

2.3 Agricultural Credit

2.3.1 General

(1) Agricultural Credit Institutions

Financial institutions in the formal sector which deals with agricultural loans include the Bank of Tanzania (BOT), the National Bank of Commerce (NBC), the Cooperative and Rural Development Bank (CRDB), etc.

The BOT which is the nation's central bank involves with agricultural credit through its control of bank lending rates, levels of lending and borrowing and the administration of loans and grants from external sources.

The NBC was established as a state-owned bank in 1967, and now operate as a commercial bank. It is the largest bank in the country. Agriculture accounts for about 55% of NBC's total loan portfolio. Until the late 1980s NBC was not actively involved with small holder production credit but dealt mainly with loans or overdrafts for crop purchase to crop parastatals and cooperatives, and issuing of farm credit for large scale projects (about 90% of NBC's agricultural lending). Presently NBC is financing some smallholder production activities in some regions. (As of December of 1997, NBC has restructured into two banks under the NBC holding corporation. The banks are; 1) NBC (1997) Limited, and 2) Micro Finance Bank(NMB).

The CRDB, which until 1984 was known as the Tanzania Rural Development Bank, was established in 1971 for the purpose of providing farm finance for agriculture and rural development. CRDB is a major institution for providing rural finance to all categories of borrowers including smallholder farmers. The bank mainly provides lending for seasonal inputs, farm mechanization, livestock, rural transport, fisheries and other rural activities. By contrast NBC, about 50% of CRDB's lending is to individuals, with the remaining to cooperative and parastatal sector. CRDB has been plagued by a low recovery rate of about 30%. In 1996, CRDB has changed his name as CRDB(1996) Limited and his lending become more commercial basis.

Other important banks/institutions which deal with agricultural finance and credit in Tanzania are depicted in Figure G.2.3, they include; the Tanganyika Development Finance Company(TDFL), the Tanzania Investment Bank(TIB) and the Tanzania Postal Bank.

(2) Banking Institutional Reform

In the second half of the 1980s Tanzania's financial system was faced with a major crisis which essentially rendered the banking system insolvent. The crisis was resulted from the crop marketing system that required that banks to lend to under capitalized and inefficient crop parastatals and cooperatives under the Government direction. The GOT has embarked on a wide-ranging reshuffle of the financial sector. The Banking and Financial Institutions Act, to help establish the framework for a healthy and competitive banking system was enacted in 1991. Under the Act, the banks were to become strictly autonomous institutions operating solely on the basis of commercial criteria and with no interference from the Government. Furthermore, interest rates were delegated with only a discount rate for borrowing by commercial banks from BOT, and the maximum lending rate fixed by the Government.

(3) Rural Credit and Saving Schemes in Kilimanharo region

In order to test mechanisms for providing formal credit directly to smallholders, a number of initiatives are now underway, i.e. IDA financed through CRDB for project intended to increase agricultural exports, and a scheme to test alternative lending mechanisms for small holders. The later scheme is now on-going under a title of the Rural Credit and Saving Schemes. There are some 444 cooperative rural savings and credit schemes operating mostly in Arusha, Kilimanjaro, Mbeya and Iringa. The schemes are run by primary cooperative societies which operate savings accounts for society members. The cooperatives open a Group Saving Account on behalf of the scheme member with either CRDB or NBC. Each

member is given a passbook where deposits or debits are recorded. For cooperatives that market farmers' crops, payments for crop sales are credited in the passbook instead of being made in cash. Scheme account holders who wish to borrow from the scheme are required to complete a loan application which is signed by two guarantors and evaluated by a credit committee. Limits on borrowing are set at twice the amount on deposit and loan supervision is undertaken by the credit committee.

In Kilimanjaro region, there are operating some 31 cooperative rural savings and credit schemes. They have a total of about 22,500 members, and aggregate savings of Tsh.174.4 million with outstanding loans of Tsh.46.7 million. The particulars in Kilimanjaro region are given in the below table:

Rural Savings and Credit Schemes (As of 28.2.1993)

Items	Unit	Amount
No. of cooperatives with Scheme	-	31
No. of membership	-	22,489
Members deposit	Tsh.	174,415,042
Cash at Bank (A/C)	Tsh.	159,723,439
Cash in hand	Tsh.	14,588,707
Cash shortage	Tsh.	1,587,070
Cash shortage refunded	Tsh.	423,372
Cash shortage outstanding	Tsh.	1,636,981
Loan to members since Registrations	Tsh.	66,066,660
Loans repaid	Tsh.	19,335,840
<u>Loans outstanding</u>	<u>Tsh.</u>	<u>46,730,819</u>

Source* Regional Agricultural Cooperative Officer; RALDO

2.3.2 Agricultural Credit in the Study Area

Generally, smallholder access to formal lending mechanisms through the existing financial institutions is limited due to the high transaction costs associated with lending small amounts of money to a large number of smallholders, and due to the lack of collateral such as land title. Farmers in the Study Area rarely use formal source of credit. Farmers are obliged to pay in cash when they purchase agricultural inputs and tools because no shops sell such commodities on credit in the Study Area.

In the Study Area, the agricultural cooperatives operating the Rural Savings and Credit Schemes are only Tella and Mandaka agricultural cooperative. However, the operation the scheme failed and collapsed due to cash shortage resulting from improper management as shown below.

Rural Savings and Credit Schemes in Tella and Mandaka (As of 28.2.1993)

Items	Unit	Amount
No. of membership	-	199
Members deposit	Tsh.	511,365
Cash at Bank (A/C)	Tsh.	170,698
Cash in hand	Tsh.	-
Cash shortage	Tsh.	118,691
Cash shortage refunded	Tsh.	-
Cash shortage outstanding	Tsh.	-
Loan to members since Registrations	Tsh.	-
Loans repaid	Tsh.	-
<u>Loans outstanding</u>	<u>Tsh.</u>	<u>-</u>

Source* Regional Agricultural Cooperative Officer; RALDO

At the very beginning of CHAWAMPU establishment, it operated a credit facility system. CHAWAMPU then learned that the scheme has problem; farmers were allowed to take loan and pay it when they harvest their crops but many farmers fail to pay, and the scheme was abandoned to date. CHAWAMPU has plan for revising the scheme after consultation with other organizations operating the same scheme.

Other credit sources are informal ones such as relatives, friends and informal money lenders. Credit terms vary with the source. Interest rates can range from 0% for loans from family and friends up to 100% for short-term credit loans from money lenders.

The farmers interview survey carried out by the Moshi Cooperative College under the contract with the JICA Study Team revealed that some 98% of the respondent farmers have nocredit from any sources and operate their farming with their own money. This fact is not necessarily mean that farmers in the Study Area are no necessity for credit, or rather farmers has now faced on the following constraints:

- (a) There is no formal credit line providing production loan to smallholders.
- (b) Small-scale farmers can not access formal credit sources as they lack adequate financial and physical collateral acceptable by those sources.
- (c) Some farmers fear indebtedness and prefer to work on a cash basis even though it curtails their ability to expand productive activities.

2.4 Agricultural Machinery Services

2.4.1 Tractors Hiring Services

The land preparation works in the Study Area are usually done mechanically by employing 4 wheel tractors. However, the number of operational tractors possessed by the villages in the Study Area is only 19 units in total and land preparation works in the area except for the rice fields in the Existing Project Area, therefore, are mostly being carried out with the help of tractors hired from private sectors. It is reported that a number of large tractors are operated for land preparation for maize in upland fields in and around the Study Area prior to the onset of the rainy season from February to March. Land preparation for upland crops is disc ploughing and usually done by 60 to 80 HP tractors. Tractor hiring service charge for disc ploughing was around Tsh. 25,000/ha in 1997. While, all the farmers in the Existing Project Area can receive KADP's land preparation services for rice cultivation by paying a plot charge (one plot: 0.3ha), which covers land preparation charge, water charge, and canal maintenance charge.

2.4.2 KADP Tractor Hiring Services

Land Preparation works in the paddy fields in the Existing Project Area are carried out mechanically under the support of tractor hiring services of Tractor Hiring Service Section (THS) of KADP, of which establishment date back to 1984/85 with the allocation of 35 tractors under the Kilimanjaro Tractor Hiring service Project as explained in the following section. The services of THS are basically rendered only for rice cultivation purposes and presently 2 to 3 rotary cultivation under flooded conditions for puddling (direct puddling method without ploughing) and preliminary grass cutting operation in wet season in case of rice fields with dense grass vegetation are practiced mechanically. The efficiency of tractor operation is: 0.9 - 1.2 ha/ unit/day for puddling and 3.0 ha/unit/day for grass cutting. The annual target areas of the puddling operation were equal to the cropped area of rice and 1,508 ha in 1990, 978 ha in 1993 and 834 ha in 1996. All farmers in the Existing Project Area can receive such land preparation services by paying a plot charge (one plot: 0.3 ha), which covers land preparation charge, water charge and canal maintenance charge. The plot charge in 1997 is Tsh. 26,000 for members of CHAWAMPU and Tsh.29,000 for non-members.

Tractor and major implements possessed by THS were supplied under KR-II Program of Japanese Government as follows:

4 wheel tractor/40 HP	35 units	KR-II 1985 (operational: 10-12 units)
4 wheel tractor/50 HP	16 units	KR-II 1994 (all operational)
Rotary tiller	51 units	KR-II 1985:35 & KR-II 1994:16

The operation of tractor services of THS is presently being performed by 14 staff (one section chief, 2 supervisors and 1 operator) as the cropped area of rice is limited compared to the number of tractors available. The main functions of THS are: operation of machinery, supervision of operation and maintenance and overhauling of machinery. Accordingly, part of management functions for tractor hiring services is now being taken by CHAWAMPU under farmer participating operation system established by the assistance of JICA expert for KADP.

Presently, because of the limitation of cropped area, no serious constraints are identified to meet demand of rice farmers for tractor hiring services. However, toward the envisaged expansion of rice fields under the Project, major constraints which THS will encounter are: a) limitation in the number of tractors to cover the expansion, b) insufficient number of staff, especially operators, and short of skilled and disciplined operators, and c) maintenance capacity and difficulty in procurement of spare parts.

2.4.3 Regional Tractor Hiring Services

With the objective to support the expansion of cropped area in the Kilimanjaro Region, the Regional Tractor Hiring Services Project was established under the co-operation of GOJ in 1979 and the operation of tractor hiring services under the project was started with 60 tractors (80 HP) granted under KR-II Program. In 1984/85, the project was expanded with the supply of 205 tractors under the same program. However, at the time the function of the project was reduced mainly to rendering maintenance and repair services by the central workshop and all the tractors supplied were distributed to farmers' co-operatives and other agencies as follows:

Kilimanjaro Native Cooperative Union	131 units
Voasu Cooperative Union	34 units
Moshi Municipal Council	5 units
KADP	35 units

Presently, the activities of the central workshop are practically discontinued because of the restricted access to spare parts supply and limited fund for operation.

2.4.4 Other Agricultural Machines

Other than land preparation works and transportation of products or farm inputs, all farming practices from planting to harvest are usually done manually and no farm machinery except for sprayers and 8 corn shellers in Mabogini is possessed in the villages as shown in Table G.2.2. In the Existing Project Area, the number of spayer is one unit per 3 to 5 farmers.

3. INSTITUTIONAL DEVELOPMENT PLAN

3.1 Strengthening Plan of Administrative Organization

3.1.1 General Recognition

An eventual objective of establishing the new organization for a project is to build the structural and functional framework for attaining development targets effectively and efficiently and for making possible the sustainable effect of the project.

GOT established and operated KADP successfully as the governmental agency for the achievement of the development targets on the Existing Project. The functions that KADP has accomplished to date are divided broadly into the following three categories:

- (a) Managing the Existing Lower Moshi Project,
- (b) Supporting for increasing the ability for self sustenance of each farmer, and
- (c) Substitutional function to social communities.

KADP has had the authority to operate and manage the Existing Project, and had technical officials on irrigated paddy farming as well as technical know-how for managing the Project. KADP, definitely, has controlled the paddy farmers in the Existing Project through planning and management of irrigation water allocation and paddy farming under conditions of water shortage; Apart from the above control, KADP has supported paddy farmers through guiding technical know-how and delivering the information on the modern paddy farming, and providing tractor hiring services etc. Furthermore, KADP has acted as a substitution for rural community through the assistance/promotion of the establishment of farmers' organizations such as the WUAs and CHAWAMPU to accelerate the cooperation among the farmers concerned.

On the other hand, CHAWAMPU, established as a farmers' organization, has played a very important role for the operation and management of the Existing Project through bearing the running cost of the Existing Project based on the principle that beneficiaries should pay for part of the Existing Project.

A governmental agency established with specific objectives should be dissolved basically when successfully accomplished its intended objectives. Once the Government has decided to transfer the management of the irrigation projects to farmers organizations, it is desirable to the Government that CHAWAMPU as the beneficiaries' organization of the Project takes over the responsibility of the management of the Project from KADP. Furthermore, it is also desirable and ideal that CHAWAMPU has enough capability for the management of the Project and then become a economic and social nuclear in the rural community.

Considering the following circumstances, however, it is very difficult and inappropriate for KADP to transfer the operation and maintenance of the Project to CHAWAMPU at present stage:

- (a) The agricultural technology and managerial know-how fostered through the implementation of the Existing Project are very valuable for the rehabilitation and extension works of the Project expected to be implemented under the Lower Moshi Integrated Agricultural and Rural Development Plan.
- (b) Because only three years have passed since the publication of NIDP in which the operation and management of all irrigation schemes should be transfered basically to farmers organizations, KADP has not fully adopted the way against NIDP. While it is the very important role for KADP to establish and strengthen the farmers' organization involved in the Project, KADP has just started such work as strengthening CHAWAMPU.

- (c) CHAWAMPU is not so much the organization established on the farmers' own initiative as the one established under the KADP's initiative, and has a lot of problems to be solved. Furthermore, it has neither enough experience nor enough capability for the operation and maintaining the Project.
- (d) The rural community in the Study Area is consisted of eight villages in which many tribes inhabit. Though the villages vary in their development stages, the administrative structure, managing capability and solidarity as a rural community are generally weak. Under such circumstances, it will be extremely difficult that the farmer organizations are spontaneously organized and strengthened only by farmers' voluntary will and/or the natural course of the rural community without any assistance of authorities concerned.
- (e) In order to operate and maintain the Project effectively, there are many relevant matters that have to be regulated/controlled the interest among the members of farmers organization like CHAWAMPU. These matters will include the allocation of irrigation water, the formulation of cropping calendar and rotational plan of crops, the timing of agricultural machinery services, etc. It is absolutely necessary for KADP, as an impartial observer, to assist and control the CHAWAMPU until that the constant rules for coordinating interests take root.

3.1.2 Basic Approach

Under the basic understanding mentioned above, the basic approach to the institutional development plan for the Project is as follows:

- (a) The proposed plan shall take a stage-wise approach: A first stage is a preparatory period for handing over the responsibility on the management of the Project to farmers' organization; In a second stage, the water management, O&M activities, and agricultural machinery service etc. shall be handed over farmers' organizations after full completion of the preparatory period.
- (b) KADP shall take more progressive and substantial activities during the first stage for managing and operating the Project, particularly in terms of O&M irrigation facilities, agricultural supporting activities and strengthening farmers' organizations including CHAWAMPU. In order to do the above, the existing KADP's organization shall be strengthened in terms of its organizational structure and staffing. The time of handing over KADP' responsibility for the Project management is tentatively assumed to be 5 years later after the completion of a final Phase of the Project that will be constructed under the two phases; namely First and Second phases.
- (c) KADP shall make the best effort to strengthen farmers organizations and to transfer the necessary relevant technology to the technicians concerned so that the operation and management of the Project can transfer to the farmers organizations as quickly as possible.
- (d) The principle of the GOT, that beneficiaries should pay for part of a project, shall be adhered through the management of the Project. In this context, KADP should make the efforts to attain the maximum effect through KADP's activities at minimum cost. On the other hand, future KADP's activities are not necessarily limited to the Existing Project, rather concentrate upon additional works such as extension and training to the farmers who live in the New Extension Area and have no experience for modern irrigated paddy farming. The GOT should meet the cost annexed to these activities because there are no reasons to charge such cost to both farmers who cultivate the existing paddy farms and who have not enjoyed from the Existing Project.
- (e) CHAWAMPU shall be strengthened/developed its financial, organizational and human resources structure so as to take over the management of the Project through solving the problems faced now.

3.1.3 Strengthening Plan

(1) Strengthening Plan of Administrative Organizations in First Stage

Basically, the management of the Project in the first stage shall be done by both KADP and CHAWAMPU as they are. Therefore, both organizations will be strengthened under the following plans.

(a) Strengthening Plan of KADP in the First Stage

The major roles of KADP in the first stage suppose to be as follows:

- To implement water management and O&M works in the existing and newly irrigated area, and the related activities required for handing over the works to farmers organizations.
- To implement examination tests for selecting new promising rice varieties replacing IR54, and adoptability trials for the new rice varieties and new crops introduced.
- To implement extension and training works on the irrigated modern paddy farming, particularly to the farmers who don't have any experience of irrigated paddy farming.
- To implement agricultural machinery services, and the related activities required for handing over the works to farmers' organizations.
- To strengthen/establish farmers' organizations concerned with O&M works and agricultural marketing.

