-term non-degree participants, five third country short term crop production participants, one short-term machinery maintenance participant, and two participants for training/observation tours of African countries.

Construction was to consist of project (farm) infrastructure including houses, dormatories, office, seed processing unit, storage, workshop, facilities for cattle, other appropriate buildings and utilities systems.

Operating costs financed under the grant were to be: petroleum products and lubricants (POL), agricultural chemicals, fertilizer, and other similar costs for the first three years of the project. In the fourth year the GRB was to financed 50% of these costs from seed sales revenues and assume all recurring costs during the fifth year. In addition AID was to finance purchase of spare parts, administrative officers' logistical support, house repairs, field trials, travel, and green manure seed.

Commodity support agreed upon included; vehicles, trucks, spare parts, shipping, seed processing equipment, farm equipment, generators, furniture and appliances for long-term advisors.

The GRB's contribution was to total the equivalent of $3,530,000 (or 34% of total project cost) in cash or in kind. This was to include salaried personnel, land contribution, resettlement compensation, land clearing, land preparation for the first crops of wheat (2.0 ha) and maize (0.5 ha), breeder seed, A&E services for construction, and miscellaneous expenses including providing one-half of POL costs in the fourth year of the project. In the fifth year, the GRB was to have financed all recurring costs including building maintenance. These funds were to be generated from seed sales.

B. Project Agreement Amendments:

There were five Project Grant Agreement amendments:

Amendment No. 1 provided additional funding of $700,000 to the original obligation of $2,000,000 for a total of $2,700,00 and increased the GRB contribution from $897,000 to $965,100.

Amendment No. 2 provided additional funding to the level of $4,120,000. It also provided that the GRB obligation be increased to the equivalent of $1,072,000.

Amendment No. 3 increased the U.S. funding obligation to $5,458,000 and the GRB obligation to $2,389,000 equivalent.

Amendment No. 4 further increased the U.S. obligation to $5,915,000 and GRB's obligation to $3,431,030 equivalent. It also changed the PACD from the original 9/30/85 to 9/30/86.

Amendment No. 5 (8/26/85) increased the U.S. obligation to $6,690,000 and GRB obligation to $3,530,000 equivalent. It also extended the PACD to 9/30/88 and later to 11/30/88 to allow the completion of: (1) the construction of the housing duplex at Mworkora, (2) the final modification to the seed processing plant at Kajondi, and (3) the installation of a truck weighing scale at Kajondi. The requirement for the GRB to replace equipment was dropped. It deleted also the requirement of the project to produce bean and pea seeds, and revised the LOP budget and implementation schedule.

C. Project Implementation Letters (PILs).

PIL No.1 (5/6/80) describes Conditions Precedent (C.P.), provided information concerning taxation and regulations under which project grant assistance is provided.

PIL No. 2 (7/2/80) extended the 90 day period which ended on 7/2/80 to 120 days or to 8/1/80 to allow GRB to meet Conditions Precedent.

PIL No. 3 (9/15/80) acknowledged GRB compliance with all Conditions Precedent except construction. It also addressed contract personnel, participant training, counterpart personnel, procurement, separate account for project funds, foreign exchange and local currency costs, disbursement and cash advances procedures, and rates of exchange.

PIL NO. 4 (9/29/80) Stated Conditions Precedent (C.P.) which had been met by the 9/30/80 deadline (documentation concerning land quality/quantity and required map) and C.P. which had not been met (Final site plans, construction plans, specifications, and an executed contract for construction services. It also extended the period for meeting the C.P.s by 365 days to 4/3/81.

PIL NO. 5 (7/28/81) established procedures for: monitoring revenue and expenditures of the seed farm and for financing and monitoring local currency. It clarified procedures for obtaining and replenishing an advance of AID funds.

PIL NO. 6 (12/30/80) transmitted a copy of Amendment no.1 of the Grant Agreement to MOAL.

PIL NO. 7 (2/11/81) described the procedure for approval of final site plans, publicity of bid documents, pre-selection and final qualifications of contractor services for Kajondi residential construction. Described current status of Kajondi construction and of C.P's.

PIL NO. 8 (6/21/81) revised the project budget for 1980 and augmented the amount for 1981.

PIL NO. 9 (4/29/81) restated PILS 3 and 4 that C.P.s had not been met regarding final site plans, specifications, construction plans, an executed contract. It further extended the time limit for meeting C.P.s by 90 days to 7/2/81.

PIL NO. 10 (7/17/81) restated PIL NO.9 (and amended section 4.46 of the Grant Agreement to extend the time limit to meet C.P. by an additional 90 days to 9/30/81).

