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PROJECT PAPER

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PART I - SUMMARY AND RECOMMENDATIONS

1. GRANTEE: Government of the Republic of Rwanda. Project to be executed through the Rwandan Development Bank. (RDB)

2. GRANT :

Total Three Year Project Cost:	$ 1,000,000
1. AID Contribution	716,000
2. GOR Contribution	284,000

3. DESCRIPTION OF PROJECT

This is a cooperative project between the Government of Rwanda and the United States Agency for International Development to develop an economically efficient price stabilization system for three major food crops. The United States will provide over a three year period technical assistance (3.5 man-years), financing for the construction of eight small warehouse units and related facilities and equipment, two project vehicles, a small amount of working capital , and U.S. short-term training for ten Rwandan participants. The Government of Rwanda through the Rwandan Development Bank will provide staff, designs and land for warehouses and related facilities, housing for the AID-technician and operating and working capital for the price stabilization system. By project end it is expected that the combination of the above inputs will result in necessary physical facilities and a management and operating organization for the price stabilization system under the efficient direction of trained Rwandan personnel.

4. JUSTIFICATION OF PROJECT

The reason for this project is to reduce the wide price fluctuations (at times over 100 percent) which occur for major food crops both between regions of the country and between harvest seasons through the establishment of an economically efficient price stabilization system (purpose). In so doing it is expected that several benefits will accrue. First, the producers will be protected from extremely low prices at harvest, thus raising their incomes, and stimulated to increase production as they realize that a market at incentive prices exists for their crops. Second, consumers will be able to buy at a lower price during what was previously the "short" season. In many cases the consumer will be the same producer who sold earlier. Third, because the storage will be of high quality with good management, losses in storage should be reduced.

All of these benefits support the project goal which is to increase the availability of agricultural food products at a rate faster than population growth and thus raise average nutritional level. In Rwanda, with a population growth rate of about 2.5 percent, serious malnutrition and the highest population density in Africa, increasing food supplies is particularly critical if the gloomy prophecy of Malthus is not to become a reality in the near future.

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5. RECOMMENDATIONS

A. Authorization of a grant of $716,000 for this project subject to the following terms and conditions:

1. Prior to disbursement for the materials and equipment to be used in constructing eight warehouse units the Government of Rwanda will submit to AID satisfactory final plans, specifications and bidding documents. A particular element will be the procedure to be utilized in monitoring construction.

2. Prior to the arrival of the AID-financed Project Director, to be located in the RDB, a minimum of two posts must be created in the RDB and filled by identified Rwandan staff.

3. Prior to the advance of funds for the working capital account the National Council for the Promotion of Food Crop Marketing must have been organized and must have established general policy guidelines for the storage and marketing program.

B. Approval of procurement procedures and requirements to facilitate implementation of the project. Specific waivers and deviations are presented in Annex IX.

PROJECT IDENTIFICATION TEAM

REDSO/EA;	Engineer	-	R. Fedel
	Economist	-	J. Westley

PROJECT DESIGN TEAM

AID/W :	Team Leader	- D. Griffith
USAID/ETHIOPIA:	Grain Storage Marketing Specialist	- K. Eubanks
REDSO/EA	Agricultural Economist	- M. Winter
	Engineer	- S. Scott
	Loan Officer	- W. King
	Lawyer	- W. Jones

PART II - THE PROJECT

Section 1. Nature of the Project

A. Background To Project

In the early sixties the United States Government had a small AID mission in Rwanda which over the course of a few years provided vehicles and equipment to the National Police, three paved roads in Kigali, equipment for the National University, a paved market place and a waterworks for Kigali. Since the final AID advisor left in 1967, assistance has been confined to self-help and PL-480 activities.

However, further U.S. assistance has been actively sought by the Government of Rwanda. Turned down by AID in 1971 and early 1972 were requests to assist in exploiting the Lake Kivu region, upgrading the Kigali-Rusumo road and asphalting the Butare-Cyangugu road. Late in 1972 a two-man AID reconnaissance team visited Rwanda and concluded that assistance in tourism seemed promising given the available alternatives. To further study the tourism sector and to identify specific projects suitable for assistance a consultant was engaged. The consultant's report was published in September, 1973 and identified several possible projects, although none well suited for A.I.D. financing, particularly in view of the changed emphasis of the U.S. foreign assistance program.

In January 1974, a two-man team from REDSO/EA visited Rwanda for talks with Government officials on possible assistance projects. The Government of Rwanda presented 23 projects for consideration. The list was reduced to 17 possibilities with GOR documents and team comments on each submitted to AID/W. From this array AID/W selected Food Storage and Marketing as the most appropriate for AID involvement within current AID assistance guidelines. To expedite project preparation a four member AID/Field and AID/W team was assembled. The team, which consisted of a Team Leader, Grain Marketing and Storage Specialist, an Engineer and an Agricultural Economist, spent three weeks in Rwanda in May, 1974 developing and refining the Food Storage and Marketing proposal in consultation with appropriate GOR Ministries and officials. This Capital Grant Paper is the result of that visit.

B. Project Goal and Purpose

The goal of this project is to increase the availability of agricultural food products at a rate faster than the population growth and thus raise average nutritional levels. This addresses two of the serious problems confronting Rwanda - rapid population growth (2.8 +%) and serious malnutrition, particularly in certain parts of the country at certain times of the year - which are worsened by the already dense population situation (140 per km^2 compared to 15/km^2 in Tanzania, 19/km^2 in Kenya and 51/km^2 in Uganda).

Obviously, there are numerous possible methods of reaching the goal - increasing production, increasing imports, reducing losses etc. In turn these can be accomplished in several ways. The purpose of this project addresses what Rwandan officials have identified as an important constraint to increasing production, food availability and nutritional levels, namely the wide price fluctuations which occur for major food crops between areas and times of the year. (See Figures 1 and 2 in this section for a visual display). Specifically, the purpose of the project is to develop an economically efficient price stabilization system through market intervention for three major food crops (haricot beans, peas and sorghum), particularly in areas of project operation but with nationwide effects as well. The system is to be suitable for expansion to other food crops.

In achieving the above through an active purchasing program during harvest times and a programmed selling program that will distribute the food according to demand, the project will reduce the price fluctuations which currently hurt farmers (and discourage production as prices decline at harvest time and consumers, including farmers, when they have to pay excessively high prices (reducing consumption and nutrition as stored quantities run out before the next harvest. On the average it is expected the presence of a new buyer/new seller will mean that farm gate prices will be slightly higher and consumer prices lower for commodities in the program than they have been in the recent past.

As prices are raised to producers and stabilized it is expected that production will be stimulated. Of course, without an external market, which is unlikely due to the quality and type of food stuffs produced, supply cannot rise a great deal faster than domestic demand without a serious price depressing effect. Nevertheless, there are reasons to believe that stabilizing prices would increase total demand and consumption for those produced, nutritionally superior foods above the additional demand created by population growth and a small increase in urban population. An increase in available supplies of foods in the program will also result from the reduced storage losses in facilities employed due to better management and construction. However, since the quantities to be stored will be small, the reduced losses will also be small.

Directing, operating and managing the system, as well as being a key component of the system itself, will be a National Office of Food Crop Marketing in the Rwandan Development Bank and a ministerial level Council for the Promotion of Food Crop Marketing. This project will be heavily concerned with establishing and developing these groups and enabling their sustained operation. For the program not to become an on-going financial burden to government it is to be operated at a break-even level after the initial start-up period i.e. the margin between buying and selling prices must cover costs. Alternatively the government can decide to absorb a certain loss for the socio/political benefit of stabilizing prices and improving nutrition.

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C. Description of the Project

This project consists of three basic components (a) technical assistance and training (b) the design, construction and equipping of eight small storage units and related facilities in six locations and (c) working and operating capital for the market intervention system.

The first component of this project and the one which has the greatest long run importance is the technical assistance and training. The project will provide a Director for the Office of Food Crop Marketing in the Rwandan Development Bank. (See Annex X for a description of duties). It will be his responsibility to forge a working system out of the other components. This 2.5 man-years of technical assistance will be augmented by short-term and specialized assistance as required (estimated 1.0 man-year).

It is expected that the AID financial Project Manger will be supported by one Peace Corps Volunteer assigned to the project. The PCV with Rwandan staff will have immediate responsibility for the management and operation of the eight warehouses. This will involve establishing operating procedures, inventory controls, financial arrangements, selection of personnel, and training. While the Project Manager will have overall responsibility for the project the PCV will be directly concerned with all facits of the physical handling of the food crops and financial accounting. This will require considerable travel as each warehouse location should be visited bi-weekly during the developmental phase of the project.

To ensure that the technical assistance has a lasting effect, short-term training will be provided to 10 Rwandan project staff. These will include warehouse managers, counterpart personnel to the Project Director and fiscal control staff members. It was Design Team judgement that short-term training would be adequate when combined with on-the-job experience. Estimated U.S. cost of technical assistance and training is $225,000.

The precise nature of the training to be provided has not been acertained. There are appropriate short-term courses in food marketing and storage that can be given in French by Kansas State University. These courses are well suited to the requirements of the project and it is tentatively planned that perhaps six of the senior staff of the National Office of Food Crop Marketing will attend. In addition, there are several short-term courses given under the auspices of the Major Cereals Program and other African agricultural institutions which may be utilized instead of a U.S. university. Training in warehourse and project management will also be provided. Aside from this project, AED intends to provide training for about 30 Rwandan participants over the next two years. It is likely that several of the National Office managers will be selected for longer term training in connection with food crop marketing either in the U.S. or in African programs.

Design of the warehouses, managers' houses and quarters for laborers will be performed by the Ministry of Agriculture - Buildings Section. Construction will be carried out by local contractors and supervised by the Buildings Section with financing for construction provided by A.I.D. Eight warehouse units, six houses and six workers quarters are to be built at a projected cost of $415,000. (See Section 2.B, Technical Feasibility, for an in-depth discussion of the construction element). Land for the facilities will be provided by the Government of Rwanda.

The final component of this project is working and operating capital for the system. Design Team calculations indicate a working capital requirement (to finance the purchase of food stocks) of approximately $53,000 in the final year of the project (Year 3) when the system is scheduled to handle 2,000 metric tons of food (See Annex VII which shows working capital requirements of a single warehouse unit). If the average price paid per kilogram of food is higher then the projected amount of working capital needed may also be higher. Similarly if food crop movement through the warehouse is less rapid than projected the requirement may rise. Nevertheless, $53,000 seems a reasonable estimate. It is proposed that A.I.D. provide $42,000 for this account with the GOR providing the remainder

Operating capital requirements during the project life (until the warehouse system becomes self-supporting), are estimated at $93,000. This excludes salary costs of the National Office in the Rwandan Development Bank and was calculated on the assumption that each warehouse will operate

at a deficit of $7,300 in the first year (75 percent of operating costs) and $2,400 in the second year (25 percent of operating costs) before covering costs in the third year. The result is a cost of $9,700 per warehouse unit or a total of $77,600 for the 8 warehouses rounded to $78,000. To this was added $15,000 to cover miscellaneous operating costs not directly attributable to the warehouses for a total of $93,000. The GOR will be responsible for providing all of these funds.