The present administrative structure of KADP is composed of 5 sections: Administration, Irrigation, Machinery, Tractor Hiring Services (THS) and Extension sections as shown in Figure G.1.3. In order to carry out the above activities smoothly and effectively, the organizational structure of KADP shall be strengthened as shown in Figure G.3.1 with the following objectives;

- For the strengthening of O&M function of KADP, the Irrigation Section shall be divided into 3 sub-sections, namely (a) Water Management sub-section, (b) O&M sub-section, and (c) Monitoring sub-section, and the later two sub-sections shall be responsible for O&M. The O&M sub-section should take a leading role in O&M, and prepare annual O&M schedule and implement the works in cooperation with CHAWAMPU.
- The Machinery section is responsible for the operation and maintenance of agricultural machinery and the work shop. In order to operate and maintain the Project facilities, however, the O&M equipment such as backhoe, bulldozer, motor grader, dump truck etc. and transportation facilities are to be required absolutely. O&M machinery sub-section should be established within the Machinery section and should be responsible for operation and maintenance of these equipment and facilities.
- In compliance with the Government policy, the handing over of the management of the Project to farmers' organizations should be planned. For this purpose, a section in charge of handing over shall be established within KADP immediately after the commence of the Project implementation. The handing over section shall consist of two sub-sections of Legal and Training. The Legal sub-section is responsible for all the administrative works on the handing over such as legal processes and other administrative issues. The Training sub-section is responsible for the preparation of training and education programs of farmers and farmers groups and for the implementation of such programs during the preparatory period in the first stage
- The Extension section shall change its name to the Agronomy section. The

Agronomy section shall be divided into three sub-sections; namely Experimental, Extension and Training and CHAWAMPU sub-sections. The major works of the Experimental sub-section are; a) implementing examination tests for selecting new promising rice varieties replacing IR54 b) conducting verification trials to test adaptability of newly introduced rice seeds before multiplication, c) multiplication of seeds which has passed through adaptability tests , and d) providing appropriate guidance to CHAWAMPU in managing farm operations like seed multiplication. The Extension and Training sub-section is responsible for the extension and training activities particularly in the farmers who inhabit in the New Extension Area and don't have any experience of irrigated paddy farming. The major works are; a) preparing short and medium training programs to village extension workers and farmers in the Project Area, b) implementing the programs under the collaboration with KATC, c) disseminating information on the improved methods of farming as developed by research work from time to time, d) conducting demonstrations using the Pilot farm and farmers fields, and e) conducting yield survey in the Project Area. The major works of CHAWAMPU Sub-section are; a) sensitizing and mobilizing beneficiaries into participating effectively in the Project socio-economic activities, b) Strengthening CHAWAMPU and water users groups, c) ensuring participation of women in the Project activities by encouraging them to form and work in socio-economic groups, and d) transferring technical and managerial skills to CHAWAMPU.

- The hydropower section shall be newly established for the purpose of operation of No.1 and No.2 hydropower stations if the hydropower development plan is implemented. As for maintenance for them, it is proposed to apply the contract basis. The Hydropower section is divided into two sub-sections: No.1 hydropower sub-section and No.2 Hydropower sub-section.

(b) Strengthening Plan of CHAWAMPU in the 1st Stage

The outline of the strengthening plan of CHAWAMPU is as follows and shown in Figure G.3.2.

- CHAWAMPU's jurisdiction area should expand over the 8 villages' areas; Mabogini, Chekereni, Rau Ya Kati, Oria, Mtakuja, Mvuleni, Mandaka Mnono and Kaloleni. As a result, a Board of Executive shall be increased its members of 15 to 20 or more.
- In order to provide advice and suggestions as requested from the Board of Executive, both Consultative Committees on Cooperative and Water Management should be established. While the members of both those committees are basically appointed by the chairman of the Board of Executive, the following persons should be, at the lowest, nominated: Further, when a Japanese expert concerned is stationed in KADP, his participation is much desirable.

(Consultative Committee on Cooperative)

- Regional Cooperative Officer
- The concerned staff of KADC nominated by the Director of KADC
- Vice-chairman in-charge in each village office

(Consultative Committee on Water Management)

- Zonal Irrigation Engineer
- Director of KADC
- Vice-chairman in-charge in each village office

- Under the Board of Executive, four divisions shall be established; namely, Administrative, Agricultural Cooperative, Water Management and Machinery Management divisions. Each division has a secretary and staffs concerned. The Water Management division will be divided into two sections; Water Management section and O&M section, and Machinery Management division will also be divided into Operator section and Workshop section. The major tasks of each division is as

follows:

(Administrative Division)

The Administrative division is in charge of the secretariat of the Board of Executive, accounts, and other works not belonging to other divisions. Regarding to the accounts, it is recommended that the accounts should be separated between the cooperative activities and water management activities.

(Agricultural Cooperative Division)

The division is in charge of agricultural marketing, agricultural inputs supply and paddy seed multiplication activities. Agricultural credit operation will be expected in near future.

(Water Management Division)

This division shall operate and maintain the water management and O&M works after tertiary level under the guidance of KADP. (Further details will be discussed in the section of 3.2.2).

(Machinery Management Division)

This division activities will be focused mainly on the operation and maintenance of transportation facilities possessed/purchased by CHAWAMPU because that any agricultural machinery and O&M equipment owned by KADP will not be transferred through the period of the First stage. However, the division secretary should make effort to train/bring up repairmen and operators of agricultural machinery and O&M equipment to cope with handing over those machinery.

- **(CHAWAMPU's Village Office)**

A Villages' office shall be established in each village concerned with a chairperson, shop manager in charge of agricultural cooperative and supervisor in charge of water management and O&M works. The shop manager is actually responsible for a shop operated by the village office directly, and the supervisor is responsible for the water management and O&M works in command area concerned, and the liaison/coordination with WUGs in his jurisdiction area.

- **(Village Consultative Committee)**

In order to execute the CHAWAMPU's village office's activities effectively and smoothly, a Village Consultative Committee shall be established in each village office. The major objectives of the Committee are to ensure the closed connection between village administration and CHAWAMPU. The members of the Committee shall be nominated by the Chairperson of the CHAWAMPU's village office, but at least the two persons; the chairman of village and the chairman of the village council concerned should be included.

(2) Development Plan for Administrative Organizations in the 2nd Stage

(a) KADP

After the completion of the preparatory period, KADP will basically be minimized. The activities of KADP except the agricultural activities on the irrigated paddy farming and the O&M works of the Kikuletwa headworks and diversion channel shall be handed over from KADP to farmers organizations. So far as the Project is concerned, the organization structure of KADP in the Second stage will be minimized into two sections of administration, O&M and hydropower.

(Note: KADP's responsibilities are not practically limited to the Project; The responsibility of the agricultural development in Kilimnjaro region as a whole and the management of Ndungu Agricultural Development Project located in Same district have been still in the jurisdiction of KADP. The organization structure of these matters are out of scope of this Study.)

The O&M works of the proposed Kikuletwa's headworks and diversion channel which will be large in scale and located outside of Moshi district will be placed under the jurisdiction of KADP. The organization structure of KADP in the Second stage will consist of two sections of administration, O&M and hydropower.

The agricultural extension and training activities will be virtually ended under KADP, and shall be continued under the supervision of DALDO of MAC. The paddy research and experiment activities will also be continued at KATRIN located in Ifakara district of Morogoro region under general research programs.

(b) CHAWAMPU

In the 2nd stage, CHAWAMPU will be dissolved into two new farmers' organizations:

The first is a Water Users' Federation (WUF: tentative name) that will be established in accordance with a new mandatory legislation like Japanese Land Improvement Law. WUF is composed of Water Users Associations (WUA) that are also established under the new mandatory legislation in each village concerned. WUF together with WUAs is to execute water management in the entire Project Area and O&M of all the Project facilities other than headworks and diversion channel. WUF will also manage and operate the agricultural machinery and O&M equipment. The systematic organizational chart for the water management and O&M works is shown in Figure G.3.3.

The other is an Agricultural Cooperative that is an independent farmers organization specialized in agricultural marketing and agricultural credit, etc.

(Note: When the institutional improvement on the O&M executing agency is executed not as much a radical reform with legislating a new mandatory law as carrying out within the present legal framework, CHAWAMPU may well continue to exist as it is)

3.2 Strengthening Plan of CHAWAMPU as a O&M Executing Body

3.2.1 Basic Approach

- (1) In the National Irrigation Development Policy (NIDP) published by MAO on October 1994, the basic policy on the O&M of irrigation facilities was clearly defined to be transferred to water user associations. However, the policy gives consideration only to the existing Tanzanian irrigation situations. Out of the existing irrigation systems with a total irrigated area of 175,000 ha, about 150,000 ha are under traditional smallholder farmers' schemes with a command area of less than 500ha, and the rest is under large and modern irrigation schemes run by governmental estates such as National Food Cooperation (NAFCO) or Sugar Development Corporation (SUDECO). Under the above circumstances, MAO has not examined thoroughly the technical and economical advantages and/or disadvantages of transferring to farmers organization such big projects as the Lower Moshi Irrigation Scheme, which will be expanded to a scheme with around 5,000 ha of irrigated land. Because the transfer seems to be, in a practical manner, extremely difficult under these conditions without the following legal requirements:

- Vesting the WUAs of a legal status,
- Compulsory affiliation of beneficiaries with WUAs,
- Compulsory collection of fees required for keeping the irrigation facilities, and
- Allocating O&M costs for managing state property.

In addition, while there will be needed complex and high-degree engineering skills for the O&M of such big irrigation scheme but any farmers' organization like CHAWAMPU has no such experience to date.

(2) In addition, CHAWAMPU has been confronted now with many problems as stated in the present conditions. Of which the largest institutional problem is that CHAWAMPU has been established based on the Cooperative Act with the principle of voluntarily participation and democratically operation while water user associations/groups are strongly desired compulsory participation. For settling the question drastically, it is to be desirable that CHAWAMPU dissolve at least into two farmer organizations; a water users' association under a mandatory legislation and an agricultural cooperative under the present Cooperative Act. However, it is extremely difficult to establish two organizations in view of the following facts;

- In order to develop irrigation works including the operation and maintenance of irrigation facilities, it is desirable to enact a special law like Japanese Land Improvement Law. However, it seems to be very difficult to establish such law in near future.
- CHAWAMPU has a legal status, having water rights for the existing Lower Moshi Project, and has fulfilled its function to date as the O&M executing agency though it has a lot of problems built-in.
- The CHAWAMPU's built-in problems regarding O&M of the existing Lower Moshi Project have been managed to a certain extent by the by-law of Moshi district council.

However, in view of the national irrigation policy and the following facts, the strengthening plan of CHAWAMPU shall be formulated upon condition that following handing over schedule is proposed in order to ensure efficient water management and O&M by farmers organizations.

(a) 1st stage

CHAWAMPU maintains its two major functions; the first is a executing body for the water management and O&M of the Project, and the other is a farmers organization of agricultural marketing.

The present water management and O&M system in which KADP and CHAWAMPU execute in a cooperative manner is also to be continue. In the proposed system (Figure G.3.2), the implementation of water management and O&M after tertiary level is carried out by the Water Management Division of CHAWAMPU and its village offices (superintendents) under the guidance of KADP. Furthermore, the division's staff should be learned the water management and O&M of major facilities down to turnouts on tertiary irrigation canals through daily routine works on the operation and maintenance of these facilities carried out by KADP.

(b) 2nd stage

The Water Management Division established in the first stage is to be separated from CHAWAMPU as a Water Users Federation(WUF) which is an independent farmers organization specialized in water management and O&M under the new mandatory legislation. The WUF is to execute water management in the entire Project Area and O&M of all the Project facilities other than headworks and diversion channel as shown in Figure G.3.3.

3.2.2 Strengthening Plan

Under the basic concept mentioned above, the plan for strengthening the farmers' organization for the water management and O&M is as follows:

(1) Organization and O&M Activities (1st Stage)

The recognition and actual O&M activities of CHAWAMPU in the First stage shall be as follows;

- (a) CHAWAMPU shall be responsible for operation after tertiary canals as it was.
- (b) Water Users Groups (WUG) shall be established in each tertiary block having command area of around 60 ha. WUG as a voluntary group shall establish its customary rules and carry out the operation and maintenance of watercourse and irrigation blocks. The customary rules should include at least the following items;
- A person who has land in the tertiary block shall be member of the WUG concerned,
 - Irrigation water shall be provided only to the fields of the WUG's member.
 - The member shall obtain WUG's approval before lending his land to other.
 - All the members of the WUG shall be collectively responsible to a WUA concerned for observing a cropping calendar and O&M of tertiary irrigation facilities. When one of member of WUG violate the observance stipulated in the district council by-laws, WUA shall have the right to stop supply of water into his/her block.
- (c) The Administrative, Agricultural Cooperative, Water Management and Machinery Management divisions shall be established in CHAWAMPU as shown in Figure G.3.2. As the irrigation system under the Project will be aligned along the village boundaries to facilitate water management in the future, under the Water Management division in CHAWAMPU, the village office having the supervisor for water management and O&M shall be established. The supervisor is responsible for water management and O&M after tertiary level and WUGs in his jurisdiction. When members of WUGs offend against the Moshi District Council by-laws, the CHAWAMPU through the related CHAWAMPU's village office shall have the right to stop supply of water into tertiary block concerned. The CHAWAMPU's village office shall execute positively the following activities:
- Participating in the planning of the Joint Committee on the Lower Moshi Irrigation Project,
 - Preparing a proposed cropping calendar covering its beneficiaries area,
 - Collecting the water and cultivation fee from beneficiaries through the WUGs and sending it to CHAWAMPU's headquarters, and
 - Preparing the village's O & M plan and its monitoring.
- (d) Consequently upon the above, the major functions of CHAWAMPU on the O&M works are as follows:
- Possessing the water right for the Lower Moshi Irrigation Project,
 - CHAWAMPU's duties stipulated in the Moshi District Council by-laws and
 - Paying water charge, O&M costs and cultivation fee collecting to KADP,

(The present CHAWAMPU's by-laws have no specific provision for the implementation of O&M works except the general provision of "to carry out all beneficial activities essential for the fulfillment of the CHAWAMPU's objectives". In view of the importance of water management and O&M for the Project, it is recommended to laid down a provision on the implementation of the O&M in the by-law clearly.)

(2) Organization and O&M Activities (2nd Stage)

- (a) Under the new mandatory legislation, a Water User Association (WUA) for replacing CHAWAMPU's village office shall be established in each village. In order to execute a part or parts of water management and O&M of the Project jointly with another WUA, any WUA may organize a federation of WUAs(WUF) which has similar functions of the Water Management division of CHAWAMPU. The functions of WUF are to execute the water management and O&M works in its command area other than headworks and diversion channel. On the other hand, WUGs established in the First stage shall be continued their activities as they are under the new WUA. The organization set-up is as shown in Figure G.3.3.
- (b) All the costs incurred in the management and O&M of the Project facilities shall be paid by irrigation fees collected from all the beneficiary farmers. The fees collected should immediately be deposited in a bank account of each WUA. As means to ensure fair collection of irrigation fees, certain rules for penalty and reward should better be accommodated in the articles of WUA.
- (c) The successful agricultural development in the Project Area will largely rely on the availability of supporting services. Aiming at the coordination of the supporting services and agriculture activities of farmers, the coordination meeting of all concerned personnel is proposed to be held periodically. Furthermore, for strengthening the capability of WUAs and WUGs, education and training of these organizations should better be programmed and implemented in cooperation with KATC.

3.3 Strengthening Plan of CHAWAMPU as an Agricultural Marketing and Credit Executing Body

3.3.1 Basic Approach

As stated in the present condition of farmers' marketing cooperatives, the farmers in the Study Area are not always conscious of the necessity of agricultural cooperatives at present. However, when we deliberate on the facts that crops production will increase sharply after the completion of the Project and that the demand of agricultural credit will also increase due to the increase in beneficiary farmers and agricultural inputs needed, the agricultural cooperative will be much more necessary and useful. Furthermore, the joint operation and management of post-harvest facilities and agricultural machinery in the Project Area will become important subjects in near future.

While the farmers' organizations are basically organized as the needs of the farmers' spontaneous demand, CHAWAMPU has already established and operated its economic activities such as agricultural marketing and credit (credit activities have now been suspended) in the Existibg Project Area.

The plan for strengthening the farmers' organization in agricultural marketing and credit will give more priority to the development CHAWAMPU than to the establishment of new organization. The Plan shall also be formulated under the stagewise concept.

3.3.2 Strengthening Plan

While CHAWAMPU was perfunctorily organized as a farmers cooperative society, it has functioned virtually as a farmers organization for operating the water management and O&M works.

Since the actual O&M works for the tertiary irrigation facilities will be entrusted virtually to WUGs through the proposed plan, CHAWAMPU would be considerably lightened of its burden regarding the O&M works. Thus, CHAWAMPU can afford to engage more in other

economic activities. In this connection the farmer interview survey revealed that economic activities desired by the responded farmers are input supply, machinery service, selling of produces, extension and information for marketing. CHAWAMPU should meet these demands as far as possible.

It is true that the bigger capital in business the more easier to do its economic captivities, but the bigger extent of jurisdiction the more difficult to make fine services. In order to cope with the above facts, a plan for strengthening CHAWAMPU is as follows:

- (a) CHAWAMPU's jurisdiction area shall be expanded over the 8 villages' areas concerned; Mabogini, Chekereni, Rau Ya Kati, Oria, Mutakuja, Mvuleni, Mandaka Mnono, and Kaloleni.
- (b) In each of the villages, a village's branch office shall be established with a shop manager in charge of the agricultural cooperative area. While the economic activities of each branch are, for the time being, strictly limited to agricultural inputs and daily necessities supply activities. The branch's activities, then, shall be gradually expanded to other areas with the strengthening of CHAWAMPU in terms of institutional and economical capacity. The activity for selling agricultural produce shall be given high priority. On the other hand, agricultural credit shall be initiated under the consensus of members' opinion and the careful examination of practicability because of the necessity of highly managerial skill and risky in nature.
- (c) CHAWAMPU shall make efforts to invite farmers to join the organization through establishing its sound administrative foundation, providing goodservices like carriage service, etc., and expanding its economic activitiescorresponding to the farmers needs.

The working funds of CHAWAMPU will basically be covered by members' contribution, commission/profits accruing from economic activities like purchasing and selling of agricultural produce/inputs, and loan from banking institutes such as banks and cooperatives' unions. In order to facilitate loan through the agricultural credit system, CHAWAMPU shall join with KNCU which is the Agricultural Cooperative Union covering Moshi district.

With the independence of WUF and WUA, the Agricultural Cooperative division will also be independent as a real agricultural cooperative. In this case, the title of CHAWAMPU will not be care to use continuously or to name newly, and the activities of new cooperative will be expected to develop more.

4. STRENGTHENING PLAN OF AGRICULTURAL SUPPORTING SERVICES

4.1 General Recognition

While the agricultural supporting services to the Existing Project have been implemented institutionally by the two agencies of MAC and KADP, the greater part of the supporting activities are virtually done through KADP. KADP, however, has been confronted with very severe financial constraint under the recent reduced budget of the Government and the Governmental principle that beneficiaries should pay for part of the project. Thus, KADP is now operating its activities with the finance contributed from CHAWAMPU's members.

On the other hand, the agriculture development under the Project, the substantial expansion of rice cultivation and the introduction of relatively intensive irrigated upland crops cultivation, will bring about sudden expansion of needs for agricultural supporting services, especially needs for extension activities, training of farmers and field staff, tractor hiring services, etc. The fact that majority of beneficiary farmers have extremely limited knowledge and skills on irrigated rice farming press the project management and agricultural to implement large scale and intensive such activities. However, the present capability of KADP and the agricultural agencies will be insufficient to meet the expansion of such needs.

