

**APPENDIX – VII**  
**RURAL INFRASTRUCTURE**



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### RURAL INFRASTRUCTURE

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## **1. Kudu Dam Irrigation Project**

### **1.1 General Description of Kudu Dam Irrigation Project Area**

The project area consists of a part of Kadoma, Gokwe South, Gokwe North and Kwekwe districts. About 84% of the project area belongs to Natural Region III according to Zimbabwean Land Classification. Rain-fed cultivation is widely practiced in the project area with an annual rainfall of about 650mm. Most of the people living in the project area consist of farmers and they grow cotton, maize and groundnuts followed by sorghum, millet and vegetables etc. In most cases, each farmer household has cattle, sheep, goat and other small domestic animal. Under the prevailing agricultural condition in the project area, cattle are still playing an important role in various agricultural activities.

Villages in the project area usually consist of 5 to 30 households on average, and they are located relatively away from each other. It may be said that, from the infrastructural point of view, people living in the project area are not well provided with basic infrastructures, such as rural roads, electricity, drinking water supply systems, hospitals, clinics, schools, collection points and marketing facilities. This condition justifies the need of strengthening and improvement of rural as well as social infrastructure in the project area.

### **1.2 Present Condition of the Main Infrastructure in Kudu Dam Irrigation Project Area**

This section presents brief description of the present condition of the existing infrastructure in the project area. Basically, description of the present condition of the existing infrastructure in the project area has been made on the district basis with the help of the District Profile prepared by each RDC (Rural District Council) as well as based on the observation and hearing from the counterpart personnel as well as from local people during the study period. It may be mentioned here that the term "rural infrastructure" used in this section is limited to such infrastructures as rural roads, boreholes, and community center etc., all of which are essential to support the rural life as well as agricultural activities in the area.

#### **1.2.1 Road**

##### **(1) Kadoma District**

Road networks in Kadoma district are not well developed. According to the District Profile issued in 1998, RDC maintains 600kms of roads, of which 500kms are gravel-metalled and 100kms are tarred. These road networks cover mainly commercial farming areas. DDF (District Development Fund) maintains 415kms of roads except those within the resettlement areas. However, no authority has been taking care of the roads in the resettlement areas that were once within the

commercial areas. MOT (Ministry of Transportation) maintains 100kms of roads to Sanyati, and 100kms of roads to Mamina. Other than these, there are two state roads in the district. RDC has 36 personnel to operate their roads department as shown below.

**Personnel Assignment for Maintenance of the Roads in the District**

Category	Number of Personnel
Grader Operator	2
Mechanical Engineer	1
Drivers	8
Equipment Operator	3
Charge Hand	2
General Hand	15
Security	5
Total	36

Source: Kadoma District Profile, 1998.

The main, primary, and district secondary roads are generally in good condition, however, tertiary and feeder roads are in fair to poor condition. Provision of roads in the district is inadequate.

#### (2) Gokwe North District

MOT and DDF are responsible for provision of roads and their maintenance. Generally speaking, maintenance of the roads in the district is not sufficient due to inadequate funding. A large part of the district still needs additional roads. Presently, the local authorities are not involved both in road development and its maintenance due to lack of funds, equipment and technical capacity etc. Thus, the following are widely observed in the district.

- (a) Many people still have to travel a long distance to reach the nearest main roads.
- (b) Lack of proper road networks makes it difficult to transport agricultural products produced by farmers.
- (c) Access to the social services, such as to clinics and schools is generally bad, and it causes an impediment to recruitment of trained personnel and delivery of drugs, stationary etc.

The present road networks of the district are classified into the following 4 categories according to the District Profile. This classification is also common to the other districts.

- (i) State roads (Surfaced and Unsurfaced)
- (ii) DDF primary roads (Unsurfaced)
- (iii) DDF secondary roads (Unsurfaced)
- (iv) Council tertiary roads (Unsurfaced)

#### Surfaced Roads

The Gokwe–Siabuwa State road is the only major surfaced road in the district.