D. Financial Plan

	US	GOR
Personnel Costs	$175,000	$ 38,000
Commodities	12,000	
Buildings	415,000	
Misc Equipment	15,000	
Working Capital	42,000	11,000
Participant Training	50,000	
Engineering		64,500
Land		55,000
Operating Capital		93,000
Housing		16,500
Office Space		3,000
Contingency	7,000	3,000
	$716,000	$284,000

Total project costs are calculated at $1,000,000. The proposed AID three year input is $716,000. The estimated Rwandan three year input including land, A/E services, salaries of project staff in the Rwandan Development Bank, housing for the U.S. technician, operating and working capital is $284,000 (See Annex III for the exact breakdowns). The AID contribution of $716,000 will finance $187,000 in foreign exchange costs and $529,000 for local costs. The GOR contribution of $284,000 will all be utilized for local costs.

E. GOR and AID Interest

As early as 1969 officials in the Government of Rwanda were concerned with the fluctuations in the prices of certain staple foods between different regions and times of the year. A small program was carried out in 1969 to stabilize the price of haricot beans financed by the National Bank of Rwanda and administered by a local cooperative. The program was successful but for several reasons discontinued. Recently, more intense interest on the part of the Rwandan Government has again blossomed in both this activity and in agriculture in general, perhaps stimulated by the droughts in neighboring countries.

This GOR interest in food crops meshes well with AID's worldwide concern with agriculture and food crops. In Rwanda the combination of an extremely high population density, existing malnutrition and a rapidly growing population makes a project concerned with food supplies even more appropriate.

F. Other Donor Assistance

While Rwanda is the recipient of considerable donor assistance (approximately $24.6 million in 1972 - Table 1 of this section) no other donor is specifically addressing the storage and marketing of food crops problem. Nevertheless, the presence of the other donors provides a basis on which to build. This is particularly true in the area of warehouse management where all of the organizations, suggested as source of administrative ability (ONAPRO, OCM, ASPY) are receiving assistance from foreign technical experts (See Annex VIII for a brief description of each organization). Similarly, the Rwandan Development Bank, with overall responsibility for the program, has a German Advisor (Annex V). Building on this work should allow the effective use of AID inputs.

TABLE 1

FOREIGN ASSISTANCE TO RWANDA 1972

	U.S.$
PRODUCTION ACTIVITIES	
1. Agricultural Sector	6,323,055
2. Mines, Industry and Handicrafts	2,044,470
3. Tourism	67,415
Sub Total	8,434,940
ECONOMIC INFRASTRUCTURE	
1. Transportation and Communication	2,337,367
2. Power and Others	1,384,371
Sub Total	3,721,738
SOCIAL AND ADMINISTRATIVE INFRASTRUCTURE	
1. Health and Social Affairs	1,970,990
2. Education and Training	8,104,568
3. Urban Development	737,408
4. Miscellaneous	1,869,072
Sub Total	12,682,038
GRAND TOTAL	$ 24,838,716

LARGEST DONORS

United Nations	$ 2,660,606
Belgium	8,585,192
France	2,115,793
Common Market	4,035,616

OTHER DONORS IN ORDER OF IMPORTANCE

Canada, Switzerland, Germany, World Bank Group, United States, Netherlands, China and various.

Source: Annual Report for 1972 on External Assistance, Ministry of Planning and Natural Resources 1972, Rwanda

Section 2. Project Analysis

A. Scope of Project and Organizational/Administrative Analysis

The difficulties in organizing a successful food storage and marketing system leading to the desired ends are heightened by the relative inexperience of the Government of Rwanda with such a program and the relative shortage of Rwandan administrative ability. It is largely for these reasons that a program concentrating initially on the more easily stored food crops is proposed. Enlargement to more intensive national coverage and the inclusion of a larger number of food crops will take place at a later date after additional experience is gained.

Policy guidance for the program is to be provided by a Ministerial level Council for the Promotion of Food Crop Marketing to be formed under the Chairmanship of the Ministry of Agriculture and Livestock. Other members will include the Ministry of Planning and Natural Resources, the Ministry of Finance and Economy, the Ministry of Interior and Public Service and the National Bank of Rwanda. It is expected that the Council will be an active group able and willing to provide sound policy guidelines.

Operational responsibility for the program, within guidelines set up by the above Council, will initially rest with a National Food Crop Marketing Office in the Rwandan Development Bank. The Office will oversee warehouse construction (direct surveillance will rest with the Ministry of Agriculture Buildings Section) while the warehouses will be owned by the Government of Rwanda. A separate account will be established for that purpose.

Operational responsibility for most of the warehouses will initially rest with agricultural cooperatives operating in the warehouse service area. (Descriptions of two such cooperatives, OBM and ASPY, are provided in Annex VIII). As the cooperatives constitute a chief source of existing trained manpower for warehouse inventory and financial operations, and they already have an existing management organization; the Project Committee felt that their involvement in the project was necessary. Warehouse management and operation services provided by the corporatives will be purchased on terms to be established by the RDB and are included as a cost of the project. As the cooperatives will benefit directly by the warehouse operation it is in their interest to provide adequate trained manpower and management. The Project Committee has acertained the willingness of the cooperatives to undertake this service. It is contemplated that as the National Office developes its managerial capabilities that it will ultimately assume direct control of warehouse operation and management and that the cooperative involvement will be phased out.

The RDB will also be the repository and channel for funds being used as working capital. As such, it will perform the fiscal controlling of funds which includes auditing and general accounting.

At a later point, probably after the USAID project is terminated, the Government of Rwanda plans to make the National Office of Food Crop Marketing an independent organization outside the RDB. At that point ownership of the warehouses and the working capital will be transferred to that organization.

The selection of the RDB as the organization having overall responsibility, within policy and other guidelines provided by the Council, was largely a GOR decision. The staffing of the RDB is not as strong as one might desire but, a similar situation prevails in nearly all other possible organizations. The RDB does have good contacts within Government and with other organizations which will be involved and has taken an aggressive role in seeking the responsibility for the program. (See Annex V for financial statements, staff lists, organizational charts etc. for RDB).

The operational responsibilities for the storage facilities will be an expansion of the current RDB responsibilities and will require the development of appropriate procedures. Because of the limited personnel at RDB it will be necessary to add a project manager to RDB staff to oversee project operations. The AID-financed technical advisor will initially fill that role along with his Rwandan counterparts. He will report directly to General Director of the Bank.

Day-to-day operation of the warehouses will rest with the identified co-operative organizations. Each warehouse will have a manager supervised by the management personnel of the cooperatives. The precise arrangements under which the cooperatives will manage the warehouses determined but it is expected that a management contract will be employed. Included in the management will be the provision of transportation for the grains bought and sold.

Sites selected for the initial warehouses took into account the availability of administrative talent in the area through the cooperative organizations as well as regional production and marketing of the particular crops and transportation. (See Annex VI for more details on the sites).

Haricot beans were an obvious choice as the first crop to be handled due to their national importance as a food crop, the relative ease with which they can be stored and their high nutritional qualities. Peas were selected as a second crop for largely the same reasons and because they do substitute for haricots in certain areas. Sorghum was added because of its overall production importance, possibilities for expanded production and to provide some seasonal balance. Potatoes are a very important crop in certain regions but questions as to whether the type of warehouse planned is appropriate for potato storage and the greater difficulties in storing potatoes were reasons that they were excluded from initial emphasis.

A relatively small warehouse size was selected (optimum capacity of approximately 250 metric tons per unit but with a capacity of about 500 metric tons under less than optimum storage practices) based on the desire to have a standard unit and calculations of the minimum size which would be economically efficient but large enough required to handle necessary crop quantities. The use of small modular units to make up the required storage amounts provides greater flexibility now and in the future as expansion is required. It also prevents large amounts of excess warehouse space in locations expected to handle smaller quantities of food grains.

B. Operational Feasibility

Present arrangements in Rwanda for the marketing and storage of food crops depend upon the operation of small private commercial traders known as commercants. They compete in each trading area, buying foodstuffs from individual farmers and offering for sale a selection of basic necessities. The local commercants maintain their own small warehouses in each market center usually constructed of

reinforced mud with a sheet metal roof. By African food storage standards, these storage facilities are rather good although there is considerable loss from moisture, rodents and improperly dried beans.

The commercant makes his profit in much the same way as any other commodity trader. He buys at harvest time when prices are low, then sells his inventory for both consumption and seed as the price rises. In addition; he earns a profit through his merchandising of various goods, and frequently transports his foodstuffs to other cities when the price spread makes it worthwhile. The operation of the commercants thus becomes the primary market mechanism in Rwanda - collecting, storing, and distributing foodstuffs. Any attempt to deal with these functions in Rwanda must take into account the commercant operations.

As indicated above, one of the primary objectives of this project is to reduce the spread in market prices of three basic food crops and in so doing to also raise the farm gate price. While the means of reaching this objective can not be detailed at this time, the following example of bean marketing will serve to portray the problem and a means of attacking it. Similar examples pertain for peas and sorghum. At present time the annual price of beans in Rwanda ranges from an annual low of abour 3 RF per kilo to a high of over 20 RF per kilo. This represents about a 700% marketing margin. (This disparity does not pertain for any one marketing area, but for the ration as a whole.) The thrust of this project will be to establish a national warehouse price sufficiently high that it will entice the commercants to increase the farm gate price and at the same time to make it attractive for the commercant to sell a portion of their inventories to the national warehouses. The increase in the farm gate price should come about through the pricing policy established by the Ministerial Council and conveyed to the farmer by local notices, radio and word of mouth. A minimum farm gate price of about 7 RF per kilo is considered desirable.

In order for the commercant to have sufficient financial incentives to perform his collection function; GOR officials and expatriate advisers estimate that a margin of 2 RF per kilo will be necessary. At the national warehouse centers, about 3 RF per kilo will be required to cover the costs of handling storage, etc. When foodstuffs are re-distributed through the commercant operation an additional 2 RF per kilo is judged necessary. Thus a farm gate price of 7 RF per kilo would be increased by a total of 7 RF per kilo in collection, storage and distribution costs, resulting in a market price of 14 RF per kilo which is a 100% marketing margin.

By the standards of most nations even a 100% marketing margin is considered excessive, but this is a substantial improvement over a swing of about 700%. It should be emphasized, however, that marketing margins in individual Rwandan markets do not approach the 700% spread, the maximum range is more in the neighborhood of 200%.

The most important factors which will affect the 100% marketing margin discussed above are considered to be the following. Any increase in commercant or national warehouse costs will tend to widen the margin. However the 7 RF per kilo spread was considered realistic and conservative by all the experts with whom the Project Committee talked. Secondly, the national warehouses will make purchases and sales directly from the farmers and cooperative organizations which will not pass through commercant channels. Such transactions could have the effect of increasing the farm gate price by 2 RF per kilo and reducing the market price by 2 RF per kilo. Thirdly, this project is only the first phase of a national program, which is initially designed to handle about 15% of marketable surplus. Experience in other African countries and limited experience in cooperative undertakings in Rwanda indicate that 15% is more than an adequate portion of marketable surplus to effect a degree of price stabilization. As the program is expanded, production volumes grow and commercant competition and efficiency increase, there are grounds to believe that marketing margins will drop further. It must be kept in mind that Rwandan markets for the three basic food crops to be covered by this program are terribly narrow, and that a very small amount of production marketed or withheld from the market can have a significant effect upon price.