Taking the situations stated above into consideration, overly ideal agricultural supporting strengthening plans being divorced from reality will not be able to vouch for their implementation. The plan, therefore, shall be formulated realistically as much as possible in line with the following guidelines;

- (a) Because of the government policy to curtail financial burden, government financial support for the strengthening of agricultural supporting services will not be expected much for quite some time. Accordingly, supporting activities to accommodate contribution of beneficiary farmers should be confined to the activities needed urgently for successful implementation of the Project.
- (b) Implementation of supporting activities is to be schedule on actual need basis in coordinated manner with the progress of development works in order to ensure timely implementation of the activities and aiming at realization of the Project benefit at a possible earlier stage. These activities will be in experimental, seed supply, training, extension and tractor hiring service.
- (c) The main executing agency for these activities shall be KADC. Strengthening of capability of KADC will be a key factor for the successful operation of supporting services in the First stage. The Strengthening plan is discussed separately in 3.1.3.
- (d) Past experience and lesson learnt accumulated in KADP, in the existing beneficiary farmers, related farmers organization(CHAWAMPU) and even in the Existing Project Area itself should be made use of as materials for extension and training to new beneficiary farmers.
- (e) Formation/strengthening of farmers organization is essential for the successful development of the Project. The strengthening plan is separately discussed in 4.2.2 and 4.3.2.

In case of the implementation of the proposed agricultural supporting services, KADP and CHAWAMPU must be expected to carry out their activities in close concert with other related agencies. At the same time, a foreign assistance, particularly Japanese assistance will be much useful for successful implementation of such supporting plans to make ensure the Project.

4.2 Strengthening Plan of Agricultural Supporting Services

The contribution of well programmed and intensive agriculture supporting programs rendered by KADC and KADP as shown in Table G.4.1 to the successful rice production in the existing Lower Moshi Project Area has been highly evaluated by various sectors both in Tanzania and Japan. The present agriculture supporting programs are formulated in accordance with the basic recognition for the strengthening of agriculture supporting services and by making reference to the services rendered in the past and the suggestions given by the JICA experts in KADP and KATC.

4.2.1 Experimental Programs

(1) Program and Approach

The farming practices for irrigated rice recommended by KADP have been successfully practiced with the average of over 6 t/ha in the Existing Project Area. However, the introduction of other varieties than IR54 is to be promoted urgently in order to avoid huge crop losses because of the outbreak of a certain pest or disease induced by the continuous cultivation of a single variety.

The proposed experimental programs executed by KADP in cooperation with KATRIN and KATC include varietal selection of rice and verification trials. The primary objective of the varietal selection of rice is the selection of optimal varieties having similar characteristics to IR54 and can be adopted to the environmental conditions in and around the Project Area. In addition, the selection of varieties having low temperature tolerance and varieties having tolerance of high pH and sodium content is also to be made in preparation for the worst. The proposed verification trials include the following trials:

Variety Adaptability Trial:	Adaptability trial of selected rice variety
Crop Adaptability Trial:	Adaptability trial of selected crop/variety (in farmers fields)
Fertilization Trial:	Effects of P ₂ O ₅ & K, effects of Urea & Ammonium Sulfate, amount of fertilizer etc.
Trials on Soil Management:	Effects of organic matter (including farmyard manure) on yield & soil permeability; etc.
Trials on cultivation practices:	Planting density, direct sowing, plant protection etc.

The varieties selected through the varietal selection are to be tested in farmers fields through verification trials. Then, if such varieties receive farmers approval, the multiplication of the seeds and demonstration of the varieties are to be carried out in succession. Further, the adaptability of alfalfa as rotation crop with rice is to be tested and the selection of its variety suitable to the conditions in the Project area is to be made before the introduction of the crop in the cropping pattern.

The trial activities should better be conducted in close cooperation with KATRIN and KATC and the results of verification trials are to be utilized as materials for demonstration, if deemed appropriate.

(2) Implementation Schedule

The proposed implementation schedule for the experimental programs are presented in Table G.4.2.

4.2.2 Extension Programs

(1) Requirements and Approaches

The assessment of requirements for extension subjects and the proposed approaches by target area are examined as shown in Table G.4.3. As shown in the table, it is assessed that

the requirements for extension of rice agronomic aspects except for plant protection and soil management for the existing paddy fields in the Existibg Lower Moshi Project Area is low. However, the extension efforts on the introduction of new variety and new crop(alfalfa), the improvement of O&M, the improvement of feeding system in animal husbandry, soil management and plant protection will be required through the operation of demonstration fields, mass guidance/campaign and T&V extension system by KADP.

In the current upland fields and New Extension Area, agronomic management aspects in addition to the similar extension efforts proposed for the existing paddy fields are considered essential although most of the farmers have experiences in intensive farming practices being employed as farm laborers. The proposed approaches are operation of demonstration fields, mass guidance/campaign and T&V extension system by KADP as shown in the Table G.4.3.

In Expanded Area, there still exist needs for extension on agronomic aspects as the recommended practices by KADP have not been fully introduced in the area, in addition to the similar extension efforts proposed for the existing paddy fields in the Existibg Project Area. The proposed approaches are operation of demonstration fields, mass guidance/campaign and T&V extension system by KADP as shown in the Table G.4.3.

(2) Extension Programs and Schedule

Proposed extension programs to the subjects to be addressed which are discussed in the previous section are shown in Table G.4.4 and explained below.

Demonstration Plots(0.3 ha)

Objectives & Activities: Demonstration of recommended practices, new variety, new crops, soil management etc. Operated by a farmer under the guidance of KADP extension staff.

No. of Plots/Extension Staff: 5 plots/season(maximum)

Demonstration Area(1 tertiary block: 40 ha)

Objectives & Activities: Demonstration of recommended practices, new variety, new crops, soil management etc. Operated by a group of farmers in 1 tertiary block under the guidance of KADP extension staff.

No. of Plots/Extension Staff: 2 plots/season(maximum)

Mass Guidance/Campaign

Objectives & Activities: Mass guidance or campaign on specific subject or practices organized by KADP Extension & Training Sub-section and village representatives.

Target Group: 50 representative or selected farmers

Timing & No. Operation: Basically prior to a cropping season and held as required; preferably every cropping season at the initial stage

Field Extension Activities(TV system) by KADP

Extension personnel: Basically by KADP extension staff in cooperation with DALDO extension staff

Activities: Daily extension activities on farming practices, O&M, animal husbandry, marketing, group activities etc.

The annual requirements of such extension programs corresponding to the progress of development works or the proposed implementation schedule of extension programs are shown in Table G.4.5.

4.2.3 Training Programs

(1) Requirements and Proposed Approaches

The requirements for training programs are similar to the requirements for extension programs discussed in the previous section as shown in Table G.4.3. The proposed approaches are training of selected target groups in class for the entire Project Area and, especially for beneficiary farmers of the current upland fields in the Existibg Project Area and new Extension Area, field practical training in advanced farmers fields.

(2) Training Programs and Schedule

Proposed training programs to the subjects to be addressed which are discussed in the previous section are shown in Table G.4.4 and explained below.

Farmer Training

Objectives & Activities:	Training of representative farmers on general subjects and specific subjects as required in class such as recommended farming practices, O&M, group activities etc.
Target Group:	Tertiary block leader or other representatives of farmers
Participants/Duration:	25 participants per course; basic course 5 days (depending on subjects)

Field Practical Training

Objectives & Activities:	Practical induction training of beneficiary farmers having no experiences in management of irrigated rice farming through having them engaged in rice farming from seeding to harvest in existing paddy fields in the Existibg Project Area under the guidance of advance farmers in the Area
Target Group:	Preferably all beneficiary farmers having no paddy fields in the target area(current upland fields in the Existibg Project Area and New New Extension Area)
Timing/Duration:	1 season prior to the start of rice cultivation in paddy fields of beneficiary farmers; 1 cropping season

The annual requirements of such training programs corresponding to the progress of development works or the proposed implementation schedule of training programs are estimated as shown in Table G.4.5.

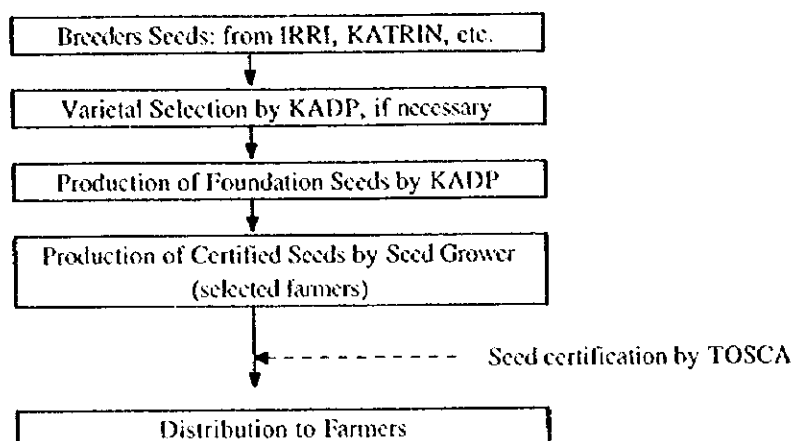
4.2.4 Seed Multiplication Programs

As stated in 3.2.1 (1), all the seed farms including Kililanga rice seed farm have ceased their activities due to privatization policy and Tanseed which receives breeder seeds from seed farms and multiplies certify seeds has not produced any rice seeds. The seed production system has now collapsed in Tanzania.

Though IR54 variety have gradually been deteriorated in the Existibg Project Area due mainly to the repeatedly use of farmers own seeds through many years, breeder/foundation seeds of IR 54 have been nowhere stored/multiplied in Tanzania. In addition, there is no place to multiply certified seeds of the new varieties selected through the above tests. To cope with the situation, KADP should commence foundation seeds multiplication activities together with CHAWAMPU by utilizing the Pilot farms at Chekereni. (Note: Once the seed multiplication activities are started along the right lines, CHAWAMPU should take over the activities as its own works.)

(1) System for Seed Multiplication

The proposed system for rice seed multiplication tentatively proposed for the Project Area is as follows;



(2) Seed Multiplication Plans

Prior to the selection of optimal varieties through the experimental programs proposed in 4.2.1, the multiplication of IR54 is to be programmed in order for the immediate replacement of seed resources of the variety in the Project Area. In addition, the production of foundation seeds of IR50 and Toleriana which are the varieties recommended by KADP after the varietal selection in the past is to be done for the preparation of seed resources in parallel with verification trial of the varieties in farmers fields. When the trials are successful and attract farmers interests, demonstration of the varieties is to be carried out and seed multiplication after confirming farmers preference and demands for the seeds is to be started. For the multiplication of new variety, similar procedures should be taken. The multiplication of seeds should be continued to meet the demand for seed replacement in the Project Area and surroundings. The proposed seed multiplication plan is formulated as shown in Table G.4.2.

In addition to the multiplication of rice seed, the multiplication of alfalfa seed is also necessary to supply farmers seed resources at the initial stage of the introduction of the crop and to provide seeds for periodical replacement. The multiplication of the seed is to be made after the verification of it as a rotation crop with rice. The proposed verification trials of alfalfa and the estimation of alfalfa seed requirements and proposed production plan is shown in Tables G.4.2 and G.4.6, respectively. As shown in the Table 4.2.6, the requirements of alfalfa seed multiplication farms operated by KADP are estimated at 2ha in 2001 and 2005, 9 ha in 2004 and 8 ha in 2006.

4.2.5 Agricultural Machinery Services Plans

Tractor hiring services rendered by KADP has been a key supporting activity which have supported the remarkable achievement of rice cultivation in the Existing Project Area. In order to ensure the rational utilization of valuable irrigation water supply, mechanization of land preparation as is practiced in the existing area and other fields are considered essential.

Tractors procurement and operation plans are proposed in accordance with stage-wise development plan as shown in Table G.4.2.

The operators belong to KADP should be increased in keeping with the increase of the number of tractors, but the maximum number of operators should strictly be limited within the number corresponded to the actual tractors' operation of 4,700 ha. Other necessary reserved operators should basically be accommodated with temporary employees.

In addition to the tractor hiring service, it is recommended that KADC should introduce and experiment with paddy planters and harvesters in order to cope with labor shortage expected during planting and harvesting times in full development stage with paddy fields of 4,700ha.

4.2.6 System for Agricultural Supporting Activities

The proposed system for the said supporting activities is shown in Figure G.4.1, which is indicating the relation among the supporting activities, flow of technology and support to beneficiaries and flow of feed back information to supporting agencies.

5. STRENGTHENING PLAN OF AGRICULTURAL CREDIT

5.1 Basic Recognition

While agricultural credit is very important for small farmers who have not enough money to buy agricultural inputs, the development of effective agricultural credit has more or less confronted with difficulties in many developing countries. The reasons may generally summarized as follows;

- (a) Generally, commercial banking system is not suitable for small credit. The profit yielded from small credit is hardly worth to cost because that the screening procedure for financing is the same irrespective of the amount of loan. In addition to, small farmers have problems for collateral and/or guarantee
- (b) In case of commercial credit banking system, an interest rate tend to be high and troublesome documents are requested. Small farmers prefer to work on a cash basis even though it curtails their ability to expand productive activities.
- (c) In order to work out the problems mentioned above, numerous countries have introduced some institutional banking systems for specializing in agricultural and small farmers' credit with governmental assistance such as investment to institutional banks, subsidy to interest and setting a framework for small farmers credit.

The GOT has also been under the same situation. Once banks used to furnish funds to agricultural cooperatives and agricultural parastatals such as NMC and NAFCO under the Government direction. However, GOT who was unable to bear a huge debts has been enacted the Banking and Financial Institutions Act of 1991 to help establish the framework for a healthy and competitive banking system. Under the Act, the banks were to become strictly autonomous institutions operating solely on the basis of commercial criteria and with no interference from the Government. This policy change led to a huge debt of long standing for the commercial banks that lent to agricultural cooperatives and agricultural parastatals.

Commercial banks have now been indifferent about agricultural and small farmers credit through agricultural cooperatives due to the default of past loan. In order to test mechanisms for providing formal credit directly to smallholders, a Rural Credit and Saving Scheme under IDA financed through CRDB is now underway. In Kilimanjaro region, there are about 90 cooperatives involving in the Scheme as of 1993. Of which, according to Regional Cooperative Office, only about 5% are still operating healthily, and the other are more or less in troubles due mainly to shortage of funds.

Under the above circumstances, the establishing the plan for strengthening agricultural credit is a sort of work that saying is easy but doing is difficult. The following plan, therefore, is rather recommendations to the Government and CHAWAMPU regarding the future action on agricultural credit than the actual implementation plan for improving agricultural credit

5.2 Strengthening Plan

(1) Recommendation to the Government

- (a) The Government should not leave agricultural credit to the care of commercial banks thoroughly, but should examine the necessity/possibility of establishing a new governmental credit institution on agriculture and/or the some fastening measures on agricultural credit to commercial banks.
- (b) In the case where the new agricultural credit institution is established, an arrangement of branch offices should be confined to district level. Actual loan disbursement should be done through agricultural cooperative. Thus, the Government should make more effort to strengthen agricultural cooperatives

(2) Recommendation to CHAWAMPU

When CHAWAMPU implements agricultural credit activity, the following matters should be duly considered:

- (a) CHAWAMPU should make effort at its maximum to invite beneficiaries as a CHAWAMPU's member.
- (b) When CHAWAMPU considers to implement agricultural credit activity, such activity should be initiated under the consensus of the member.
- (c) When CHAWAMPU implements agricultural credit activity, CHAWAMPU should firstly strengthen/improve its financial position as well as financial system including audit.
- (d) In order to strengthen CHAWAMPU's financial position, selling and buying activities of agricultural produce/inputs should firstly be given high priority for a while.
- (e) When CHAWAMPU implements agricultural credit activity, CHAWAMPU should make the observance of repayment and its term known to everyone without exception.
- (f) When CHAWAMPU considers the implementation of agricultural credit within the present institutional framework, it would be more realistic way to utilize Rural Saving and Credit Scheme. In order to implement Scheme, CHAWAMPU have to open a Group Saving Account on behalf of scheme members with CRDP(1996) Limited. As a fund of this Account, CHAWAMPU should be considered to invoke the article 17 of Moshi District By-Laws stipulating that "every Project beneficiary shall sell to CHAWAMPU portion of the paddy produced from the Agricultural Land as may be determined by the CHAWAMPU".
- (g) When CHAWAMPU implements agricultural credit activity, CHAWAMPU should ask for District as well as Regional Cooperative Officer's guidance and keep in closed contact with them.
- (h) In order to facilitate economic activities including credit through the agricultural cooperative system in Kilimanjaro region, CHAWAMPU shall join with KNCU which is the agricultural cooperative union covering Moshi district.

Tables

Table G.1.1 Villages' Population and Constituent Tribes in Study Area

village	Population			High Ranking 3 Tribus		
	Male	Female	Total	No1	No2	No3
Mabogini	No. 3,026	3,087	6,113	Pare	Chagga	Taita
Chekereni	No. 2,200	2,300	4,500	Chagga	Pare	Nyamwezi
Rau Ya Kati	No. 2,210	2,346	4,556	Chagga	Pare	Kahe
Oria	No. 3,300	3,420	6,720	Pare	Chaga	Kahe
Mtakujja	No. 2,518	2,525	5,043	Pare	Chagga	Masai
Mvuleni	No. 2,602	2,296	4,556	Pare	Chagga	Masai
Mandaka Mnono	No. 443	440	883	Chagga	Pare	Sambaa
Njoro kwa Goa*						
Kaloleni	No. 3,433	3,635	7,068	Pare	Chagga	Zigua
Pausa	No. 6,568	7,956	14,525	Pare	Rangi	Sambaa
Total	26,300	28,005	53,964			

Remarks: Njoro Kwa Goa is just a paddy field no farmer is living there. Most of the farmers cultivating in the area are from Kaloleni and Pausa wards; few of them are from Majengo, Kiusa and Njoro wards both in Moshi Municipality.