It is well developed and used throughout the year. It is vital for the transportation of coal from Sengwa Coal Mine, cotton and maize from the northwest belt and is also used by tourists and other motorists traveling to Binga, Nyaminyami and Bumi Hills.

#### Unsurfaced Roads

There are several stretches of surfaced roads, which fall under the responsibility of both MOT and DDF. The bulk of the roads are unsurfaced. In view of unsurfaced nature of these roads, they sometimes fall in bad state, in particular, during the rainy seasons. Funds for maintenance of roads come from the Central Government. However, the past experience has revealed that the maintenance of State or DDF roads is not effective due mainly to inadequate funding. Also, the local authorities do not have funds to develop even the tertiary roads, and they suffer from shortage of funds to maintain any of the primary or secondary roads in the district.

#### (3) Gokwe South District

Road networks in the district mainly consist of the State roads (surfaced/unsurfaced), DDF primary roads and DDF secondary roads.

##### (a) Surfaced State Roads

The Kwekwe-Gokwe-Sengwa (Gokwe-Siabuwa) road forms the major stretch of surfaced road in the district. The road, constructed in 1991, is mainly used for transportation of coal from Sengwa in Gokwe North District and cotton from Sessami. Another stretch of surfaced roads is in the southeastern part of Gokwe, linking Kadoma with the district.

##### (b) Unsurfaced State Roads

There are several stretches of unsurfaced state roads in the district. They are:

- (i) Gokwe-Kuwirirana-Nembudziya stretch, which links Gokwe DSC (District Service Center) with Nembudziya. The road is in a bad condition, especially, between Bejani business center and Gokwe-Nembudziya turn-off.
- (ii) Gokwe-Nkayi stretch, which links the district with Matabeleland North Province and is used by several buses to Bulawayo.
- (iii) Lutope-Kana stretch, which links the Gokwe-Nkayi road to Manoti RSC (Rural Service Center).
- (iv) Sessami-Kuwirana road, which is mainly used by cotton transporters to carry cotton from Sessami RSC to Sanyati and Kadoma and is also used by buses.

##### (c) Existing DDF Primary Roads

The DDF primary and secondary roads form the majority of the district's road

networks. The majority of the secondary roads are not all weather roads. Details of the secondary roads in the district are given below.

**Summary of Existing DDF Primary Roads in Gokwe South District**

Road No.	Name of Road	Length (km)	Location in the District
C 101	Gwehava-Sai-Manoti Turn-off	184.0	Central and Western
C 102	Sai-Charama-Plateau	36.0	Western
C 104	Lutope-Sai Loop	23.0	Southern and Western
C 105	Manoti-Mbungu	52.0	-do-
C 109	Gwanyika Plateau	53.0	Eastern
Total		348.0	

Source: Gokwe South District Profile, 1998.

(d) Maintenance of Road

Funds for the maintenance of road come from the Central Government. From the past experience, it may be said that the funds were evenly allocated to DDF roads, although they were not sufficient to cover all the roads.

(4) Kwekwe District

There exist a total of about 46kms of gravel-metalled roads in Mabura of Ward No.6 and about 17kms of the same in Sidakeni of Ward No.7 in the district. The width of these roads ranges from 3.0 to 6.0 meters. Road networks in these two wards are poor compared to those in the other districts. At present, no surfaced roads exist in these wards.

1.2.2 Boreholes

(1) Kadoma District

Availability of the boreholes in the related wards of K17, K20, K21, K22, K23 and K24 in the district is summarized as shown below.

**Availability of Boreholes in the Related Wards in Kadoma District**

Name of Ward	Population (1998/Estimated)	Numbers of Boreholes	Availability (Persons per Borehole)	Remarks
K17 (Muzvezve I)	8,829	59	149	
K20	10,998	-	-	Data not available.
K21	5,708	15	380	
K22	5,757	44	130	
K23	13,474	28	481	
K24	9,867	26	379	
Total/Average	54,633	172	253 (Excluding K20)	

Each community, through water point committee of the district, manages these water points. Women, for the most part as is the case with the other districts, have to carry household water, and the distance that they have to travel to fetch water can be time consuming as well as a burden. There are 10 pump minders employed by DDF in the communal areas, and 3 in the small-scale commercial farming areas, but



none in the resettlement areas of the district. Usually, the pump minders attend only to the serious and complicated problems. They also supply spares and other materials to the water point committees for repair of boreholes.