PIL NO. 11 (11/17/81) revised the grant agreement LOP budget and indicated reallocation of 1980, 1981 funds.

PIL NO. 12 (10/13/81) stated that all C.P.s had been met except for the seed processing building. Extended time limit to meet C.P. by 90 days to 12/21/81.

PIL NO.13 (12/15/81) acknowledged receipt from GRB of document awarding COMIBURUNDI Kajondi Farm construction services contract. Noted GRB acceptance of responsibility for 13% of all payments to contractor and approved the contract.

PIL No.14 (12/15/81) restated PIL 13 regarding C.P. conformance. Stated that REDSO was designing the seed processing building for compatibility with seed processing equipment on order. Extended C.P. compliance date to 4/2/82.

PIL No.15 (2/23/82) reallocated '80 and '81 FY funds, allocated '82 FY funds among project components and shifted LOP totals, and requested GRB '82 budget as outlined in section V, Annex I of Pro-Ag.

PIL No.16 (3/9/82) extended date for meeting C.P.s by 180 days to 10/2/82.

PIL No.17 (3/16/82) set forth procedures for administrative matters concerning distribution of seed produced at Kajondi, price of seed to be determined prior to release from the farm by the Directors of Agronomy/FED extension program/BFC Project/CVHA. Specified separate accounts for GRB funds, contributions and revenues from seed sales and that these funds are to be used to support farm operating costs.

PIL No.18 (11/15/82) approved 3,602,803 FBu of Kajondi construction work, approved a two month contract extension to 2/2/83.

PIL No.19(11/15/82) extended time for meeting C.P.s 120 days to 1/31/83 to permit completion of design and award of a construction contract for the seed processing building.

PIL No. 20 (12/6/82) authorized GRB to purchase 755MT of crushed limestone, established procedures for the procurement and specifications for the lime.

PIL No.21 (2/15/83) approved issuance of an order requiring the contractor to construct an additional 25,000 liter water tank, eliminated the planned telephone system and extended the completion date for the road network by one month (until 3/24/83).

PIL No.22 (2/14/83) extended the period for meeting C.P. for construction of seed processing building by 90 days (to 5/1/83).

PIL No.23 (8/30/83) revised AnnexI of the Pro. Ag., reflected evaluation recommendation, revised time table for project implementation, reallocated construction and "other costs" funds.

PIL No.24 (6/21/83) modified PIL 20 concerning method of payment for the 755 tons of lime and allowed AID to pay for the lime directly rather than reimbursing GRB.

PIL No.25 (11/3/83) approved Ministry's proposal to accept the offer of Transgro to deliver 572.85 M.T. of fertilizer under PIO/C 695-0101-4-20016 in two equal shipments 90 days apart for $256,602.23 and approved method of payment.

PIL No.26 (5/17/84) requested Ministry approval of USAID summary of "Other Costs". As of Dec.31,1983, $325,954 had been spent leaving a balance of $259,830.

PIL No.27 (1/5/84) extended the period for meeting C.P. for seed processing building construction by 396 days to 6/1/84 (building had to be redesigned to meet available funding limitations).

PIL NO.28 (4/23/85) approved Kilimanjaro contract for construction of seed processing building and established conditions for local costs budget line items, reduced livestock budget to what had been spent and created a $25,000 line item for construction of implement storage building and repairs.

PIL No. 30 (9/30/87) detailed for the CIP/PRAPAC potato research budget.

PIL No. 31 (1/23/86) elaborated on details outlined in PIL 30 for potato research funding and defines local currency equivalent limitation (exchange rate) related to the authorization of $377,000.

PIL No.32 (4/11/87) authorized the purchase of 400 MT of lime at a cost of $65,000.

PIL No 33 (3.20/87) informs GRB that USAID concurred with project purchases of lime from the project L.C operating fund and, in effect, canceled any further direct purchases of lime by AID through the $65,000 PIO/C.

PIL No 34 (6/18/87) concurred with GRB (10/1/87-9/30/87) budget, provided guidance on further disbursement of PL-480 funds, and outlined proceedures for establishing/disbursing reimbursement of a project convertable account.

PIL 35 (10/21/87) concurred with implementation of the revised Potato Research activity budget for the period 7/31/87 to 9/30/88, provided a corresponding revision of the L.O.P. budget from that outlined in PIL 30, authorized a change in the nature of budgeted construction ($50,000), and provided additional guidance on USAID disbursement requirements prior to the PACD (9/30/88).

