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**KENYA AGRICULTURAL ADVISORY STUDY**

**AID/KENYA PROJECT**

**AID - AFR-C-1123**

*Submitted By*

**LOUIS BERGER INTERNATIONAL, INC.**

**100 Halsted Street  
East Orange, New Jersey**

*October 1975*

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## USAID FOOD CROP PRODUCTION LOAN

### Less Progressive Small Farmer Services and Credit Program (Part C)

#### A. Operational Locations Year 1

The Director of Agricultural Services of the M.O.A. has designated seven Districts in three Provinces as the working areas for the Part C Program. They are:

<u>Province</u>	<u>District</u>	<u>Location</u>
Eastern	Machakos	Mwala, Masii
	Embu	Kyeni
Western	Kakamega	Isuku, Idakho
	Busia	Busia, Luanda
Nyanza	Kisumu	Nyakach
	South Nyanza	Homa Bay
	Siaya	Uyoma

The locations in the two Districts in the Eastern Province are in the flat, plain regions of the Districts, elevation average 600 meters with approximately 800-1000 mm. P.A. rainfall. Soils are generally dark red friable clays of medium fertility. The area is almost totally involved in agricultural pursuit with a relatively heavy rural population density estimated at present to be 84 people to sq. km. in Embu and 60 in Machakos.

The locations in Western and Nyanza Provinces are ecologically very similar; both fall entirely within the Lake Victoria Basin. Altitudes range up to 2000 meters from 1200 meters on the lake shore. Soils range from dark red friable clays to light brown sandy loams. They are generally fertile and responsive to fertilizer. Rainfall ranges from almost 2000 mm. annually in Kakamega down to 1350 mm. in Kisumu. Rural population density is very high in all the Districts ranging from 150 people per sq. km. in Busia and South Nyanza, and up to 275 in Kakamega.

Small holders are predominant in all seven districts. Table No. 1 shows the total number of farm families and average size of holdings in the districts. All except Busia are three hectares and under. Busia holdings are at six hectares but the arable portion of the holding seldom exceeds two hectares. Table No. 1 also lists the number of active unions and affiliated cooperative societies identified by type in each of the seven districts. Almost half of the farmers are cooperative members. Cotton and cereal co-ops make up the majority of societies in the Western areas. The coffee societies listed for Embu and Machakos are not active in the lowland locations where Part C will concentrate its efforts. These regions are centers of cotton, cereal and potato production. Cotton is the major cash crop throughout all seven districts although common food crops such as maize, beans,

ground nuts and cassava are grown by all small holders primarily for home consumption. In good crop years, however, there is usually a surplus over home needs which is sold at local markets since maize requirements generally do not exceed 3-5 bags to a family. Cotton is marketed through cotton co-op societies and/or co-op unions, some of whom own and operate ginneries.

The coffee societies listed in Table No. 1, with the exception of two small cooperatives in Kakamega and Kisumu, are all outside of the locations designated for Part C activity. Holdings of coffee producers in Part C areas average just under 0.2 hectares (1/2 acre); all grow food crops for home consumption.

## B. Program Components

### (1) Administrative Organization:

For the purposes of management and coordination in the implementation of Part C, the Ministry of Agriculture (MOA) Land and Farm Management Division (L&FMD) shall have overall responsibility for the total program. Although the Ministry of Cooperative Development (MOCD) will have broad responsibilities in all aspects of the project, assigning prime responsibility to L&FMD of MOA is recommended in order to blend the Part C program with the planned IADP.<sup>1</sup> This extensive small farmer credit and service development project has been assigned to L&FMD and includes in its funding for staff a project supervision and administering unit. The similarity of objectives and goals to service essentially the same farmer groups by the two projects supports the logic of carefully coordinating their implementation and administration to avoid unnecessary duplication in all phases of the respective programs.

It is important, however, to understand that the USAID Part C Program will have an administrative organization independent of the proposed IADP unit since the present project implementation schedule establishes Part C actively in the field in time to support the next (1976) long-rains crop season. It is envisaged that planning now for long-range coordination of both projects will eventually lead to a permanent, efficient and effective administration of a small-holder service and credit program.

### (2) Central Management:

An inter-agency coordinating committee, chaired by the Permanent Secretary of Agriculture, will be made up of the following Ministry and Agency heads:

#### MOCD Division

Director of Agricultural Services

President of KNFA

Commissioner of Cooperatives

Minister of Finance and Planning

Director of Co-op Bank

<sup>1</sup> For complete information of IADP refer to MOA IADP Main Report, May 1975.

<u>District/Province</u>	<u>Total Farm Families</u>	<u>Av. Size Holding Hectares</u>	<u>Co.op Members</u>	<u>Co.op Unions</u>	<u>Total No. Societies</u>	<u>Cereal Grains</u>	<u>Coffee</u>	<u>Cotton</u>	<u>Sugar Cane</u>	<u>Dairy</u>	<u>Poultry</u>	<u>Supply</u>	<u>Mixed Crop</u>
Cisumu ( Nyanza )	22,800	2.0	7,800	2	41	4	10	1	21	1	-	2	2
S. Nyanza ( Nyanza )	16,200	2.5	8,600	4	36	3	17	3	2	5	-	1	5
Miaya ( Nyanza )	17,900	2.5	5,600	2	11	2	3	3	-	2	-	1	-
Kakamega ( Western )	19,070 2/	2.0	14,800	3	46	23	10	1	5	2	1	1	3
Busia ( Western )	25,900	6.0	7,800	3	30	-	11	15	-	1	-	2	1
Mxhu ( Eastern )	19,750	3.0	4,000	1	15	-	10	1	-	2	1	-	1
Machakos ( Eastern )	16,356	3.0	11,000	2	26	2	13	-	-	5	-	-	6
<b>Total</b>	<b>136,976</b>		<b>59,600</b>	<b>17</b>	<b>205</b>	<b>34</b>	<b>74</b>	<b>24</b>	<b>28</b>	<b>18</b>	<b>2</b>	<b>7</b>	<b>18</b>

2/ Covers Central Division of Kakamega District only.

The committee will be responsible for:

- Establishing general program policies.
- Coordinating program activities of the two Ministries.
- Conducting periodic reviews of program progress in order to form the basis for any required policy decisions.
- Reviewing the results of the annual evaluation and taking appropriate action, when necessary.

The Committee will convene at the call of the Project Management Unit described below.

The executive arm of the committee will be a Project Management Unit composed of a Program Operations Advisor (POA) and two program management officers (PMO). The Program Operations Advisor (POA) will be designated by USAID with the approval of the Coordinating Committee acting for the Ministries of Agriculture and Co-op Development. A Program Management Officer will be appointed from each of the participating Ministries and they shall be senior officers with status equal to Division Heads. The MOA appointee should have general agricultural knowledge and management capability. His responsibility will be to work with the POA in supervising and coordinating Extension activity, agricultural training and crop production development related to the project. He will be responsible, along with the Program Operations Advisor, to the Director of Agricultural Services.

The MOCD appointee should have a thorough understanding of the cooperative movement along with advanced accounting and management skills; he will work with the POA in supervising and directing the development of cooperative services of supply and marketing. He will also be responsible for assisting in the establishment and continuing supervision of co-op credit systems for the project. He will be responsible to the Commissioner of MOCD. An appropriate office staff will be required for the Management Unit along with funds for transportation (rental and/or purchase).

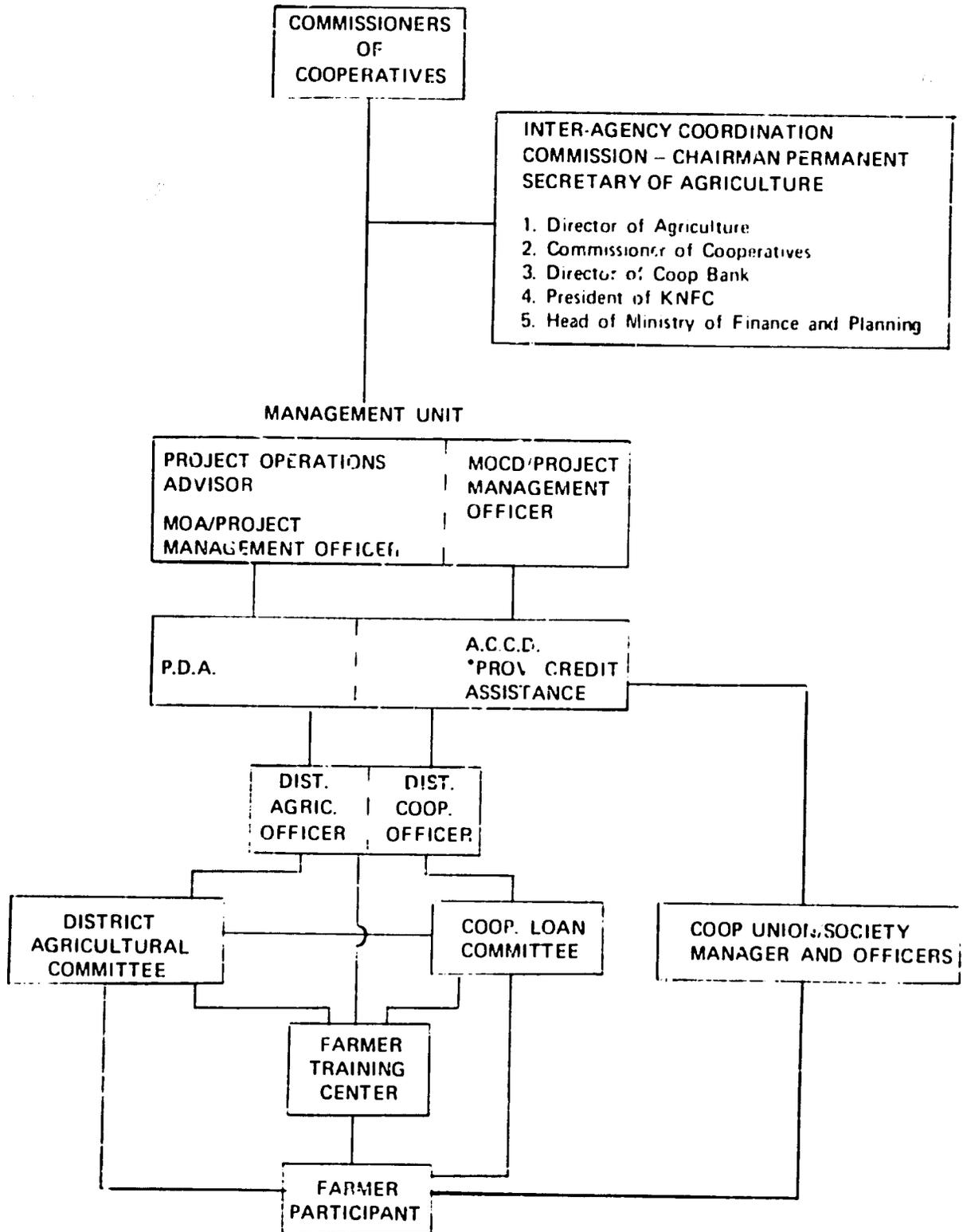
### (3) Provincial Level:

At the Provincial level, direct program participation by the Provincial Agricultural Officer (PAO) and the Provincial Cooperative Officer (PCO) will be at their discretion since activity directly connected with the program will be concentrated at the District and Division level. The Provincial officers, however, will assist the District Agricultural Committees with program problems that involve areas beyond District jurisdiction. Because of the extensive cooperative responsibilities in the total program, with many unions and societies participating, a Field Credit Officer, under the Direction of the ACCD, will be assigned to Western and Nyanza Provinces.

### (4) District Level:

At the District level, the existing District Agricultural Committee will act as a local advisory body to the Co-op Unions and/or Societies directly involved in the program. The Co-op

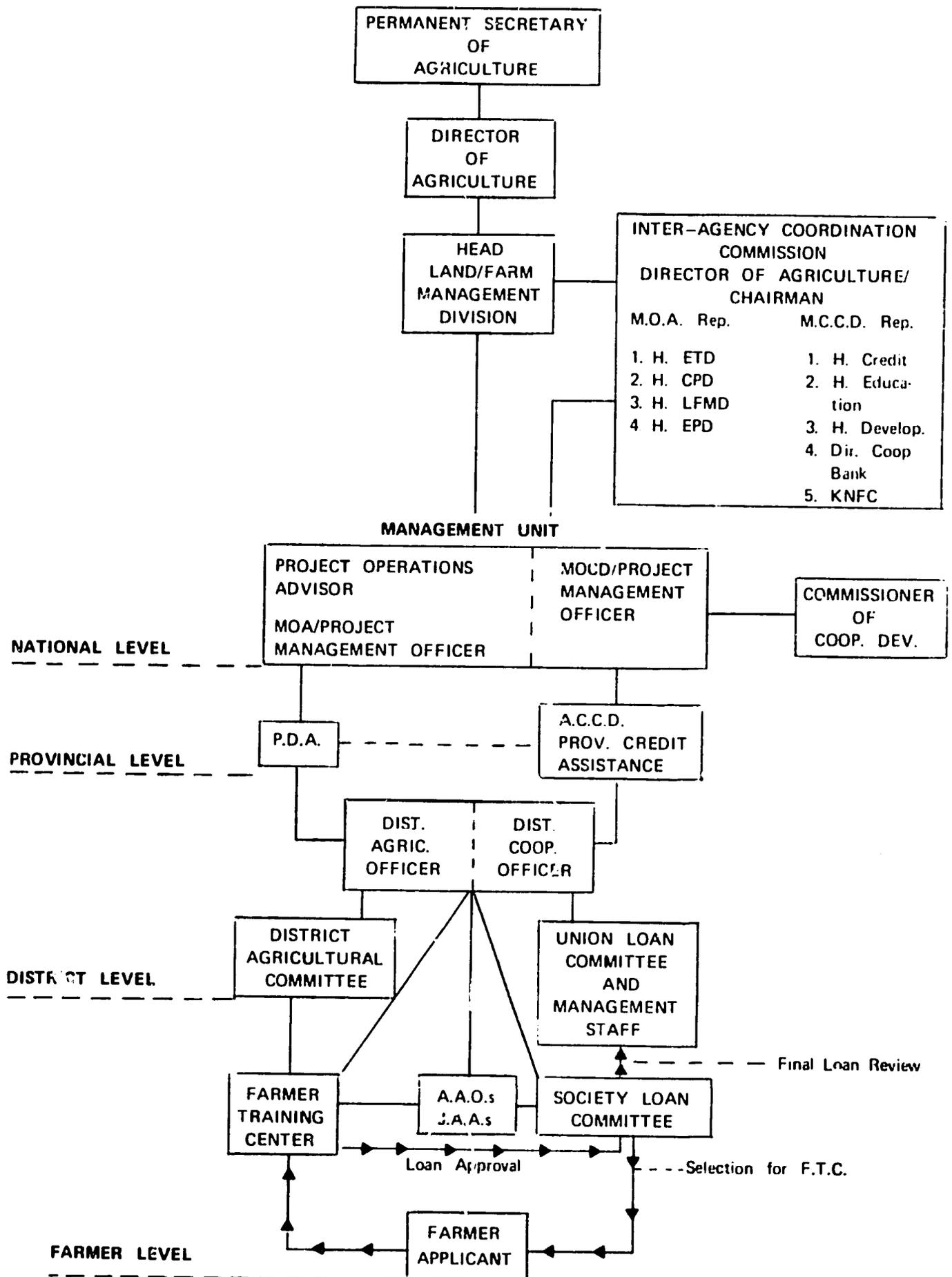
**U.S.A.I.D. PART C SERVICE AND CREDIT PROGRAM**  
**ADMINISTRATIVE ORGANIZATION**



\*Assigned Only to Western and Myanza Provinces

U.S.A.I.D. PART C SMALLHOLDER SERVICE AND CREDIT

ADMINISTRATIVE ORGANIZATION



loan committees of the Unions/Societies will have the major responsibility for selecting applicants for the Farmer Training courses. The loan committees, however, will depend upon the District Agricultural staff and the District Agricultural Committee for guidance in farmer selection.