(2) Gokwe North District

There are 35 boreholes and 2 deep wells in Makore I, and 14 boreholes and 1 deep well in Makore II in the district. The availability of boreholes and deep wells in the said two wards is summarized below.

**Boreholes in the Related Wards in Gokwe North District**

Name of Ward	Population (1998/ Estimated)	Numbers of Boreholes and Deep Wells	Availability (Persons per Borehole)
Makore I (GN 11)	10,721	37	289
Makore II (GN 12)	7,197	15	479
Total/Average	17,918	52	344

Source: Gokwe North District Profile, 1998.

It is observed that most households obtain water from the unprotected sources. As a result, the statistics reveals that 60 % of the households in the district use water with potential health risks.

(3) Gokwe South District

In total, there exist 386 boreholes in the district, of which, 36 boreholes exist in Chisina I, and 23 boreholes and 1 deep well in Chinina II of the district. Number of the boreholes in the said two wards is summarized below.

**Number of Boreholes in the Related Wards in Gokwe South District**

Name of Ward	Population (1998/Estimated)	Numbers of Boreholes/Deep Wells	Availability (Persons / Borehole)
Chisina I (GS 23)	17,251	36	479
Chisina II (GS 24)	13,303	24	554
Total/Average	30,554	60	509

Source: Gokwe South District Profile (1998).

About 35 % of the households collect water from the unprotected wells and boreholes. While about 25 % of the same collect water from the rivers and small dams. Thus, nearly 60 % of the households use water with potential health risks. It may also be notified that only 5 % of the households in the district have access to the piped water.

Of the few with access to the protected water sources, average population per borehole per ward is very high. Furthermore, only 4 % of the households in the district have water sources in their premises, while vast majorities have to walk a long distance for water. Approximately, 75 % of the households in the district have to walk more than half a kilometer to carry water. The following shows the areas which are most deprived of adequate water supplies in the district.

**Areas with Inadequate Water Supplies**

Ward	Population (1992)	Current Water Supplies			Required Water Supplies		
		Borehole	Deep Well	Shallow Well	Borehole	Deep Well	Shallow Well
Nemangwe V	9,596	5	0	0	23	23	4
Ndhalalambi II	10,128	9	1	0	21	22	5
Ndhalalambi I	12,159	15	3	0	22	23	6
Nemangwe IV	8,144	5	0	0	19	19	4
Chisina III	10,671	18	0	0	18	18	3
Masuka	6,550	3	0	0	17	14	4
Sai I	11,952	26	0	0	17	16	4
Christina I	14,376	36	0	0	17	16	5
Nemangwe I	8,678	10	0	3	17	17	4
Sai IV	5,440	2	0	0	14	13	2
Jeri I	6,865	6	0	0	15	15	3
<b>Total</b>	<b>104,559</b>	<b>135</b>	<b>4</b>	<b>3</b>	<b>200</b>	<b>196</b>	<b>44</b>

Source : Integrated Rural Water Supply and Sanitation Program ( 1993 ).

Note: Availability of water point at 1993 level:  $104,559 / (135 + 4 + 3) = 736$  persons per water point.

It may be said from the above that the central and southwest parts of the districts are poorly served with water supplies.

(4) Kwekwe District

There are 33 boreholes in Mabura of Ward No.6 and 20 boreholes in Sidakeni of Ward No.7 in the district. Availability of the boreholes in these two wards is summarized below.

**Availability of Boreholes in the Related Wards in Kwekwe District**

Name of Ward	Population (1998/ Estimated)	Numbers of Boreholes and Deep Wells	Availability (Persons per Borehole)
Mabura (Ward No.6)	6,435	33	195
Sidakeni (Ward No.7)	6,419	20	320
Total/Average	12,854	53	242

Most people in the wards obtain their water from these boreholes. The average depth of these boreholes in the district is 55.0 meters with protection of galvanized iron pipes of 6 inches diameter. Figures in the above suggest that the water supply by boreholes in Mabura meets the desired water supply level of 250 persons per borehole, while Sidakeni needs additional provision of boreholes.