With increased farm gate prices there is the possibility of over production a possibility which can not be ignored. It will be the responsibility of the National Office of Food Crop Marketing to study and test pricing arrangements in order to minimize this risk. As Rwanda has no established channels for the export of food crops the potential problem would become more difficult to surmount. On the other hand there is a vast potential market for increased food crops resulting from both increasing population and extremely low nutritional standards. (The banana is still the primary nutritional source). Furthermore, with increasing population and almost all amount of arable land in production, overproduction of the three basic crops is not considered a serious problem as long as reasonable marketing and pricing policies are followed.

A more likely problem is underutilization of the proposed national marketing facilities. The essential factor here is whether Rwandan commercants and farmers will be financially enticed by the pricing and marketing policies established by the Ministrial Council. Considering the fact that about 85% of production is consumed or used for seed by the farmer, and that warehouse facilities are proposed for only about 15% of the production which is marketed, the initial phase of the project is considered conservative in capacity, but yet adequate to achieve a higher degree of price stabilization than now exists. Clearly the extent to which Rwandan commercants and farmers respond to the program will be a function of the realism of the Councils policies and the extent to which they can be communicated.

Another area of concern is the question of transportation of foodstuffs between regions. This project makes no provision for transportation equipment on the grounds that for the size of the project adequate private facilities exist. While no research has been devoted to the transportation problem, there is no evidence that transport is a constraint in the food marketing system. As private facilities exist and are in use, there appears to be no immediate requirement for government transport facilities. In fact, this is probably a service that should be left in the private sector and addressed through the pricing mechanism.

A final concern which deserves comment is the inherent problem of risk and uncertainty in this type of project. As in any commodity transaction uncertainty is a function of both man made and natural phenomenon. The GOR, and in particular the Rwandan Development Bank, is extremely conscious of this, and the risk to which this project is exposed. There is no positive assurance that can be provided AID or the GOR that the working capital estimates included in the project will vanish as a result of an unfortunate decision or a superb crop year. During project design this question was discussed several times at considerable length with concerned Rwandan officials. (The fact that it was a significant concern was important to the project committee). Given the economic condition of Rwanda, the AID 25% contribution requirement, and the nature of the project it was felt by the project committee that a 20% contribution to working capital requirements by the GOR was reasonable. (Other financial and in kind contributions by the GOR meet the 25% requirement.) From the standpoint of AID's involvement in the project, this was also considered desirable as an 80% cnntribution to the working capital requirements of $53,000 provides AID with a greater voice in pricing and marketing policy, which in the final analysis is a cornerstone of the project.

C. Technical Feasibility

Technical feasibility as discussed here is limited to the construction element of the project. No additional comments beyond those contained in other sections of this paper on the feasibility of establishing a price stabilization program are presented.

1. General

The following analysis of the construction element of the project includes an assessment and evaluation of construction procedures and costs in Rwanda and GOR intentions and ability to provide the required A/E services, control, management and supervision during the basic design, construction documentation and construction phases of the work.

Based on the Design Team's evaluation of marketing and storage requirements for the project and the analysis and review of preliminary plans prepared and submitted by GOR, the following facilities are proposed:

Facility	Area
Warehouse/Storage/Office Units (8)	275 sq. meters each unit 1/
Housing for Warehouse Managers (6)	100 sq. meters each location
Quarters for five workers (6)	75 sq. meters each location

Locations in Rwanda	Warehouse/Storage Units
1. Kavumu	2
2. Mukamira	2
3. Ntendeni	1
4. Gahanga	1
5. Cyumba	1
6. Kayonza	1

Total Area Requirements (Excluding drying areas)

8 storage/warehouses/office units	x 275 m^2	=	2,200 m^2
6 house units for managers	x 100 m^2	=	600 m^2
6 quarters for workers	x 75 m^2	=	450 m^2
	Total	=	3,250 m^2

2. Description of Facilities

The basic warehouse facility normally built in Rwanda consists of concrete, or brick walls with a steel/timber roof truss on a reinforced concrete floor slab. The roof is usually covered with corrugated asbestos or iron sheets. This type of structure is considered appropriate for project requirements and proven to be consistent with the Rwandan construction capability and available materials. The basic elements of construction will be sand, cement, steel (structural and reinforcing for concrete columns and floor slabs), glass (for windows), metal sliding doors, window casements and roofing materials (galvanized iron or asbestos).

1/ Does not include an outside cement slab drying area of about 48 sq. meters.

3. Construction Climate and Basis of Cost Estimates

The construction industry in Rwanda is often faced with critical shortages of essential building materials. During discussions with building contractors and GOR Ministry of Works officials involved with construction, it was determined that nearly all of the materials required for construction have to be imported into the country. Extreme shortages of reinforcing/structural steel and cement have been experienced recently and contractors have had difficulty maintaining supplies to meet their needs. Thus, even though the type of structures proposed for this project are simple, construction will depend on scheduling the import of materials which normally are in short supply.

Currently the construction cost rate of increase in Rwanda is about 2.5 percent per month, transportation costs of imported materials are a major factor. There does not appear to be any indication that this rate will decrease in the immediate future. Current costs for constructing the proposed facilities are estimated to be Rwanda Francs 6,500 per square meter. However, this figure represents costs for building facilities in the capital city of Kigali. Since the majority of imported materials will be purchased in Kigali an additional cost percentage must be added to construct the facilities located outside Kigali. This is primarily due to high transportation and petrol costs.

The Design Team made contacts with local contractors which confirmed Ministry of Works officials' belief that there should be no difficulty in obtaining bids for the construction of the proposed facilities. The major problem will probably be the construction of buildings at sites in the remote areas of the country since some reservations were expressed with regard to those areas due to the uncertainty of the transportation and petrol situation in Rwanda. The MOW and MOA provided the base cost data from which project cost estimates were calculated.

4. Architectural - Engineering Services

Technical services for design, construction documentation and construction supervision can be carried out by the Ministry of Agriculture's Buildings Section. This section has already provided preliminary design and construction documents. At least three members of the Buildings Section staff were consulted by the Design Team and their technical capability appraised and found to be satisfactory.

The proposed facilities are relatively simple and will not require intensive inputs by the Buildings Section at the schematic or preliminary phase. Since an acceptable standard design has been submitted and reviewed by the Design Team Engineer, the Buildings Section should be able to prepare a final set of complete and accurate working drawings, material quantities and documents which will permit tendering for construction.

Construction documents, (detailed specifications, bidding information, general/special conditions, contract forms, etc) shall be consistent with normal and established practices in Rwanda. The Building Section will submit

for AID review and approval all documents and plans. General surveillance of construction including necessary inspections, checking of materials, and shopdrawings submitted by the contractor will also be the responsibility of the Buildings Section. The possibility of insufficient staff to carry out the necessary technical functions was considered by the Design Team and resolved as noted below.

5. Conclusion

The types of structures proposed for this project are relatively simple in design and scale and do not represent a departure from normal construction practice. Thus it is anticipated that existing standards of quality and technique will adequately meet AID technical requirements.

As indicated previously, and based on preliminary drawings submitted, the Ministry of Agriculture Buildings Section should be able to prepare a final set of complete and accurate drawings. Similarly there should be no particular problems in completing a bid package of detailed specifications, bidding information, general/special conditions etc. incorporating AID requirements as modified to meet with normal and established practice in Rwanda. Surveillance of construction by the Buildings Section could be a problem if work is proceeding at all sites simultaneously. However, simultaneous construction at all sites is not anticipated. If it does occur the Team was assured that a contract for surveillance of certain sites or utilization of additional GOR capability would be possible.

There are operating in Rwanda a number of firms with both the experience and capability to undertake the construction. It does not appear that technical construction capability will be a problem.

The two major difficulties which the project may encounter are shortages of building materials and escalating construction costs. The construction cost estimates have been based upon expected end of 1974 costs. However, the unpredictability of POL, materials and transportation costs have also been considered through a 15% contingency on the GOR estimates. The actual availability of materials at any price cannot be predicted. However, Rwandan officials said that with good advance planning this should not pose a problem. The proposed construction schedule allows for a relatively long construction period in anticipation of a certain amount of delay in procurement of materials.

In summary, there appear to be no technical reasons why construction under the project cannot be completed in a satisfactory manner. The construction schedule anticipates certain difficulties which in turn have been considered in project planning of other elements comprising the project.

6. Environmental Considerations

By its very nature, this project will have a minimal impact on the environment. From a physical standpoint basic storage and housing structures will be constructed of indigenious design and workmanship in six locations around the country. They will not impact upon the environment in any way. Fungacides will be used in very modest amounts in the treatment of food crops before they are stored. Neither the quantity of fungacides nor their use could have an adverse effect upon the local environment. To the extent the aims of the project are achieved, the human environment of the agricultural sector will be improved.

D. Economic Considerations

No economic analysis of the project is presented due to the difficulties in determining the "benefits" of price stabilization. For example, if reduced price fluctuations did not result in greater quantities entering market channels then the project result may simply be a redistribution of the same financial

flows (or higher or lower amounts depending on prices and elasticities) from middlemen to farmers and/or consumers. In itself this may be of some value but determining the benefit would be highly speculative. If stabilization encourages production and more consumption of particular food grains there is clearly a benefit but, in the absence of previous experience in Rwanda, "guesstimates" of the magnitudes remain subject to wide error.

An illustrative example of benefits which might accrue from the project to a particular group is as follows: If the farm price for food grains under the project were raised one Rwandan franc per kilo over previous levels, the increased return to farmers, based on 1973 marketed production, would be in excess of 39 million francs or over $400,000. A similar illustrative calculation could be made on the consumer side if it were assumed that the project could result in a reduction in average retail prices.

The only concrete benefit from the project which is certain to occur, if implementation proceeds as scheduled, is a reduction in storage losses for those quantities of grain stored in the project constructed facilities. At the 2,000 metric ton throughput level this should amount to some 300 metric tons of grain (losses reduced from 20 percent to 5 percent) with a value of about $20,000.

In conclusion direct economic benefits from the project are likely to be small, particularly in the short run. In the longer run a price and marketing system which provides incentives to producers is clearly required if Rwanda is to adequately meet the food needs of a growing population.

Section 3. Project Implementation

A. Project Execution

The following implementation schedule is proposed for this project:

June - August	1974	Development Project Paper prepared by REDSO/EA and AID/W and approved by AID
September	1974	Project Agreement prepared by AID/W reviewed by REDSO/EA and signed by Government of Rwanda and the United States Embassy/Rwanda.
September	1974	Project Implementation Order/Technical Services prepared by AID/W, reviewed by REDSO/EA and signed by the Government of Rwanda and the United States Embassy/Rwanda.

September	1974	Implementation Letter prepared by AID/W for review and issue by REDSO/EA.
July - September	1974	Submission by Government of Rwanda of final drawings and bid package for approval by REDSO/EA.
October	1974	Bids for construction solicited by Government of Rwanda.
November	1974	Construction contracts awarded with approval of REDSO/EA.
December	1974	AID/W executes and signs contract for provision of technical services.
January	1975	AID-financed Project Director arrives.
April - May	1975	Construction of first warehouses completed. Training commences.
June	1975	AID on request of Government of Rwanda makes advance of working capital.
July	1975	First purchase of food grains made.
July	1975	Construction completed.
November	1975	Initial Evaluation of Project to be repeated annually thereafter.
July	1977	AID-supplied technician departs.
September	1977	Project Terminates.