The District Agricultural Committee will have the responsibility of directing continuing coordination of MOCD and MOA personnel in support of all phases of the program.

MOA existing staff need not be increased to support the Part C program. Present staff, however, will require training and instruction to carry out their program responsibilities. This is particularly true for the Farmer Training Center staff.

Additional MOCD staff will be required to assist District Co-op Officers (DCO) in support of the participating Unions and Societies. The MOCD has assigned assistant co-op officers and credit specialists to the Districts designated for Part C activity. Union Managers, credit secretaries and assistants will be required for all involved Unions. These will be Co-op Union personnel, therefore, not bound by present government employee hiring limitations.

### Supplies

A program designed to introduce the use of cash inputs to farmers with little previous experience in their utilization must have the required supplies on hand in time to take best advantage of the optimum planting period. The Part C program is concerned with a group of this description and complicating their supply problem is the dispersion and, in many areas, the remoteness of the smallholders. There is also the problem of packaging inputs in small enough quantities to fit the recommended packages of practice.

The solution of these potential constraints along with providing physical storage capacity and building staff capability in the Co-op Unions to handle a full line of production inputs are among the primary objectives of the program.

Kenya's farm supply and distribution system historically has operated quite effectively with the bulk of a required line of fertilizer, seeds and chemicals available when needed. The system operated by the private sector, however, has catered to the well established commercial producers usually in quantities requiring little repackaging. The Kenya Seed Company has been the major seed supplier, while the Kenya Farmer's Association (KFA) has a country-wide network of agricultural supply stores. KFA also has over 2000 appointed stockists who handle KFA products. KFA also supplies smaller cooperatives in the same manner as they supply stockists.

Within the past year, the Department of Cooperatives established a merchandising branch called the Kenya National Federation of Cooperatives (KNFC) whose ultimate goal is to provide a full line of farm supplies to all member Union and Societies handling inputs. The KNFC, however, has only recently begun to expand its operations and, therefore, may not be depended upon to provide the input needs of all of Part C in its beginning

phases. The KNFC management, however, in recent discussions have given their assurance that they will be capable of supplying all the fertilizer and chemicals projected for the Part C program. KNFC also plans to arrange to handle all common food crop seeds in order to complete the supply package. The management is ready to furnish fertilizer bagged in smaller quantities--25 kg bags if given enough lead time to prepare. KNFC will require two months' notice prior to delivery date in order to guarantee timely delivery. Two and one-half months will be required if rebagging in 25 kg packages is requested.

Despite these assurances, planning for input supplies should include KFA stores and stockists along with the Kenya Seed Company in order to guarantee the needed supplies for all program participants.

Table No. 2 summarizes the projected amount of fertilizer, seed and chemicals by District which the Part C production credit program will require in its first full year of operation. The list of materials has been reviewed with KNFC management to establish where, when and the quantity of supplies they will have to furnish. The balance, if any, will be handled through KFA branches and stockists. Table No. 3 identifies KFA branch/depots and number of appointed stockists in the Provinces and Districts to be serviced by Part C.

Packaging fertilizer in units of less than 50 kgs., the present, common-sized bags will be necessary for many small holders. KNFC, as cited below, plans to reduce bag capacity for several types of fertilizers so as to service the small producer. Table No. 6 shows the quantities of fertilizer, seed and chemicals required for each of the recommended packages; it also shows required quantities by individual crop. It should be noted that single crop requirement for TSP on 0.3 and 0.4 hectare plots are in the 25-to-30 kg range. Combining several food crops in a package of 0.7 to 1.0 hectare total land, increases TSP use to 60-75 kgs. It appears, therefore, that 25 kg fertilizer packs will be the most useful sized unit. Seed packaging will not be a problem since quantities by the kilo are now available; neither will chemicals present difficulties since present packaging is in single liters and up.

Storage facilities for production inputs will be required at several unions. Observation in the field revealed that the cotton unions which have now converted to multi-purpose unions to participate in Part C generally have ample storage space available at their respective ginneries for supplies and, in some instances, for the expected purchase of food crops. Table No. 5 lists the Unions and their storage requirements. Besides availability of existing space in cotton unions, proximity to KFA branch/depots and stockists have been considered in calculating the need for additional space. Storage space for inputs will also serve as storage for food crops.

Funds are also being made available (Table No. 7) to provide cooperative unions with transport either rental or purchase. Lorries will deliver farm supplies to member societies for sales in smaller package quantities to farmers. The unions will have use of the same transport for farm and society pickup of food crop purchases.

### Marketing

The decision to develop the Part C service and credit program within the established cooperative system was based on several consistent premises. First, the cooperative system

TABLE NO.2

SUMMARY OF AMOUNT AND COST OF PURCHASED INPUTS BY DISTRICT

<u>No. of Loans</u>	<u>District</u>	<u>FERTILIZER</u>		<u>SEED</u>		<u>CHEMICALS</u>		<u>Total Cost</u>	
		<u>Tons</u>	<u>000 KSH</u>	<u>Tons</u>	<u>000 KSH</u>	<u>Kgs</u>	<u>000 KSH</u>	<u>000 KSH</u>	<u>KSH</u>
1200	Siaya	156.0	424.0	35.0	79.0	6285.0	149.0	652.0	
1300	South Nyanza	167.0	455.0	38.0	88.0	7000.0	162.0	705.0	
500	Kisumu	78.0	211.0	18.0	41.0	3200.0	75.0	327.0	
1300	Busia	169.0	462.0	37.0	83.0	6800.0	160.0	705.0	
1200	Kakamega	156.0	422.0	35.0	77.0	6400.0	150.0	650.0	
900	Embu	123.0	340.0	35.0	64.0	4850.0	132.0	536.0	
1000	Machakos	141.0	371.0	190.0	145.0	5825.0	160.0	676.0	
7500	TOTALS	990.0	2635.0	388.0	577.0	40360.0	988.0	4250.0	

TABLE #3

KFA APPOINTED STOCKISTS AND DEPOTS

<u>Province</u>	<u>District</u>	<u>No. of Branch/Depot</u>	<u>No. of Stockists</u>
Western	Kakamega	1	200
	Busia	- - -	30
Nvanza	Kisumu	1	31
	Siaya	- - -	51
	S. Nvanza	- - -	38
Eastern	Embu	1	46
	Machakos	1	93

TABLE #4

EXISTING MAIZE AND PRODUCE STORAGE DEPOSITS

<u>PROVINCE</u>	<u>LOCATION</u>	<u>CAPACITY BASIS</u> <u>(30 KGS)</u>
Western	Bungoma	309,000
Nyanza	Yala	24,000
	Kisumu	257,000
	Homa Bay	64,000
Eastern	Machakos	40,000

DENSITY OF MAIZE AND PRODUCE BOARD ACTIVE AGENTS

<u>DISTRICT</u>	<u>AGENTS</u>	<u>MARKETS</u>	<u>NO. OF HOUSEHOLDS</u> <u>PER AGENT</u>	<u>DISTRICT</u> <u>AREA</u> <u>SQ. KMS.</u>	<u>AREA PER</u> <u>MARKET</u> <u>SQ. KMS.</u>
S. Nyanza	33	133	2750	5714	173
Busia	21	65	2700	1620	125
Kakamega	26	173	5300	3500	135

TABLE NO. 5

CAPACITY AND COST OF STORAGE REQUIREMENTS OF UNIONS IN PART C YEAR 1

<u>DISTRICT</u>	<u>UNION</u>	<u>STORAGE REQUIRED TONS</u>	<u>COST PER TON</u>	<u>TOTAL COST</u>
Busia	Luanda Nambare	200	@KSH 200	40,000/00
Kakamega	Coffee	200	€200/ton	40,000/00
	Dairy	---	---	---
	Shambere	---	---	---
Kisumu	Kisumu Dist	---	---	---
S. Nyanza	S. Nyanza	200	€200	40,000/00
	Rathuonyo	---	---	---
	Victoria	---	---	---
Siaya	Coffee	200	€200	40,000/00
	Cotton	---	---	---
Machakos	Mach.	100	€200	20,000/00
Embu	Emb.	---	---	---
TOTALS		900	2,500	180,000/00

\* Calculated on Basis of Coop Membership and Existing Storage Space.

TABLE NO. 6

QUANTITIES OF INPUTS BY SINGLE CROP

CROP	UNIT HECTARE	FERTILIZER KGS		SEED KGS	CHEMICALS LITERS
		TSP	CAN		
Maize	0.4	30	60	10	Diptrex-2.4 MCPA-1.0
Ground Nuts	0.3	25		15	Thiodan-1.0 Dithane-1.0
Cotton	0.3	---	---		Robor-0.2 Karmex-1.0 DDT/Sevin-0.3
Sunflower	0.4			6	
Mex 142	0.3	30		15	Dithane-0.5
Common Beans	0.4	40		20	Dithane-1.0
Potatoes	0.2		D.A.P. 50	300	Dithane-1.0 MCPA-0.5

SUMMARY BY PACKAGE

PACKAGE	UNIT HECTARE	FERTILIZER KGS		TOTAL SEED KGS	TOTAL CHEMICALS LITERS
		TSP	CAN		
Maize/Ground nuts/ Cotton	1.0	55	60	25	7.0
Maize/Mex 142/ Cotton	0.7	60	60	25	5.5
Maize/Sunflower/ Cotton	0.7	60	60	16	5.0
Maize/Beans/ Cotton	0.7	70	60	30	6.0
Maize/Potatoes/ Cotton	0.9	30	D.A.P. 50	310	6.5

TABLE #7

OPERATING BUDGET FOR ESTABLISHING SERVICES OF SUPPLY AND CREDIT FOR UNIONS AND SOCIETIES, INCLUDES ADDITIONAL STAFF REQUIRED FOR U.S.A.I.D. PART C PROGRAM YEAR I

DISTRICT	UNION	NO. OF SOCIETIES	NO. OF COOP MEMBERS	UNION MANAGERS	CREDIT SECS.	ASSIST. SECS.	DRIVERS AND STORE-KEEPERS	**MISC. EXPENSES: WATCHMEN HOUSE ALLOW INSURANCE DEPRECIATION AND ETC.	LOAN COMMITTEE EXPENSE TRAVEL & MEETINGS SHS. 3.00 PER LOAN	VEHICLE RENTAL AND OPERATION ALL ACTIVITIES	TOTAL ALL SERVICE	
				000 KSHS @ 2.0/PM 24/PA	000 KSHS @ 1.0/PM 12/PA	000 KSHS @ 0.6/PM 7.2/PA						
Busia	Luanda	6	8000		1-12.0	2-14.4	1-D -6.0					
	Nambare	6	9000	1-24.0	1-12.0	2-14.4	1-SK-1.8	13.0	1300	3.9	50.0	152.0
Kakamega	Kak. Coffee	6	7500	1-24.0	1-12.0	2-14.4	1-D -6.0	9.0	900	2.7	33.0	153.0
	Kak. Dairy	1	345				1-SK-1.8					
	Shamerec	1	2350	1-24.0	1-12.0	2-14.4						
Kisumu	Kib. Dist.	3	7000	1-24.0	1-12.0	2-14.4	1-D -6.0	6.0	600	1.8	25.0	91.0
	Kis. Dist.	1	225				1-SK-1.8					
S. Nyanza	S. Nyanza	(listed)										
	Rathuonyo Victoria- cotton	43 (3000) 8600 active		1-24.0	1-12.0	4-28.8	1-D -6.0	13.0	1300	3.9	50.0	166.0
Siaya	Coffee	2	600				1-SK-1.8					
	Cotton	4	12000	1-24.0	1-12.0	5-36.0	1-D -6.0	12.0	1200	3.6	45.0	140.0
Machakos	Mach.	1	15000		1-12.0	3-21.6	1-D -6.0	10.0	1000	3.0	40.0	94.0
Embu	Dabu	1	8000		1-12.0	2-14.4	1-SK-1.8	9.0	900	2.7	32.0	70.0
TOTALS	14	75	76000	6-144.0	10-120.0	26-187.0	6-D -47.0 6-SK	72.0	7500	21.6	275.0	866.0

YEAR I YEAR II YEAR III TOTAL - 3 YEARS  
866/00 580/00 286/00

■ Drivers @ Shs. 6000 per Annum  
 ■ Storekeepers @ 1800 Per Annum ( 6 months )  
 ■ Miscellaneous Expenses Calculated @ KSH 10/00 per loan

## THE COOPERATIVE SERVICE AND CREDIT SYSTEM

### A. Introduction/Background

Rural small-holders represent about 90% of Kenya's total population and rural cooperatives have the potential to provide these small producers the services of supply, marketing and credit they require to improve their economic position. The cooperative movement's success with small holder producers of pyrethum, coffee, milk and sugar cane over the past years is an indication of the ability of the system to attain these goals. Cooperatives now market 90% of pyrethum, 75% of the cotton, 50% of the coffee and 30% of the milk<sup>1</sup> produced in Kenya.

It is recognized however that these successful cooperatives have several advantages which contribute to their progress. They specialize in a cash crop which requires processing and except for milk cannot be consumed on the farm or sold without processing. In effect these cooperatives have monopoly control over their members' sales. In addition most of the above crops are physically located close to major communication centers and have had extensive GOK and foreign assistance in the field of cooperative development. Along with marketing and input services the progressive cooperatives are now offering credit services and a rural savings system to their membership through the Cooperative Production Credit System<sup>2</sup> (CPCS).

Although cooperative unions and member societies exist throughout the seven districts assigned to Part C, very few can be classified among the successful unions described above and none have developed to the point of offering credit under CPCS.

### B. Cooperative Services

There are weaknesses in these cooperatives, which have reduced their effectiveness in supporting the development of either cash or food crop production by their members. Although they market cotton, coffee and dairy products individual producers of these commodities in Western and Nyanza Provinces receive only limited benefits since their holdings of cash crops seldom exceed one acre of cotton or one-half acre of coffee. In addition, the producers are predominantly cultivators of food crops, maize, beans, groundnuts, etc. for home consumption and limited sales. Members do not market food crops through their cooperatives since the cooperatives are not authorized by the Maize and Produce Board to be purchasing agents. Another weakness is the failure of cooperatives in most instances, to provide input supply services. This last constraint also applies even for the relatively well-organized cotton cooperatives. The absence of an accessible supply of inputs limits the use of improved seed and fertilizer for food crop production.

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1 Evaluation of the Nordic Cooperative Assistance Program, A Kuhn/Jan 1975

2 See Annex A for a discussion of CPCS.

is active, though not always with success in the Districts assigned to Part C. Secondly, the co-op societies in these areas have a large membership among small holders thus providing the only existing structure upon which to build an improved system of supply, marketing and credit for the less progressive farmer group. Thirdly, the cooperative unions and their affiliated societies have the support of an active Government of Kenya Ministry and the potential to offer a full line of service to their members.

The seven Districts involved have 14 active Unions (Ref. Table No. 1) 75 societies and approximately 76,000 active members. The history of the buildup of this extensive organization stemmed from the presence of cotton and coffee as the only non-food cash crops suitable for production in the Districts. There are only two small coffee unions in Kakamega and Siaya both servicing marginal coffee producers with less than 1/2 acre average holdings. All the other unions, with the exception of two dairy unions, are cotton cooperatives.

Cotton has been one of the less attractive cash crops produced in Kenya, probably the greatest production constraint has been the low return for labor since yields traditionally have been low, 250-300 kg/ha, while labor requirements are higher than most other common crops. Yields can be increased to 1000-1200 kg/ha with the introduction of improved practices. The acquisition of ginneries by co-op unions, at least three in the Part C area will improve the farmer's net return on sales. Together, these factors should encourage cotton production and will contribute to strengthening the established cotton co-op unions that are now diversifying in order to handle inputs and credit for all crops under the Part C program. The small coffee unions in the program offer much the same established framework to build multi-purpose unions and societies. These cash crops will be important in the development of production credit programs for food crops since the unions practice monopoly buying of the two crops, thus the possibility of their being security for the food production loans. It should be noted that all cotton and coffee producers traditionally have been food crop producers although primarily for home consumption.