Source: 1993 Village Survey

Table G.1.2 Number of Farmers, Members and Residents Condition in Lower Moshi Project (As of February 1997)

Village		Population			%
		Male	Female	Total	
Mabogini	No.*	601	185	786	
	No.**	192	45	237	30
	No.***	176	100	276	35
Rau Ya Kati	No.*	284	58	342	
	No.**	116	20	136	35
	No.***	254	53	307	90
Chekereni	No.*	412	138	550	
	No.**	198	59	257	47
	No.***	241	93	334	61
Oria	No.*	186	12	198	
	No.**	141	12	153	77
	No.***	33	3	36	18
Total	No.*	1,483	393	1,876	
	No.**	647	136	783	42
	No.***	704	249	983	51

Remarks; * The number of paddy farmers in Lower Moshi Project

** The number of CHAWAMPU Members

*** The number of paddy farmers residents in the village

Table G.1.3 Yearly Paddy Cultivates Area, Average Yield, Production Quantity and Estimated Gross Income in KADP Project (1985-1996)

Year	Crop Season	Cultivated Area (ha)	Average Yield Paddy (Ton/ha)	Estimated Paddy Production (ton)	Paddy Price (Tsh/kg)	Estimated Gross income (Tsh)
1985		112.42	7.02	789	15.00	11,837,850
1986	Rain Season	138.02	7.59	1,048	19.00	19,903,830
	Dry Season	491.87	6.49	3,192	20.00	63,844,800
	Sub total	629.89	*7.04	4,248		83,748,630
1987	Rain Season	432.34	6.70	2,897	27.00	78,213,060
	Dry Season	490.64	6.69	3,282	27.50	90,265,450
	Sub total	922.98	*6.70	6,179		178,276,010
1988	1st Season	450.5	7.19	3,239	30.00	96,873,000
	2nd Season	461.68	5.69	2,627	30.00	78,797,700
	3rd Season	410.33	6.14	2,519	30.00	75,582,900
	Sub total	1,322.51	*6.34	8,385		251,253,600
1989	1st Season	598.37	4.60	2,753	30.00	82,575,000
	2nd Season	535.33	6.18	3,308	33.00	109,176,870
	3rd Season	418.77	5.68	2,379	35.00	83,251,350
	Sub total	1,452.47	*5.49	8,440		275,007,220
1990	1st Season	630.47	5.47	3,449	40.00	137,948,400
	2nd Season	571.21	8.44	4,821	46.00	221,766,460
	3rd Season	423.79	5.64	2,390	47.00	112,338,460
	Sub total	1,524.47	*6.84	10,660		589,264,075
1991	1st Season	351.36	7.11	2,498	50.00	124,908,500
	2nd Season	402.04	6.10	2,452	80.00	196,195,200
	3rd Season	419.82	7.30	3,065	87.50	268,160,375
	Sub total	1,173.22	*6.84	8,015		589,264,075
1992	1st Season	No cultivation due to water shortage				
	2nd Season	456.09	7.90	3,603	87.50	315,272,125
	3rd Season	453.88	7.75	3,518	100.00	351,757,000
	Sub total	909.97	*7.83	7,121		667,029,125
1993	1st Season	337.08	6.30	2,124	94.00	199,618,400
	2nd Season	392.80	5.90	2,318	106.00	245,657,120
	3rd Season	279.20	6.70	1,871	100.00	187,064,000
	Sub total	1,009.08	*6.30	6,312		632,333,520
1994	1st Season	No cultivation due to water shortage				
	2nd Season	427.85	5.30	2,268	110.00	249,437,100
	3rd Season	224.27	6.80	1,525	125.00	190,630,000
	Sub total	652.12	*6.05	3,793		440,067,100
1995	1st Season	No cultivation due to water shortage				
	2nd Season	292.29	6.20	1,812	150.00	271,830,000
	3rd Season	175.73	6.10	1,072	162.50	174,191,875
	Sub total	468.02	*6.15	2,884		446,021,875
1996	1st Season	242.64	5.40	1,310	175.00	229,295,500
	2nd Season	313.24	7.10	2,224	175.00	389,200,000
	3rd Season	278.28	6.60	1,837	175.00	321,413,750
	Sub total	834.16	*6.37	5,371		939,909,250
Ground Total		11,012.31	6.55	69,600		4,986,801,575

Remarks: * Average yield

Source: KADP Extension Section & Mr. S. Sugawara (JICA Japanese Expert)

Table G.1.4 Revenue and Expenditure for CHAWAMPU Commercial Sector (May 1993 -Dec. 1996)

Income	Items	1993*	1994	1995	1996
a.	Balance brought forward last year		2,286,814	1,222,179	834,852
b.	Membership fee	1,742,000	1,468,500	117,000	394,000
c.	Shares	1,143	675,000	84,000	1,216,000
d.	Fertilizer and chemical selling	174,000	3,569,278	4,393,535	14,086,230
e.	Crop selling		587,873		
f.	Miscellaneous		42,000	1,644,211	
	Total	3,059	8,629,465	7,460,925	16,531,082

Expenditure	Items	1993*	1994	1995	1996
a.	Fertilizer and chemical cost	568,320	5,216,913	3,557,675	11,093,053
b.	Crop cost		497,000		
c.	Personal expense	3,000	398,000	433,040	361,210
d.	Outstanding account		953,403	1,532,532	1,494,000
e.	Deposit and cash	2,286,814	1,222,179	834,852	3,462,320
f.	Miscellaneous	200,866	341,971	1,102,826	120,500
	Total	200,866	341,971	7,460,925	16,531,082

Remarks: * May 1993 to dec. 1993.

Source: CHAWAMPU

**Table G.1.5 CHAWAMPU's Plan of Revenue & Expenditure
for Operating the Project in 1997**

Income		(Unit : Tsh.)
Income Items		Amount
(1) Cultivation charge per plot		
Paddy	: 1,100ha /0.3 x Tsh.26,000	56,333,333
Up-land	: 435.34ha/0.3 x Tsh. 7,000	10,157,933
(2) Cultivation charge uncollected in the last year		5,919,086
(3) Tractor (clearance & transport)		5,178,136
(4) Balance brought forward from 1996		12,821,474
Total		90,409,962

Expenditure		(Unit : Tsh.)	
Expenditure Items	Amount	%	
(1) Fuel for tractor	28,161,929	31.15	
(2) Oil and grease	8,448,579	9.34	
(3) Spare parts	7,235,600	8.00	
(4) Personal expenses	13,658,861	15.11	
(5) Maintenance cost	10,420,000	11.53	
(6) Tractor (clearance & transport)	8,719,466	9.64	
(7) Miscellaneous	13,765,527	15.23	
Total	90,409,962	100.00	

Remark:

Diesel consumption per plot: 18.0 liters

Oil & Grease: 30% of fuel cost

Spare parts charge: Tsh. 2,000/plot

Personal expenses: 15 Executive members, 6 watch men, 27 water men and 7 clerks

Details for cultivation charge per plot (0.3ha)		(Unit: Tsh.)	
Items	Amount	%	
(1) Machinery cost	13,954	53.67	
(2) Personal expenses	4,347	16.72	
(3) Maintenance cost	3,318	12.76	
(4) Miscellaneous	4,381	16.85	
Total	26,000	100	

Source: CHAWAMPU

Table G.1.6 List of Women and Youths Organization in Kilimanjaro Region(1/3)

Name of Organization	Classification	Members*	Activities/Area of concern
Moshi Municipal			
KIWODEA (Kilimanjaro Women Development Association)	NGO	150	Empower women economically
SKUVI (Association of Poverty Alleviation)	NGO	1,600	Finance youth viable projects on soft loan basis
MISDA (Mwananchi Informal Sector Development Association)	NGO	60	Finance women viable projects on soft loan basis
CISP (Center for Informal Sector Promotion)	NGO	40	Training Youths in metal buildings, food processing for informal sector
Plaza Women Group	Women Group	30	Training in sewing
KACD (Kilimanjaro Association for community Development)	NGO	30	Training women & youth in leadership, group formation, business management, & project planning
KIWAKUKI (Kilimanjaro Women's Against AIDS)	NGO	80	AIDS education
KWIECO (Kilimanjaro Women Informal Exchange & Consultancy Group)	NGO	40	Legal services to women
FECEH Women Ggroup	Women Group	35	Food preservation
MISA (Mwananchi Informal Sector Association)	NGO	80	Finance women viable projects on soft loan basis
Y.W.C.A. (Young women Association)	NGO	855	Women organization training
Sub-Total	11	3,000	
HAI District			
KIWODEA (Kilimanjaro Women Development Association)	NGO	300	Empower women economically
SKUVI (Association of Poverty Alleviation)	NGO	20	Finance youth viable projects on soft loan basis
Wakyeke Lossa	Women Group	200	Milk processing-Cheese
Nronga	Women Group	300	Milk processing, women credit, youth programmes
Masanja women	Women Group	30	TMP's oil processing
BAWATA (Tanzania Women Council)	NGO	200	Women development
Gezaulele Women	Women Group	35	Farming, oil processing
Kalaji Women	Women Group	30	Maize mill
Sub-Total	8	1,115	

Table G.1.6 List of Women and Youths Organization in Kilimanjaro Region (2/3)

Name of Organization	Classification	Members*	Activities/Area of concern
Moshi Rural District			
KIWODEA (Kilimanjaro Women Development Association)	NGO	500	Empower women economically
SKUVI (Association of Poverty Alleviation)	NGO	20	Finance youth viable projects on soft loan basis
BAWATA (Tanzania Women Council)	NGO	300	Women development
KACD (Kilimanjaro Association for Community Development)	NGO	20	Training women & youth in leadership, group for-
UWT (Women's Organization in Tanzania)	NGO	400	Marketing, income generating, groceries, training
KIDIA women Group	Women Group	50	Tree planting
T.P.C** Women Arusha Chini KKKT***	NGO	30	Women organization and Development
T.P.C. Ladies Association	NGO	30	Women organization training & economic activities
Korini Kusini Women Group	Women Group	40	Gardening, poultry, Carpentry, training, etc.
Chekereni (Sia Yako)	Women Group	30	Vegetable gardening
Sub-Total	10	1,420	
Rombo District			
KIWODEA (Kilimanjaro Women Development Association)	NGO	800	Empower women economically
BAWATA (Tanzania Women Council)	NGO	200	Tanzania Women's council
TAWOSA	Women Group	200	Timber processing
PACT rombo/ Shauritanga Memorial Fund	NGO	150	Promotion of artisans
Sub- Total	4	1,350	
Mwanza District			
KIWODEA (Kilimanjaro Women Development Association)	NGO	200	Empower women economically
SKUVI (Organization of Poverty alleviation)	NGO	30	Finance youth viable projects on soft loan basis
CISP (Center for Informal Sector Promotion)	NGO	30	Training in metal buildings, food processing for Informal Sector
Kirithi Women Group	Women Group	20	Brick making
Wawata Tumaini	Women Group	30	Group organization
UWAMWA (Organization of Small Scale Production in Mwanza)	Women Group	100	Women Development
U.W.T- Muringo	Women Group	40	Mobilization
Masumbweni Women Group	Women Group	50	Dairy keeping
Sub-Total	8		

Table G.1.6 List of Women and Youths Organization in Kilimanjaro Region(3/3)

Name of Organization	Classification	Members*	Activities/Area of concern
Name District			
KIWODEA (Kilimanjaro Women Development Association)	NGO	220	Empower women economically
SKUVI (Organization of Poverty Alleviation)	NGO	20	Finance youth viable projects on soft loan basis
CISP (Center for Informal Sector Prunarium)	NGO	40	Training in metal buildings, food processing for Tanzania Women's council
BAWATA (Tanzania Women Council)	NGO	50	Tanzania Women's council
WAWATA	NGO	50	women organizing conscientization, leadership Training
Sub-Total		5	380
Ground Total		46	7,765

Remark: * includes groups/organizations

T.P.C** ; Tanganyika Planting company

KKKT***; Gospel Church of Tanzania(Kamsa Kou La Kinjohi Tanzania)

Source: Community development department, Kilimanjaro region, 1996

Table G.2.1 Training Courses Conducted at KATC During the Period from August 1995 to February 1997

Training Course	Period	Participant		Covered regions
		Male	Female Total	
1 1st Rice cultivation course	12/9 - 19/10/1995	13	5	18 Tanga(8), Arusha(4), Kilimanjaro(6)
2 1st Water management course	31/10 - 23/11/1995	21	1	22 Arusha(8), Kilimanjaro(8), Tanga(6)
3 1st Tractor operator's course	27/11 - 7 12/1995	9	0	9 Arusha(4), Kilimanjaro(4), Tanga(1)
4 1st Key-farmer's course	27/11 - 7 12/1995	19	6	25 Tanga(25, includes 5 extension staff)
5 2nd Rice cultivation course	16/1 - 22/2/1996	18	2	20 Morogoro(8) Coast(5), Dar es Salaam(5) Kilimanjaro(2)
6 1st Rice Mechanization course	30/1 - 28/2/1996	9	0	9 Arusha(3), Kilimanjaro(3), Tanga(3)
7 2nd Key-farmer's course	9/4 - 14/4/1996	22	10	32 Coast(12), Dar es salaam(20). Total includes 8 extension staff.
8 2nd Water management course	7/5 - 5/6/1996	16	3	19 Morogoro(8) Coast(6), Dar es Salaam(4) Kilimanjaro(1)
9 3rd Key-farmer's course	10/6 - 21/6/1996	20	7	27 Morogoro(27, includes 6 extension staff)
10 2nd Tractor operator's course	27/8 - 27/9/1996	8	0	8 Coast(2), Lindi(2), Zanzibar(2), Arusha(2)
11 3rd Rice cultivation course	27/8 - 10/10/1996	17	1	18 Shinyanga(8), Mwanza(4), Mara(3), Arusha(1), Kilimanjaro(1)
12 2nd Rice Mechanization course	10/10 - 8/11/1996	6	0	6 Dar es Salaam(2) Lindi(2), Mtwara(2)
13 4th Key-farmer's course	28/10 - 8/11/1996	18	5	23 Kilimanjaro(19), Tanga(4). Total includes 4 extension staff.
14 5th Key-farmer's course	11/11 - 22/11/1996	30	2	32 Shinyanga(32)
15 6th Key-farmer's course	25/11 - 6/12/1996	25	6	31 Mwanza(17), Mara(14). Total includes 8 extension staff.
16 4th Rice cultivation course	14/1 - 27/2/1997	17	2	19 Tabora(9), Dodoma(4), Singida(3), tanga(2), Kilimanjaro(1)
17 3rd Water management course	29/1 - 27/2/1997	15	0	15 Mwanza(8) Shinyanga(5), Mara(1), Kagera(1)

Source: KATC

Table G.2.2 Inventory on Farm Machinery in and Around the Study Area

Village/Agencies	4 Wheel Tractor		Hand Tractor		Sprayer		Thresher		Com Sheller	
	No.	Capacity	No.	Capacity	No.	Capacity	No.	Capacity	No.	Capacity
Mabogoni	11	-	0	-	0	-	0	-	8	100 kg/hr
Rau Ya Kati	4	-	0	-	0	-	0	-	0	private
Chekereni	1	private	0	-	0	-	0	-	0	private
Orta	2	-	0	-	0	-	0	-	0	private
Mandaka Mtono	2	-	0	-	0	-	0	-	0	private
Kaloleni	0	-	0	-	0	-	0	-	0	private
Miakuja	0	-	0	-	7	-	0	-	0	private
Mvuliemi	0	-	0	-	4	-	0	-	0	private
Total in Study Area	19	-	0	-	-	-	0	-	8	-
KADP	28	40 & 50HP	-	-	-	-	-	-	-	-

Village/Agencies	No.	Capacity	Ownership
Mabogoni			
Rau Ya Kati			
Chekereni			
Orta			
Mandaka Mtono			
Kaloleni			
Miakuja			
Mvuliemi			
Total in Study Area	-	-	-
KADP	-	-	-

Source: JICA Study Team

Table G.4.1 Major Development Issues in Existing Lower Moshi Project Area and Agriculture Supporting Services

Year/Month	Major Development Issues		JICA Technical Cooperation	Major Training Activities BY KADC, KADP & KATC	
	Issues	Agency		Activities	Agency
1980	Construction of KADC	GOJ	▲		
1981 2	KADC Start(long term experts)	MAC/JICA			
1982	Construction of KADC Trial Farm	GOJ		Training(machinery) 1 course	KADC
1983	Construction of KADC Pilot Farm	GOJ	KADC	Training(paddy cultivation) 2 courses Training(irrigation) 1 course Training(machinery) 1 course	KADC KADC KADC
1984	Start of Lower Moshi Project	OECE		Training(paddy cultivation) 2 courses Training(irrigation) 1 course Training(machinery) 2 courses	KADC KADC KADC
1985	Start of rice cultivation in Project	Beneficiary		Introduction of communal nursery system Training(paddy cultivation) 1 course Training(machinery) 1 course Training(irrigation) 2 courses Seminar on paddy cultivation	Beneficiary KADC KADC KADC KADC
	Tractor supplied under KR-II	GOJ		Start of tractor hiring services	KADC
1986 3	Start of KADP	MAC/JICA	▲	Training(paddy cultivation) 1 course Training(machinery) 2 course Training(irrigation) 1 course Seminar on paddy cultivation	KADP KADP KADP KADP
1987 5	Completion of Lower Moshi Project	OECE		Full Operation of Existing Lower Moshi Project Training(paddy cultivation) 3 courses Training(machinery) 2 courses Training(irrigation) 1 course Seminar on paddy cultivation	KADP KADP KADP KADP KADP
1988 1	Introduction of 3 cropping seasons			Training(paddy cultivation) 1 course Training(machinery) 2 courses Training(irrigation) 3 courses	KADP KADP KADP
1989 4	Construction of Rice Mill	GOJ		Training(paddy cultivation) 1 course Training(machinery) 1 course Training(machinery) 1 course Training(irrigation) 2 courses	KADP KADP KADP KADP
1990					
1991.3 3	Completion of KADP KADP Project Follow-up		▼ KADP Follow-up	Training(machinery) 1 course	KADP
1993 3	Establishment of CHAWAMPU	Beneficiary KADP		Start of Joint Committee	KADP
1994	Tractor supplied under KR-II	GOJ	KADP Expert		
1994 7.0	Start of KATC Project	MAC/JICA	▲	No major activities directed to the Existing Area	KATC
1995 3	Enaction of By-Laws I/				
1996			KATC		
1997 3	Commencement of JICA F/S Study				

I/: The Moshi District Council(Regulation of Agriculture in The Lower Moshi Irrigation Development Project) By-Laws, 1995

File:Support/Tab-4

**Table G.4.2 Proposed Implementaion Schedule of Experimental Programs, Seed Multiplication Plan
and Tractor Hiring Services Strengthening Plan**