B. Conditions and Covenants

The conditions and covenants of this grant agreement are kept to a minimum to provide maximum flexibility and to not impose excessive demands on the administrative and operational capability of involved Rwandan organizations. The following special conditions and covenants are proposed for the project.

1. The Rwandan Development Bank will set up separate accounts for the construction of specified facilities, for the working capital to be used in the purchase program and for the operating capital.

2. Prior to disbursement for the materials and equipment to be used in constructing eight warehouse units and related facilities, (management and worker housing), the Government of Rwanda will submit to AID satisfactory final plans, specifications and bidding documents.

3. Prior to the arrival of the AID-financed Project Director, the RDB must have established two additional positions and employed Rwandan staff to fill them.

4. Prior to the advance of funds for the working capital account the National Council for the Promotion of Food Crop Marketing must have been organized and established general policy guidelines for the storage and marketing program.

C. Evaluation and Monitoring:

The RDB will prepare and send to AID a semi-annual report of activity in the Storage and Marketing Program. The report shall include: 1) purchases by location and food grain - price and quantity; 2) Sales by location and food grain - price and quantity; 3) Project staffing and staff training; 4 A statement of program operating costs; and 5) Other relevant material. All records of the Food Storage and Marketing program will be available to AID for inspection and analysis. At least once each year the operations of the project will be reviewed and evaluated jointly by AID and the Government of Rwanda.

Goran

ANNEX I

STATUTORY CHECKLIST

To be completed by AID/W.

ANNEX II

PROJECT SETTING 1/

The Agricultural and Livestock Sector in Rwanda

Located in the center of Africa some 720 miles from the Indian Ocean, 1,200 miles from the Atlantic Ocean, 2,000 miles from Cairo and 2,100 miles from the Cape of Good Hope, Rwanda is bounded by Uganda on the North, Zaire on the West, Burundi on the South and Tanzania to the East. The average altitude is over 8,000 feet ranging from about 4,500 near the Tanzania border to over 14,500 feet in the northwest. The climate is sub-tropical with little annual variation in temperature, except that caused by altitude. The average temperature is about 64°F. Most rainfall comes in two periods allowing two crops a year in many areas. Annual precipitation amounts range from about 70 inches in certain locations to about 35 inches in others.

Rwanda's land area is 26,340 km^2, of which some 30 percent is arable and 31 percent pasture land. The population numbers about 3.9 million and the density is 148 inhabitants per km². Land is farmed on a family basis using traditional methods with low productivity. The size of the plots varies between 1.5 ha and 2.0 ha. except in the more densely populated areas where it may be as small as 0.75 ha.

The United Nations ranks Rwanda as one of the least developed countries. Agriculture, including livestock, in which 90 percent of the population is engaged, accounts for about 2/3's of GDP. Agricultural exports (primarily coffee) amount to over 60 percent of all exports. Yet, the cash market for agricultural goods is small compared to total production. Subsistence agriculture represents the greater part of production with only about 15 percent being marketed.

The principal crops for domestic consumption are bananas (155,000 ha), mainly for brewing beer; beans and peas (290 000 ha), which are the basic foods of the Rwandese people; sweet potatoes; sorghum; maize; groundnuts, and cassava. Groundnuts are likely to become increasingly a cash crop, supplying the oil processing plant recently built at Kigali; the internal market for vegetable oil is presently supplied by imports.

Arabica coffee is Rwanda's principal cash crop, accounting for about 90 per cent of agricultural exports; it constitutes the largest single source of monetary income for the rural population. Production of coffee was 15,000 metric tons in 1971 and 10,600 metric tons in 1972. Since 1965/66 the country has been able to export all its production within the quota, and only in

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1/ Extracted largely from IBRD materials and the Rwandan Development Plan.

1968/69 was it necessary to export a small amount to nonquota markets. Other export crops are tea, pyrethrum and, of lesser importance, cotton and quinine.

The 1973 figures of production and productivity per hectare for different crops are summarized in the following table:

Crops for Domestic Consumption	Production ('000 M tons)	Productivity (kg per ha)
Bananas	1,767	11,325
Beans	133	830
Peas	56	800
Sweet potatoes	425	5,800
Sorghum	142	1,070
Maize	55	990
Groundnuts	8	900
Cassava	363	12,200
Irish potatoes	140	7,250
Export Crops (1972)	(M tons)	
Coffee (merchant)	10,600	1,600
Tea (dry leaves)	2,316	1,000
Pyrethrum (dry flowers)	1,174	620

During the last 10 years, in order to relieve pressure on the land and improve low productivity, a number of settlement schemes, known as "Paysannats", have been organised in the less densely populated areas. So far, the number of people involved is relatively small; by the end of 1971 about 36,000 farmers had been settled in 34 Paysannats.

Under this type of scheme each farmer is allotted an individual plot of about 2 hectares for cropping and housing. He enters into a contract with Government, represented by the local Burgomaster, under which he agrees, *inter alia*, to follow the rules of the Paysannat covering such matters as crop rotation and the maintenance of roads and ditches. Ownership of the land remains with the State; the settler obtains the cropping rights, which are transferable by inheritance, for an indefinite period.

Paysannats always produce cash crops as well as food crops and provide erosion control and better extension services than are commonly available. The plots are settled on both sides of roads which follow contour lines. Although the principle of repayment of development costs by the settler is generally provided for, so far it has not been enforced.

The marketing of agricultural commodities in Rwanda is highly structured and organized for cash/export crops such as coffee and pyrethrum. Government intervention and control exists via requirements that all quantities of certain crops pass through specified channels if destined for export. In addition prices are sometimes fixed. This does not prevent the private trade from participating in the marketing chain, particularly at the farmgate level, but the opportunities are somewhat limited with the result that cooperatives and other government sponsored organizations handle most coffee, tea, and pyrethrum from the farmgate through export.

For food crops, government involvement in marketing is minimal. Nearly all of the marketed amounts are collected and sold by private traders. There are no price controls. Although there have been limited attempts in the past it is only recently that cooperatives have shown considerable interest in food crop marketing. Rather substantial and dramatic price fluctuations for most food stuffs occur between regions and periods of the year.

In addition to cultivating crops, the Rwandese are traditionally livestock farmers and produce milk for their own consumption and meat for sale. Contribution to the GDP from the breeding cattle sector including milk production is estimated at less than 10 percent. Cattle raising is carried out all over the country, except in the uninhabited eastern part and in the forest areas. Fifty percent of the herd is concentrated in a broadstrip from south to northeast covering the prefectures of Butare, Gitarama and Byumba. Overgrazing is common and is becoming a more serious problem as pressure on the land leads to encroachment by cropping. Livestock and agricultural ventures are carried out side by side without any real mixed farming.

The cattle are mixed Zebu and Songa (long-horn Ankole) type. The national herd is estimated at 700,000 head. Characteristics of the herd are as follows: slow maturity (first calf after four years), calving rate about 60%, calf mortality 40%, first sale for slaughtering after 18 months, carcass yield 40-45%, low rate of cow culling, milk production per lactation under 1,000 kg. and average weight of the hide 6.5 kg. The annual growth rate of the national herd has been less than 0.8% during the last 20 years.

Total annual meat production is about 12,000 tons, comprising:

(a) domestic consumption of about 9,200 tons from some 80,000 head of cattle, with an average carcass weight of 115 kg. slaughtered in Rwanda; and

(b) exports (mainly) of some 20,000 head of cattle on the hoof with an average carcass weight of 140 kg. representing 2,800 tons of meat.

The annual domestic beef consumption is, therefore, only 2.5 kg. per capita, with vegetables providing the main source of protein. A recent nutritional survey by the Institut National de Recherche Scientifique (INSRS) found seasonal or chronic protein deficiency over most of the country.

Milk production is about 32,000 - 35,000 tons a year, of which only about 10% is sold for domestic consumption. Milk is an important part of the Rwandese diet and particularly for the milk-drinking Hima people, for whom it provides 8% of the calories and 9% of the proteins consumed. The Hima are a nilotic tribe living in the Kitara area and owning 10 000 head of cattle.

Agricultural and livestock services are provided by the Ministry responsible for Agriculture and Livestock. The lack of qualified people is very serious and is only gradually filled by qualified expatriate experts provided by bilateral or multilateral aid; furthermore, no firm policy exists for the development and use of extension services in Rwanda. These deficiencies, together with the problems of reaching illiterate farmers who are not accustomed to using radio sets and have very few communal centers, make current extension work particularly difficult.

The agricultural department comprises extension, settlement and seed services and a studies division, including pedological services. The livestock service has two divisions: (a) the Animal Health Division (b) the Animal Production Division. In all its activities the Division cooperates with expatriate experts.

Because the University of Butare does not provide the full training necessary, young Rwandese wishing to become qualified agronomists or veterinary officers have to go abroad. Training to an intermediate (A2) level for both agronomists and veterinary technicians is, however, provided by means of three-year courses at Butare in the "Ecole d'Agriculture de Butare" and in the "Ecole d'Elevage de Butare", both dependent on the Ministry of National Education.

Agricultural as well as animal production research in Rwanda has been entrusted to ISAR (Ex-INEAC)1/ for 25 years. Now financed by Belgian bilateral aid, and under the authority of the Ministry of Agriculture, ISAR conducts research in its stations at Rubona, Songa, Karama and Rwerere.

In general, the main agricultural targets of the Rwanda Government are to:

(a) Increase the volume of agricultural production;
(b) Increase and diversify export cropping;
(c) Increase regional specialisation;
(d) Intensify the use of scarce resources i.e. land;
(e) Increase the proportion of the budget going to agriculture;
(f) Train the personnel necessary to transform Rwandan agriculture; and;
(g) Impress the rural population and government officials with the priority of agricultural development.

The expenses of the Ministry responsible for Agriculture and Livestock increased during the last five years (1968-72) from RWF 67.3 million to RWF 118.9 million, i.e. from 4.5 to 5.4% of total Government expenses. But the proportion of salaries and wages in total costs has risen to over 60% in the Ministry of Agriculture. This has meant a serious shortage of materials and supplies, although the OCIR contributions (mainly for coffee cropping) in the form of sprays, seeds, tools and the like have helped the agricultural services greatly.

In 1972 Government, for the first time, gave some priority to the agricultural sector through the development budget. The allocation of the Ministry responsible for Agriculture and Livestock in 1972 was RWF 19.9 million.

1/ Institut National Pour L'Etude Agronomique Der Congo

ANNEX III

LOGICAL FRAMEWORK

GOAL	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	MEASURE OF GOAL ACHIEVEMENT		
To increase the availability of agricultural food products at a rate faster than the rapid population growth and thus raise average nutritional levels in Rwanda.	1. Production of food crops rising at over 3% per year.	GOR Statistics	National political stability
		Expert Evaluations	
	2. Reduction in marketing and storage losses from current levels.	On-site inspections	GOR financially supports agricultural sector.