One of the major objectives of the Part C service and credit program is to build an equitable marketing system for food crops through the cooperative organization. Present activity of most of the Unions in the program area has been limited to marketing (coffee and cotton). The plan is to extend this activity to the food crops in the recommended packages by instituting the following:

1. Provide technically capable management and marketing staff to all the unions in order to handle the purchase of food crops (Ref. Table No. 7).
2. Provide storage capacity, where needed, (Table No. 5) to handle food crops.

The projections for storage are for dual use, inputs prior to planting and food storage after harvest. The Maize and Produce Board has large capacity storage (Table No. 4) adjacent to all the Part C production areas; consequently, co-op storage space will be used to accumulate local food production with the intention of resale to the MPB as tonnage builds.

The Maize and Produce Board will designate Co-op Unions and/or Societies as legal food crop purchasing agents. The procedure to obtain this status is as follows. The interested cooperative submits its request to the Commissioner of Co-op Development, who submits the request with his approval to the MPB. The Board is obligated by statute to comply with the request.

Cooperative food buyers will be able to receive advances from the Co-op Bank in order to have cash on hand available for food crop purchase. Farmers will be encouraged to sell through their own cooperative because of several advantages over the traditional local markets. A recent maize marketing survey of small holder sales in Western Kenya revealed the following. The majority of 40 producers contacted sold their maize directly after harvest at the time when the market was heavily supplied at an average of KSH 45/00/90 kg/bag. Two months after harvest, local prices had risen to KSH 80/85/90 kg/bag. Unfortunately, few of the small holders had maize available for sale on this rising market. If the cooperative can qualify as a legal buyer, it can offer at least the announced MPB price which, in the above situation, would be about 65/00 per 90 KG bag providing a guaranteed minimum to its members who can still exercise the option of holding maize for higher prices later in the season.

It is reasonable to assume that both the Part C and the IADP programs to upgrade the production of the small holder will have an impact on the food markets in the programmed areas. Maize and ground nuts and Mexican 142 will be in heavier supply at harvest time and traditional small quantity buyers may not be able to handle large amounts. It will be important for farmers to have well-run, financially sound cooperatives to provide marketing service and maintain a stable market.

Despite these problems, the organizational structure of the cooperatives in the program area is firmly established and it is the only agency which reaches out to the more remotely situated and neglected smallholder. It is possible, with a carefully conceived, properly supported program, to build the existing cooperative network into a fully integrated supply, marketing and credit system capable of supporting the typical subsistence oriented producer so that he can improve his economic status and contribute to the food supply of the country.

The cooperative system will have a major role in the full implementation of the Part C Smallholder Services and Credit Program. The plans to develop a supply and marketing system are described in detail in the supply and marketing sections. Integrated with these services will be the credit to be offered to smallholder food producers.

The Ministry of Cooperative Development agrees that the CPCS system at present does not offer the less-progressive smallholder an opportunity to employ seasonal credit for food crop production. They support an integrated cooperative development plan and recognize that the credit segment of such a plan must allow more access by the so-called higher-risk farmer borrower than the CPCS system now permits. The MOCD through the Federation of unions and societies is cooperating fully in the development of the program.

Recognizing that most cooperative unions and societies in the Part C districts presently offer only limited services and consequently are financially weak and usually understaffed, a program of building up their present structure has been prepared. The MOCD has assigned a senior credit officer to assist in a survey of all Unions/Societies in the program. The questionnaire (Annex A) pinpointing the most critical information required is being circulated among the co-ops and the MOCD District Staff. Details on farm supply stocking and handling, marketing, purchase and storage; credit administration and supervision; and training participation in F.T.C.'s are covered in the questionnaire.

The survey has not been completed; enough information has been gathered however to provide the estimates in Table No. 7.

Funding will be provided to support assignment of six new co-op managers to unions presently lacking professional managers; ten credit secretaries and 26 assistant credit secretaries. This staffing is in anticipation of cooperatives furnishing services of supply, marketing and credit. In addition drivers, storekeepers and watchmen will be required to complete the staffing. Included in the estimates is provision for housing allowance, insurance, depreciation, loan committee administering expenses and vehicle rental and operation. Funding for storage construction is covered in the section describing supplies (Table No. 5).

Financial support to the unions and societies is planned to phase out over a 4 year period with full funding in Year 1, 2/3 of costs in Year 2, 1/3 of costs in Year 3 with full responsibility assumed by the cooperatives for regular operational costs in Year 4. Present governmental employment ceilings will not affect this input of personnel since they will be Cooperative employees. Managers and credit secretaries will be trained at the Cooperative College in Nairobi.

### C. Cooperative Credit

The credit system for smallholder group must be carefully structured, so as not to create a casual attitude towards loan repayment which in the long run could undermine the successful efforts of the creators of CPCS to develop a business-like attitude towards credit use. The credit plan proposed for Part C, therefore, will substitute certain qualifications for prospective borrowers, replacing the more constraining requirements for CPCS but not totally eliminating a selection process.

Careful review of the Special Rural Development Projects (SRDP's) particularly the Tetu and Vihiga schemes, has provided important guidance in developing this credit plan. Because of the experimental nature of both schemes, there has been thorough documentation of the results through several complete evaluations.<sup>1</sup> The target farmer groups for the schemes were similar to the smallholder subsistence farmer with which Part C is concerned. Food crop production was also stressed in SRDP. An effort has been made to utilize the more successful methods employed in both schemes in formulating this credit plan.

An integral part of the Part C credit portion of the production scheme will be the requirement for all loan applicants to complete a farmer training course. It is through this device that the traditional smallholder, who heretofore has had little extension support and has been either an inactive cooperator or a nonmember, can be educated in both the use of cash production inputs and the value of cooperative production credit.

Regular farmer training courses are the MOA Extension Service's most common method of educating interested farmers in improved agricultural practices. Farmer Training Centers with complete physical facilities for boarding 60 to 100 participants exist in each of the districts assigned to Part C. Unfortunately, budgetary limitations have restricted normal training activity to about 30 percent of capacity. Funding assistance described in the section on training will be provided from Part C funds.

The farmer training course will be conducted jointly by the regular training staff and members of the MOCD's Educational Division. The latter will cover cooperative education and conduct the credit part of the seminar which proved to be one of the most effective communication devices developed in the Vihiga project.

The selection process of applicants for the training courses has been designed to encourage participation by farmers who usually have been the last to receive direct extension and cooperative support. At Tetu, farmers were visited in the field by Junior Agricultural Assistants and subchiefs, informed about the course and invited to attend. This method can be used in regions of high concentration of smallholders but it will be supplemented by a cooperative publicity campaign advising members and nonmembers of the availability of credit and the F.T.C. requirement. Cooperative loan committees assisted by the extension staff, and district agricultural committees will review eligibility of applicants. The prime requirement is for the applicant to be truly a smallholder. A single definition

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<sup>1</sup> Extension and the Forgotten Farmer/I.D.S. Bulletin 37/1973 - Ascroft, Roling, Kariuki and Chege.

based on size of holding will not be practical since district by district a typical smallholding varies in size depending upon general soil fertility and/or density of population. A basis which can be loosely applied and will provide the necessary yardstick is an estimate of potential net per capita farm income including home consumption of between KSH 350/ and KSH 1000/00.<sup>1</sup>

This definition of a target group should not be employed in such a manner that it excludes farm families which do not have this potential, but rather to clearly define that group of farmers which should receive the greatest emphasis and attention by the program. Credit for food crop production will be seasonal; that is, repayment will be due at the close of the crop year. All credit except labor costs, will be furnished in kind through cooperative suppliers, serviced by KNFC, K.F.A. and stockists, whichever best serves the particular location. Credit applicants will not be required to be cooperative members. During the F.T.C., however, he will be encouraged to join since societies seldom charge more than a KSH 5/00 membership fee and some are as low as KSH 1/00. Applicants will decide whether they wish to accept a loan at the conclusion of the course since the course will be structured as much for farmer technical education as for credit understanding. Thus, the course will also be a means of reaching farmers with extension information heretofore not available to them.

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1 For more complete discussion of this target group, See Annex and Part II.B.4 of the Loan Paper. (USAID Food Production Loan.)

## MOA EXTENSION, TRAINING AND FARM MANAGEMENT SUPPORT

The Part C administrative organization is described in Section 2, Administration Organization. It shows the overall responsibility for the program established in the Agricultural Services Division of the M.O.A. Complete technical support for the program however will come from the Crops Division (CD) and the Extension and Training Division (ETD) and the Land and Farm Management Division (LFMD).

LFMD and CD are cooperating in the formulation of the crop packages (Table No. 11). Provincial and District crops and farm management staff working with extension staff will assist in the technical training at F.T.C.'s and with field follow-up as called upon.

The Extension and Training Division will be responsible for providing the relevant farmer training courses, assisting the Cooperative Loan Committees and the District Agricultural Committee in the selection of the farmer trainees and finally providing the field follow-up assistance to the farmers using cash inputs for food crop production.

A complete survey of all F.T.C.s concerned with training for the Part C program is being carried out, the attached questionnaire is being used as a guide to gather information necessary for the implementation of the F.T.C. courses. Part C funds will be available for the additional costs resulting from the program's training and follow-up requirements. Table No. 8 gives a complete breakdown of their additional costs which total approximately KSH 52/40 per trainee. Items included in the cost estimates are: petrol, maintenance and repair of vehicles used in recruitment, farmer/trainee transport and field follow-up; F.T.C. accommodations, board, etc. for trainees and staff required for the co-op education and credit seminars to be introduced in the training course; miscellaneous items including office supplies, printed materials, teaching aids, etc; and a 10% contingency. The total estimated cost KSH 430,000/00.

The survey of the F.T.C. includes Annex B questionnaire information on adequacy of present staff, history of training experience, total number of farmers trained annually, transportation facilities, and a tentative schedule of F.T.C. responsibilities related to the Part C program.

The survey includes discussions with each District Agricultural Officer and his staff to review their respective roles in the program and to obtain cost estimates of additional expenses generated by program activity. These include:

1. Follow-up activity, with the farmers who have completed their F.T.C. and have taken loans for cash inputs. Assuming about 800-1000 borrowers in each District, the D.A.O. shall prepare estimates of the cost of providing follow-up attention to farmers over several critical periods from land preparation to harvest. The cost estimates should be for field activity presently not budgeted, which will be generated by the food crop production loans.

2. Responsibilities for the D.A.O. and his staff resulting from the smallholder credit program will be:
  - a. Participation by the D.A.O. and JAAs in the selection of farmers for the F.T.C. courses as members of, and advisors to the District Development Committees.
  - b. The District Crops officer will assist in preparing the the most relevent crop combinations to be introduced to the farmer-borrower at the F.T.C. courses along with recommendations for seed, fertilizer and pest controls.
  - c. The D.A.O. and his staff of field personnel will assist the evaluation team in obtaining base data from participating farmers and then providing subsequent information on field performance. The Evaluation Team will assist in the staff training to prepare F.T.C. staff, Extension and Co-op personnel for the evaluation and monitoring of the program.



## RECOMMENDED CROPS

### A. Maize

Maize is the most popular of the several traditional home grown food crops produced by the smallholder. It provides the major portion of the farm family's daily total diet. It is estimated that present rural per capita consumption of maize is about 120 KGS P.A. MOA estimates 1.2 million hectares of maize planted annually, over 90% is grown by smallholders often cultivated with beans and pulses. All but a small percentage of the Maize and Produce Board (MPB) purchases are from large scale commercial maize producers. Smallholder production over the needs of the farm family seldom is marketed through MPB. The usual marketing patterns are described in the marketing section, of this report.

Maize yields among smallholders where no fertilizer and hybrid seed is only occasionally used is estimated to range from 1300 to 1600 kg/ha (14.5 - 18 bags). Extensive research and widespread use of trial plots in Western Kenya with hybrid seed and relatively low fertilizer application combined with good weed control yielded as high as 8000 kg/ha with 4500 kg/ha (50 bags) as a general average.

The maize yield projected in Table No. 1 with cash inputs and improved practices is a modest 3600 kg/ha (40 bags). The figure represents an average for all districts. The relatively low yield is projected to provide a realistic basis for calculating return on cash inputs considering the risks a smallholder faces such as drought and insect damage often creating conditions beyond his control.

### B. Common Edible Beans

Several varieties of common beans are grown primarily for home consumption throughout the program area. Canadian Wonder and Rose Coco are the most common, pure line varieties grown and offer the best potential for higher yields with good husbandry practices, fertilization and pest control.

Mexican 142 bean production has been increasing in recent years throughout East Africa resulting in a steady build up of supply and a corresponding weakness in market price. Unfortunately Mex 142 is not well accepted for on the farm consumption and almost all production moves to the market. Ministry of Agriculture staff and Maize and Produce Board officials believe that the increased Mex 142 plantings have displaced a high percentage of local edible bean acreage and has had a noticeable effect on the availability of this high protein family food. The pure line bean varieties mentioned above can when properly cultivated return as much profit as Mex 142, consequently local beans are included in the several recommended crop combinations below.

Beans are regularly interplanted with maize and this practice can have a limiting effect on the yields of both crops. There are advantages however to the smallholder in double cropping which offset the yield reduction. Land preparation is an arduous time consuming job for the hand cultivator and fairly expensive if hired tractors are used, besides the latter are not always available in time for planting. Interplanting maize and beans on the same plot reduces the amount of land to be prepared. Well prepared land, timely planting with the use of fertilizer and improved seed along with regular weeding and the necessary pest control can produce near maximum yields for both interplanted crops. The recommended crop packages reflect this possibility.

### C. Irish Potatoes

Commercial potato production is common in the higher altitudes of the Eastern and Central Provinces. Nairobi has historically been the major market for production in excess of home consumption. Potatoes are a labor intensive crop which requires a relatively high investment in certified seed, fertilizer and pesticide to produce a profitable return. Where good cultivation practices together with the recommended cash inputs are employed net return over cash inputs can be high (reference Table No. 1). Crop packages for Machakos include one half acre plantings of potatoes along with maize and cotton.

### D. Cotton

Although not a food crop, except for oil extracted from cotton seed, cotton is an important source of cash income to smallholders in all Districts planned for the Part C program. Present average production of 250-300 kg/ha is well below existing potential (reference Table No. 1). Improved cultivation practices - careful land preparation, timely planting, weeding and cultivation with the required spraying program for complete insect control can increase yields up to 1000-1100 kg/ha. Research in the Lake Victoria region of Kenya and Tanzania<sup>1</sup> has shown varied and often limited fertilizer response. Recommendations in Table No. 1, therefore do not call for fertilizer application to improve yields.

### E. Groundnuts

Groundnuts, traditionally a widely grown East African food usually produced for home consumption, has become a good source of cash income when grown with improved practices. F.A.O. fertilizer trials conducted in Western Kenya have yielded as high as 1,500 kg/ha with average yields of 1,000 kg/ha over all 120 trial plots. A groundnut processing plant has been established in Kisumu for preparing peanuts for confectionary use and peanut butter production with inferior grade nuts. The plant can process 12,000

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<sup>1</sup> Ikinguru Research Station, Mwanza, Tanzania.

tons per annum, more than twice present estimated production in the surrounding area. A nearby market and an attractive price make this food an important potential source of cash income for the smallholder. Labor is the major constraint to rapid expansion of growing area since hand shelling is slow and time consuming. It is estimated that it requires one man day to shell 14 kg of peanuts. Low priced hand operated shellers are available and can increase shelling rates to 90 kg/daily. Plans are being made to introduce the shellers as larger areas come into production.