Development Progress Implication Command Area ha	Exclude Project Area New Extension Area Expanded Area	Year																									
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010														
Supporting Program Experimental Program	Items	1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010			
		Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry	Rainy	Dry		
Seed Multiplication Plan Rice	No. of Staff in Experimental Section																										
	1. Varietal Selection																										
	2. Verification Trials 1/																										
	- Variety Adaptability Trials																										
	- Crop Adaptability Trials (alt. etc.)																										
	- Fertilizer Trial																										
	- Soil Management																										
	- Cultivation Practices																										
	Schedule																										
	Qty																										
Verification Trials Total																											
1. Estimated Cropped Area (Estimated cropped area in Project Area)	ha	1,505	1,930	1,810	1,810	2,576	1,990	2,791	2,213	4,127	2,350	4,509	2,350	4,700	2,350	4,700	2,350	4,700	2,350	4,700	2,350	4,700	2,350	4,700	2,350		
2. Seed Requirement for Planting (1 x 33 kg/ha)	t	50	64	60	60	85	66	92	73	136	78	149	78	155	78	155	78	155	78	155	78	155	78	155	78		
3. Certified Seed Requirement/Production (2/2, replacement of every 2 plantings)	t	40	32	30	30	43	33	46	37	68	39	74	39	78	39	78	39	78	39	78	39	78	39	78	39		
4. Requirement of Seed Production Fields (3/2,000 kg/ha)	ha	18	15	21	16	23	18	34	19	37	19	39	19	39	19	39	19	39	19	39	19	39	19	39	19		
5. No. Seed Grower Required (4/ Farm size per seed grower 0.6 ha)	No.	27	25	35	27	38	30	57	32	62	32	65	32	65	32	65	32	65	32	65	32	65	32	65	32		
6. Foundation Seed Requirement/Production (4 x 33 kg/ha)	kg	525	493	701	542	760	602	1,124	640	1,228	640	1,280	640	1,280	640	1,280	640	1,280	640	1,280	640	1,280	640	1,280	640		
7. Requirement of Seed Farm (6/1,000 kg/ha)	ha	0.5	0.4	0.7	0.5	0.8	0.6	1.1	0.6	1.2	0.6	1.3	0.6	1.3	0.6	1.3	0.6	1.3	0.6	1.3	0.6	1.3	0.6	1.3	0.7		
Tractor Hiring Services Strengthening Plan for Land Preparation																											
1. Estimated Cropped Area/Service Area	ha	1,505	1,930	1,810	1,810	2,576	1,990	2,791	2,213	4,127	2,350	4,509	2,350	4,700	2,350	4,700	2,350	4,700	2,350	4,700	2,350	4,700	2,350	4,700	2,350		
2. Requirements of Tractor Units for Operation 6/	No.	21	27	25	26	36	28	39	31	57	33	63	33	65	33	65	33	65	33	65	33	65	33	65	33		
3. Requirement Requirements (2 x 1056) 7/	No.	2	3	3	3	3	3	3	3	4	3	6	3	7	3	7	3	7	3	7	3	7	3	7	3		
4. Total Requirements (2+3)	No.	23	29	28	29	39	31	42	34	61	36	69	36	72	36	72	36	72	36	72	36	72	36	72	36		
5. Tractors Owned by KADP 8/	No.	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16		
6. Procurement of Tractor	No.	7	6	0	10	0	3	0	20	0	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0		
7. No. of Tractor in Service (5+4) 9/	No.	23	29	29	29	39	39	42	42	61	61	69	69	72	72	72	72	72	72	72	72	72	72	72	72		

1/ Experimental staff x 2.5 units 2/ Assuming seed replacement after cultivating 2 times/season self-multiplication 3/ Assuming certified seed production of 2,000 kg/ha 4/ Assuming seed production farm 0.6 ha per seed grower 5/ Assuming production of foundation seed 1,000kg/ha
6/ Operation capacity of land preparation works: 1,2 holiday x 60 days works/2 months/season = 72 ha/season 7/ Assuming operation efficiency of 90% 8/ Counting only new tractors supplied under KRII in 1994 and assuming replacement by beneficiaries 9/ Assuming replacement by beneficiaries

Table G.4.3 Assessment of Requirements for Training and Extension Subjects by Area

Field Support-training req.

Target Area	Subjects To Be Addressed	Proposed Approaches Training Activities
<p>1. Existing Project Area</p> <ul style="list-style-type: none"> - Existing Paddy Fields - Current Upland Fields 	<ul style="list-style-type: none"> - Requirements for technical training & extension on most agronomic aspects are low as successful rice cultivation in the past. - Requirements exist for training & extension on O&M, plant protection, soil management & feeding system in animal husbandry. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) - Most farmers have experiences in intensive rice cultivation being employed as farm labourers. - However, limited experiences in management aspects of rice farming from seeding to harvesting. - Requirements high for training & extension on O&M, plant protection, soil management & feeding system in animal husbandry. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) 	<ul style="list-style-type: none"> - Training for selected target groups in class - Extension Activities - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP - Training Activities - Training in class for selected target groups - Field practical training in advanced farmers field from sowing to harvesting. - Extension Activities - Demonstration fields of recommended farming practices operated by farmers - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP - Training Activities - Training in class for selected target groups - Field practical training in advanced farmers field from sowing to harvesting. - Extension Activities - Demonstration fields of recommended farming practices operated by farmers - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP - Training Activities - Training in class for selected target groups - Extension Activities - Demonstration fields of recommended farming practices operated by farmers - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP
<p>2. New Extension Area</p>	<ul style="list-style-type: none"> - Over 50% of farmers have experiences in intensive rice cultivation being employed as casual labourers. - However, limited experiences in management aspects of rice farming from seeding to harvesting. - Requirements high for training & extension on O&M, plant protection, soil management & feeding system in animal husbandry. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) 	<ul style="list-style-type: none"> - Training in class for selected target groups - Field practical training in advanced farmers field from sowing to harvesting. - Extension Activities - Demonstration fields of recommended farming practices operated by farmers - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP - Training Activities - Training in class for selected target groups - Extension Activities - Demonstration fields of recommended farming practices operated by farmers - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP
<p>3. Expanded Area</p>	<ul style="list-style-type: none"> - Requirements for technical training & extension on agronomic aspects still exist. - Requirements high for training & extension on O&M. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) 	<ul style="list-style-type: none"> - Training in class for selected target groups - Extension Activities - Demonstration fields of recommended farming practices operated by farmers - Demonstration fields for new variety and crop, soil management etc. - Mass guidance/campaign - Extension activities(TV system) by KADP

Table G.4.4 Proposed Extension and Training Programs

Field-Support-program

Subjects To Be Addressed	Proposed Extension & Training Programs
<p>Existing Project Area: Existing Paddy</p> <ul style="list-style-type: none"> - Requirements for technical training & extension on most agronomic aspects are low as successful rice cultivation in the past. - Requirements exists for training & extension on O&M, plant protection, soil management & feeding system in animal husbandry. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) 	<p>Fields: Net 1,014 ha</p> <p>Extension Programs</p> <p>Demonstration plots(variety, crop, soil management, etc.) - size: 0.3 ha/plot</p> <p>Demonstration area(variety, crop, soil management etc.) - size: 40 ha/unit</p> <p>Mass guidance/campaign - target groups: 50 representative farmers/ Field extension activities(TV system) by KADP - subjects: O&M, cooperatives, group activities, soil management, new variety/crop, animal feeding, crop protection, seed production, etc.</p> <p>Training Programs</p> <p>Farmer Training - target groups & duration: 25 selected farmers/5 days - subjects: O&M, cooperatives, group activities, soil management, new variety/crop, animal feeding, crop protection, seed production, etc.</p>
<p>Existing Project Area: Current Upland Fields: Net 1,046 ha</p> <ul style="list-style-type: none"> - Most farmers have experiences in intensive rice cultivation being employed as farm labourers. - However, limited experiences in management aspects of rice farming from seeding to harvesting. - Requirements high for training & extension on O&M, plant protection, soil management & feeding system in animal husbandry. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) 	<p>Fields: Net 1,014 ha & New Extension Area: Net 2,090 ha</p> <p>Extension Programs</p> <p>Demonstration plots(recommended practices) - size: 0.3 ha/plot</p> <p>Demonstration plots(variety, crop, soil management, etc.) - size: 0.3 ha/plot</p> <p>Demonstration area(recommended practices) - size: 40 ha/unit</p> <p>Demonstration area(variety, crop, soil management, etc.) - size: 40 ha/unit</p> <p>Mass guidance/campaign - target groups: 50 representative farmers/ Field extension activities(TV system) by KADP - subjects: recommended practices, O&M, cooperatives, group activities, soil management, new variety/crop, animal feeding and plant protection etc.</p> <p>Training Programs</p> <p>Farmer Training - target groups & duration: 25 selected farmers/5 days - subjects: recommended practices, O&M, cooperatives, group activities, soil management, new variety/crop, animal feeding and plant protection etc.</p> <p>Field Practical Training - timing: 1 season prior to the start of rice cultivation in the area - target groups: preferably all beneficiary farmers not having paddy fields at present - duration: 1 cropping season</p>
<p>Expanded Area: Net 460 ha</p> <ul style="list-style-type: none"> - Requirements for technical training & extension on agronomic aspects still exist. - Requirements high for training & extension on O&M. - Requirements high for training & extension on cooperative and organizational activities. - Introduction of new variety & new crop(alfalfa) 	<p>Extension Programs</p> <p>Demonstration plots(recommended practices) - size: 0.3 ha/plot</p> <p>Demonstration plots(variety, crop, soil management, etc.) - size: 0.3 ha/plot</p> <p>Demonstration area(recommended practices) - size: 40 ha/unit</p> <p>Demonstration area(variety, crop, soil management, etc.) - size: 40 ha/unit</p> <p>Mass guidance/campaign - target groups: 50 representative farmers/ Field extension activities(TV system) by KADP - subjects: recommended practices, O&M, cooperatives, group activities, soil management, new variety/crop, animal feeding and plant protection etc.</p> <p>Training Programs</p> <p>Farmer Training - target groups & duration: 25 selected farmers/5 days - subjects: recommended practices, O&M, cooperatives, group activities, soil management, new variety/crop, animal feeding and plant protection etc.</p>

Table G.4.5. Proposed Implementation Schedule of Extension and Training Programs - 2/2

Development Progress Irrigation Command Area (ha)	Existing Project Area New Extension Area Expanded Area	If Irrigation Command Area (classified size of a tertiary block)												If In-principle, 1 course 25 participants; 1 participant per tertiary block																							
		1999			2000			2001			2002			2003			2004			2005			2006			2007			2008			2009			2010		
		Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1	Rainy	Dry	1			
		2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150					
		181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181	181				
		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100				
Target Area/Program	Program(Units)																																				
New Extension Area	No. of Tertiary Block //																																				
Extension Programs	No. Extension Staff Assigned																																				
	Demonstration Plot(plots)																																				
	No. of Extension Staff x 2-5																																				
	Demonstration Area(units)																																				
	No. of Extension Staff x 1-2																																				
	Mass Guidance/Campaign(units)																																				
	Schedule																																				
	Qty																																				
Training Programs	Field Extension Activities																																				
	Farmer Training(course)																																				
	No. Tertiary Block/25 x 1-2/																																				
	Schedule																																				
	Qty																																				
Expanded Area	Field Practical Training																																				
	No. of Tertiary Block //																																				
Extension Programs	No. Extension Staff Assigned																																				
	Demonstration Plot(plots)																																				
	No. of Extension Staff x 2-5																																				
	Demonstration Area(units)																																				
	No. of Extension Staff x 1-2																																				
	Mass Guidance/Campaign(units)																																				
	Schedule																																				
	Qty																																				
Training Programs	Field Extension Activities																																				
	Farmer Training(course)																																				
	No. Tertiary Block/25 x 1-2/																																				
	Schedule																																				
	Qty																																				
Whole Project Area	No. of Tertiary Block //																																				
Extension Programs	No. Extension Staff Assigned																																				
	Demonstration Plot(plots)																																				
	No. of Extension Staff x 2-5																																				
	Demonstration Area(units)																																				
	No. of Extension Staff x 1-2																																				
	Mass Guidance/Campaign(units)																																				
	Schedule																																				
	Qty																																				
Training Programs	Field Extension Activities																																				
	Farmer Training(course)																																				
	No. Tertiary Block/25 x 1-2/																																				
	Schedule																																				
	Qty																																				

Table G.4.6. Estimated Requirements & Proposed Production Plan of Alfalfa Seed

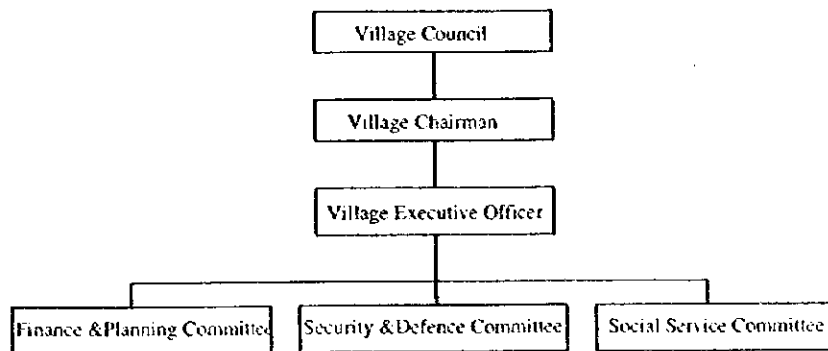
Target Area	Estimation	Year																		
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010									
EXISTING Area																				
1. Cropped Area(ha) /1			55	55	55	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430
2. Requirements(kg)	1 x 7.5 kg/ha	413	413	413	413	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225	3,225
3. Seed Supplied by KADP		413				1,600														
4. Seed Production Area Required(ha) 2/	2 in next year /66kg/ha	6	6	6	25	49	49	49	49	49	49	49	49	49	49	49	49	49	49	49
5. Proportion of Seed Production Area to Cropped Area(%)	3/1 x 100	11	11	11	45	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
6. Seed Produced by KADP for next season		413			1,600															
New Extension Area																				
1. Cropped Area(ha) /1						36	36	36	418	418	418	418	418	418	418	418	418	418	418	418
2. Requirements(kg)	1 x 7.5 kg/ha					270	270	270	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135	3,135
3. Seed Supplied by KADP						338			1600											
4. Seed Production Area Required(ha) 2/	2 in next year /66kg/ha					4	4	23	48	48	48	48	48	48	48	48	48	48	48	48
5. Proportion of Seed Production Area to Cropped Area(%)	3/1 x 100					11	11	65	11	11	11	11	11	11	11	11	11	11	11	11
6. Seed Produced by KADP for next season					270				1600											
Expanded Area																				
1. Cropped Area(ha) /1											20	92	92	92	92	92	92	92	92	92
2. Requirements(kg)	1 x 7.5 kg/ha										150	690	690	690	690	690	690	690	690	690
3. Seed Supplied by KADP											400									
4. Seed Production Area Required(ha) 2/	2 in next year /66kg/ha										4	10	10	10	10	10	10	10	10	10
5. Proportion of Seed Production Area to Cropped Area(%)	3/1 x 100										22	11	11	11	11	11	11	11	11	11
6. Seed Produced by KADP for next season										400										
Whole Project Area																				
1. Cropped Area(ha) /1			55	55	55	466	486	486	940	940	940	940	940	940	940	940	940	940	940	940
2. Requirements(kg)	1 x 7.5 kg/ha	413	413	413	413	3,495	3,645	3,645	7,050	7,050	7,050	7,050	7,050	7,050	7,050	7,050	7,050	7,050	7,050	7,050
3. Seed Supplied by KADP		413				1,938	400	400	1,600	400	1,600	400	1,600	400	1,600	400	1,600	400	1,600	400
4. Seed Production Area Required(ha) 2/	2 in next year /66kg/ha	6	6	6	25	53	77	77	107	107	107	107	107	107	107	107	107	107	107	107
5. Proportion of Seed Production Area to Cropped Area(%)	3/1 x 100	11	11	11	45	11	16	16	11	11	11	11	11	11	11	11	11	11	11	11
6. Seed Produced by KADP for next season		413			1,870	400	1,600	400	1,600	400	1,600	400	1,600	400	1,600	400	1,600	400	1,600	400
Requirements of Seed Multiplication Farm Operated by KAI	6 / 200 kg/ha				9	2					8									

File:Alfalfa Seed

1/: Cropped area of alfalfa in dry season
2/: Assuming production of seed of 200 kg/ha/year

Figures

Ordinary Village's Organization Chart



Mandaka Mnono Village's Organization Chart

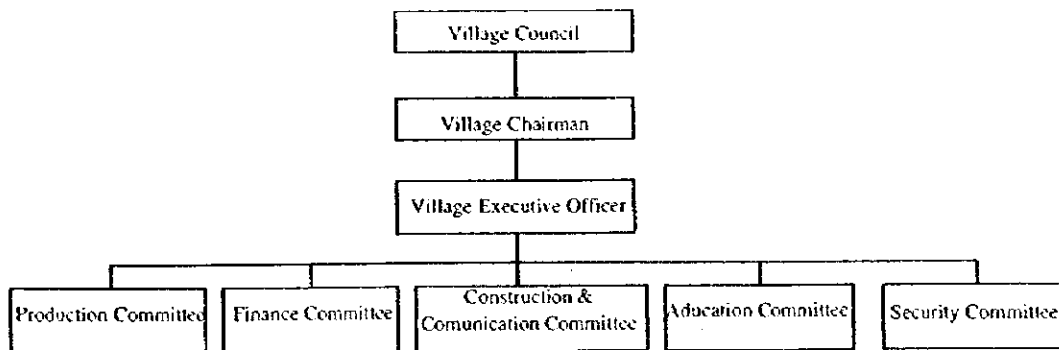
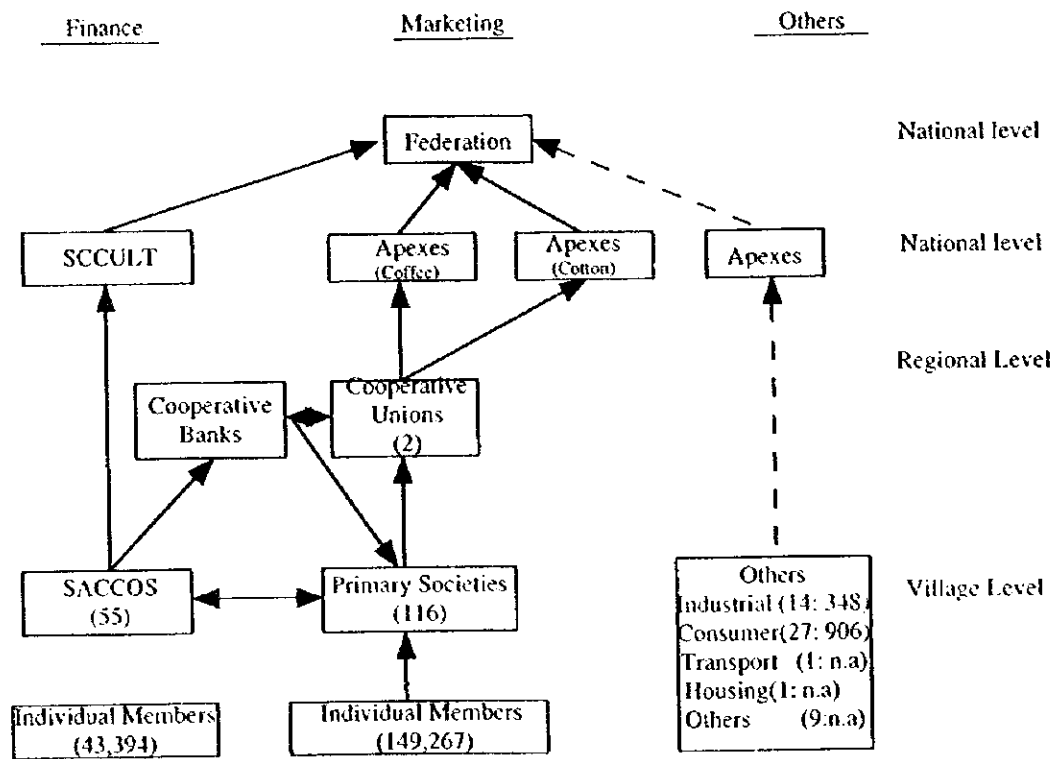