Purpose	Conditions That Will Indicate Purpose Has Been Achieved (EOPS)	Means of Verification	Important Assumptions Necessary to Attain Purpose
1. To develop an economically efficient price stabilization system for three major food crops, particularly in areas of project operation but with nationwide effects as well. System should be suitable for expansion to other food crops.	1a. Establishment, development and operation of national office of Food Crop Marketing (initially located in the Rwandan Development Bank). 1b. Establishment, development and operation of ministerial level council for the promotion of food crop marketing. 1c. Active involvement in food crop marketing and storage by non-government organizations utilizing government owned warehouses and employing government provided funds. 1d. Reduced spatial and temporary price fluctuations for haricot beans, peas and sorghum. 1e. On the average, higher farm-gate and lower consumer prices for commodities in program. 1f. Government fenced food crop intervention activities operated at approximately the break-even level.	MinPlan Statistics MinAg Statistics Direct Observation Expert Evaluation Examination of Projects.	There will be no constraints to project operations due to unusual weather conditions. The GOR will continue to have an active interest in this program and any legal steps necessary to establish ministerial level committee.

Outputs	Magnitudes of Outputs	Means of Verification	Assumptions
1. Warehouses	1. Eight warehouses built of approximately 250 metric tons capacity each.	Direct Observation	GOR will make available suitable staff for project operation and training.
2. Trained Staff	2a. Ten Rwandans trained in appropriate areas related to food storage and marketing.	RDB Reports	GOR will assign trained personnel to project related positions.
3. Office in Rwandan Development Bank capable of administering food storage and marketing program.	2b. A to-be determined number trained in Rwanda.	Project Evaluations	GOR will provide its share of funds required to carry out project.
4. Operating procedures and methods of financial control.	3a. Office staffed with trained personnel and able to direct operations No. of staff required to be determined.	Expert Appraisal	
5. System of warehouse management	3b. Efficiency of operation measured by profits and/or loss i.e. maintenance of operating capital.		
6. Working capital account.	4a. Procedures developed, complete with controls.		
	5. System developed and in-use.		
	6. Separate working capital account of at least $53,000 in RDB procedures for its use established and funds being turned over.		

Inputs	Implementation Targets	Means of Verification	Assumptions
U.S.			
I. Personnel ($175,000)			
A. Senior Grain Storage and Marketing Specialist (Project Director) 2.5 man-years.	ETA January 1975	Direct Observation Project Evaluation	Recruitment and timely arrival of properly qualified and well motivated specialists will be accomplished.
B. TDY Services approximately 12 man/months over life of project.	As required. Requirement will be determined by Project Director in consultation with Rwandan officials.		
II. Commodities ($12,000)			
A. Vehicle (2)	ASAP after Project Agreement signed.		
III. Local Costs ($479,000)			
A. Buildings ($415,000) Warehouses Staff Houses Workers Quarters.	Bids to be awarded of CY 1974. Construction com- by July 1975.		Construction can be completed on schedule.
B. Miscellaneous equipment ($15,000)	Approximately July, 1975		

Inputs	Implementation Targets	Means of Verification	Assumption
C. Working Capital ($42,000)	Approximately July, 1975		
D. Contingency ($7,000)	As required		
IV. Participant Training ($50,000)			
A. Short-term Programs			
1. Warehouse Management (6)	To begin after arrival of Project Director who will participate in selection.		
2. Project Management (2)			
3. Fiscal/Monetary Control (2)	Estimated time-table: 5 in summer of 1975 5 in summer of 1976		Admission can be secured at appropriate institutions.
Government of Rwanda			
I. Personnel ($38,000)			
A. Rwandan Development Bank			
1. Counterparts to U.S. financed storage and marketing specialist (2) 6.0 man-years.	To be on the staff prior to arrival of AID-financed technician		Appropriate staff can be located.

Inputs	Implementation Targets	Means of Verification	Assumption
2. Accounting/Audit Staff (As required)	As required		
B. Warehouse Operations 1/			
1. Warehouse Managers (6)	As warehouses are completed		
II. Local Costs ($246,000)			
A. Design services for buildings to be constructed ($64,500)	Prior to November 1974		Government of Rwanda will make funds available.
B. Land for warehouse (Sites $55,000)	Prior to issuance of Invitation to Bid.		
C. Operating Capital ($93,000)	Begin in July 1975 through end of project.		
D. Working Capital ($11,000)	Approximately July. 1975 first tranche will be required		
E. Office Space ($3,000)	With arrival of AID technician		Office space available in RDB
F. Housing ($16,500)	With arrival of AID technician		Housing is available
G. Contingency ($3,000)	As required		

1/ Salaries of these individuals is included in requirement for Operating Capital

2/ Estimated amount of subsidy which will be required before warehouses operate at breakdown level.

A N N E X I V

ANALYSIS OF STORAGE REQUIREMENTS FOR HARICOT BEANS, PEAS AND SORGHUM AND IMPACT OF PROPOSED AID-FINANCED WAREHOUSES IN MEETING REQUIREMENTS

There are three major factors which combine to determine the amount of storage required to influence and reduce price fluctuations for specific crops: Total production, the percentage of production normally marketed and the percentage of marketed production which the marketing organization would have to control to influence prices.

The following tables present an analysis of these three factors. Tables 1 and 2 provide the historical production pattern (1969-73) for haricot beans, peas and sorghum and a 1973 production breakdown by Prefectures. The 1973 figures appeared consistent with the historical trend and were consequently used in subsequent calculations.

Table 3 sets forth, by Prefectures, the Ministry of Agriculture estimates of marketed production of the three crops under consideration. The table shows the wide variations between Prefectures in the percentage of each crop marketed. To simplify and facilitate subsequent calculations a nationwide marketed average was determined for each crop which was then adjusted, taking into account a separate set of estimates made by the Ministry of Planning and Natural Resources and expert judgement. In no case was the adjusted average percentage of production marketed (14 percent for haricot beans, 15 percent for peas and 11 percent for sorghum) lower than the Ministry of Agriculture estimates.

In Table 4 high and low estimates of marketed production, along with a "reasonable estimate," are presented. The high and low estimates provide what seem to be the possible outer limits. They were calculated by applying the highest and lowest percentages marketed in a single Prefecture (from Table 3) to the 1973 national production levels. The reasonable estimate is simply the adjusted average percentage of marketed production for each crop multiplied by the national production.

Table 5 narrows the focus of the analysis to the proposed market intervention. Based on data available from other countries, it was estimated that the marketing organization would need to handle about 15 percent of the quantities entering the market. For illustrative purposes, 10 percent and 20 percent "intervention rates" were also included. These percentages were applied to the high, low and reasonable estimates of marketed production from Table 4. The resultant matrix indicates that the marketing organization would need to handle an amount ranging from 1,431 metric tons to 14,098 metric tons. The reasonable production estimate combined with the 15 percent intervention rate gives a level of about 6,400 metric tons.

In Table 6 the three intervention rates and the high, low and reasonable estimates are retained but the two cropping season pattern of Rwandan production is introduced. The reported production split between the two seasons was 55/45 percent for harvest beans and sorghum and 45/55 percent for peas. Based on 1973 production figures this averaged to a 53/47 percent split of total production. The 53 percent figure was then applied to the quantities in Table 5 under the assumption that marketed amounts correspond to production i.e. there is no greater percentage marketed during the season of highest production. Again a range of possible storage quantities was determined with the "reasonable" figure being 3,982 metric tons.

The final Table compares estimated storage requirements in 1973 and 1977 with the magnitude of the warehouse construction program under the project. At first glance it appears that the amount of storage to be constructed is insufficient. Needs appear to be 3,982 metric tons in 1973 and an estimated 4,126 metric tons in 1977 while construction is only 2,000 metric tons (Eight units with an optimum capacity of 250 metric tons each). However, the units providing the 2,000 metric tons have a substantial built-in margin. If bags were stacked higher than 3 meters and the aisle and open space reduced (less than optimum arrangements) up to approximately 5,000 metric tons could be stored for short periods at any one time.

Also. Table 1 in Annex VII (Warehouse Operations) shows that to handle 250 metric tons per year in an optimum manner each warehouse unit will actually have stocks on hand or storage requirements in any one month of only slightly over 100 metric tons at maximum. Thus if the warehouse can be operated in this manner each facility could handle in excess of 500 metric tons which gives the project system a capacity of about 4,000 metric tons. Combining more crowded storage and warehouse turnover indicates that the facilities could possibly handle in excess of 9,000 metric tons of food crops annually.

For these reasons it is concluded that the warehouse facilities to be constructed are adequate. As additional products are added to the system undoubtedly storage needs will grow, but for the first years, recognizing start up difficulties and less than optimum warehouse management, the quantities should be adequate. Constructing a smaller quantity of storage through smaller structures or fewer units would increase costs, reduce coverage and reduce flexibility to meet currently unforeseen demands.

TABLE 1

RWANDA

PRODUCTION OF SELECTED CROPS

UNIT: METRIC TONS

CROPS	YEARS				
	1969	1970	1971	1972	1973
1. Haricot Beans	146,124	143,604	144,445	131,404	133,059
2. Peas	60,948	64,942	67,464	55,324	56,247
3. Sorghum	125,800	127,668	130,987	131,106	141,585

Source: Ministry of Agriculture

TABLE 2

RWANDA

ESTIMATED PRODUCTION OF SELECTED FOOD CROPS BY PREFECTURE - 1973

(Metric Tons)

PREFECTURE	HARICOTS	PEAS	SORGHUM
1. Butare	14 700	1,605	18,791
2. Byumba	16,418	10,232	17,625
3. Cyangugu	12,160	3,048	9,181
4. Gikongoro	8,897	8,122	8,783
5. Gisenyi	14,656	8,931	8,148
6. Gitarama	15,232	1,998	15,600
7. Kibungo	11,608	3,822	17,963
8. Kibuye	9,820	4,395	8,614
9. Kigali	13,945	3,035	18,392
10. Ruhengeri	15,623	11,059	18,488
Total	133,059	56,247	141,585

SOURCE: Ministry of Agriculture Statistics

TABLE 3

RWANDA

ESTIMATED MARKETED PRODUCTION (1973) BY PREFECTURE

(METRIC TONS)

PREFECTURE	HARICOTS +		PEAS		SORGHUM	
1. Butare	2,500	(17.0%)	50	(3.0%)	1,200	(6.0%)
2. Byumba	2,500	(15.0%)	2,100	(20%)	2,700	(15.0%)
3. Cyangugu	2,543	(21.0%)	137	(4.5%)	714	(7.8%)
4. Gikongoro	1,246	(14.0%)	1,137	(14.0%)	878	(10.0%
5. Gisenyi	2,052	(14.0%)	1,251	(14.0%)	815	(10.0%)
6. Gitarama	914	(6.0%)	500	(25.0%)	3,120	(20.0%)
7. Kibungo	1,625	(14.0%)	535	(14.0%)	1,976	(11.0%)
8. Kibuye	1,375	(14.0%)	616	(14%)	861	(10%)
9. Kigali	2,628	(18.8%)	260	(8.5%)	1,674	(9.0%)
10. Ruhengeri	937	(6.0%)	414	(3.7%)	605	(3.0%)
	18,320		7,000		14,543	
Min Ag Range 1/	6.0-21.0%	(13.7%)	3.7-25.0%	(13.0%)	3.0-20.0%	(11.0%)
Min Plan Range 2/	10.9-20.0%	(12.0%)	7.6-25.3%	(16.2%)	8.0-12.5%	(8.1%)
Adjusted Average 3/		14.0%		15.0%		11.0%

SOURCE: Ministry of Agriculture

1/ Figures in parenthesis are averages

2/ For comparison purposes Ministry of Planning and Natural Resources estimates of percentages marketed are also shown.