#### F. Mexican 142 Beans

Mexican 142 is primarily a canning bean that requires longer cooking periods and more fuel when consumed by the grower's family. This fact plus some objections to the taste of the bean has reduced its acceptability as a subsistence crop. This condition however has enhanced its value as a security cash crop. Mex 142 is a high yielding rust resistant early maturing variety, factors which have contributed to a rapid widespread increase in production, resulting in the present oversupply. This market problem, however, like similar fluctuations in other staples may be temporary and production of Mex 142 should not be totally discouraged over a long period. The crop packages recommended below include limited Mex 142 plantings for the next growing season. If market conditions improve subsequent plantings can be increased.

Mex 142 will yield as high as 1500 kg/ha with good husbandry practices and fertilization. Table No. 1 crop budget for Mex 142 projects 1350 kg/ha yield with an improved program, an average level believed attainable in the Part C program areas.

#### G. Sunflower

The demand for edible oils in Kenya has been steadily increasing due to population growth, increased buying power, and the movement of large population groups into urban areas. Most of this demand is being met with imports consequently the GOK is encouraging increased domestic production to preserve foreign exchange. The cost of imported edible oil has doubled from 44 million KSH in 1969 to 88 million KSH in 1973.

Sunflower is one of the four major oil crops produced in Kenya and can be grown profitably in the Western and Eastern Provinces in which Part C is active. It requires growing conditions similar to maize but can withstand extended dry periods with only limited damage to its productivity.

Yields as high as 2000 kg of seed per hectare are attainable in East Africa. The crop budget with cash inputs Table No. 1 shows 1200 kg/ha yields. It is common practice to interplant sunflower with maize, some yield is sacrificed under these conditions but with slightly lower than average plant population for both maize and sunflower, the advantages of less land preparation and weeding area can justify the reduction in yields.

Sunflower is recommended in one of the crop packages and although the total acreage projected for cash inputs is relatively small, the number of loans and suggested packages are offered as guides to planting and borrowers have the option of using the package they feel is best suited for them.

TABLE #2SUMMARY - GROSS MARGIN OF RECOMMENDED CROPS PER HECTARE

	<u>Unit Sales Price</u>	<u>Gross Production</u>	<u>Value</u>	<u>Total Input Costs</u>	<u>Gross Margin</u>	<u>Return from Recommended Planting</u>
	K.SH/KG	KGS	K.SHS	K.SHS	K.SHS	
MAIZE	0.72	3600	2592/00	1250/00	1342/00	0.4 ha 537/00
MEXICAN 142	1.67	1350	2255/00	850/00	1405/00	0.3 ha 422/00
GROUND NUTS	2.75	1200	3300/00	867/00	2433/00	0.3 ha 730/00
SUNFLOWER	1.50	1200	1800/00	435/00	1365/00	0.4 ha 546/00
COTTON	90% AR-2.50 10% BR-1.50	1000	2400/00	787/00	1613/00	0.3 ha 481/00
POTATOES (IRISH)	0.40	25000	10000/00	5850/00	4150/00	0.2 ha 330/00
LOCAL BEANS	1.90	1100	2090/00	670/00	1420/00	0.4 ha 568/00

TABLE #10

## PRODUCTION BUDGETS FOR RECOMMENDED CROPS WITH AND WITHOUT INPUTS

	MAIZE		MEX.142		GROUND NUTS		SUNFLOWER		COTTON		POTATOES		LOCAL BEANS		
	W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.	
Production Unit - Hectare	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.4	0.4	
Av. Yield Per Hect. - KGS	3600	1620	1350	675	1200	600	1200	500	800	300	2500	7000	1100	300	
Unit Yield - KGS	1440	648	405	203	360	180	480	200	240	90	5000	1400	440	120	
Av. Return - KSH/KG	0.72	0.72	1.67	1.67	2.75	2.75	1.50	1.50	AR - 2.50	0.40	0.40	1.90	1.90		
Gross Return - KSH	1037	467	676	339	990	495	720	300	BR - 1.50	576	216	2000	560	836	228
<u>Production Costs</u>															
Fertilizer - KSH	270	---	108	---	90	---	128	---	---	---	120	---	136	---	€100TSP/3.4 5/KG
Seed - KSH	25	13	54	54	24	24	12	12	4	4	220	160	40	40	
Land Preparation - KSH	100	100	*20	20	74	74	*20	20	110	110	30	30	*20	20	
Other Costs	68	68	48	---	56	37	---	---	150	40	172	40	42	---	
Credit @ 10% - KSH	46	---	25	---	24	---	16	---	20	---	55	---	20	---	
TOTAL COSTS - KSH	500	186	255	74	262	135	174	22	234	154	647	280	268	60	
NET RETURN - KSH	537	281	421	265	728	360	546	278	292	62	1353	280	568	168	
INCREMENT - KSH	256		156		368		268		230		1073		400		
INCREMENTAL PROD - KSH	792		675		600		700		500		3600		320		
CREDIT FOR INPUTS - KSH	460		250		240		160		200		550		200		

\* Interplanted with Maize; land preparation accounted for

## CROP PACKAGES

The six food crops and cotton listed in the previous section have been blended into five recommended crop packages to provide the most appropriate combination of crops for each particular location (Ref. Table No. 11). Ecological conditions, markets and established production patterns were considered in formulating the several packages. In addition, cotton as a primary security crop was included in all packages. Classifying cotton as a source of cash for loan repayment does not necessarily limit the availability of cash income to this component of the package. Groundnuts, sunflower, potatoes, beans and maize production with cash inputs and improved husbandry practices can yield cash returns for sales over home consumption. In particular groundnuts, sunflower and Mex 142 are food crops not usually consumed on the farm to the extent that maize, potatoes and common beans are. They therefore offer additional sources of credit security. The following is a summary of the recommended packages in Table 11 showing the total gross return, the incremental cash costs, and the incremental return. Also tabulated is the amount for cash inputs plus land preparation costs required for each package and the benefit cost ratio of each package.

Crop	Total Area Cultivated Hectare	KSH-Gross Total Return	KSHS-Incre. Cash Costs	KSHS Incre. Return	Benefit Cost Ratio	KSHS-Average Loan(Includes Labor)
Maize G.N. Cotton	1.0	1700	570	1000	3:1	762
Mex 142/ Maize Cotton	0.7	1394	625	786	2.2:1	755
Maize/ S.F. Cotton	0.7	1519	596	900	2.5:1	674
Maize/ Beans Cotton	0.7	1541	652	1030	2.4:1	768
Maize/ Potatoes Cotton	0.9	2326	811	1703	2.9:1	1147

All five packages show better than a 2:1 benefit cost ratio with the maize/groundnut/cotton and the maize/potato/cotton at 3:1. Both packages however require about 0.2 hectares (1/2 acre) more cultivated land than the other three. None of the packages exceed one hectare of cultivated land although the sunflower and bean combinations reflect the interplanting practice for those crops. Interplanting is also widely practiced with maize and groundnuts but is not recommended if maximum groundnut yields are desired. Groundnut prices are attractive enough to justify intensive single crop cultivation.



TABLE 11 CONT'D

	PROD UNIT HA	TOTAL YIELD KGS		GROSS VALUE K. SHS		TOTAL COSTS K. SHS		GROSS RETURN K. SHS		INCREMENT COSTS RETURN K.SHS		* AVER. LOAN K.SHS	PRODUCTION INCREMENT W. PROGRAM KGS
		W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.		
Maize	0.4	1440	648	1037	467	500	186	537	281	314	256		792
Local Beans	0.4	440	120	836	228	263	60	563	168	203	400		320
Cotton	0.2	300	90	720	216	284	154	436	62	130	374		210
Total in Crops	1.1			2593	911	1052	400	1541	511	652	1030	763/	
Total Cultivated	0.7												
		W.	W.O.	W.	W.O.	W.	W.O.	W.	W.O.				
Maize	0.4	1440	648	1037	467	500	186	537	281	314	256		792
Irish Potatoes	0.2	5000	1400	2000	560	647	230	1353	230	367	1073		3600
Cotton	0.3	300	90	720	216	284	154	436	62	130	374		210
Total in Crops	0.9			3757	1243	1431	620	2326	623	311	1703	1147/	
Total Cultivated	0.9												

\* Cash requirements for food crops only - cotton not included

Information in Table No.12 projects the use of the recommended packages by farmer borrowers by District. The number of loans are based upon the average membership of the Unions designated by MOCD as the credit sources in each District. As presently projected there will be approximately 7500 loans averaging KSH 778/00 for a total of KSH 5.8 million in credit. Table No. 12 shows KSH 12.4 million gross return with an incremental return of KSH 7.5 million resulting from the use of cash inputs.

Table No. 13 summarizes the increase in production by product anticipated from the use of cash inputs and improved crop practices. Largest increases will be in maize -- 6000 tons and groundnuts -- 2600 tons, with about a 1500 ton increase in cotton.



## **ADDITIONAL DONOR ASSISTANCE**

### **A. American Peace Corps Volunteers**

Ten American Volunteers will be assigned to cooperative unions participating in the Part C program. The location of assignments will be identified by MOCD staff.

Implementation of the Part C program will require the general upgrading of the so called "weaker" cooperative societies and unions' ability to provide services of supply and credit by assigning trained personnel to presently poorly staffed cooperatives. The Ministry of Cooperative Development plans to provide staff trained at the Cooperative College. Because of the rapid expansion of the country-wide cooperative system, training skilled co-op assistants cannot keep pace with demand for their services. The Part C program will increase this requirement for skilled co-op staff. Particularly important to the success of the services required for small farmer support will be the need for the co-op unions and their affiliated societies to conduct the operations of their co-op in a businesslike fashion. This will require staff with skills in bookkeeping, accounting methods and business administration. It is proposed that Peace Corps Volunteers skilled in these fields be recruited and assigned to selected cooperative unions in the seven districts within which the Part C program will operate.

Present estimates indicate a need for ten such volunteers. Their duties will include but not be limited to the following:

- 1) Assisting co-op union and society management staff in the establishment of the standardized bookkeeping and accounting system developed by the Ministry of Cooperatives Development.
- 2) Assist co-op management in instituting basic good business practices in handling the purchase and sale of supplies; purchase and sale of farm produce and the record keeping required for the planned credit system.
- 3) The volunteer's role in the above activities will include continuous effort to train Kenyan cooperative staff in the skills required to effectively assume full responsibility for all relevant tasks ultimately resulting in the elimination of the need for Peace Corps Volunteer assistance.

### **B. Training**

Only PCV candidates with the skill background described above will be acceptable. Skill training therefore will consist of a retraining course at the Kenyan Cooperative College in the standardized bookkeeping and accounting system employed by all cooperatives. In addition, the course will provide familiarization with the Kenyan cooperative system and specifically with the Part C service development program.

Regular Peace Corps training requirement will be the responsibility of the Kenyan P.C. Staff.

**C. Volunteers Support**

Part C program has budgeted funds for Volunteer field support which will provide for motor-bikes, necessary office equipment business machines, etc. and funds for operation and maintenance of the same. (Table No. 14).

**D. Timing**

May 1975 - Agreement by Peace Corps/Kenya to support program request. Peace Corps and AID review proposed assistance plan with MOCD to obtain concurrence.

June 1975 - AID/Washington gives final approval of program.

June 1975 - MOCD submits official request for P.C. assistance.

July 1975 - Peace Corps Washington begins recruiting qualified volunteers.

October 1975 - Projected arrival time for Peace Corps contingent. Details of the time required for Peace Corps Co-op and other training to be worked out, in order to firmly establish date of Volunteers arrival at work sites.

**E. Danish International Development Agency (DANIDA) Cooperative Assistance Plan**

The Danish International Development Agency (DANIDA) has received a request for cooperative assistance from the GOK which is presently under consideration. This is a request for assistance in financing a \$1.3 million cooperative farm input supply scheme. Of this amount \$440,000 is planned for five expatriate technical experts in farm supply utilization and distribution to be assigned to five of the so-called weaker cooperative unions, three of which are in the areas designated for the Part C program.

The remaining \$860,000 is to provide soft credit terms to a number of selected "weaker" cooperative unions for procuring and stocking farm inputs for resale to smallholder cooperative members. Thirteen cooperative unions have been chosen to receive this assistance, seven are within the two western provinces in which the Part C program is also involved. Approval and implementation of this proposal will add important support to the development of multiservice cooperatives in areas of smallholder agriculture.

**F. The Integrated Agricultural Development Program (IADP)**

The IADP is presently being prepared by the Ministry of Agriculture staff. It contemplates funding support from the IBRD on the order of \$12 million. An integrated approach

TABLE 14

PART C OPERATING AND CAPITAL BUDGETS

<u>ITEM</u>	<u>YEAR I</u>		<u>YEAR II</u>		<u>YEAR III</u>	
	<u>000</u>	<u>000</u>	<u>000</u>	<u>000</u>	<u>000</u>	<u>000</u>
	<u>KSH</u>	<u>US</u>	<u>KSH</u>	<u>US</u>	<u>KSH</u>	<u>US</u>
<u>OPERATING</u>						
1. Management Unit Salaries (a)	437	61.2	437	61.2	440	62.0
Transportation	61	8.5	65	9.1	70	10.0
Clerical & Supplies	35	4.9	40	5.6	45	6.3
2. Coop Prov. Field Officers (2) (a)	80	11.2	80	11.2	80	11.2
3. Evaluation Team	125	17.5	125	17.5	125	17.5
4. P.C. Volunteers--Equipment & Supplies	350	49.0	143	20.0	72	10.0
5. Farmer Training, Includes Staff Training (b)	430	60.2	560	78.0	685	96.0
6. Cooperative Union/Soc Staff & Operating (c)	366	121.3	530	81.2	236	40.0
<u>CAPITAL</u>						
7. Storage Const. (d)	180	25.2	100	14.0	100	14.0
<hr/>						
SUB-TOTAL	2561	359.0	2130	298.0	1903	266.0
15% Contingency	385	52.0	320	45.0	285	40.0
<hr/>						
TOTAL	2949	411.0	2450	343.0	2188	306.0

- (a) Ref Table No. 7
- (b) Ref Table No. 8
- (c) Ref Table No. 7
- (d) Ref Table No. 5

TABLE 15

SALARIES AND OPERATING EXPENSE  
MANAGEMENT UNIT AND FIELD STAFF

000 KSHS

<u>ITEM</u>	<u>UNIT COST P.A.</u>	<u>YEAR I</u>		<u>YEAR II</u>		<u>YEAR III</u>	
		<u>NO.</u>	<u>COST</u>	<u>NO.</u>	<u>COST</u>	<u>NO.</u>	<u>COST</u>
<u>MANAGE UNIT</u>							
Operations Advisor	357	1	357	1	357	1	357
Senior Admin. Offic.	40.0	2	80	2	437	2	440
Car Rental	10.0	3	30	3	32	3	35
Veh. Operation			31		33		35
Clerical/Salary	16.0	2	32	2	35	2	38
Office Supplies			3		5		7
Coop Field Officers	18.0	2	36.0	2	36.0	2	36.0
Housing	6.0	2	12.0	2	12.0	2	12.0
Veh. Rental	10.0	2	20.0	2	20.0	2	20.0
Veh. Operation	6.0	2	12.0	2	12.0	2	12.0

to agricultural development addressing problems of input supply, marketing, infrastructure, extension support and credit is being used in order to improve production throughout the major high potential agricultural areas.

Although the goals for IADP are similar to the Part C program, the plans differ in scope and the range of smallholders they are designed to service. IADP will operate in Central, Eastern, Western and Nyanza Provinces, and though it is primarily concerned with the small farmers, a fairly large proportion of the credit is planned to be channeled through established farm credit programs -- AFC and CPCS. These organizations do deal with small farmers, most of whom can be considered good credit risks because of their cash crop resource. The program, however, also makes specific mention of the smallholder group not presently able to obtain credit and poorly supported with input supply and marketing assistance.