Figure G.1.1
Village's Organization Chart

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Note: SCCULT: Saving & Credit Cooperation Union League
 SACCOS: Saving & Credit Cooperative Societies
 (): Total No. of Societies
 (:): total No. of societies, and total No. of members.
 n.a: Not available

Figure G.1.2
 Cooperative Organizational Structure
 in Kilimanjaro Region

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 Agriculture and Rural Development Project
 in the United Republic of Tanzania

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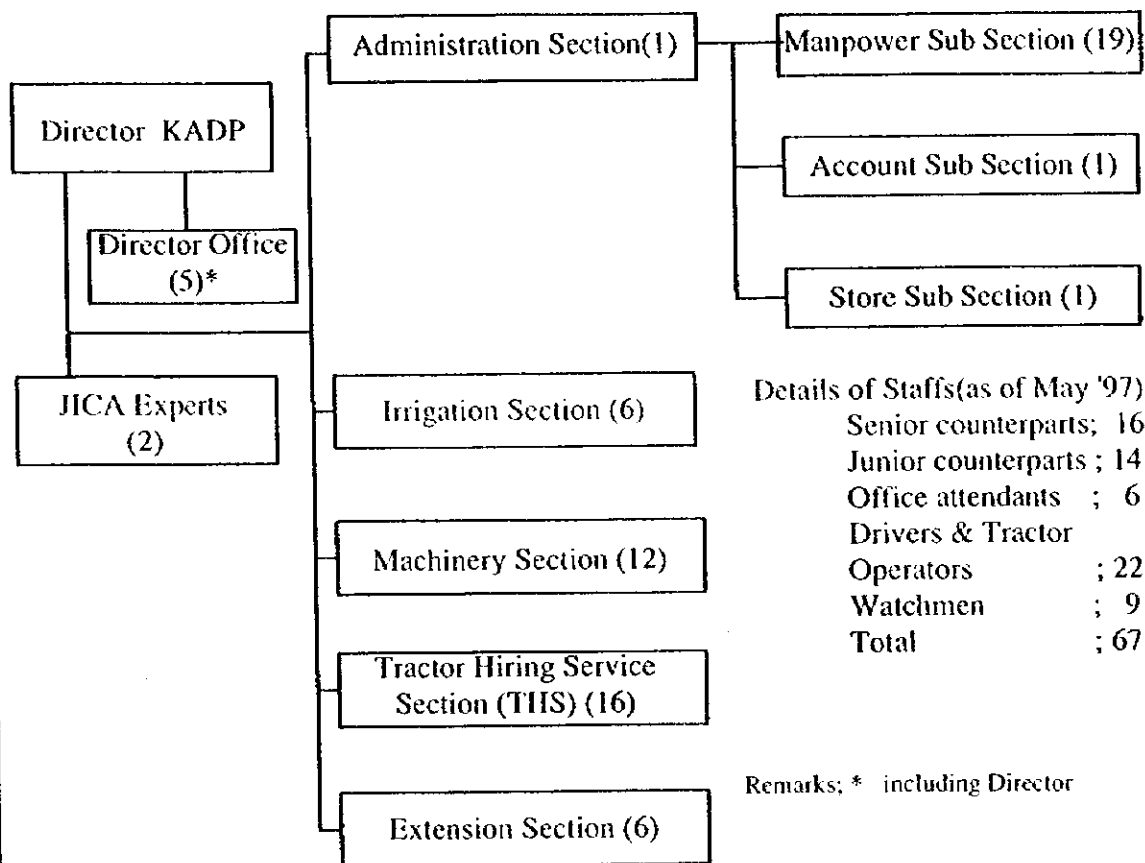
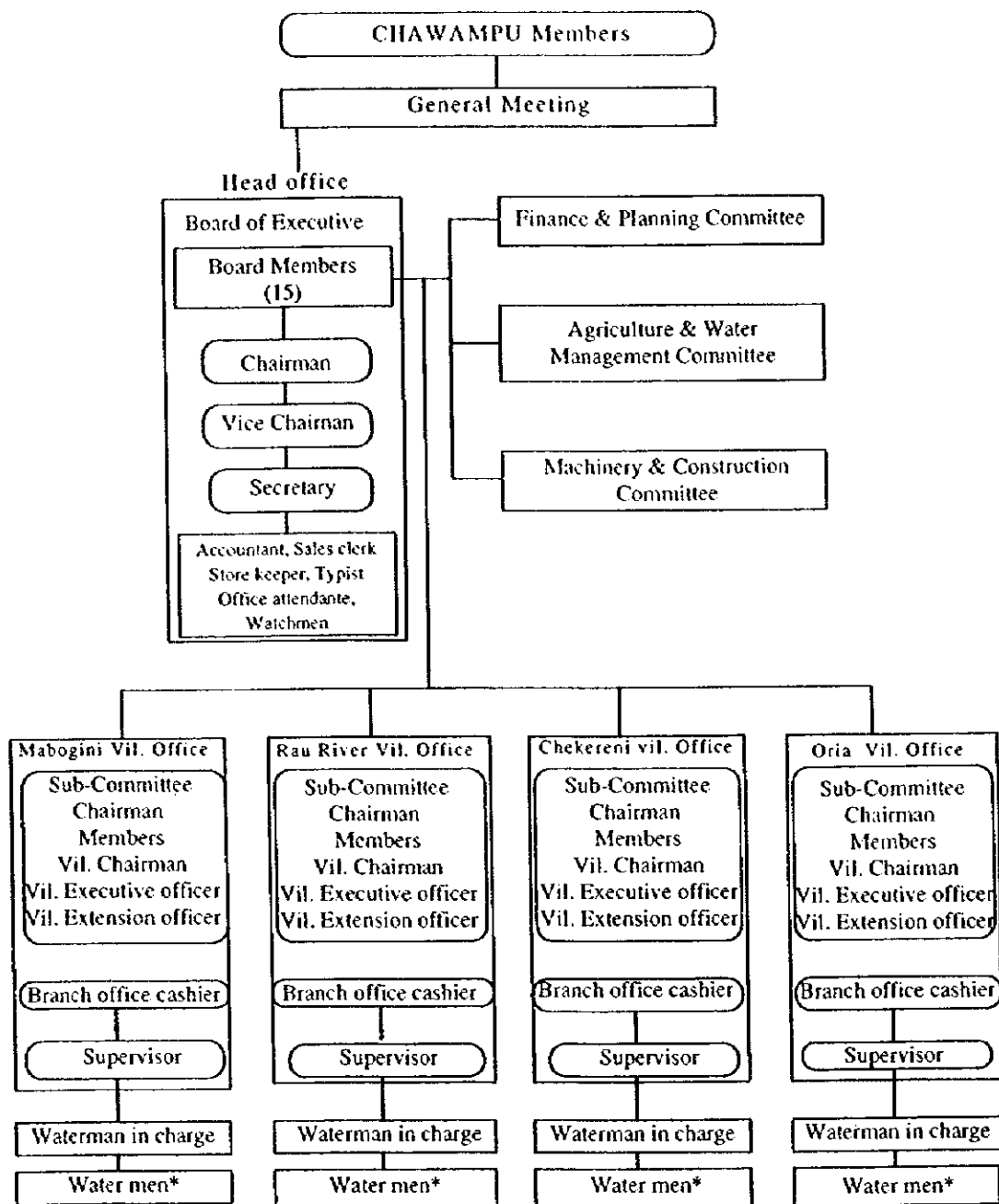


Figure G.1.3
Organization Chart of KADP

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Remark: * Approximately 20-40

Figure G.1.4
Organization Chart of CHAWAMPU

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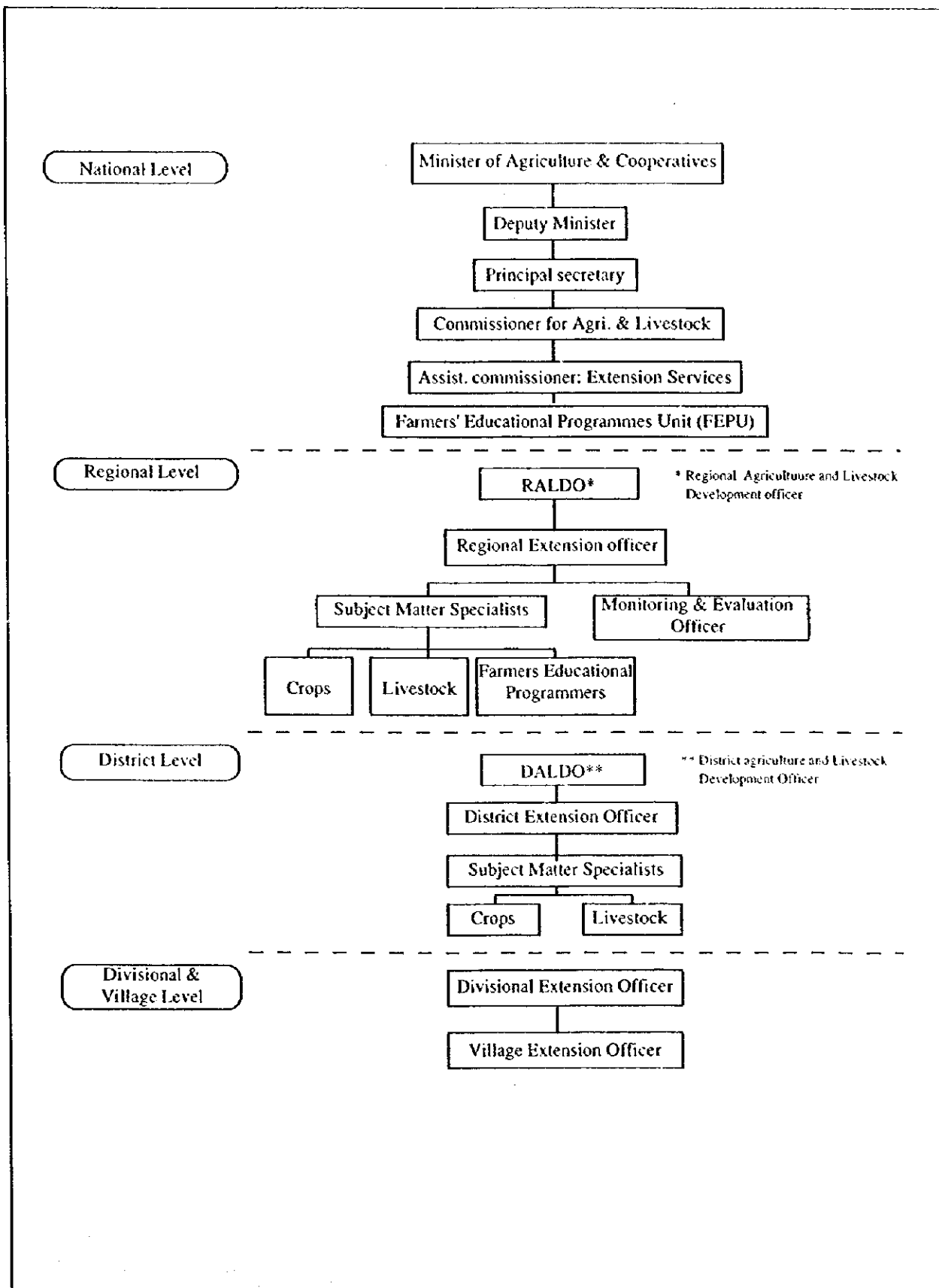


Figure G.2.1
Organizational Structure of Extension Services

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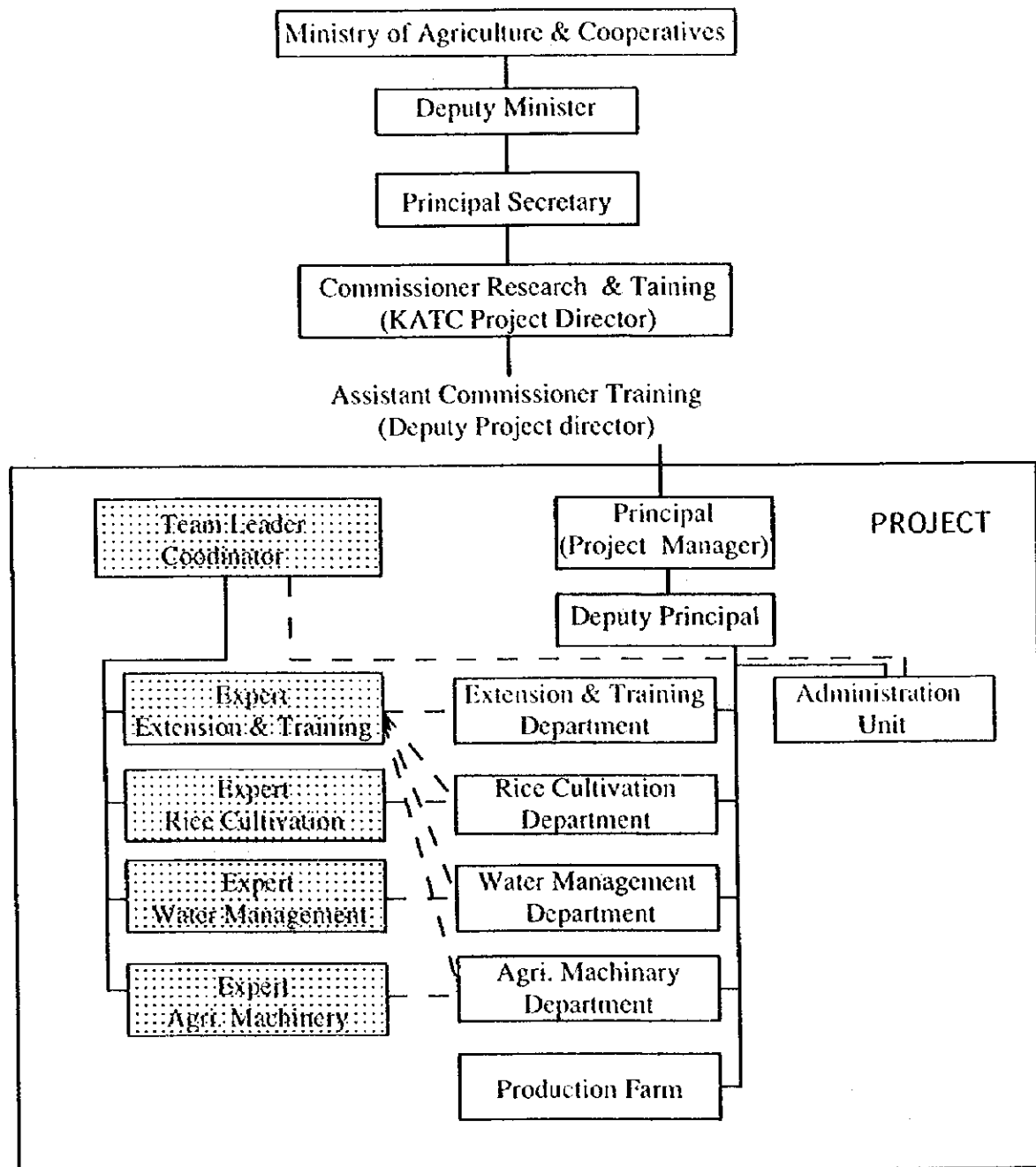
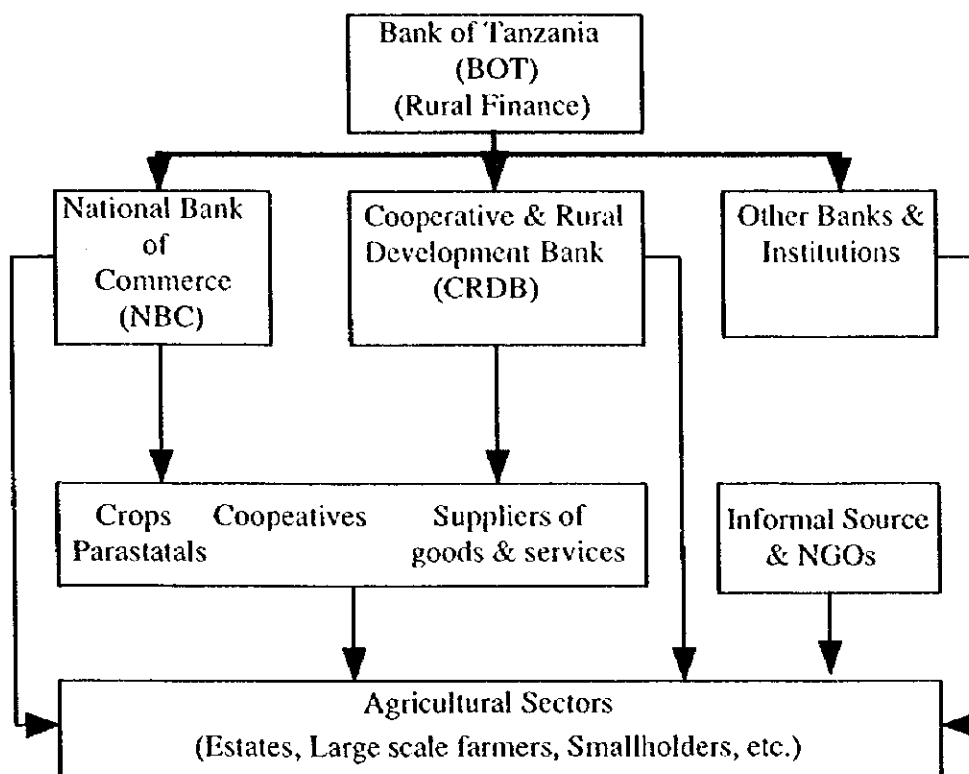