PIL No.36 authorized a limited extension of the PACD from 9/30/88 to 6/15/89 to accomodate completion of US training of Louis Iraguha, project agronomist.

PIL No.37 authorized the equivalent of $27,892 for local currency expenditures in connection with installation of the seed processing equipment.

PIL No.38 authorized 1,200,000 FBu to cover a increase in contract costs for construction of the seed processing building. Increase was due to cost overrun for extra work authorized by USAID and REDSO/Agr.

PIL No. 39 (9/27/88) authorized the extension of the PACD from 9/30/88 to 11/30/88 to provide an additional 60 days to complete: (1) Construction of the housing duplex at Mworkora, (2) Final modifications to the seed processing plant at Kajondi, and (3) Installation of a truck weighing scale at Kajondi.

D. Planned vs Actual Expenditures - U.S. (U.S. $000)

Elements	Original	PIL No.34	Actual
01 Technical Assistance	1,479	2,062	1,818
02 Participant Training	127	223	224
03 Commodities	1,293	1,363	1,230
04 Construction	1,600	1,814	1,823
05 Other Costs	1,232	1,228	1,125
06 Contingency/Inflation	184	----	----
	5,915	6,690	6,220
Unexpended			472
TOTALS	5,915	6,690	6,690

Planned vs Actual Expenditures - GRB *	Planned ($ 000)*
A. Operating Expenses	2,077.00
1. Personnel/Laborers	1,182.70
2. Office/house furniture and Supplies	22.70
3. Agricultural Supplies	562.83
4. POL	150.00
5. Building Maintenance	7.00
6. Contingency/Inflation	151.80
B. Capital Investment	1,354.00
1. Land	16.40
2. Resettlement	890.00
3. Land Clearing/Preparation	94.70
4. Office and House furniture, equipment, construction, building maintenance	277.90
5. Farm Machinery and repair	75.00
TOTAL	3,431.00

* Project records do not allow an accurate accounting of actual GRB expenditures without a considerable amount of effort.

E. Status of Completion of the Various Project Elements

Technical Assistance - 137% Complete: A total of 11.5 person years of long-term technical assistance and 18.6 person years of short-term technical assistance were supported during the LOP.

Participant Training - 176% Complete: Training included two long-term U.S. BS degrees and associate degrees in Seed Technology and Farm Operations respectively for the deputy farm manager and the chief agronomist; four short-term courses for the farm manager (two in the U.S. and two in Kenya) in Seed Processing/Storage and Farm Management (U.S.), and Seed Production and Agricultural Mechanization (Kenya); one short-term course (in Belguim) for the chief mechanic; two short-term (U.S. and Zimbabwe) for the deputy farm manager respectively in Seed Farm Management and National Seed Policy; three U.S. short course for the Project Director at Mississippi State University (seed improvement), at Iowa State (application/diffusion of agricultural research results), at University of Pittsburgh (management seminar); one short-course at IITA in Root Crops (Nigeria) for the Project Agronomist; one short-course (U.S.) in Farmer Credit Policy/Administration; One short-course in Agricultural Marketing (U.S.)

Commodities - 96% complete: Commodity support to the project included vehicle, farm equipment, seed processing equipment, furniture and appliances, and spare parts. (U.S.).

Construction - 116% complete: Construction involved farm infrastructure - Specifically, a housing complex for farm personnel and U.S. technicians, farm buildings (storage, seed processing, office, machinery hangars, equipment repair facilities, and installation of utility systems.

Other Costs - 94% complete: These included POL, equipment maintenance and rental, livestock to provide manure, research (on potatoes), miscellaneous equipment, seeds, agricultural chemicals and diverse expenditures.

IV. Review of Project Accomplishments

A. Planned vs Actual Outputs

Planned	Actual	Est. % Completion
2 Physical Facilities for a 300 ha. seed farm developed.	Project Agreement raised ha. requirement to 400 ha. actual ha. now in cultivation is 149.3. Physical facilities developed would support a 400 ha. farm (see section III-E.)	- 100%
Seed Farm operated by trained GRB personnel.	The farm has been operating effectively with no Technical Assistance team since November, 1987.	100%

Seed Production (based on 1988 production year)

	Planned(MT/YR)	Actual(MT/YR)	% Completion
Maize	87	77.5	89%
Wheat	258	44.5	17%
Irish potatoes	239	91.5	38%

Production techniques developed.	- Seed production techniques/cultural methods developed. - Variety/yield/land preparation trials est.	80%
Prepare feasibility study of small farmer seed production potential	Studies completed treating this issue as well as other past PACD options.	80%

B. Project Design Changes/Deviation From Expected Inputs And Outputs

The basic design outlined in the project paper was changed very little. The project was developed and implemented more or less as indicated in the project paper with the following exceptions:

1. Project Paper projections for production of seed/planting material were revised omitting these from the projects objectives (as discussed earlier). Peas and beans were dropped principally because ISABU was producing no new varieties superior to those that small farmers were customarily planting.