IADP will have a significant impact upon the agricultural credit system. Present estimates indicate credit assistance will reach 56,700 farm families over a 4-5 year period. In addition, there will be funding to support the improvement of farm input supply systems, marketing systems, and rural communication -- roads, telephones and field staff mobility.

The general similarity of IADP and the Part C smallholder program has been recognized in planning for Part C and there has been continuing contact and close coordination between planners for both projects. Program activity areas assigned to Part C by the Ministry of Agriculture are adjacent to some of the IADP targets. There will not be any duplication of effort and overlapping authority since IADP's credit plan will not address the low income smallholder until the third year of its operation. It is assumed that at that time the Part C credit program will be fully operative and IADP funds will flow through this same system. IADP plans for developing agricultural support services will complement similar Part C plans, hence the possibility of accelerating the rate of development of this important adjunct to the Part C smallholder credit program.

#### G. Nordic Project for Cooperative Assistance

The Nordic countries Denmark, Finland, Norway and Sweden have jointly extended technical assistance for cooperative development to Kenya since 1967. Iceland has been a recent addition to the group. This is a large program having averaged fifty expatriate specialists assigned to Kenya over the full period of the program.

The Nordic group have been assisting the co-op movement specifically in the following:

##### 1) Cooperative Education

Includes staff training to improve business performance and operation of savings and credit systems. Leadership training now being carried out at the Cooperative College.

2) Accountancy in Cooperatives

Introduction of standardized accountancy systems and the improvement of bookkeeping methods.

3) Cooperative Rural Credit and Savings

This scheme is aimed at mobilizing rural savings to provide the basis for cooperative production credit.

4) Kenya National Federation of Cooperatives (KNFC)

Assisting in the development and growth of a nationwide cooperative farmer supply system.

The Nordic cooperative assistance program has made an important contribution to the successful development of the rural cooperative movement in Kenya. The program was recently evaluated and plans for a gradual phase-out over a three year period are presently being discussed.

The Peace Corps Volunteer assistance planned for Part C will be coordinated with the Nordic assistance group. Volunteer duties at Co-op Union level will be similar to the work of the Nordic advisors who, despite their relatively numerous staff, are stretched rather thinly over the entire cooperative movement. Additional technical assistance therefore, will be effectively utilized as the Part C services and credit program builds.

## MONITORING AND EVALUATION

The program will be closely monitored by the GOK and AID through the Interagency Coordinating Committee, assisted by the Management Unit. The major relevant documentation will be the GOK quarterly reimbursement requests and the quarterly reports of the Management Unit (whose reports will incorporate reporting from the cooperative union managers). The details of the monitoring system will be set forth in the Part C plan submitted pursuant to the relevant Condition Precedent of the Loan Agreement, and will be refined further by the evaluation team.

The Condition Precedent submission noted above will also include a detailed evaluation by an evaluation team. Since all farmer participants under the Part C program will go through farmer training courses, these courses should provide a low-cost vehicle for gathering most of the data needed for evaluation of the program. Under this approach, an evaluation team would participate in the first farmer training courses as well as in a staff training course programmed for extension and cooperative trainers. This will provide the means to educate field personnel in evaluation methods and the record keeping designed to monitor the project. The team will remain through several succeeding farmer training courses in order to cover all seven centers to instruct and assist the trainers in the establishment of the required data base. Approximately two man-months will be necessary to set up the program with one man-month required at the close of the crop year to evaluate the results based on the organized record keeping of the extension and cooperatives' staff. At an appropriate point following planting, there will also be a review of the effectiveness of the input system. This will be necessary if adjustments to the system are required prior to the short rain season which can be the next input demand period.

Although this production scheme is planned to offer a service previously not available to the smallholder, it should not be classified as experimental nor should it be considered a pilot project. The SRDP projects were experiments in smallholder credit for food production and as such provided much of the structure planned here. This does not mean, however, that the system has been perfected, and therefore, the evaluation will include an analysis of the effectiveness of the SRDP ideas employed in this scheme.

Consideration should be given to the possibility of using the resources of the Institute for Development Studies (IDS) of the University of Nairobi for the evaluation of the Part C program. IDS has been involved with the evaluation of SRDP over a period of 4-5 years and have developed a series of guidelines for evaluation of small farmer production credit programs which could be relevant to Part C. The added advantage of an in-country resource that can provide continuous contact with the project should not be overlooked.

Part C and the planned small farmer segment of IADP will be the first large scale projects to concentrate on the smallholder with little or no credit and production support services. It can be assumed, therefore, that it will take several years of improvement and adjustment to the original design of the program to reach its best operational form. Since Part C

is as concerned with building an effective cooperative supply and marketing system as it is with introducing production credit for food crops, careful continuing evaluation of all aspects of the program will be required to provide the basis for these adjustments. Evaluation terms of reference therefore will cover the following:

#### Cooperative Input Supply System

- Co-op management capability
- Timeliness of critical inputs and availability to farmers
- Size of packages (fertilizer and seed) and their effect on farmer purchases
- Supply distribution system and its effect on purchases
- KNFC and KFA as sources of supply

#### Cooperative Marketing System

- Assuming that co-op unions will be designated legal buyers by MPB its effect on quantity and variety of food crops marketed through the union/society
- The co-op management capability to handle crop purchasing
- Product farm-to-market problems affecting sales to co-op. (Roads, transport, etc.)
- Adequacy of storage facilities
- Adequacy of MPB back-up support in their role of purchasing and transporting food crops from co-op buyers
- Advantages if any to farmers selling to cooperatives over present traditional sales outlets. (Price, convenience etc.)

#### A. Cooperative Credit System

- 1) Co-op management capability to handle credit distribution and collections
- 2) Evaluation of the Farmer Training Course and Credit Seminar as it affects loan repayment, and farmer participation in cooperative activity
- 3) Evaluation of selection system for farmer trainees and performance of cooperative loan committees in their loan review role

**B. The role of MOA/Extension Service in the Part C Program**

- 1) Evaluation of the technical presentation of the Farmer Training Course as it affects production
- 2) Evaluation of effectiveness of extension followup with farmers using cash inputs
- 3) Overall evaluation of MOA agricultural services divisions role in support of the smallholder service and credit program

## ANNEX - A

### Questionnaire - Information on Cooperatives

#### I. Name of Union

Societies Affiliated with Union and Number of Members

<u>Society</u>	<u>No. of Mem.</u>	<u>Society</u>	<u>No. of Mem.</u>
1.		7.	
2.		8.	
3.		9.	
4.		10.	
5.		11.	
6.		12.	

#### II. Farm Supplies

1) Does Union and/ or Societies handle crop production inputs?

If yes, list major items - type and approximate quantities for past crop season.

- a) Fertilizer - type - quantity
- b) Seed - varieties - quantity
- c) Insecticides and pesticides (list those used for crops only)

2) If Cooperative does not stock supplies, who is the present source for member input requirements - (KFA, stocklists etc.)

3) For co-ops handling supplies - are your facilities for stores adequate? If not, estimate additional store space necessary to service membership.

4) For co-ops not handling supplies - do you have plans to do so? If so, list the buildings and staff you will require to establish a supply service.

5) For co-ops now handling supplies - do you have sufficient credit to stock an adequate supply of all major crop inputs prior to planting season? If not, estimate the amount of credit you will Need.

- 6) For co-ops handling supplies - list other problems associated with farm supply such as - delivery systems, packaging for small quantities, funds for required staffing, etc. and your suggestions for solving these problems. Include funding estimates where applicable.

### III. Marketing

- 1) Does the co-op market members products at present? If yes, list products, quantity and value of past crop season turnover.

Product	Quantity	Value
a.		
b.		
c.		

- 2) If co-op does not market where do members sell produce?
- 3) For co-ops that handle marketing - do you have sufficient storage facilities? If not, estimate the square feet of storage space required to properly handle member production of both food and nonfood crops. Do you need transport and petrol? If so, estimate requirements.
- 4) For co-ops not marketing at present - if the Maize and Produce Board (MPB) were to appoint you a legal agent of the Board what would your needs be for additional staff and storage and handling facilities? Estimate number of staff and square feet of building space to service your membership.
- 5) For co-ops now marketing - do you have sufficient funds on hand to pay cash on delivery to farmers selling directly to you? If not, estimate cash needed through the crop season to maintain this service. Estimates by co-ops planning to establish marketing services are also requested.

**IV. Credit**

1. Does the Union have CPCS available to its member societies? If so list the societies eligible for CPCS and number of members in each.

Society	Members
a.	
b.	
c.	
d.	

2. For Unions and Societies not presently approved for CPCS - provide an estimate of staff needed and additional office space required to establish a smallholder credit administration similar to CPCS.

3. List additional cost estimates to operate a credit system such as - vehicles, petrol, office equipment, business machines, etc.

Item	Cost
a.	
b.	
c.	
d.	
e.	

**V. Training and Credit Administration**

1. In order to assist the farmer training courses projected for the smallholder service and credit program, cooperative staff will be responsible for teaching co-op education and conducting the credit seminars at the FTC's. Estimate the cost to the staff participating in the courses, include travel and per diem, vehicle operation, etc. It is estimated that during the first year there will

be approximately 1000 trainees in 12 - 15 courses of 3 or 4 days duration at each FTC in the target districts.

2. Estimate additional staff and cost to provide the above assistance.

## ANNEX B

### Ministry of Agriculture Inputs and Information Required for Smallholder Food Crop-Production Credit Program

#### I. Farmer's Training Centers

- A. List present permanent staff by title, grade and number in each category. Include all F.T.C. employees.\*
- B. Average number of farmers completing regular F.T.C. courses in 1974.
- C. Number of months F.T.C. operated training courses in 1974 and the number of cycles or courses offered in 1974.
- D. Does D.A.O. and members of his staff participate in the training courses: If answer is yes, explain their role in training.
- E. Does the F.T.C. have the necessary transport to assemble farmer groups for regular courses throughout the training period? If the answer is no, supply an estimate of the transport required and cost of operation.
- F. Assuming the Smallholder Credit Program will require training for 800-1000 farmer applicants over a 2 to 3 month period, prior to the long rains planting season, the following specific information is requested:
  1. Will additional F.T.C. staff be required? If the answer is yes, describe number and type and period of time they will need. Include cost estimates.
  2. Will the F.T.C. and the District agricultural staff maintain the following schedule in order to support the smallholder credit program?
    - a. Aug 1-5--Attend general meeting of all participating F.T.C. principals and D.A.O. for full explanation of Credit Program. This will include a planning session for F.T.C. staff training.
    - b. Sept 15-20--F.T.C. principals and D.A.O.s meet with project advisors and Ministry of Cooperative Development staff to formulate training curriculum and follow-up support plans.
    - c. Oct 1-5--Staff training course for entire F.T.C. and co-op staff is conducted possibly at two locations. One for the Western areas and one for the Eastern areas in the program.

- d. Nov 1--Actual farmer training begins. Schedule of cycles to be prepared by the F.T.C. principals and staff collaborating with co-op teaching staff.

The District extension staff, District cooperative staff and some F.T.C. will be responsible for followup activity, with the farmers who have completed their F.T.C. and have taken loans for cash inputs. Assuming about 800-1000 borrowers in each District, the D.A.O. shall prepare estimates of the cost of providing followup attention to farmers over several critical periods from land preparation to harvest. The cost estimates should be for field activity presently not budgeted, which will be generated by the food crop production loans.

Additional responsibilities for the D.A.O. and his staff resulting from the smallholder credit program will be:

- A. Participation by the D.A.O. and JAAs in the selection of farmers for the F.T.C. courses as members of, and advisors to the District Development Committees.
- B. The District Crops officer will assist in preparing the most relevant crop combination to be introduced to the farmer-borrower at the F.T.C. courses along with recommendations for seed, fertilizer and pest controls.
- C. The D.A.O. and his staff of field personnel will assist the evaluation team in obtaining base data from participating farmers and then providing subsequent information on field performance. The Evaluation Team will assist in the staff training to prepare F.T.C. staff, Extension and Co-op personnel for the evaluation and monitoring of the program.

## QUESTIONNAIRE

1. List present permanent staff by title, grade, number and responsibility. Include all F.T.C. employees.

<u>TITLE</u>	<u>GRADE</u>	<u>NO</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. 1974 Regular Courses.

<u>Type of Course</u>	<u>Participants</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3. Cycles (1974).

<u>No.</u>	<u>Months</u>	<u>Total Participants</u>
_____	_____	_____

4. Does D.A.O. and his staff participate in the training courses?

Yes \_\_\_\_\_

No \_\_\_\_\_

If the answer is Yes, explain their role in training.

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

5. How does the F.T.C. assemble farmer groups for regular courses throughout the training period?

1) By school bus

2) By hired means

6. Assuming the Smallholder Credit Program will require training for 800-1000 farmer applicants over a 2 1/2 to 3 month period prior to the long rains planting season, will the F.T.C. and the District Agricultural Staff maintain the following schedule in order to support the smallholder credit program?

a) Aug 1-5-Attend general meeting of all participating F.T.C. principals and D.A.O.s for full explanation of Credit Program. This will include a planning session for F.T.C. staff training.

b) Sept 15-20-F.T.C. principals and D.A.O.s meet with project advisors and Ministry of Cooperative Development staff to formulate training curriculum and follow up support plans.

c) Oct 1-5--Staff training course for entire F.T.C. and Co-op staff is conducted possibly at two location. One for the Western areas and one for the Eastern areas in the program.

d) Nov 1--Actual farmer training begins. Schedule of cycles to be prepared by the F.T.C. principals and staff collaborating with Co-op teaching staff.

Yes \_\_\_\_\_

No \_\_\_\_\_

If the answer is No, give reasons.

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

7. What is the Centers Capacity?

\_\_\_\_\_

8. What are the major problems in operation of the F.T.C.?

1) \_\_\_\_\_

2) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

9. Give the estimated cost of training 800 farmers.

i) Transportation from and to F.T.C.

Distance.....(furthest point from the Centre)

No. of trips \_\_\_\_\_

Bus capacity \_\_\_\_\_

Cost of diesel..... per litre

Av. Bus consumption..... per litre

ii) Accomodation costs per farmer per day

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iii) Costs to service the bus

shs.....per.....km.

iv) What will be the cost of meals per farmer per day?

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## ANNEX C

### LESS-PROGRESSIVE SMALL FARMER SERVICES PROGRAM-PART C

#### A. Objectives

The objective of Part C is to design and develop the capacity within the cooperative system to organize and implement a program which will provide comprehensive production and marketing services for food crop production to less progressive small-scale farmers.

The system includes the selection, packaging and delivery of inputs required for specific crop combinations. It includes farmer training in use of these packages, cooperative participation and training for proper management of credit by the farmers. The system requires coordination of input delivery with field extension visits to the participating farmers. It includes provision of marketing services based on prompt payment to the farmer for his produce combined with proper storage and handling of produce by the cooperatives. The system, to be implemented, requires training for both the local cooperatives and field extension staff and assumes that the current activities of the cooperatives will be expanded in terms of services provided, clientele and crop orientation. These modifications and the design of the system, along with their rationale are discussed in greater detail below.

#### B. Present Situation

The Ministry of Agriculture (MOA) has designated seven geographic areas that are predominantly smallholder regions to be the target locations for the Part C smallholder program. Table 1 lists the number of active unions and the affiliated cooperatives identified by type in each of the seven districts, total farm families, area and average size of holdings plus a list of active KFA appointed stockists within each district. Almost half of the farmers in these seven districts are cooperative members. The cotton and cereal cooperatives are predominant in the Western districts and coffee is grown in all districts listed. It is important to note that cooperative unions and member societies exist throughout the regions designated by the MOA.