Figure G.2.2
KATC Project Administration Structure

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Remark: ——— REFINANCING, GRANTS

Figure G.2.3
Flow of Credit to Agriculture

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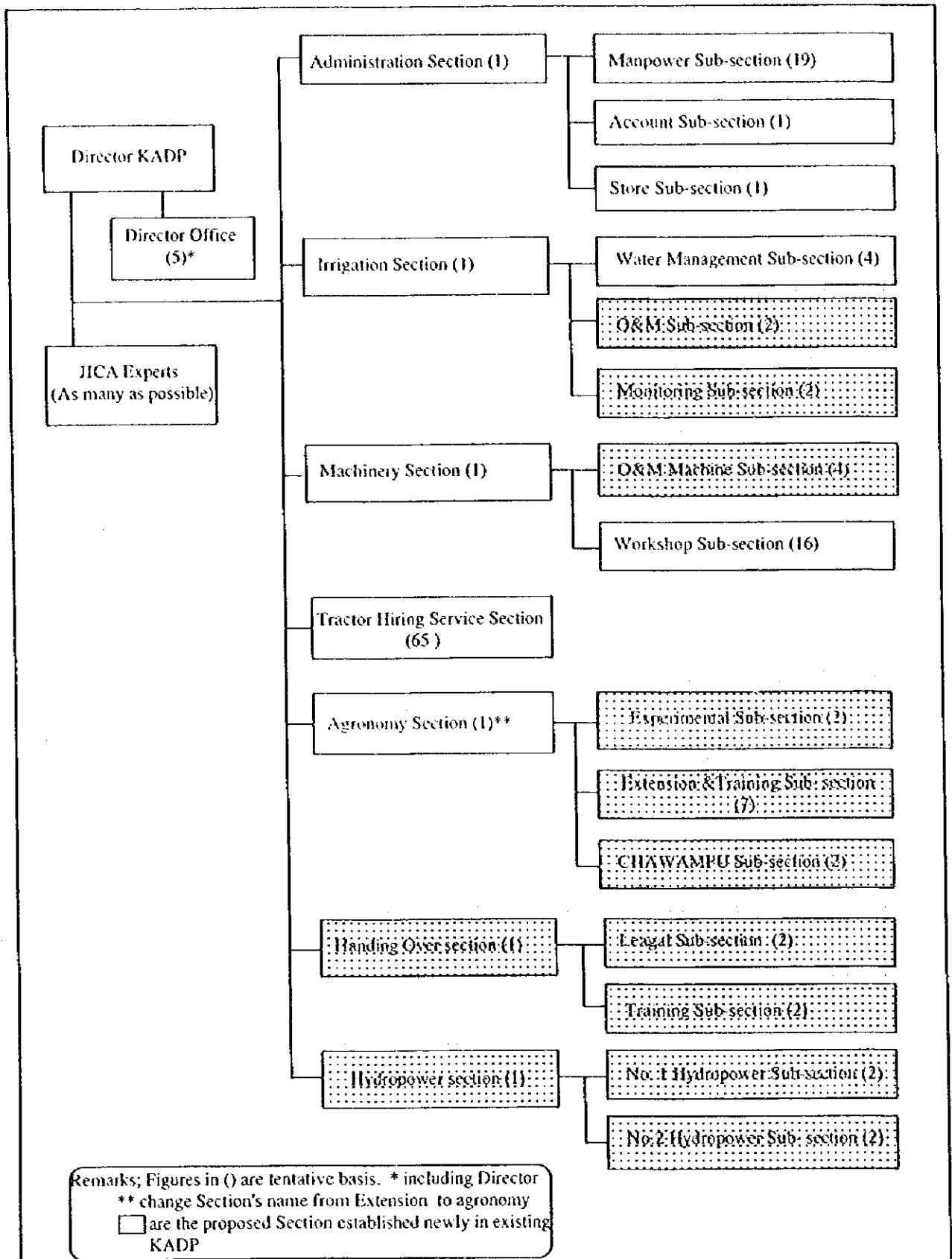
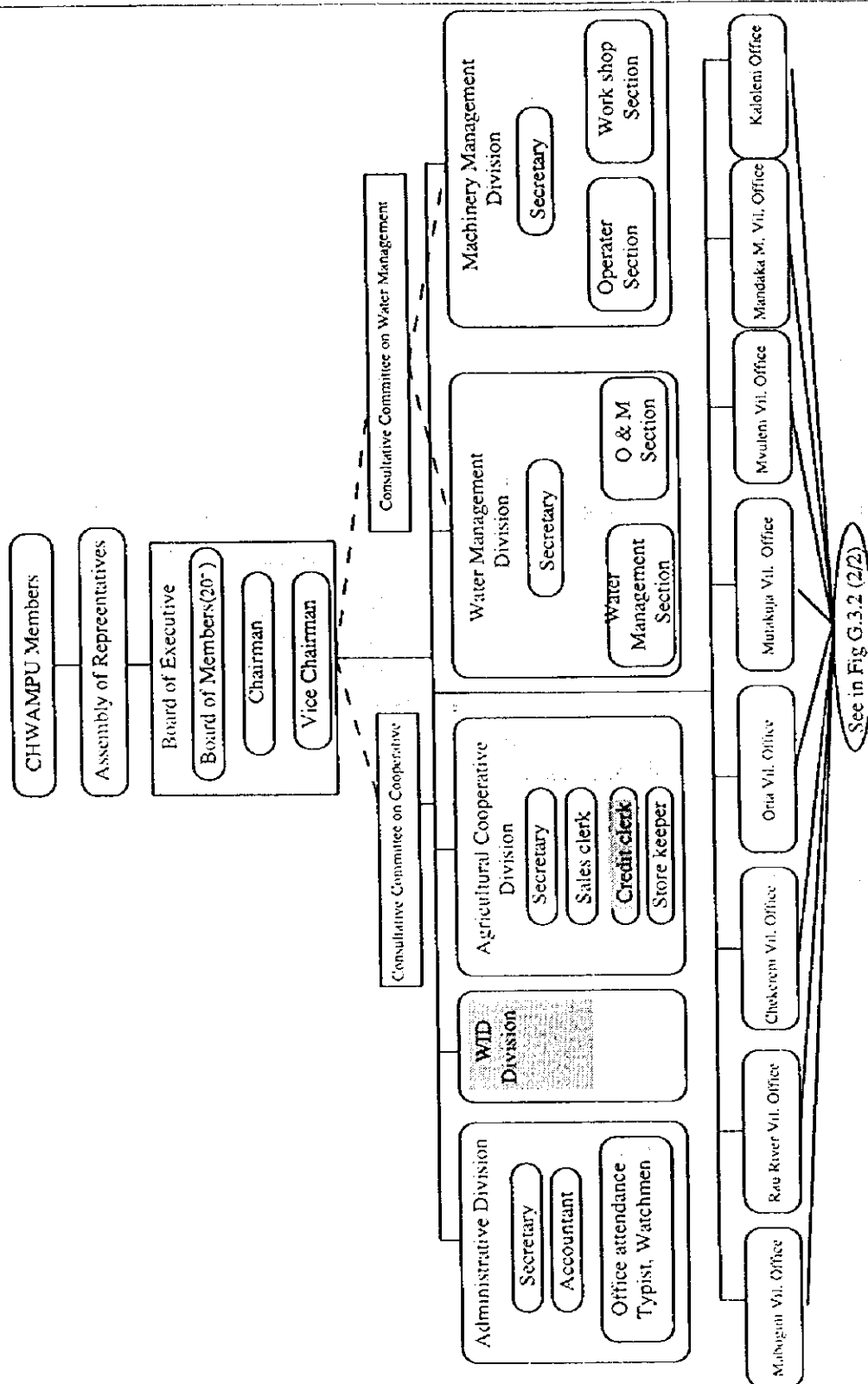


Figure G.3.1
Proposed Organization Chart of
KADP in 1st Stage

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Note: The division and clerk with shadow mark will be established as occasion demands in feature .

Figure G. 3. 2
Proposed CHAWAMPU Organization Structure
in 2nd Stage(1/2)

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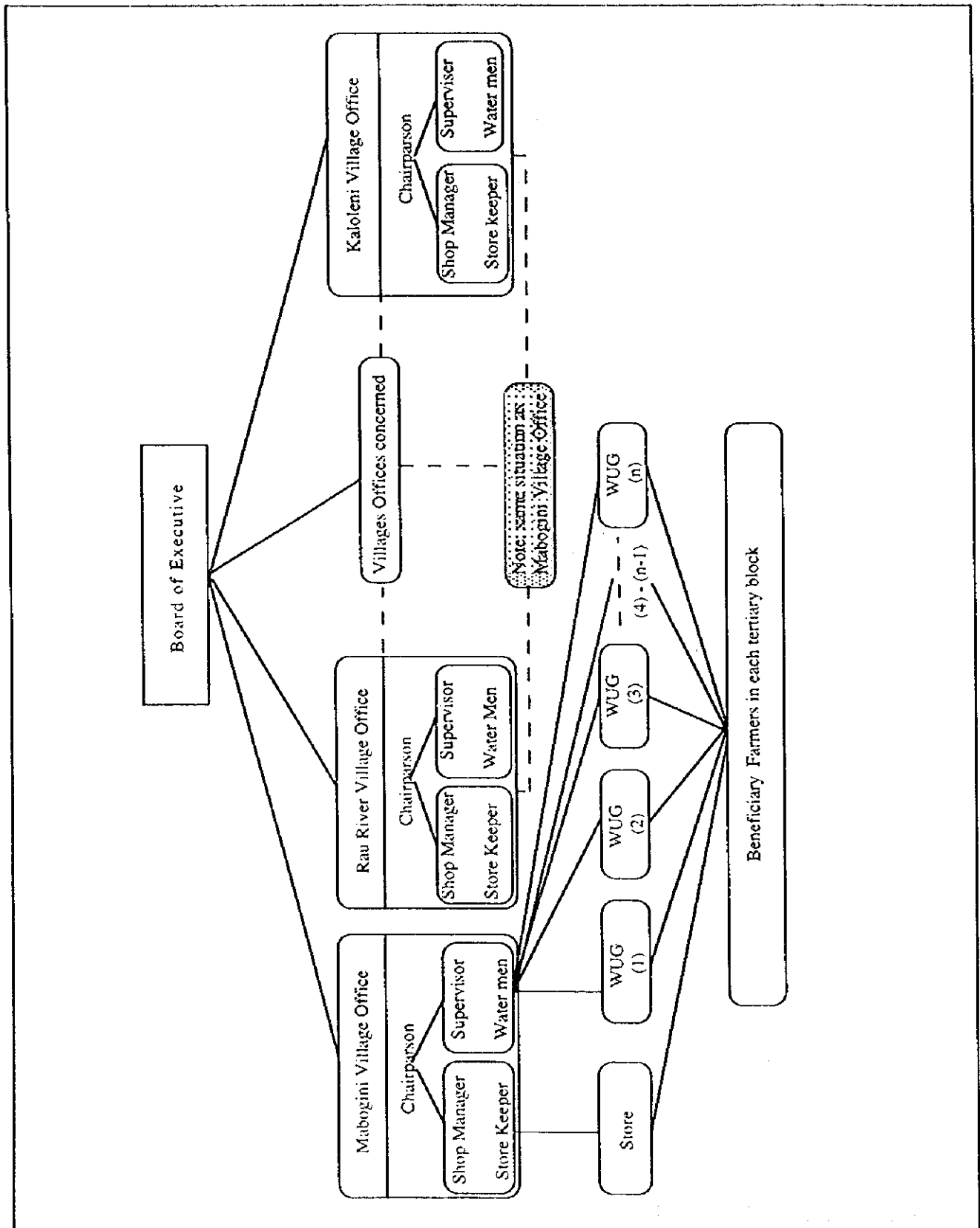
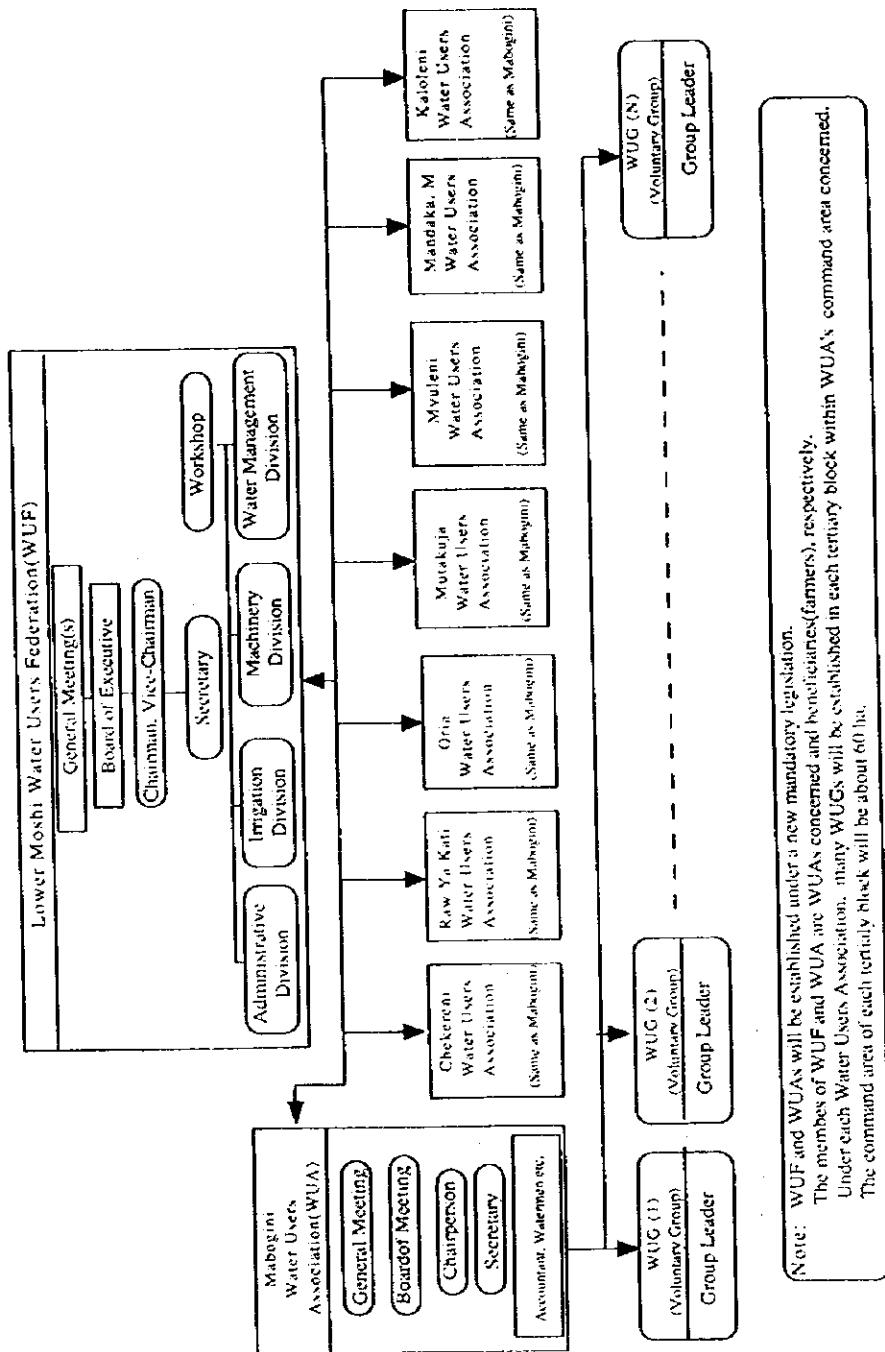


Figure G.3.2
Proposed CHAWAMPU Organization Structure
in 2nd Stage (2/2)

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Note: WUF and WUAs will be established under a new mandatory legislation. The members of WUF and WUA are WUAs concerned and technicians (farmers), respectively. Under each Water Users Association, many WUGs will be established in each tertiary block within WUA's command area concerned. The command area of each tertiary block will be about 60 ha.