1.2.3 Community Centers and Communication Systems

At present, there are no community centers in Kudu dam irrigation project area. Also, existing communication systems especially among the small farmers are not at all well developed. Usually farmers communicate by visiting each other. They get information through extension workers, visits to towns for shopping and selling their agricultural products as well as through reading materials and radio etc. Under the present communication systems, public transportation still plays an important role together with the existing local road networks. Under the above-mentioned condition, however, some of the existing business centers like Sanyati

and Nyimo business centers etc. in the area are functioning as community centers where farmers can exchange information with each other.

#### 1.2.4 Other Information in Kudu Dam Irrigation Project Area

- (1) Briefing of the Contents of the END OF YEAR REPORT ON WATER AND SANITATION for January to December 1999 Prepared by Kadoma Rural District Council

According to the report, many activities related to the Water and Sanitation Programs took place in 1999 in Kadoma district. The following are several extracts from the report.

- (a) The first phase of the Water and Sanitation Program came to an end in December 1997. The district has been receiving bridging grants ever since then. To date, the Council is still waiting for the release of the funds needed for execution of the project.
- (b) In late November 1998, the district received \$4,895,300. The funds were used to finance the 1999 activities. It is also important to note that the above amount was also meant to start the Community Based Management Program.

#### (2) Progress of Borehole Drilling in Kadoma District

The target 10 boreholes for 1999 program were persisted and surveyed. However, it may be noted that the progress of drilling of the boreholes in the district is very disappointing. The progress of borehole drilling in Kadoma district is summarized below.

**Summary of Borehole Drilling in Kadoma District**

Activities	Target	Achieved	Balance	Expenditure	Commitment
Drilling of Borehole					
Borehole Siting	12	12	-	T&S Vote	-
Purchase of Borehole Material	10	10	-	286,132	-
Borehole Drilling	10	2	8	-	339,160
Borehole Drilling (Carry Over)	2	1	1	-	As above.
Purchase of Rehabilitation Materials	20	20	20	572,264	-
Rehabilitation of Borehole	20	0	20	T&S	-
Rehabilitation of Boreholes Using Materials from DDF Coffers	-	15	-	-	-
Purchase of Materials for Repairing of Boreholes	20	20	-	580,129	-
Boreholes Repaired	-	406	-	T&S	-
Flushing	6	0	6	-	-
Purchase of H/W Materials + 1,250 Bags of Cement	50	50	-	880,884	-
Gumpole Treatment Project	-	-	-	190,646	-
Purchase of Material +885 Bags of Cement	177	177	-	317,215	-
Single Blairs Constructed	177	191	-	As above.	-
Multi Comps Constructed	2	2	-	As above.	-

(3) Training and Workshops in Kadoma District

Kadoma district has decided to suspend most of the trainings until the district's members have received the training on CBM. Under the Community Mobilization Sessions, Kadoma district held 44 sessions by this time. The initial target was 10; and the extra 34 were for the boreholes supplied through Rural Development Fund (RDF).

(4) Establishment of Water Point Committees in Kadoma District

Ten (10) water points committees were established in 1999. However, no water points committees were established for 34 borehole supplied through Rural Development Fund (RDF) since those have not yet been drilled.

(5) Community Based Management Program in Kadoma District

CBM training finally took off the ground in September 1999. ANC members conducted the training of District and Provincial Members and Councilors. The training took five days and it was conducted at several local hotels. The district appreciated the services that were rendered by the NAC members. The knowledge and guidance that they imparted to the district will go along way in seeing to it that the infrastructure in the district is sustained.

(6) Training of Extension Workers in Kadoma District

After the above training, the district conducted the training of the extension workers. The training was held in November 1999. Two - three days training sessions were

held at Kadoma training center. The first group to be trained was from Negezi sub-district followed by the Sanyati group. All the two sessions were well attended. The extension workers then organized themselves into two training teams in preparation of the Community Leadership Training.