There are weaknesses in these cooperatives, however, which have reduced their effectiveness in supporting the development of either cash or food crop production by their members. Although cotton, coffee and dairy cooperatives market cash crops, individual producers of these commodities in Western and Nyanza Provinces receive only limited benefits from these services since their holdings of cash crops seldom exceed one acre of cotton or one-half acre of coffee. In addition, the producers are predominantly cultivators of food crops--maize, beans, groundnuts, etc.--for home consumption and limited sales. Members cannot market food crops through their cooperatives since the cooperatives are not authorized by the Maize and Produce Board to be purchasing agents.

Another weakness of these cooperatives is their failure in most instances to provide input supply services. This last constraint also applies even for the relatively well-organized cash crop cooperatives. The absence of an accessible supply of inputs limits the use of improved seed and fertilizer for food crop production.

Despite these problems, the organizational structure of the cooperatives in the program area is firmly established and it is the only agency which reaches out to the more remotely situated and neglected smallholder. It is possible, with a carefully conceived, properly supported program, to build the existing cooperative network into a fully integrated supply, marketing and credit system capable of supporting the typical subsistence oriented producer so that he can improve his economic status and contribute to the food supply of the country.

## C. The Program

### 1. Background

Discussions at the MOA and Ministry of Cooperative Development (MOCD) followed by extensive field contacts with personnel of both agencies have contributed to the proposed plan of action designed to develop an integrated service system. The program also has been reviewed with cooperative union and society leadership of cooperatives in seven districts.

The Ministry of Cooperative Development personnel agree that the CPCS<sup>1</sup> system at present does not offer the less-progressive smallholder an opportunity to employ seasonal credit for food crop production. They support an integrater<sup>2</sup> cooperative development plan and recognize that the credit segment of such a plan must allow more access by the so-called higher-risk farmer borrower than the CPCS system now permits. The MOCD through the Federation of unions and societies is cooperating fully in the development of the program.

The MOA has been directly involved in the planning for the program. AID's program development consultant is officed in the Ministry and has been assigned a full-time counterpart from the Ministry's Planning Division. The proposed program has been reviewed with all relevant divisions of the Ministry. The Extension and Training Division, Crop Development Division, Farm Management Division and the Planning Division have responded favorably to the general outline. Ministry field personnel, Provincial and District Agricultural Officers and District Crop Officers have been contacted in the seven districts and have cooperated in the field surveys and assisted in the formulation of crop production recommendations. Plans for farmer training courses have been reviewed with District Agricultural Officers (DAO).

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<sup>1</sup> See Annex A for a discussion of the CPCS system.

## **2. Program Components**

### **a. Administration**

An Interagency Coordinating Committee made up of the Directors of the principal divisions of MOA and MOCD will have the responsibility to:

- 1. Approve the program plans.**
- 2. Coordinate program activities.**
- 3. Conduct periodic reviews of program progress and problems.**
- 4. Review the results of the annual evaluation and take appropriate action when necessary.**

The MOCD leadership of cooperative unions within the seven districts will be instructed to carry out the program. This action is to be followed by the assignment of additional field personnel to advise and assist the unions and their respective societies in organizing supply, marketing and credit systems. Action by the MOCD on this requirement has begun with the recent assignment of additional cooperative officers to several western unions.

Ministry of Agriculture Provincial and District Officers will be officially informed of the application of the plan in their respective areas. Informal contacts have already been made. The field extension service will be particularly involved in the proposed production system, organizing the farmer training courses, assisting in the selection of prospective participants, and subsequently continuing field contact with farmers to advise them on the use of cash inputs.

One-crop cooperatives will be converted to multipurpose societies. Many of the one-crop societies in the seven districts have by action of the membership declared themselves multipurpose cooperatives, thus making it possible to handle supplies and to market a wide range of crops. This development was precipitated by the announcement last November of the availability of credit to small farmers for food crop production (supported by Part B of this Loan).

### **b. Supplies and Marketing**

Cooperative unions and societies involved in the program plan are to develop dependable supply sources. They will work with all relevant organizations beginning with the Kenya National Federation of Cooperatives (KNFC) which can provide inputs, but will not exclude KFA and their appointed stockists who cover many of the more remote areas of the western provinces. Table 1 lists the KFA stockists.

It is of interest to note at this point that the Danish International Development Agency (DANIDA) has recently received a request for cooperative assistance from the GOK which

is presently under consideration. This is a request for assistance in financing a \$1.3 million cooperative farm input supply scheme. Of this amount, \$440,000 is planned for five expatriate technical experts in farm supply utilization and distribution to be assigned to five of the so-called weaker cooperative unions, three of which are in the areas designated for the Part C program. The remaining \$860,000 is to provide soft credit terms to a number of selected "weaker" cooperative unions for procuring and stocking farm inputs for resale to smallholder cooperative members. Thirteen cooperative unions have been chosen to receive this assistance, seven are within the two western provinces in which the Part C program is also involved. Approval and implementation of this proposal will add important support to the development of multiservice cooperatives in areas of smallholder agriculture.

Equitable food crop marketing by smallholder producers has faced serious obstacles which have tended to discourage increased smallholder food production. The food producer with limited marketable quantities faces storage and transportation problems in addition to sharp trading practices which reduce his net return on sales. The Maize and Produce Board (MPB) has legal monopoly buying rights not always enforced for all the food crops traditionally grown by the smallholder. At present the MPB operates its buying rights through a network of licensed traders or dealers who are the usual marketing agents for the smallholder. The problems created for the small producer by this system have been documented in several recent reports<sup>1</sup>. These recommended changes in the system to provide him with a more equitable and regularized outlet. Action is being taken with the MPB to designate the interested cooperative societies as licensed food crop buyers. This will provide the food grower a regular dependable sales outlet and also make it possible to establish for farmers needing credit, a formal loan repayment system similar to the successful nonfood cash crop systems. The cooperative societies or unions designated as purchasing agents will have cash on hand for immediate payment to the producers and then provide the storage necessary to properly handle and market the cooperators' food crops. Finally, the multipurpose cooperative will assist the food producer with his transportation problems since supply and marketing cooperatives will have the year-round volume of business to justify operating or renting transportation equipment.

c. Credit

To complete a fully integrated system of cooperative services a smallholder credit plan will be necessary for farmers desiring food crop production inputs. The established farm credit systems, though operating quite effectively in most areas of the country with both large and small scale progressive producers, do not at present offer credit opportunities for smaller higher risk food crop growers. As cited above, the scheme closest to this group is the CPCS whose relatively conservative philosophy prevents expansion of the system into food crop cooperatives.

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<sup>1</sup> Experimental Maize Marketing Scheme, Hanrahan, August 1974 Maize Storage and Handling, Barber and Hesselmark 1974.

A credit system for this neglected group must be carefully structured, however, so as not to create a casual attitude towards loan repayment which in the long run could undermine the successful efforts of the creators of CPCS to develop a business-like attitude towards credit use. The credit plan proposed for Part C, therefore, will substitute certain qualifications for prospective borrowers, replacing the severely constraining requirements of CPCS but not totally eliminating a selection process.

Careful review of the Special Rural Development Projects (SRDP's), particularly the Tetu and Vihiga schemes, has provided important guidance in developing this credit plan. Because of the experimental nature of both schemes, there has been thorough documentation of the results through several complete evaluations.<sup>1</sup> The target farmer groups for the schemes were similar to the smallholder subsistence farmer with which Part C is concerned. Food crop production was also stressed in SRDP. An effort has been made to utilize the more successful methods employed in both schemes in formulating this credit plan.

An integral part of the Part C credit portion of the production scheme will be the requirement for all loan applicants to complete a farmer training course. It is through this device that the traditional smallholder, who heretofore has had little extension support and has been either an inactive cooperator or a non-member, can be educated in both the use of cash production inputs and the value of cooperative production credit.

Regular farmer training courses are the MOA Extension Service's most common method of educating interested farmers in improved agricultural practices. Farmer Training Centers with complete physical facilities for boarding 60 to 100 participants exist in each of the districts assigned to Part C. Unfortunately, budgetary limitations have restricted normal training activity to about 10 percent of capacity. Funding assistance described in Table II for Farmer Training Center staffing, staff training and conducting the proposed courses will be provided from Part C funds.

The farmer training course will be conducted jointly by the regular training staff and members of the MOCD's Educational Division. The latter will cover cooperative education and conduct the credit part of the seminar which proved to be one of the most effective communication devices developed in the Vihiga project.

The selection process of applicants for the training courses has been designed to encourage participation by farmers who usually have been the last to receive direct extension and cooperative support. At Tetu, farmers were visited in the field by Junior Agricultural Assistants and subchiefs, informed about the course and invited to attend. This method can be used in regions of high concentration of smallholders but it will be supplemented by a cooperative publicity campaign advising members and nonmembers of the availability of credit and the F.T.C. requirements. Cooperative Loan Committees assisted by extension

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<sup>1</sup> Extension and the Forgotten Farmer/I.D.S. Bulletin 37/1973 - Ascroft, Roling, Kariuki and Chege.

staff and District Agricultural Committees will review eligibility of applicants. The prime requirement is for the applicant to be truly a smallholder. A single definition based on size of holding will not be practical since district by district a typical smallholding varies in size depending upon general soil fertility and/or density of population. A basis which can be loosely applied and will provide the necessary yardstick is an estimate of potential net per capita farm income including home consumption of between \$50.00 and \$150.00.<sup>1</sup> This definition of a target group should not be employed in such a manner that it excludes farm families who do not have this potential but rather to clearly define that group of farmers who should receive the greatest emphasis and attention by the program. Farm families with net per capita farm income that exceed this amount should be excluded since they are assumed to be already part of the commercialized farm sector. Credit for food crop production will be seasonal; that is, repayment will be due at the close of the crop year. All credit will be furnished in kind through cooperative suppliers, K.F.A. and stockists, whichever best serves the particular location. Credit applicants will be required to be cooperative members. During the F.T.C., however, they will be encouraged to join since societies seldom charge more than a K.Shs. 5/00 membership fee and some are as low as K.Shs. 1/00. Applicants will decide whether they wish to accept a loan at the conclusion of the course before they leave the course since the course will be structured as much for farmer technical education as for credit understanding. Thus, the course will also be a means of reaching farmers with extension information heretofore not available to them.

### 3. Recommended Food Crop Production Packages

Several common food crops are traditionally grown in all seven program areas. Maize is the most popular and provides the basic cereal for rural diets. In addition, several varieties of pulses or small edible beans, potatoes and cassava make up the typical farm family subsistence diet. Of this group, maize has the potential in all districts to yield profitable returns with improved cultivation, hybrid seed, fertilizer and insect control. In recent years a higher yielding commercially marketable bean, Mexican 142, has been introduced to East Africa and has yielded profitable returns when treated with cash inputs. Likewise, sunflower production for sale has become more widespread with an improved price structure and a ready market for its vegetable oil content.

Groundnuts, traditionally a widely grown East African food usually produced for home consumption, has become a good source of cash income when grown with improved practices. F.A.O. fertilizer trials conducted in Western Kenya have yielded as high as 1,500 kg/ha with average yields of 1,000 kg/ha over all 120 trial plots. A groundnut processing plant has been established in Kisumu for preparing peanuts for confectionary use and peanut butter production with inferior grade nuts. The plant can process 12,000 tons per annum, more than twice present estimated production in the surrounding area. A nearby market and an attractive price make this food an important potential source of cash income for the smallholder. Labor is the major constraint to rapid expansion of growing area since hand shelling is slow and time-consuming. It is estimated that it requires one man day to shell 14 kg of peanuts. Low priced hand operated shellers are available and can increase shelling rate to 90 kg/day. Efforts will be made to introduce the shellers.

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<sup>1</sup> For more complete discussion of this target group, see Annex A and Part II.B.2 of the Loan Paper.

The four food crops shown in Table III, maize, Mexican 142 beans, groundnuts and sunflower provide the elements for the recommended packages. They are maize/Mexican 142 beans; maize/groundnuts; and maize/sunflower. The size of plots for the two crop combinations are well within a smallholder family labor capability and are used to form the basis for calculating each unit's cash return potential. Individual growers can increase or reduce field size according to their capability. Maize with groundnuts and Mexican 142 each total 0.7 of a hectare while maize with sunflower calls for 0.8 hectare, the latter crop requiring less labor.

Below is a summary of the total returns and the incremental returns over plantings without cash inputs for the three packages taken from Table III:

	1 <u>Incremental Cash Cost</u>	2 <u>Total Net Return</u>	3 <u>Incremental Return</u>	1 2 <u>Cost/Benefit Ratio</u>
Maize/Mexican beans 142	\$69	\$143	\$ 74	2.1:1
Maize/Groundnuts	\$61	\$198	\$104	3.2:1
Maize/Sunflower	\$65	\$132	\$ 75	1.0:1

All packages return better than one hundred percent over input costs with the maize/groundnut unit showing an outstanding profit.

#### 4. Projected Returns from Program

Table IV projects the use of the \$702,000 earmarked in the first year of the Part C program for food production credit. The average size of a loan for each package (Table III) is approximately \$90<sup>1</sup> (K.Shs. 642/60) permitting 7,800 loans. Table IV shows the dispersal of credit by district and type of loan. Use of the three recommended packages in each district is related to ecological conditions best suited for the crop combination and existing markets. The total number of loans by district is related to the smallholder populations of each district. (These figures relate year 1 only. Figures for years 2 and 3 can be obtained by extrapolation.)

A total net return valued at \$1,233,000 is projected from the production of 15,815 tons of food crops. It is estimated that the incremental amount of food resulting from the use of cash inputs will total 8,687 tons. The total net cash increment after allowance for cash inputs of \$595,000 comes to \$638,000 a cost/benefit ratio of 1:2.1.

<sup>1</sup> The actual average loan for cash inputs above would be \$76 however, an allowance of K.Shs. 100 (\$14.00) has been included for labor in the average loan amount should this be required.

## 5. Relationship of the Integrated Agricultural Development (IADP) Program and to the Part C Program

The IADP is presently being prepared by the Ministry of Agriculture staff. It contemplates funding support from the IBRD on the order of \$12 million. An integrated approach to agricultural development addressing problems of input supply, marketing, infrastructure, extension support and credit is being used in order to improve production throughout the major high potential agricultural areas.

Although the goals of IADP are similar to the Part C program, the plans differ in scope and the range of smallholders they are designed to service. IADP will operate in Central, Eastern, Western and Nyanza Provinces, and though it is primarily concerned with the small farmers, a fairly large proportion of the credit is planned to be channeled through established farm credit programs--AFC and CPCS. These organizations do deal with small farmers, most of whom can be considered good credit risks because of their cash crop resource. The program, however, also makes specific mention of the smallholder group not presently able to obtain credit and poorly supported with input supply and marketing assistance.

IADP will have a significant impact upon the agricultural credit system. Present estimates indicate credit assistance will reach 56,700 farm families over a 4-5 year period. In addition, there will be funding to support the improvement of farm input supply systems, marketing systems, and rural communication -- roads, telephones and field staff mobility.

The general similarity of IADP and the Part C smallholder program has been recognized in planning for Part C and there has been continuing contact and close coordination between planners for both projects. Program activity areas assigned to Part C by the Ministry of Agriculture are adjacent to some of the IADP targets. There will not be any duplication of effort and overlapping authority since IADP's credit plan will not address the low income smallholder until the third year of its operation. It is assumed that at that time the Part C credit program will be fully operative and IADP funds will flow through this same system. IADP plans for developing agricultural support services will complement similar Part C plans, hence the possibility of accelerating the rate of development of this important adjunct to the Part C smallholder credit program.

### D. Program Costs

#### 1. Administrative Assistance

In addition to the evaluation, the program will require the following administrative assistance. Costs over a three year period are shown in Table No. II.