3/ The adjusted average takes into account both sets of estimates as well as expert judgement. In no case is the adjusted average lower than the Ministry of Agriculture estimate. Given the available data no greater precision was possible.

TABLE 4

RWANDA

POSSIBLE VARIATION IN MARKETED PRODUCTION (197[illegible])

	HARICOTS		PEAS		SORGHUM		TOTAL
High Estimate 1)	(21.0%)	27,942	(25.3%)	14,230	(20.0%)	28,317	70,489
Low Estimate 2)	(6.0%)	7,984	(3.7%)	2,081	(3.0%)	4,248	14,313
Reasonable Estimate 3)	(14.0%)	18,628	(15.0%)	8,437	(11.0%)	15,574	42,549

1) Application of highest percentage marketed in a single Prefecture (from Table 3) to entire country (marketed percentage from MinAgric or MinPlan)

2) Application of lowest percentage marketed in a single Prefecture (from Table 3) to entire country

3) Based on countrywide average as adjusted to take into account expert judgement (Adjusted average from Table 3).

TABLE 5

RWANDA

AMOUNT OF ESTIMATED MARKETED PRODUCTION TO BE HANDLED

BY PROPOSED MARKETING CHANNEL

Unit: Metric Tons

	10% 1/	15% 2/	20% 3/
Based on Table 4 high estimates of marketed production	7,049	10,573	14,098
Based on Table 4 low estimates of marketed production	1,431	2,147	2,862
Based on Table 4 reasonable estimates of marketed production	4,255	6,382	8,510

1/ Minimum percentage required to have price control effect. Whether this is adequate in Rwanda could not be determined.

2/ According to expert judgement percentage probably needed in Rwanda to control price.

3/ Higher estimates presented for illustrative purposes.

TABLE 6

RWANDA

ESTIMATED MAXIMUM STORAGE REQUIRED 1/

(recognizing two cropping seasons)
(Metric Tons)

		55% 2/	
	10%	15%	20%
Based on Table 5 high estimate	3,736	5,604	7,472
Based on Table 5 low estimate	758	1,138	1,517
Based on Table 5 reasonable estimate	2,255	3,382	4,510

1/ For haricots, peas and sorghum

2/ Average based on reported production split between two cropping seasons of 55/45 for haricot beans and sorghum and 45/55 for peas.

TABLE 7

ESTIMATED STORAGE REQUIREMENTS

UNIT: METRIC TONS

1973	1977
3,382	4,126 1/

AID proposes to finance the construction of eight modular units in six locations with an optimum bag storage capacity of about 2,000 metric tons or approximately 55 percent of the estimated 1973 requirement. If the bags are stacked higher and the aisle and open space reduced, up to 5,000 metric tons could be stored for short periods at any one time.

1/ Assume 5 percent annual growth in marketed production.

ANNEX V

THE RWANDAN DEVELOPMENT BANK

The Rwandan Development Bank (RDB) was established under Rwandan law as a joint stock corporation on August 20, 1967 with an authorized original capital of Rw. Francs 50 million represented by 27,500 "A" shares owned by public shareholders (the State of Rwanda and its organizations and institutions - public or semi-public) and 22,500 "B" shares (owned only by private shares i.e. non-governmental organizations or individuals). According to the law, the responsibilities of the RDB are: Studying development projects; examining investment projects presented within the investment code; and carrying out of its own account, or for the account of third parties, all operations necessary to foster the development of companies of any nature in Rwanda (Article 2).

According to Article 10 the RDB in carrying out the above responsibilities may:

1. participate in the creation and development of Rwandan companies through direct or indirect capital provision, subscriptions of obligations, bond purchases and/or the granting of long-term loans;

2. carry out or have carried out all necessary research and/or studies necessary to determine the profitability of those enterprises proposed for RDB financing;

3. become involved in agricultural, mineral or other development activities;

4. receive deposits of the companies in which the RDB participates and carry out or guarantee for those companies any or all short or medium term credit transactions.

5. handle public or private funds;

6. issue bonds, incur debts or other obligations, accept advances and subsidies from the State, individuals, foreign or international organizations; and

7. perform all other activities necessary to facilitate directly or indirectly its responsibilities outlined in Article 2.

The RDB law provides for a General Assembly and Board of Directors of seven members elected by the General Assembly from public (4) and private (3) shareholders. The President of the Republic designates the President of the Board of Directors. Term of office is three years with re-election possible. Daily management of the RDB is entrusted to the General Manager who is appointed by the Board of Directors and approved by the President of the Republic.

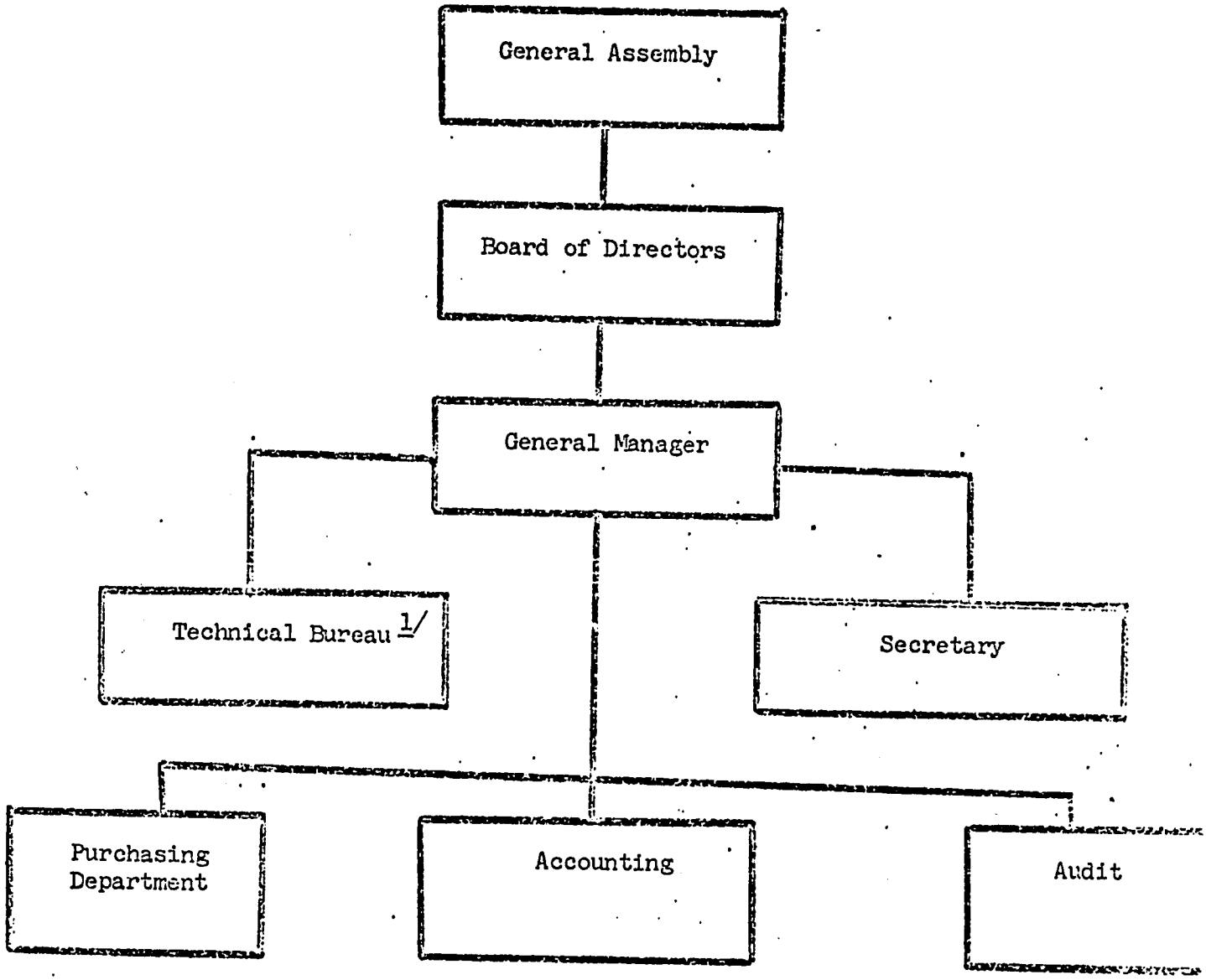
The current organizational structure of the RDB is shown in Figure 1. There are four degree holding staff members including one expatriate advisor (See Attachment No. 3 for CV's Data). Total staff numbers 14 with additional work performed for the RDB by the personnel of the Rwanda National Bank.

Total or partial financing has been provided by the RDB since its inception to: (1) tea factories at Mulande and Pfunda; (2) a sugar refinery at Nyabugogo; (3) a dairy plant at Nyalesinda; (4) Rwandan Hotel and Tourism Company; (5) a sawmill at Cyangugu; (6) the Electrics and Mechanical Manufacturing Company of Rwanda; (7) the Building Company of Rwanda; (8) several small garages; and (9) other small projects.

The RDB has been aggressively and actively seeking responsibility for the Food Storage and Marketing Project but given its small staff and primarily investment experience it is apparent that the RDB, without outside assistance, would have some difficulty in organizing and managing such an effort. The accounting/financial control aspects could perhaps be handled by the RDB with National Bank assistance but providing needed direction and structure would be less likely. It is for this reason that an AID-financed expert, who will be project director, is proposed for three years. Also necessary will be an expansion in Rwandan staff numbers which the RDB has agreed. In addition to on-the-job training, these staff members will continue and receive specialized short-term training in the United States and/or training at the Rwandan Staff Training Center at Ruhengeri or through the courses which TRAFIPRO organizes for its personnel.

It is believed that the above steps plus the provision of short-term consultants by AID will enable a capacity to be built up within the RDB to effectively handle an expanded storage and marketing project.