Figure G.3.3
Proposed Plan on Water Management and O&M in 2nd Stage

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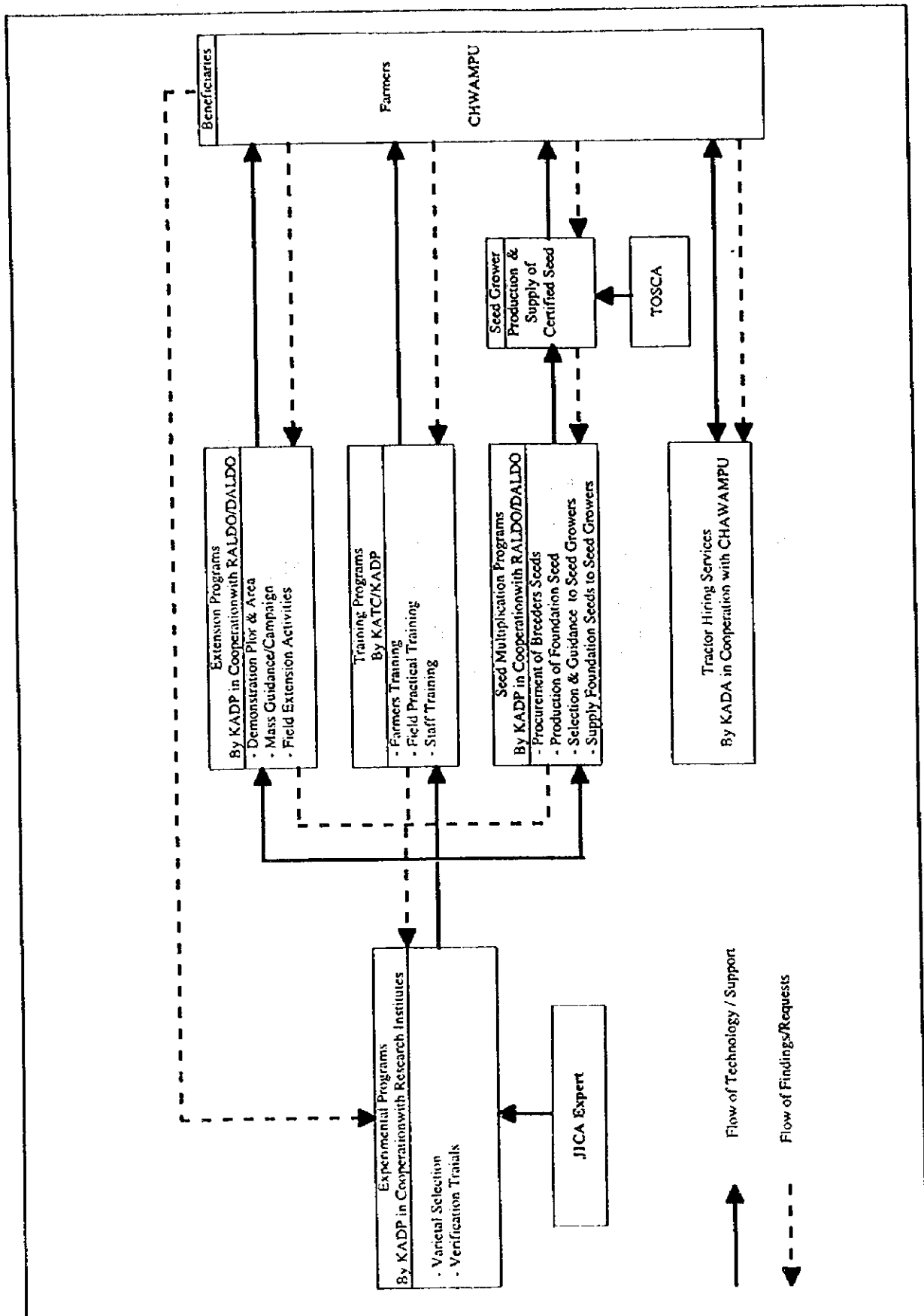


Figure G.4.1
Proposed System for Agricultural Supporting Activities

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ATTACHMENT-G.1

CHAWAMPU OPERATIONAL

GUIDELINE (BY-LAWAS)

ATTACHMENT-1

CHAMA CHA WAKULIMA WA MPUNGA (CHAWAMPU) PADDY AGRICULTURAL COOPERATIVE SOCIETY LTD (CHAWAMPU) OPERATIONAL GUIDELINE (BY-LAWS) COOPERATIVE ACT NO 15 OF 1991

SECTION ONE

Name and Address:

1. The Association's name shall be:
Chama cha Wakulima wa mpunga (CHAWAMPU) RCS LTD.
2. The Postal address of the Association shall be:
P.O.Box 1438, Moshi.
3. The activities of the Association shall be carried out in the following areas in Moshi rural district.
 - 3.1 Mabogini Village
 - 3.2 Oria village
 - 3.3 Chekereni village
 - 3.4 Rau River Village

SECTION TWO

Objectives:

4. The objectives of the Association shall be:
 - (i) To raise the social economic of its members by increasing income through the application of modern agriculture techniques, and improve their living standards.
 - (ii) To promote agriculture activities for its members and whenever possible to develop agricultural cooperative agriculture production and to perform any other social economic activities.
 - (iii) To offer and develop cooperative education amongst its members.

The Association shall be operated democratically and accordingly to the cooperative law of 1991 (Rules and Regulations). to fulfill its objectives the Association shall work and be accountable to the following:

- (a) Procurement, storage and supply/sell of agriculture inputs and all essential commodities required for the economical development of the Association.
 - (b) Procurement, operating and efficient utilization of crop processing machines.
 - (c) Establishment and management of crop plantations.
 - (d) Collection, processing and sale of crops.
 - (e) Advice members on the importance and application of modern agriculture techniques.
 - (f) Maintain and develop land which will be distributed to the members for the agricultural production.
 - (g) Advice members on the proper utilization of land for agricultural production.
 - (h) Operate and maintain farm machinery and equipment for the better use its members and the Association.
 - (i) Carry out all beneficial activities essential for the fulfillment of the Association objectives.
5. (i) the Association may join any other organization/associations and establish a common cooperative

venture.

- (ii) The Association may join any other associations and form a cooperative union, or join already established and existing cooperative union.
6. The association shall operate and integrated other social economic activities for the benefit of its members.

SECTION THREE

7. Membership is open to any person who fulfills the following conditions and qualifications:
- (a) Any farmer owning a farm/plot within the Association area of operation.
 - (b) Pay at least one share of Tsh 10,000/- and membership fee of Tsh 3,000/-.
 - (c) Any farmer aged 18 years and above; special consideration is given to minor of 15 years and below 18 years of age who may be allowed to join the association but will be restricted in acquiring a leadership posts in the Association.
 - (d) Agrees to the conditions and regulations of the association.
 - (e) Participate effectively to the social economical activities carried out by the Association.
 - (f) Participate effectively to the social economical activities carried out by the Association.
 - (g) Persons of unsound mind will not be allowed to be members.
8. Membership shall be of the following categories:
- (a) founder members attending the first meeting subsequently to the application and registration of the Association and fulfill membership obligations as stipulated in sub section 8 and 11 of these guidelines.
 - (b) Those persons who join the association subsequent to its registration: Member of this category should be scrutinized by the Association committee before approved of the general meeting.
9. Each person admitted to membership shall be required to pay at least one share and membership fee, and sign the membership register in front of two committee members, if a member loses his/her certificate/ card he/she will be required to pay fee as approved by the committee and be issued with a copy of the certificate/card.
10. Each member may purchase up to 20 shares valued Tsh 10,000/- each and pay Tsh 3,000/- as a membership. Fee when paid joining the Association is non refundable.

Disqualification of members:

11. A member shall cease on the following reasons:
- (a) Death
 - (b) Permanent transfer/departure from the area of operation of association.
 - (c) Failure to participate effectively to the social and economical activities of the Association as described in these guidelines.
 - (d) Insanity certified by a qualified doctor.
 - (e) Member misconduct resulting to the disruption of the Association activities, or tarnishing the name of the association.
 - (f) failure to pay shares to the Association.

12. A member may be disqualified from membership after failing to fulfill the requirements mentioned in article 15,16(I) of the 1991 cooperative act or deliberately neglect to participate effectively in the Association activities; or failure to follow rules and procedures laid down by the general meeting.
13. A disqualified member may rejoin the Association if the committee is satisfied that she/he has a changed his conduct.

SECTION FOUR

Financial provisions:

14. The funds of the Association shall consists of:
 - (a) Moneys collected as shares membership fees and subscription fees.
 - (b) Sales levy from paddy and paddy products.
 - (c) Loans from different financial institutions.
 - (d) Money deposited in the bank by the Association as required by the 199 cooperative act.
 - (e) Moneys accrued from deposits and accumulations.
 - (f) income obtained from the projects operated by the association.
 - (g) Other incomes.
15. The Association may impose levy or fees to all crop sold by the Association or sold to the Association.

SECTION FIVE

Distribution of surplus

16. The surplus obtained through the Association activities shall be distributed as follows:
 - (a) The basic deposit shall be 20% of the total surplus and shall remain fixed all the time. The deposit shall be used only for the development of the Association and be as a security to pay debts if the Association becomes bankrupt.
 - (b) The remaining surplus shall be distributed to members as approved by the general meeting and shall be used for the following activities:
 - (i) Distribution of surplus to members.
 - (ii) Fund allocated for education health and general social services.
 - (iii) Gift to the CHAWAMPU/committee members.
 - (iv) Meet other expenses as agreed by the members(miscellaneous)

SECTION SIX

17. In case the society is liquidated or if the society is indebted, member contributions shall not exceed the amount of their shares whether paid or unpaid.

SECTION SEVEN

Organization and management

18. Supreme powers of the society shall be vested to the members who have the right to attend and vote at the general meeting.
19. (a) An annual general meeting of the society shall be held in April every year or soon after the close of the society's financial year but should not be later that 6 months after the close of the financial year.

- (b) The annual general meeting shall carry out the following functions:
- (i) To receive deliberate and approve the minutes of the previous general meeting.
 - (ii) To receive and adopt the audited accounts and the auditors report and that of register of cooperatives.
 - (iii) To discuss and approve the financial report of the year.
 - (iv) To discuss distribution of the surplus according to the cooperative act of 1991.
 - (v) To suspend or dismiss irresponsible board members who do not adhere to the Association guidelines.
 - (vi) To fix levy tax.
 - (vii) To fix the limits of debts.
 - (viii) To perform any other duties concerning the development of the society as it may deem necessary.
 - (ix) The ordinal general meetings shall be held at least twice a year.
- (c) Matters to be discussed at the general meeting, one of which must be held two months before the close of the financial year of the society will be:
- (i) To receive, discuss and approve long and short term development plans of the society.
 - (ii) To discuss and approve the budget (Estimation on income and expenditure) of the coming year.
 - (iii) To receive and discuss the financial and operational report from the committee.
 - (iv) To receive and approved the purchases or sales of society's properties valued not more than Tsh 100,000/-.
 - (v) To fix the limitations of debts according to 1991 cooperative act.
 - (vi) To approve new members and to take action on unsuitable members.
 - (vii) To elect remove or dismiss committee members including the chairman and the vice chairman.
 - (viii) To appoint delegates to represent the society in other organizations and institutions dealing with the development of the society.
 - (ix) To do any other activity concerning the development of the Association.

Extraordinary general meeting

20. (a) There shall be an extraordinary general meeting at any time which when required shall be called by:
- (i) Cooperative registrar.
 - (ii) Upon the written application by not less than one third (1/3) of all members. The application should state clearly the item or items to be discussed and they should sign thereon.
- (b) the extraordinary general meeting called according to this guidelines should not discuss any other matters than that stated in their application.

Notice of meetings

21. (a) Notice of all general meetings shall be exposed to the Association office and to the notice board in accordance to the procedure to call such meeting in that area. The notice should indicate time and place for the meeting.
- (b) Notices for the general meetings shall be:
- (i) At least not less than 21 days for an annual general meeting.
 - (ii) Not less than 14 days for an ordinary general meeting.
 - (iii) Not less than 7 days for extraordinary general meeting.

22. (a) The quorum for all general meetings shall be at least half the number of members or 100 members.
- (b) If within one and half hour from the time appointed for the meeting the quorum is not present the meeting shall be adjourned or postponed by the chairman for seven days. The agenda shall remain the same. And if at the adjourned meeting the quorum is not present, the two third of the members shall deliberate on any issue and shall be binding, shall proceed with business, the quorum notwithstanding.
- (c) In the case of extraordinary meeting called by members, if within one and half hour from the time of commencing the meeting the quorum is not present the meeting shall be canceled and no more unless for the application of new meeting.

Proceeding of the meeting

23. (a) The chairman of the Association shall chair all general meetings apart from extraordinary general meeting called by cooperative registrar who will chair or appoint a person to act on behalf.
 - (b) In the absence of the chairman the vice chairman will be in the chair. And where the chairman or vice chairperson are not present within thirty minutes or they refuse to chair the meeting after the time appointed for holding the meeting, one of the member attending the meeting shall be appointed to chair that meeting.
24. (a) Election shall be by secret ballot in any election meeting.
 - (b) A member may vote in person in all election meeting.
 - (c) All meeting resolutions shall be adopted by member votes on a show of hands. In the case of secret ballot this will be done upon the request of not less than three members.
 - (d) In the event of equal votes at the general meetings the chairman will adjourn the agenda or remove it.
25. All general meeting resolution should be written for references and signed by the chairman and the secretary of the meeting.

SECTION EIGHT

The committee

26. (a) The committee should comprise of 12-15 members including the chairman and vice chairman.
- (b) The members of the executive committee of the Association should be elected based on the geographical areas where the Association is operating.
- (c) The committee shall lead the Association for three consecutive years. One third of the committee members shall resign their post after one year. The remaining one third of the committee members shall resign at the second year of operation. The remaining one third of the committee members will resign at year three. The resigned committee members are eligible for re-selection upon their request and shall be voted on a secret ballot.
- (d) The executive committee meeting can be held at least once per month or any time when necessary. The chairman shall chair the meeting. In the absence of the chairman the vice chairman shall chair the meeting. When the chairman or vice chairman are not present at the allocated hour of commencing the meeting, or they refuse to chair. One of the member attending the meeting can be appointed to chair the committee meeting.
- (e) At least half of the number of the executive committee shall form the quorum and may proceed with any transaction.
- (f) If an executive committee member is absent from three consecutive meetings without notice she/he shall ceases to be a member of the executive committee.
- (g) An executive committee member shall be terminated on grounds mentioned hereunder.

- (i) Resign from the Association.
 - (ii) Resign from the executive committee. A resignation of this nature shall be effective upon submission of one month notice to the secretary.
 - (iii) On any other grounds defined in section 34 (1) of 1991 cooperative act.
 - (iv) If the committee's membership is terminated by the majority decision at the Annual general meeting of the Association after being given a chance to explain himself.
27. (a) The executive committee meetings shall be called by the chairman of the Association.
- (b) Each executive committee meetings shall be called by the chairman of the Association.
- (c) All minutes of the meetings shall be recorded in the minutes book and signed by the chairman and secretary for reference.
- (d) Resolution made by the executive committee shall be binding notwithstanding there is vacant post among committee members or whether there is mistake done during election of some of the committee members.
28. (a) The executive committee shall have powers to operate the society according to rules and regulations stipulated in this guidelines. The rules and regulations of 1991 cooperative act and resolutions made by its general meetings.
- (b) The executive committee shall be responsible for the following functions:
- (i) To implement policies, programs, and activities and ensure cooperative law is followed.
 - (ii) To execute all social economical activities of the Association and ensure they are implemented as intended.
 - (iii) To execute all resolutions and directives of the annual meetings of the Association.
 - (iv) To keep accurate and true accounts of the funds of the Association.
 - (v) To keep properly membership records.
 - (vi) To take action on membership admission resignation, termination, the removal of executive committee members and employment of non-members.
 - (vii) To design finance administration and business policy to the interest of the society but not contrary to the government policy.
 - (viii) To submit to the general meeting the economic progress report and the audited accounts, trial balance and income expenditure of the previous year of the Association.
 - (ix) To prepare and submit projected income and expenditure estimations for the coming year for approval by the members.
 - (x) To assist the appointed auditor of the Association and to ensure action is taken on frauds or miss-use of funds reported/discovered by the auditor.
 - (xi) To report at the general meeting implementation of the planned Annual activities of the society.
 - (xii) To represent the society in any legal proceedings association.
 - (xiv) To ensure safety of safeguard the properties of the Association.
 - (xv) To select subcommittee according to the needs of the society.
 - (xvi) To decide on the staff requirements and their qualifications to be employed by the Association
 - (xvii) To employ or appoint the manager/secretary, accountant or other office bearers among the members or non-members who will carry out day to day activities of the Association.
 - (xviii) To perform such other functions as may be necessary for the achievement of the objectives of CHAWAMPU.

Sub-committee

29. The executive committee shall form sub-committee for the efficient work of the association.

30. Duties of the chairman.

- (i) To chair all general meetings excluding extraordinary general meeting called by the register.
- (ii) To chair and convene all Association committee meetings.
- (iii) To sign all minutes of the committee and general meetings he has chaired
- (iv) To call committee meetings as well as general meetings in accordance to these guidelines.
- (v) To sign or behalf of the Association all documents to be stamped by the Association seal.
- (vi) To be a main speaker of the Association unless is decided otherwise by the committee or general meeting of the members.

SECTION NINE

31. **Duties of the manager/Secretary**

The executive committee of the Association after consultation with registrar of cooperatives shall appoint/employ a qualified manager/secretary of the Association.

32. The manager/secretary shall be accountable to the executive committee and be responsible to the following duties.

- (i) To safeguard the properties and funds of the Association.
- (ii) To do all communications and correspondence on behalf of the Association.
- (iii) To receive and disburse moneys of the Association in accordance with its laid down objectives.
- (iv) To prepare short and long-range plans, together with income and expenditure estimations.
- (v) To advise the committee on the governing of the funds, commercial activities, expertise and leadership.
- (vi) To advise the committee on the recruitment and employment of staff.
- (vii) To integrated all social, economical development plans of the Association.
- (viii) To prepare monthly, quarterly and annual progress report of the association.
- (ix) shall be responsible for the safe-keeping of all records including memberships registers.
- (x) shall be a secretary to the executive committee and general meetings and write all minutes of the meetings and sign thereof.
- (xi) To safeguard the copies of the rules and regulations of this guidelines as stipulated in 1991 cooperative act, and should be open to members when needed.
- (xii) To perform such other functions as may be necessary and directed from time to time by the committee.

33. All crops shall be sold to the cooperative union (CHAWAMPU) or as otherwise approved by the Association.

SECTION TEN

34. **Other social economical services:**

The Association shall established a retail shop dealing with selling of farm inputs and domestic commodities.

SECTION ELEVEN

35. The Association shall maintain books of accounts according to the 1991 cooperative act.

36. (a) Letters and all reference shall be signed by the manager/secretary on behalf of the Association.
(b) All references required to be stamped by the Association seal shall be signed by the chairman and two members elected at the general meeting.
(c) All cheques shall be signed two members of the executive committee elected at the general meeting together with the manager/secretary or an accountant of the Association.

Financial year

37. The financial year of the Association shall be from January 1st to December 31st.

SECTION TWELVE

Conflicts/Disputes

38. (a) Conflicts amongst members or between member and the committee or member and the office bearers or between the association and other association shall be brought forward to register of cooperatives for final settlement. The conflict may first be sent to the executive committee or general meeting by the member concerned.
(b) If there is a dispute regarding interpretation of these guideline mis-understanding of it should be sent to the registrar of cooperative societies.

Insurance

39. The Association shall maintain all the time insurance on properties and funds.

SECTION THIRTEEN

Dissolution of Association

40. The Association shall be dissolved on the following grounds:
1. (i) By an order of the registrar of cooperative societies.
(ii) By resolution of three forth of all members.
 2. The dissolution shall follow the regulations provided by the cooperative act No. 150/ 1991, regulation No.115, and regulation of 1991 cooperative act as stipulated and defined in No.115.

(Original is in Swahili: Translation was made by JICA Study Team)