A project operations advisor will be required for a three year period to supervise the implementation and development of a fully integrated system. He will also be responsible for training a Kenya counterpart who will assume the supervisor's role at the completion

of his tour. Ten Peace Corps Volunteers will be required to be assigned to cooperative unions. Volunteers with accounting and business administration skills will be responsible for assisting the management staff of the unions and their affiliated societies in establishing an effective bookkeeping and accounting system. The volunteers' primary objective, however, will be to train Kenyan staff in the above systems. Cooperative unions have as many as eight to ten affiliated societies, hence a volunteer assigned to a union will have a full workload assisting and training society and union staff. Table No. II shows the estimated costs of equipment and supplies necessary for office management and volunteers' mobility. Volunteers will receive cooperative training in addition to their regular Peace Corps training at the Cooperative Training College.

## 2. Administration and Development

### a. Ministry of Agriculture/Farmer Training Courses

The cost of providing the F.T.C. to loan applicants has been calculated (Table No. II) for approximately 8,000 participants in year one. The funding represents the incremental amount required over the average annual budget allocated to the training centers to train 1,200 applicants at each center.

### b. F.T.C. Costs Attributed to Cooperative Training Staff

Funding is provided (Table II) to support the training input of the MOCD educational staff who will be assigned to the training centers to present cooperative and credit seminars.

### c. F.T.C. Staff Training

Funds are provided (Table No. II) for the special staff training necessary to prepare extension and cooperative trainers.

### d. MOCD Staff Additions to District Cooperative Offices

Funding is provided (Table No. II) to hire two cooperative field assistants and one manager/trainer for each district. These positions are MOCD assignments needed to increase field staff who will work directly with cooperative membership and in an advisory role to unions and societies. Cooperative field assistants also will coordinate their activity with extension agricultural assistants and junior agricultural assistants.

### e. Participant Training for Cooperative Officers

A cooperative officer with the appropriate academic background will be selected from each district to be sent to the U.S. for a six month intensive general cooperative educational course. Candidates will be selected each year for three years.

### **3. Food Storage Facilities**

Funds (Table No. II) are provided for capital investment in food storage facilities to accommodate the anticipated increase in food crop production resulting from the use of production inputs. Total estimated annual production increment will be 8,500 tons. The estimated required additional storage capacity over existing facilities will be 7,000 tons distributed among the seven districts.

#### **E. Implementation Schedule**

The anticipated overall implementation schedule for Part C of the loan is as follows:

- |   |                 |
|---|-----------------|
| 1. Loan Authorization   | June, 1975      |
| 2. Completion of detailed Part C plan and establishment of administrative structure   | July, 1975      |
| 3. Assignment of field staff  | August, 1975    |
| 4. Arrival of U.S. operations advisor   | September, 1975 |
| 5. Arrival Peace Corps Volunteers, evaluation consultants; staff training for farmer training courses begins. GOK submits first reimbursement request | October, 1975   |
| 6. Farmer training courses begin, input packages finalized.   | November, 1975  |
| 7. First planting season begins, plans for storage construction prepared and construction begins.   | January, 1976   |
| 8. Input supply assessment  | March, 1976     |
| 9. First participants depart for training   | April, 1976     |
| 10. Part C program evaluation   | September, 1976 |
| 11. Second year farmer training cycle begins; first reprogramming of credit reflows from Parts A, B and C   | October, 1976   |
| 12. Third farmer training cycle begins  | October, 1977   |
| 13. GOK submits final reimbursement request   | October, 1978   |
| 14. Loan terminal date  | December, 1978  |
| 15. Final reprogramming of credit reflows   | June, 1979      |

Further details of the implementation schedule for year one (1975/1976) are as follows:

1. June, 1975

a. Obtain approval from concerned GOK ministries of Part C program design, including participating unions and societies.

b. Interagency Coordinating Committee established. Obtain final concurrence of committee on plans for program activities.

c. MOA officially informs Provincial and District Agricultural Officers in program areas of their responsibilities vis-a-vis Part C program.

d. Peace Corps/Kenya submits request for volunteers to Peace Corps/Washington with appropriate documentation.

e. USAID/Kenya requests AID/Washington to identify candidates for operations advisor and evaluation team.

2. July/August, 1975

a. MOCD assigns additional cooperative staff where required. Designated unions begin planning for input supply systems, product handling and credit extension.

b. MOA assigns required staff for agricultural extension and Farmer Training Centers to be used for small farmer food production and credit training.

c. Operations advisor begins activity September 1.

3. September, 1975

a. District Agricultural Officers prepare farmer training course budget.

b. Operations Advisor working with MOA and MOCD develops curriculum for staff training courses.

c. Progress by cooperative unions in preparation for input supply handling is reviewed and where required appropriate action is taken.

d. Cooperative and extension staff work out details of farmer selection process and obtain Inter-Agency Coordinating Committee concurrence.

e. Evaluation contractor arrives to prepare evaluation plans, train staff and assist in introducing system.

4. October, 1975

a. Peace Corps Volunteers arrive and begin cooperative training at the Cooperative College.

b. Staff training begins and include final development of farmer training curriculum along with training in evaluation procedures.

5. November/December, 1975 and January, 1976

a. Farmer training courses begin, Western Province course participants will be trained first since planting season is usually one month to six weeks earlier than Eastern and Central Provinces. Courses will continue into January if the additional time is necessary.

b. Cooperative union and society staff will prepare required input packages and distribution system based upon number of participants in farmer training courses.

6. January/February, 1976

a. Farmers begin planting with the use of input packages they acquire following training courses. Acquisition by credit in kind and/or purchase with farmer's own resources.

b. MOA and MOCD field personnel cooperate to follow up and assist farmers in proper land preparation and use of cash inputs.

c. Plan storage requirements on basis of program participation.

d. Begin construction of storage facilities.

7. March/April, 1976

a. Participant trainees selected and depart for 6 month U.S. training period. (April - September period will permit trainees to return following course in time for second year training cycle.)

b. Input supply assessment by MOCD staff and Operations Advisor.

8. July/August, 1976

a. Harvest period and start of loan repayment

9. September, 1976

a. Evaluation of first year's program by evaluation consultant, Operations Advisor and GOK ministries.

10. October, 1976

a. Staff training for second year begins.

## **F. Monitoring and Evaluation**

The program will be closely monitored by the GOK and AID through the InterAgency Coordinating Committee, with assistance provided under the technical assistance portion of the loan. The major relevant documentation will be the GOK quarterly reimbursement requests and the quarterly reports of the Operations Advisor (whose reports will incorporate reporting from the cooperative union managers). The details of the monitoring system will be set forth in the Part C plan submitted pursuant to the relevant Condition Precedent of the Loan Agreement, and will be refined further by the evaluation consultants.

The Condition Precedent submission noted above will also include a detailed evaluation by evaluation consultants. Since all farmer participants under the Part C program will go through farmer training courses, these courses should provide a low-cost vehicle for gathering most of the data needed for evaluation of the program. Under this approach, evaluation consultants would participate in the first farmer training courses as well as in a staff training course programmed for extension and cooperative trainers. This will provide the means to educate field personnel in evaluation methods and the record keeping designed to monitor the project. The team will remain through several succeeding farmer training courses in order to cover all seven centers to instruct and assist the trainers in the establishment of the required data base.

Approximately two man-months will be necessary to set up the program with one man-month required at the close of the crop year to evaluate the results based on the organized record keeping of the extension and cooperatives staff. At an appropriate point following planting, there will also be a staff review of the effectiveness of the input system. This will be necessary if adjustments to the system are required prior to the short rain season which can be the next input demand period.

Although this production scheme is planned to offer a service previously not available to the smallholder, it should not be classified as experimental nor should it be considered a pilot project. The SRDP projects were experiments in smallholder credit for food production and as such provided much of the structure planned here. This does not mean, however, that the system has been perfected, and therefore the evaluation will include an analysis of the effectiveness of the SRDP ideas employed in this scheme.

Table I  
CHARACTERISTICS OF PART C AREAS

<u>District/Province</u>	<u>Total Farm Families</u>	<u>Av. Size Holding (Hectares)</u>	<u>Co.op Members</u>	<u>Co.op Unions</u>	<u>Total No. Societies</u>	<u>Cereal Grains</u>	<u>Coffee</u>	<u>Cotton</u>	<u>Sugar Cane</u>	<u>Dairy</u>	<u>Poultry</u>	<u>Supply</u>	<u>Mixed Crop</u>	<u>K.F.A. Stockists</u> <sup>1/</sup>
Kisumu (Nyanza)	22,800	2.0	7,800	2	41	4	10	1	21	1	-	2	2	31
S. Nyanza (Nyanza)	16,200	2.5	8,600	4	36	3	17	3	2	5	-	1	5	38
Siaya (Nyanza)	17,900	2.5	5,600	2	11	2	3	3	-	2	-	1	-	51
Kakamega (Western)	19,070 <sup>2/</sup>	2.0	14,800	3	46	23	10	1	5	2	1	1	3	201
Busia (Western)	25,900	6.0	7,800	3	30	-	11	15	-	1	-	2	1	30
Embu (Eastern)	18,750	3.0	4,000	1	15	-	10	1	-	2	1	-	1	46
Machakos (Eastern)	16,356	3.0	11,000	2	26	2	13	-	-	5	-	-	6	93
<b>Total</b>	<b>136,976</b>		<b>59,600</b>	<b>17</b>	<b>205</b>	<b>34</b>	<b>74</b>	<b>24</b>	<b>28</b>	<b>10</b>	<b>2</b>	<b>7</b>	<b>18</b>	<b>570</b>

<sup>1/</sup> K.F.A. is a large farmer (more than 20 acres) cooperative which sells agricultural inputs through its own outlets as well as through affiliated retailers (stockists).

<sup>2/</sup> Cover Central Division of Kakamega District only.

TABLE II - PART C BUDGET PLAN

Item	<u>1975/76</u>		<u>1976/77</u>		<u>1977/78</u>		<u>TOTAL</u>	
	<u>\$000</u>	<u>KSH.000</u>	<u>\$000</u>	<u>KSH.000</u>	<u>\$000</u>	<u>KSH.000</u>	<u>\$000</u>	<u>KSH.000</u>
Operations Advisor	50.0	357.0	50.0	357.0	50.0	357.0	150.0	1071.0
Evaluation Consultants (9m/m @ \$6,000)	18.0	128.5	18.0	128.5	18.0	128.5	54.0	385.5
Equipment & Supplies	50.0	357.0	20.0	142.8	10.0	71.4	80.0	571.2
Participant Training for (21 @ \$8,500) Coop. Officers	59.5	424.8	59.5	424.8	59.5	424.8	178.5	1274.4
Farmer Training Costs (MOA @ \$7.00/Trainee)	8,000 Trainees 56.0	399.8	9,000 Trainees 64.0	457.0	10,000 Trainees 70.0	499.8	190.0	1356.6
Farmer Training Costs (MOCD @ \$3.00/Trainee)	24.0	171.4	26.0	185.6	30.0	214.2	80.0	571.2
F.T.C. Staff Training & Maintenance	5.0	35.7	5.0	35.7	5.0	35.7	15.0	107.1
New Coop Staff	66.0	471.0	67.0	478.4	67.0	478.4	200.0	1428.0
Storage Construction	<u>66.0</u>	<u>471.2</u>	<u>67.0</u>	<u>478.4</u>	<u>67.0</u>	<u>478.4</u>	<u>200.0</u>	<u>1428.0</u>
SUB TOTAL	394.5	2816.6	376.5	2688.2	376.5	2688.2	1147.5	8193.0
15% Contingency	<u>59.5</u>	<u>424.8</u>	<u>56.5</u>	<u>403.4</u>	<u>56.5</u>	<u>403.4</u>	<u>172.5</u>	<u>1231.7</u>
SUB TOTAL	454.0	3241.4	433.0	3091.6	433.0	3091.6	1320.0	9424.7
Credit	1) 702.0	5012.2	2) 1378.0	9838.9	3) 433.0	3091.6	2080.0	14851.2
TOTAL	<u>1156.0</u>	<u>8253.6</u>	<u>1811.0</u>	<u>12930.5</u>	<u>433.0</u>	<u>3091.6</u>	<u>3400.0</u>	<u>24276.0</u>

N.B. KSH. TOTALS MAY NOT ADD DUE TO ROUNDING.

- 1) Average loan of \$90 x 7,800 participants. (Assume 2.5 percent drop out of trainees.)
- 2) Average loan of \$90 x 7,800 new participants x 7,510 returned participants.
- 3) New participants for 1977/78 will receive credit from reflows of Parts A and B. Returned participants covered by reflows of Part C. funds.

TABLE III

## Part C - Estimated Net and Incremental Return by Crop

	Maize		Mexican Beans		Ground Nuts		Sunflower		Return on Packages Using Cash Inputs		
	With Inputs	Without Inputs	With Inputs	Without Inputs	With Inputs	Without Inputs	With Inputs	Without Inputs	Maize/ Mex.Beans	Maize/ Ground Nuts	Maize/ Sunflower
Production Unit (Hectares)	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.7	0.7	0.8
Av. Yield/Hectare (Kg.)	4050	1620	1350	675	1200	600	1200	500			
Unit Yield (Kg.)	1620	675	405	203	365	180	480	200			
Av. Return (Ksh/Kg)	0.72	0.72	1.67	1.67	2.75	2.75	1.13	1.13			
Gross Return - Ksh	1170.00	488.00	675.00	338.00	1000.00	500.00	542.00	226.00	1845.00	2170.00	1712.00
Production Costs											
(Fertilizer 1)	270.00		108.00		90.00		128.00		378.00	360.00	398.00
(Seed	25.00	18.00	54.00	54.00	24.00	24.00	12.00	12.00	79.00	49.00	37.00
Land Preparation	100.00	100.00	100.00	100.00	74.00	74.00	120.00	110.00	200.00	174.00	220.00
Other Costs 2)	68.00	68.00	48.00		56.00	37.00			116.00	124.00	68.00
Credit 3)	36.00		21.00		16.00		14.00		57.00	52.00	50.00
Total Costs - Ksh.	499.00	186.00	331.00	154.00	260.00	135.00	274.00	122.00	830.00	759.00	773.00
Net Return - Ksh	671.00	302.00	344.00	184.00	740.00	365.00	268.00	104.00	1015.00	1411.00	939.00
	93.98	42.30	48.18	25.77	103.64	51.12	37.54	14.57	142.16	197.62	131.51
Incremental Return - Ksh	369.00		160.00		375.00		164.00		529.00	744.00	533.00
\$	51.68		22.40		52.52		22.97		74.09	104.20	74.65

## 1) Fertilizer Rates Per Hectare

Maize - 75 Kg. TSP + 165 Kg. ASN-CAN

Mexican Beans - 120 Kg. TSP

Ground Nuts - 100 Kg. TSP

Sunflower - 100 Kg. TSP

## 2) Includes insecticides and cost of spraying

## 3) 10% of cash costs (excludes land preparation)

**Table IV - Part C - Net and Incremental Return by District and Crop in First Year**

District	Maize/Mexican Beans					Maize/Ground Nuts					Maize/Sunflower				Total Return					
	No. of Loans	Net Return		Incr. Return		No. of Loans	Net Return		Incr. Return		No. of Loans	Net Return		Incr. Return		Total Loans	Net		Incremental	
		\$000	KSH000	\$000	KSH000		\$000	KSH000	\$000	KSH000		\$000	KSH000	\$000	KSH000		\$000	KSH000	\$000	KSH000
Machakos	700	100	710	52	370						200	26	188	14	104	900	126	898	66	474
Embu	700	100	710	52	370						200	26	188	14	104	900	126	898	66	474
Kakamega	500	85	603	44	317	300	59	423	31	223	300	40	281	22	155	1200	134	1312	97	695
Busia	400	57	406	30	211	400	79	584	42	297	400	53	375	29	207	1200	189	1345	101	715
S. Nyanza	300	43	304	22	158	700	138	987	73	520	200	26	188	15	104	1200	207	1479	110	782
Kisumu	300	43	304	22	158	600	118	846	62	446	300	39	281	22	155	1200	200	1431	106	759
Siaya	<u>400</u>	<u>57</u>	<u>406</u>	<u>30</u>	<u>211</u>	<u>600</u>	<u>118</u>	<u>846</u>	<u>62</u>	<u>446</u>	<u>200</u>	<u>26</u>	<u>188</u>	<u>15</u>	<u>104</u>	<u>1200</u>	<u>201</u>	<u>1440</u>	<u>107</u>	<u>751</u>
<b>Total</b>	<u>3400</u>	<u>485</u>	<u>3448</u>	<u>252</u>	<u>1705</u>	<u>2600</u>	<u>512</u>	<u>3666</u>	<u>270</u>	<u>1932</u>	<u>1800</u>	<u>236</u>	<u>1639</u>	<u>131</u>	<u>933</u>	<u>7800</u>	<u>1233</u>	<u>8803</u>	<u>653</u>	<u>4660</u>