FIGURE 1. Organizational Structure of the Rwandan Development Bank



1/ The Food Storage and Marketing Project will be in this Department

ATTACHMENT No. 1

RWANDAN DEVELOPMENT BANK

BALANCE SHEETS 1/

U.S.$ 1.00 = RWF 91

CY 1971 1972 - 1973

ASSETS	1971 RWF	1972 RWF	1973 RWF
Current			
Cash on Hand and on Deposit in National Bank	58,161,[illegible]12	75,074,520	35,973,243
Accounts Receivable and Other	1,366,099	6,317,970	6,667,587
Loans and Investments			
Loans	74,555,265	88,582,827	146,332,914
Investments	69,990,000	69,990,000	69,991,000
Investment Bonds	34,000,000	34,000,000	20,000,000
Fixed Assets			
Property and Equipment	790,500	1,625,572	1,607,423
Total RWF.	238,863,576	275,590,889	317,572,187
LIABILITIES AND CAPITAL			
Current			
Accounts Payable	1,034,268	2,323,054	3,826,632
Other	2,438,670	42,472,133	2,553,494
Medium and Long Term			
Loans	178,765,000	161,513,693	130,110,872
Other Liabilities			
Provisions for Bad Debts etc.	-	5,919,428	10,211,776

1/ Source: Annual Reports Provived by the Rwandan Development Bank

	1971	1972	1973
Capital And Equity			
Capital	50,000,000	50,000,000	150,000,000
Reserves	6,625,638	13,362,581	20,869,393
Total RwF	238,863,576	275,590,889	317,572,167

ATTACHMENT No. 2

RWANDAN DEVELOPMENT BANK

STATEMENTS OF PROFIT AND LOSS 1/

CY 1971 - 1973

INCOME:	1971 RFR	1972 RFR	1973 RFR
Interest on Loans	2,365,436	4,376,002	5,791,886
Interest on Overdue Payments	50,044	578,728	1,083,556
Interest on Bank Deposits	1,118,551	1,110,647	1,265,317
Revenue on Investments	1,687,375	8,533,630	5,811,625
Interest on Development Bonds	1,039,056	1,480,000	1,080,000
Miscellaneous Income	1,578,078	227,358	1,049,399
Total RWF.	7,838,540	16,306,365	16,081,783
XPENSES			
Interest	1,150,790	1,104,414	1,088,645
Administrative	885,371	1,857,782	2,775,383
Depreciation	427,550	687,798	594,895
Provision for Bad Debts etc.	-	5,919,428	4,856,556
Total RWF.	2,463,711	9,569,422	9,315,479
PROFIT or (LOSS)	5,374,829	6,736,943	6,766,304

1/ Source: Annual Reports Provided by the Rwandan Development Bank

ATTACHMENT No. 3

BIOGRAPHIC DATA OF MANAGEMENT

NAME: J.D. Munyarukiko

RDB POSITION: General Manager

QUALIFICATIONS: Master of Science in Economics

EXPERIENCE: Ministry of Commerce and Industry - Director of Industry Craftsmen and Director of Insurance.

One year with RDB.

NAME: M. Zenker

RDP POSITION: Advisor to Management in the Technical Bureau

QUALIFICATIONS: Degree in Engineering. Five years of feasibility study preparation.

EXPERIENCE: Six years in the Electronics Industry in Berlin and Paris.

Advisor to the Development Bank of the Ivory Coast (2 years).

Advisor to the RDB (2 years).

NAME: B. Mbonabuca

RDB POSITION: Advisor to Management in the Technical Bureau

QUALIFICATIONS: Degree in Commerce and Finance. Certificate from I.M.F.

EXPERIENCE: Three years with the National Bank of Burundi.

One year with RDB.

NAME: A. Ugirashebuja

RDB POSITION: Assistant Advisor to Management in the Technical Bureau

QUALIFICATIONS: Degree in Economics

EXPERIENCE: One year with RDB.

ANNEX VI

WAREHOUSE SIZE AND LOCATIONS

Each warehouse unit has a storage capacity of roughly 250 metric tons of food grain under ideal storage. This was judged the minimum size which would be viable to operate (See Annex VII for further discussion of warehouse operating costs) under efficient management. At the same time it proved to be of sufficient size for most locations. Need for a larger size was indicated in two locations but to standardize construction it was decided that the addition of another 250 metric ton unit would be more practical than one larger building.

The six locations where warehouses are scheduled to be built under this project were selected on the criteria of transportation links to producing areas and to markets, production amounts and an attempt to provide fairly wide geographic coverage. The locations and areas served are as follows:

1. Kayuma serving Prefectures of Butare, Gitarama and East Gikongoro.

2. Mukamira serving the Prefectures of Gisenyi and Ruhengeri.

3. Ntendezi serving the Prefectures of Cyangugu, South Kibuye and West Gikongoro.

4. Cyumba serving the Prefectures of Byumba and Northeast Ruhengeri.

5. Gahanga serving the Prefectures of Kigali, North Gitarama and East Byumba.

6. Kayonza serving the Prefectures of Kibungo and Southeast Byumba.

The attached map indicates more clearly the expected zone of influence for each warehouse center.

Attachment: Map showing provisional warehouse locations

ANNEX VII

WAREHOUSE OPERATIONS

The six proposed marketing centers (eight units) are expected to purchase in Year Three approximately two thousand metric tons of haricot beans, peas and sorghum. To the extent possible, in order to ensure that producers receive the benefits from an incentive price, purchases will be made directly from farmers rather than "commercants". However, if it is not possible to secure necessary quantities via this method, the "commercants" will be used. Established cooperatives will provide the organizational framework through which supplies will be purchased, assembled, cleaned, graded and stored. Purchasing prices and buying centers - locations - will be announced via public news media.

The supplies purchased by the project will be sold in a systematic - programed manner so as to achieve a reasonable degree of price stabilization. It is expected that sales will be made on a retail and a wholesale basis. Sales may be made to "commercants" when in the judgement of the "Food Crop Marketing Office" such sales are in the best interest of the project. Retail sales will be made through the cooperatives and in the open market.
Proforma operational costs for a single 250 metric ton marketing center are illustrated as follows:

		Rwandan Francs
1.	Manager	227,500
2.	3 Laborers	136,500
3.	Depreciation (50 year life)	116,000
4.	Operational Supplies	100,000
5.	Bookkeeping and Inventory Control Cost	50,000
6.	Sacks @ 75 Fr. ÷ 3 uses = 25 Fr/100 kilos	62,500
7.	5% Weight & Storage Loss	75,000
8.	Maintenance	116,000
	RFr.	883,500 = $9,700

Assuming a throughput of 250 metric tons of haricots, sorghum and peas and an "at center" purchase price of 6 (six) RFr. per kilogram it would require RFr. 3.53 per kilogram to cover expected costs (a)1/. If throughput is reduced from 250 metric tons to 200 metric tons, the cost per kilogram would then increase to RFr. 4.28 (b). If throughput could be increased to the 500 metric ton level cost per kilogram would fall to RFr. 2.14 (c). Assuming that operating costs and weight and storage losses would increase by 25 (twenty-five) percent raises the cost at the 250 metric ton level to RFr. 4.41 per kilogram (d) and at the 200 metric ton level to RFr. 5.53 (e).

1/ Letters refer to following calculations.

As the above shows, because the majority of the costs are largely "fixed", expected costs per kilogram are very sensitive to changes in quantities handled. To prevent a wide margin maintainment between buying and selling it is therefore highly important that the handling centers strive for a maximum throughput. Table 1 of this annex indicates that it appears highly possible for the centers to handle up to 400 metric tons each which would reduce costs to about Frs. 2.43 per kilo (f).

(a) RwF $\frac{883,500}{250,000}$ = 3.53 Frs/K
Kgs

(b) $\frac{875,000}{250,000}$ = 4.23 Frs/K

(c) $\frac{1,071,000}{500,000}$ 2.14 Frs/K

(d) $\frac{1,[illegible],372}{250,000}$ = 4.41 Frs/K

(e) $\frac{1,[illegible],000}{250,000}$ = 5.53 Frs/K

(f) $\frac{[illegible],000}{400,000}$ = 2.43 Frs/K

To provide the necessary financial resources to purchase the grain supplies the participating organizations will need access to a line of credit sufficient to receive and carry the indicated quantities. The following Table indicates the working capital for a [illegible] to receive; carry required to finance monthly purchases and to carry inventories taking into account the two harvest periods. The peak working capital requirement at the 250 metric ton throughput level is calculated to be [illegible]. Requirements for eight warehouse units would be approximately $[illegible],000.

If the attached working plan does not prove feasible additional capital may be required. However, it does not appear, even under very pessimistic assumptions regarding in and out movements, that the requirements would exceed $100,000.

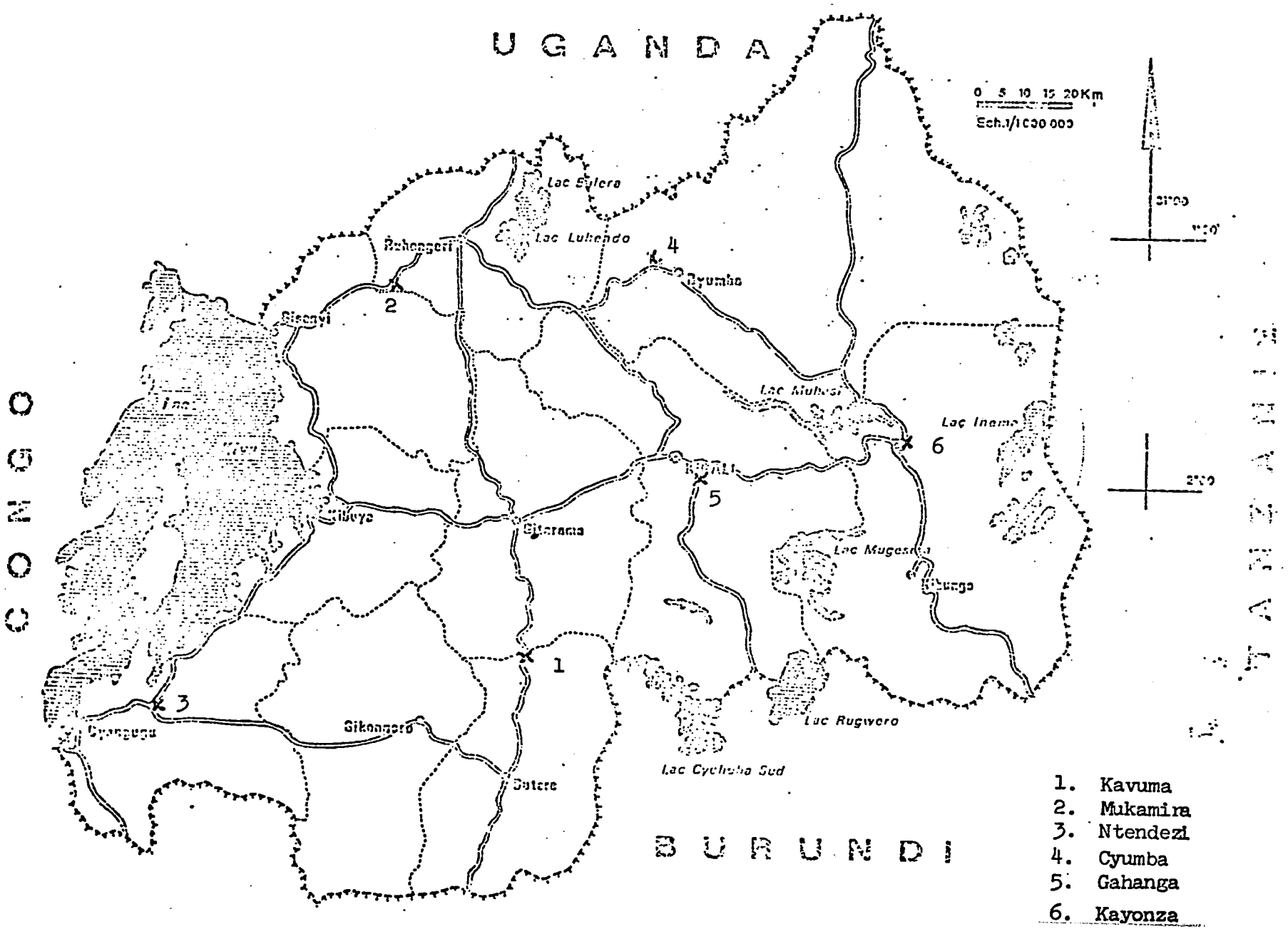
BEST AVAILABLE COPY

		Wholesale		chases		
an.	40	10	30	240,000	180,000	1,978-
eb.	50	10	70	300,000	420,000	4,615-
arch	25	15	80	150,000	480,000	5,275-
pril	15	25	70	90,000	420,000	4,615-
ay	10	35	45	60,000	270,000	2,967-
une	40	10	75	240,000	450,000	4,945-
uly	35	10	100	210,000	600,000	6,593-*
ugust	15	15	100	90,000	600,000	6,593-
ept.	0	25	75	-0-	450,000	4,945-
ct.	5	35	45	30,000	270,000	2,967-
ov.	5	30	20	30,000	120,000	1,318-
ec.	10	30	-0-	60,000	-0-	-0-
	250 M/T					

ssumed 6 (Six) RFr purchase price for all commodities and sales figured at same amount. This will allow for ime lags in realizing accounts receivable, etc.