2. The Project Paper and Pro-Ag requirement for the farm to develop technical "extension" packages for small farmers was proved to be impractical and unnecessary since the FED supported extension service assumed this responsibility. Therefore, there was no need for the farm to carry out trials involving cultural techniques using traditional hand tools.

3. As noted in Amendment No. 1 of the Project Grant Agreement, the Project Paper required that GRB plan for and provide resources to replace equipment and fund farm operations after year four of implementation. This action was not taken simply because the GRB was unable at the time to assume such funding. Operations at the farm will probably be scaled back once supplies purchased under the project are used up.

4. Planned financial viability of the farm enabling it to fund operating costs from revenues produced from seed sales failed to materialize for two basic reasons: (a) poor soils and management coupled with sporadic availability of farming inputs resulted in much lower than Project Paper anticipated seed production, (b) the lack of a favorable national seed pricing policy encouraged the sale of seeds at less than consumer market prices for the same crop.

5. As modified in Amendment No. 5 of the Project Grant Agreement, the Project Assistance Completion Date (PACD) was extended from 9/30/88 to 11/30/88 to complete the following tasks: (a) construction of the housing duplex at Mworkora, (b) finish final modifications to the seed processing plant at Kajondi, and (c) install a truck weighing scale at Kajondi. This action was taken because an additional 60 days were sufficient to complete these tasks and required no additional funding by USAID.

V. Project Progress Toward Achievement of Project Purpose

Of the 20,000 potential beneficiary families of the Mugamba ecological zone, it is estimated that the Kajondi Farm has, through its seed production capability, reached about 3,000 of these. This is principally because the Kajondi Farm operated as a "certified" seed production unit, not a foundation seed farm, thus not profiting from the multiplier effect that was forseen in the Project Paper.

There was, however, one accomplishment of the project which was unforseen but may eventually have a greater impact on Burundi seed sector than was thought possible in the project design. During the final two years of the project it became quite evident to USAID that the Government-operated Kajondi Seed Farm was doomed to economic failure as were other similar project-oriented operations in the country. USAID used the project to bring a series of consultants to examine the seed farm's economics and to relate this to the larger seed sector in Burundi. This resulted in an excellent dialogue between USAID and the GRB which eventually led the GRB to the realization that there needed to be some rethinking about Burundi's seed sector. With the urging of both USAID and the World Bank, the Ministry of Agriculture called a technical meeting of its key directors general and interested donors to discuss how a seed plan could be developed for Burundi. One month following the meeting, the Ministry asked USAID/Burundi to assist in developing a National Seed Plan by providing seed consultants. Using resources of the Basic Food Crops project and with the assistance of S&T/AGR, USAID provided the Ministry with three seed experts from Mississippi State University's Seed Technology Laboratory. The Ministry formed a "Seed Team" to which the Mississippi State experts acted as technical consultants. Over a month period, a draft National Seed Plan was developed and adopted in final a few months later.

In essence, the National Seed Plan relies upon infrastructure and facilities that exist in Burundi, but develops the necessary organizational structure of coordination, and administrative and seed quality control. It calls for a "National Seed Society" (NSS) to be organized with headquarters at Kajondi for the purpose of multiplication, production, marketing and distribution of both basic and certified seeds. Strong linkages will be developed between the NSS and its cooperating projects, CVHA, Agricultural Associations, Cooperatives, Regional Development Societies, and private farmers for the purpose of producing adequate quantities of improved seed to meet the needs of Burundian agriculture. Aggressive marketing and distribution will be promoted and accomplished through the detailed commerce generally engaged in by each of the cooperating projects.

The NSS will be oriented towards eventually becoming a private sector seed enterprise. It will be able to contract the necessary seed production with any one of its cooperating projects/agencies, including the Kajondi seed farm. The Kajondi seed farm will become just one of the numerous facilities subject to contract seed production for the NSS. However, Kajondi will play a major role and its survival will depend on its ability to operate on a commercial basis. It will be provided the opportunity to produce the majority of foundation seed for the country. The processing facilities at Kajondi will be available for cleaning seeds from other projects on a fee basis. In this manner, Kajondi will be fully utilized, and it will have a significant impact on the success of the National Seed Plan.

Thus, the project does have a happy ending!