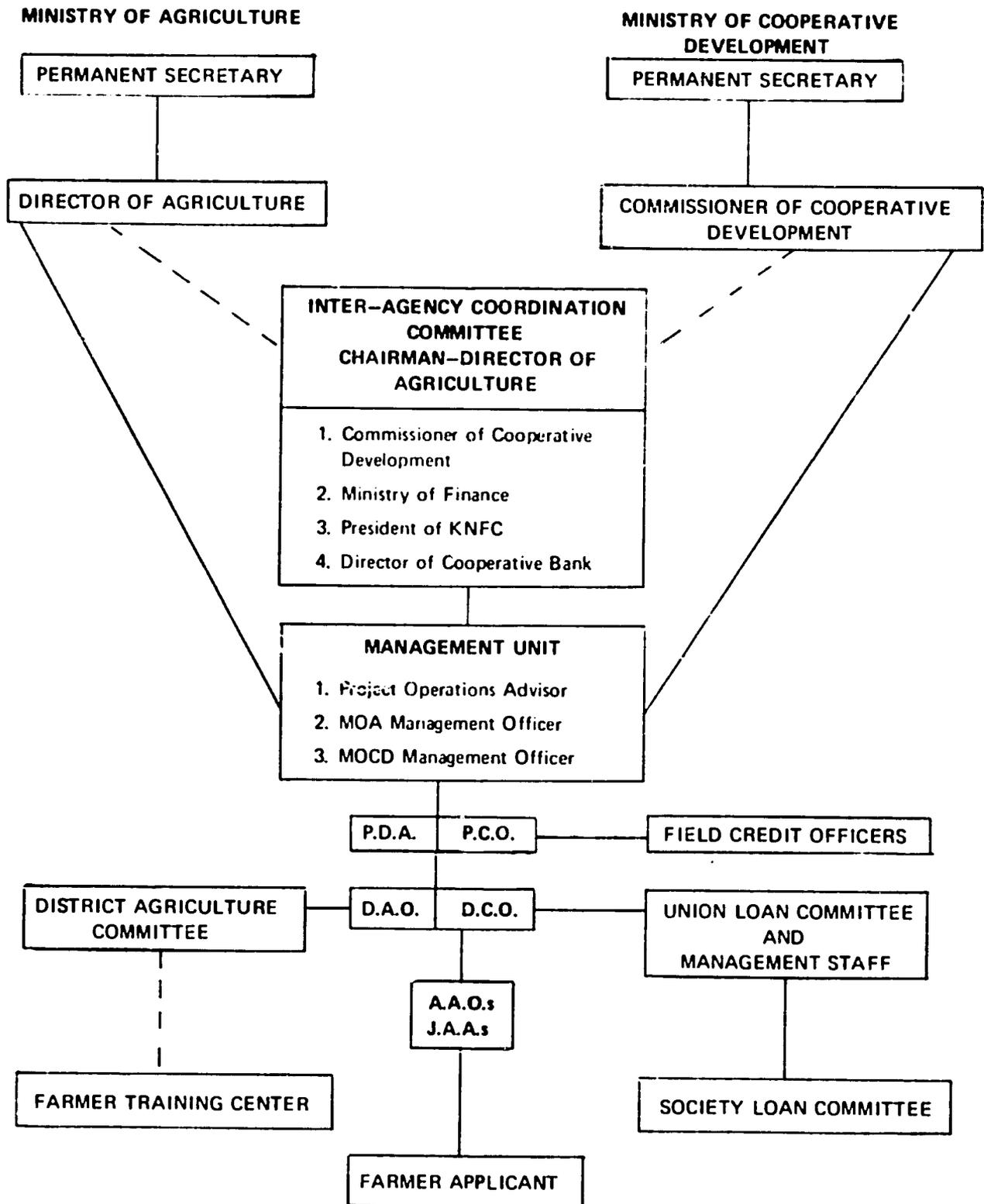
Table V  
Part C - Food Produced in First Year

(Metric Tons)

<u>District</u>	<u>Maize</u>	<u>Ground Nuts</u>	<u>Mexican Beans</u>	<u>Sunflower</u>	<u>Total</u>
Machakos	1,458		284	96	1,838
Embu	1,458		284	96	1,838
Kakamega	1,944	108	243	144	2,439
Busia	1,944	144	162	192	2,442
S. Nyanza	1,944	252	122	96	2,414
Kisumu	1,944	216	122	144	2,426
Siaya	<u>1,944</u>	<u>216</u>	<u>162</u>	<u>96</u>	<u>2,418</u>
Net Total	<u>12,636</u>	<u>936</u>	<u>1,379</u>	<u>864</u>	<u>15,815</u>
Incremental Total	<u>7,371</u>	<u>414</u>	<u>566</u>	<u>336</u>	<u>8,687</u>

**SMALL-HOLDER PRODUCTION SERVICES AND CREDIT PROGRAM**

**ADMINISTRATIVE ORGANIZATION**



PART C - SERVICES AND CREDIT PROGRAM IMPLEMENTATION SCHEDULE

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Completion of field survey of F.T.C.s/D.A.O.s	July 7-12	Edward Buvisa and Jim Dawson	MOA	Buvisa travels at MOA expense
Completion of Co-op Society/ Union survey	July 7-15	Edward Gitan/Credit Officer/ MOCD and Dawson	MOCD	Gitan travels at MOCD expense
AID/Kenya requests evaluation team of AID/Washington	July 8	AID/Kenya Staff		Forward starting date for team activity - August 19
Prepare revised final draft for review with Mburu/Ag.-Muthana/ MOCD and Mule/Fin. for approval	July 14-18	Jim Dawson and Bill Sigler	---	Adjustments to budgets and co-op staffing, may result from field survey
Following approval of final draft with Conditions Precedent accepted, MOA and MOCD proceed with staff appointments and AID authorizes flow of funds	July 21-25	Jim Dawson working with MOA and MOCD staff	MOA and MOCD, Part C related expenditures assigned line items in budget	Contacts should also be made with Ministry of Finance to keep informed of funding development
AID submits project advisor's name with other information for MOA/ MOCD concurrence	July 25	Bill Sigler and Dawson	Salary and support services to be funded from Part C	

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Continuing contacts required with KNFC, Co-op Bank together with MOCD staff to monitor farm supply development	July 28	Dawson assisted by Management Officers working with KNFC Merchandising Division	---	
Co-op Union/Society survey reviewed and staff appointments planned accordingly	July 29-31	Dawson, Gitan, Nordic advisors and other co-op staff	Costs of additional Society/Union staffing and increased operations expense to be budgeted through MOCD	Assist MOCD in budget preparation
Field survey of F.T.C. reviewed and projected costs of F.T.C.s and other Part C expenses calculated for budgetary submission	July 28-31	Dawson, Buvisa and/or MOA Management Officer assisted by Ext. and Training Division	Costs to be included in MOA/Extension-Training Div. Budget	Assist MOA/Division in budget preparation
Call first meeting of Inter-agency Coordinating Committee	Aug. 4	Management Unit	---	To organize committee, to discuss action in program to date and establish general policy
Call general meeting of F.T.C. principals, D.A.O.s, D.C.O.'s and include Inter-agency committee managers of KNFC and M.P.B.	Aug. 15	Management Unit	Expenses to be paid from Part C funds	To discuss Part C and to identify responsibilities of all agencies
Planning session to prepare credit program/materials-- loan forms, terms, etc.	Aug. 16-18	Management Unit/MOCD Credit Officer/Nordic credit advisor		Lead time required to print stationery forms, etc.

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Continue regular monitoring KNFC supply development program, include method Co-op Bank will furnish funds	Aug. 18	Management Unit/MOCD and KNFC and Bank staff	When funds for purchase are required Co-op Bank will provide societies with necessary overdraft	Review KNFC re-packaging plans and provide information on sizes needed
Begin planning for MOA and MOCD staff training and preparation for F.T.C. Include plans for evaluation unit	Aug. 19-23	Management Unit, Ext. and Training Division. Co-op Education Division	Regular project activity	
Evaluation team introduced if possible to recruit in time	Aug. 25-29			
Meeting of F.T.C. principals, co-op education and credit officers and DAOs with Ext. and Training Division to formulate training curriculum. Require evaluation team for this date.	Aug. 25-29	Management Unit and MOA/MOCD Division heads (Inter-agency Committee)	Ministry budgets of Part C funds	Assistance from Land and Farm Management Div. and Co-op Education Division. Include evaluation planning.
Arrival and assumption of duties of permanent project advisor	Sept. 1	USAID/Sigler, etc.	Part C funds	Transition from Dawson should overlap 1-2 weeks
Unions/Societies requiring stores space submit cost estimates for review and approval of Management Unit	Sept. 4-10	Society/Union staff assisted by MOCD management officer and project advisor	Funding from Co-op Bank	M.P.B. engineers will assist in estimating size and costs

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Plan campaign to publicize services and credit program should include specifics--F.T.C. dates, source of input supply, marketing outlets, etc.	Sept. 11-12	Management Unit assisted by D.A.O., D.C.O. and Union/Society staff and District Agriculture Committee	Budgeted funds MOA items	
Review status of credit program, administration, supplies, forms, etc.	Sept. 15-30	Management Unit/MOCD Man. Office and MOCD Credit Division		
Construction or rental of required storage begins	Sept. 15	Union/Society where construction is necessary assisted by M.P.B. engineers	MOCD budgeted funds	M.P.B. engineering staff will assist in design
Release publicity on Credit services program in all Districts	Sept. 18	Management Unit assisted by D.A.O., D.C.O. Union and Societies		Loan Committees and District Agr. Committees can assist
Peace Corps volunteers arrive, begin co-op training at Co-op College	Oct. 6 through Oct. 31	Peace Corps/Kenya staff coordinate with MOCD management officer and MOCD Headquarters Staff. MOCD to arrange training program at Co-op College	Peace Corps funds and program funds channeled through MOCD	P.C. funds for regular P.C. costs--Part C funds for P.C. field equipment and operations. Training period three weeks at Co-op College

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Staff training course begins possibly at two sites (East and West). Evaluation and monitoring systems included	Oct. 14-19	Management Unit, MOA/Ext. and Training Division and MOCD Education Division	Budgeted funds-- MOA and MOCD	Include evaluation team in staff training
Call quarterly meeting of Inter-agency Committee to review program progress	Oct. 21	Management Unit		Review evaluation and monitoring plans
Farmer selection for F.T.C. begins in western areas	Oct. 22	D.A.O. and District Agric. Committee assisted by Co-op Loan Committee, J.A.A.s	Budgeted funds	Sub-chiefs and J.A.A.s will assist
Sources of required input supplies firmly established for each District/Union and/or Society and order for Jan. delivery placed	Nov. 1-15	Management Unit coordinating with Union/Societies dealing with KNFC and KFA stockists where required	Overdrafts from Co-op Bank to fund union purchase from KNFC or KFA	Orders should include quantities of fertilizer by package size
Conference of Management Unit, MOCD Credit Division, Co-op Bank and Co-op Managers to finalize details of credit program	Nov. 1	Management Unit/MOCD Management Officer and MOCD Credit Division	Part C funds designated for credit	Mechanics of credit system-- forms, terms, etc., finalized
Peace Corps volunteers assigned to Posts/Unions	Nov. 3	P.C./Kenya staff cooperating with MOCD staff	P.C. Kenya funds	Assisted by sub-chiefs where necessary

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
*Farmer Training Courses begin/Western Division. Cash input packages designed and reviewed with participants for their decision to use credit	Nov. 10	Farmer Training Centers and Co-op Education staff assisted by Management Unit and Crops and Land and Farm Management Division (LFMD)	Budgeted funds and Co-op credit funds	Evaluation team alerted to begin base data collection
Farmer selection for F.T.C.s begins in Eastern Province	Nov. 12	D.A.O. and District Agric. Committees assisted by Co-op Loan Committees	Budgeted funds	Sub-chiefs and J.A.A.s will assist
Co-op Union/Societies acting as sources of input supplies estimate funds required for handling and delivery system	Nov. 15	Co-op Union/Society managers assisted by MOCD Management Officer/Project Advisor	Funds required are budgeted for MOCD to be advanced when required	Lorry rental, storage rental, etc.
Co-op Unions/Societies to submit request for authorization as food crop buyers to the Commissioner of Co-op Development for approval and action by Maize and Produce Board	Dec. 1	Co-op Union/Society managers assisted by MOCD Management Officer and Project Advisor	---	
*Farmer Training Courses begin in Eastern Province/Machakos-- Credit package inputs reviewed for participant credit decision	Dec. 8	Farmer Training Centers and Co-op Education staff assisted by Management Unit and Crops and LFMD	Budgeted funds and credit through Co-op Bank to Unions	Evaluation team alerted to begin base data collection

\*At close of each Training Session the list of trainees desiring credit will be submitted to the Cooperative Loan Committee concerned, for review and approval or disapproval.

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Alert District Agric. Officer to prepare plans for farmer field follow up in Western areas and prepare cost estimates for same	Dec. 15	MOA Management Officer and D.A.O.	Budgeted funds	
*Farmer Training Courses begin/ Embu	Jan. 5	Farmer Training Center and Co-op Education staff assisted by Management Unit	Budgeted funds and Co-op credit	Evaluation team alerted
Quarterly Meeting of Inter-agency Coordinating Committee	Jan. 19	Management Unit		Review progress of program and response of farmers to training
Farmer Training continuing at all Centers requiring full staff time	Through Feb. 1			
First planting begins in several Western locations and continue into March	Feb. 1 - March 15	Farmer trainee participants supported by D.A.O./Ext. staff/J.A.A.s	Credit sources and budgeted funds	
Planting begins in Eastern locations and continues through April	March 1 - April 30	Same as above	Same as above	

\*At close of each Training Session the list of trainees desiring credit will be submitted to the Cooperative Loan Committee concerned, for review and approval or disapproval.

<u>Activity</u>	<u>Timing</u>	<u>Implementation Responsibility</u>	<u>Financing Resource</u>	<u>Remarks</u>
Review and evaluation of input supply system KNFC, KFA stockists and cooperative handling and delivery	March 15	Evaluation team with cooperation of Union/Societies and Extension staff	Budgeted funds through MOA	
Continuing monitoring of Extension staff follow up duties through growing season--Western and Eastern areas	Feb. 15 through July 30	MOCB Management Officer coordinating with D.A.O.s, J.A.A.s and Co-op Loan Committees	Budgeted funds	
Harvest begins in several Western locations. Cooperative food crop purchasing to be carefully observed and assisted	July 30 -	Co-op Union/Society Management and Project Management Unit	Funds for food crop purchase will be advanced by Co-op Bank to Unions	Union/Societies requiring overdrafts will apply through Co-op Commission for approval
Following harvest, loan repayments become due, evaluation of credit program and components begins	July 30 -	Co-op Union/Society Credit Administration working with evaluators and Management Unit	Budgeted funds	