$6,593 X 8 = $52,744

MAP SHOWING PROVISIONAL WAREHOUSE LOCATIONS



ANNEX VIII

BRIEF SKETCHES OF COOPERATIVE ORGANIZATIONS
TO BE INVOLVED IN WAREHOUSE MANAGEMENT

ASPY

The Association of Pyrethrum Planters(ASPY) is a cooperative organization of some 10,000 members located in the northwestern region of Rwanda with its headquarters in Ruhengeri. The cooperative was begun in 1967 and is assisted by the European Common Market through a contract with the European firm [illegible] who supply management and technical personnel. Currently being provided are four advisors - a project manager who assists the Rwandan head of ASPY, an agronomist, an engineer and an administrative/financial officer. These are

supplemented by two German and one French volunteer in the areas of engineering marketing and storage operation. The current technical assistance contract runs through 1974 with a 3 year extension under consideration by the European Common Market.

As is apparent from the title, the primary concern of the cooperative has been the production and marketing of pyrethrum. However, the cooperative members have recently expressed an interest in having the organization expand its activities to the food storage and marketing area. Consequently the cooperative has tentative plans to build one or two small warehouses to be used in a food crops buying and selling program. ASPY would like to work out an arrangement with TRAFIPRO whereby ASPY would collect the products and TRAFIPRO would handle much of the actual marketing and distribution.

The Design Team believes ASPY is an excellent possibility to manage a food storage warehouse serving the northwestern area of Rwanda. The cooperative is well staffed (if we include the technical assistance group), well managed and appears capable and willing to assume some additional responsibilities outside its concern for pyrethrum production.

O . B . M .

The Office du Bassera et Mayaga (O.B.M.) began assisting Rwanda in 1959 in the areas of agricultural research, land surveys and land settlement. Their involvement in the Cooperative area has been more recent starting in 1969 and getting more fully underway in 1970. Currently the O.B.M. has three areas of concern (a) assisting cooperative development in certain regions; (b) assisting agricultural development in these same regions; and (c) constructing facilities for both the cooperatives and for the people in the regions (schools, water supplies etc.). Funding for O.B.M. operations is provided through the European Common Market. In 1973 six expatriate staff were assigned to the project, including a Project Director, the financial and accounting head, two agronomists and two construction engineers. These were augmented by a number of volunteers. Rwanda staff totaled over 130 including about 30 specifically in cooperative work.

On the cooperative side, the O.B.M. has a Central Services function with the objectives of: (a) financing the different agricultural campaigns of the associated cooperatives; (b) providing accounting and financial controls for the cooperatives; (c) supplying the cooperatives with selected consumer goods for sale in their stores; (d) assisting producers in selling their products, promoting the stabilization of producer prices and protecting producers from exploitation; (e) commercializing coffee; and (f) assisting in the promotion of cooperatives. Currently there are thirteen cooperatives in the O.B.M. program with a turnover in 1973 (purchase and sales) of over U.S. $1.0 million.

In the Design Team's judgement the O.B.M. is a well staffed, well structured organization performing well in moving toward the accomplishment of its objectives. The current and on-going successful experience of O.B.M. in cooperative development and management, which includes the operation of several warehouses used during a portion of the year for the storage of food crops, combined with its sizeable staff and expressed interest makes O.B.M. a highly appropriate organization to assume day-to-day management of one or more food storage warehouse centers.

ANNEX IX

PROCUREMENT PROCEDURES AND REQUIREMENTS

I. Waivers of the Code 000 (U.S) procurement policy applicable to grant assistance are requested to permit (a) procurement of construction materials of Code 941 and Rwandan Source and Code 935 origin and (b) procurement of construction services from Code 935 firms. A waiver to permit the proprietary procurement of two Chevrolet "Carryalls" is also requested.

II. Concurrence is requested in deviations from the provisions of the Capital Projects Guidelines to (a) increase the limitation on individual off-shelf purchases of items of Code 935 origin from $500 to $3,000 and (b) to permit the use of standard Government of Rwanda contracting rules, procedures and forms, including, but not limited to, Rwandan requirements applicable to contract award and bid and performance security.

III. Discussion

(a) General

The waivers and deviations requested above are in the best interest of the United States. Not providing the identified waivers and deviations will unnecessarily delay and complicate project implementation and jeopardize the favorable impact of the U.S. assistance.

(b) Construction Services

The relatively small size of the total construction element in scattered locations makes it unrealistic to expect U.S. construction firms normally eligible under AID rules to participate. There are no U.S. construction firms currently active in Rwanda. Substantial ownership of most firms currently active in Rwanda rests with European firms or of individuals. (Certain of these firms are incorporated in Rwanda and may be determined to be an integral part of the local economy, thus meeting one definition of a "local firm" in Section 4.2(d) of M.O. 1442.2.) The key personnel of such firms, who are substantially all Europeans, will not be permitted to work on the contract under standard procedures if 935 firms are not declared eligible. Additionally, excluding these firms from eligibility to supply construction services would severely reduce the competitiveness of the bidding procedure.

(c) Construction Materials

To avoid large increases in construction costs, which are presently rising at about 2 percent per month, the facilities should be constructed as soon as possible. Nearly all construction materials including P.O.L.,

cement, structural steel, door and window frames, roofing, electrical fittings, plumbing items and interior fixtures can be purchased in Rwanda and nearby 941 countries but, with the possible exception of cement, and P.O.L., substantially all materials are of European and Japanese origin. Timely delivery enabling prompt project implementation and compatibility with existing fixtures are reasons justifying utilization of materials produced in Code 935 countries, but purchased in Code 941 countries and Rwanda.

(d) Proprietary Procurement

Chevrolet has the only U.S. vehicle maintenance facility in Rwanda and the United States Embassy in fact, has standardized on Chevrolet Carryalls. The waiver allowing for purchase of a Chevrolet vehicle should assure proper maintenance and the availability of spare parts.

(e) Off Shelf Procurement

In accordance with the Capital Project Guidelines off shelf procurement of goods and services of Code 935 origin will be in a total amount not exceeding $50,000. However, the cost of some individual items such as grain scales will exceed $500. Two or more of some items will be required. Therefore to allow procurement to be carried out in an efficient manner an increase in the individual transactions limit from $500 to $3,000 appears justified. The items purchased will be of a type and nature normally found in Rwanda and will include, but not be limited to, office equipment, storage facility equipment and miscellaneous supplies, and may include parts for the AID-financed Chevrolet vehicle.

(f) Standard Rwandan Contracting Procedures

An examination of Government of Rwanda contracting procedures leads to the conclusion that, although slightly different from the AID Capital Project Guidelines, they are workable and adequate to ensure the effective and proper utilization of AID funds to achieve project construction objectives. Consequently it does not seem reasonable to insist on compliance with all AID procedures which are unfamiliar to Rwandan officials and local contractors and which could lead to lengthy delays in project implementation.

ANNEX X

POSITION DESCRIPTIONS

Project Director/Manager (USAID-funded)

Under the general direction of the General Manager of the Rwandan Development Bank (RDB) he will head the Office of Food Crop Marketing in the RDB and as such will direct and coordinate all project activities. He will be required to advise the National Council for the Promotion of Food Crop Marketing and implement the policy guidelines which the Council sets forth. The Director/Manager will participate in the formulation of agricultural marketing policy through his work with the above Council and other bodies that have an interest in agricultural marketing policy. He will relate to and cooperate with the existing organizations, mainly cooperatives, that form an integral part of the marketing system in Rwanda.

The Director/Manager will be responsible for developing an appropriate management system for the price stabilization program and an efficient cohesive management team to operate the system. In so doing he will take whatever action is necessary to develop a Rwandan project management capability. The long run success of the project depends on this and therefore this activity will receive top priority.

The Director/Manager must be a senior administrator with extensive successful experience in project management in a developing country. He must have ability in personnel administration and program planning and be able to deal effectively with senior government officials. The Director/Manager should be technically qualified in food storage and marketing and fully fluent in French. It would be highly desirable if he had training in agricultural economics and supply/demand analysis. The Director/Manager must be willing to travel extensively throughout Rwanda.

If available a direct hire AID officer could be considered for this position but for logistic and other reasons a contract individual is recommended.

Warehouse Manager (6) (Rwandan-funded)

The Warehouse Manager(s) will be responsible for directing and co-ordinating all grain purchases and sales made by the marketing center to which he is assigned. He will be responsible for carrying out the marketing policy as established by the project through the cooperative organizations. The Warehouse Manager will be fully responsible for maintaining inventory control and for providing such inventory reports as may be demanded by cooperative management and/or the Project Director. He will personally record all purchases and sales in a manner determined by cooperative management in consultation with the Project Office. The Warehouse Manager and his staff will assist Project Control staff in the conduct of an "on-going" audit program. He will be responsible for

developing his staff into an efficient grain handling team.

As a requisite for this position the Warehouse Manager should have a record of accomplishment in related activities. He should have technical knowledge of food grain storage and he must be familiar with fundamental accountkeeping. His academic background should be such that he would be eligible to attend a Grain Marketing and Storage short course in the U.S.

Auditor/Controller

The auditor/controller will be assigned to the Office of Food Marketing in the Rwandan Development Bank under the direction of the Project Director/Manager and will be responsible for establishing (1) field auditing procedures and (2) in consultation with the Project Director/Manager will be responsible for auditing all aspects of the project. He will submit all auditing reports to the Project Director/Manager, and to the Government of Rwanda authorities. In addition he will conduct and supervise the "on-going" field audits. Physical inventories will be taken in conjunction with all field audits. Working capital to carry inventories and to meet operational expenses will receive special attention. Succinctly, he will monitor all accounts established in the several regions of Rwanda to provide working capital for the marketing centers.

As controller he will provide the Project Director/Manager with such fiscal data and reports as necessary to make sound operating and investment decisions. As controller he is responsible for evaluating investment proposals, preparing working capital projections and functioning as a capital budgeting officer when requested by the Project Director/Manager.

This position requires advance academic training in accounting/finance and management. Related experience may substitute for academic training. The person should be a "doer" more than a "theorizer". Fluent French is required.