#### (7) Training of Community Leadership in Kadoma District

In order to conduct the above exercise, training teams were selected on each side of the sub-district. The teams went from wards to wards conducting the CBM trainings. In the wards where no CBM has been conducted, one day training sessions were held with the leadership. All the sessions were well attended. In some wards, they expressed the fears that they would be abandoned completely by council. It may be noted that in most wards VIDCO and WADCO exist only in name and they have not been functioning for a long time.

#### (8) Training of Communities in Kadoma District

Preparation for training the Communities in wards 8 and 24 is currently in progress. At the end of year workshop, members felt that the way forward when going into the communities should be clearly spelt out and it has to be uniform through out the district.

### **1.3 Rural Infrastructure Improvement Plan under Kudu Dam Irrigation Project**

As is stated earlier, the infrastructures in the project area such as roads, drinking water facilities (mainly boreholes and wells) and community centers etc. are not well developed. This condition has been forcing people in the project area to manage their daily life with difficulty for a long time. This fact suggests that there exists much room for further development of agricultural as well as social infrastructures in the project area. However, as already stated in the interim report, the main stay of the project is to enlarge and stabilize the agricultural production in the proposed project area by introducing irrigated agriculture to attain increase in agricultural income of the farmer households, and through which to raise the living standard of the same. Accordingly, rural infrastructure improvement plan for the study area should be made mainly from the viewpoint of achieving the above-mentioned targets. Thus, in the rural infrastructure improvement plan, top priority will be put on improvement, rehabilitation and strengthening of agriculture-related infrastructure in the project area.

#### **1.3.1 Basic Concepts for Rural Infrastructure Improvement Plan**

In establishing the basic concepts for improvement and strengthening of the rural infrastructures, present living condition of the people in the area who are less supported by agricultural as well as by social infrastructure was fully studied during the study period. As a result, the basic concepts for improvement, rehabilitation

and strengthening of the rural infrastructures in the study area have been worked out as follows.

- (1) Improvement and strengthening of the rural infrastructures in the project area should aim to provide basic facilities needed for supporting the agricultural activities and transportation of increased agricultural products under the irrigated agriculture. To achieve this, priority should be put on improvement and strengthening of the existing rural road networks in the project area.
- (2) Top priority should be put on improvement of the access to the protected water sources. To achieve this, rehabilitation and improvement of the existing boreholes in the project area is considered to be one of the most important components of the rural infrastructure improvement. In addition, additional provision of boreholes should be made at the places (villages) where lack of boreholes has been observed.
- (3) Existing villages in the project area are located away from each other, and this makes the communication among the villagers less. However, under the irrigated agriculture to be introduced, people in the villages will need timely as well as useful information on agricultural technology and economic condition surrounding them etc., especially related to daily agricultural activities. However, under the present information systems, such kind of information dissemination seems to be very difficult. Accordingly, it is proposed to improve present information dissemination systems in the project area. Such improvement shall be made not by constructing community centers but by provision of movable audiovisual equipment that will provide not only visual information but also oral information by the instructors.

It may be noted that the proposed infrastructure improvement and rehabilitation plan should be made and implemented in line with the prevailing standards being applied in each technical field of Zimbabwe. Also, maximum utilization of local construction materials as well as local manpower etc. should be taken into account to minimize the project cost.

With these concepts, the rural infrastructure improvement and strengthening plan for the whole study area has been prepared for three sectors, i.e., (i) improvement and strengthening of the existing road networks, (ii) rehabilitation and additional provision of the boreholes and, (iii) improvement of the present communication systems as follows.

### 1.3.2 Rural Infrastructure Improvement Plan

Following the above-mentioned basic concepts, the rural infrastructure improvement plan for the study area has been proposed as follows.

#### (1) Improvement and Strengthening of the Road Networks

Road networks in the project area will be improved and strengthened according to

the plan shown in Table 1. As is shown in the Table, under this infrastructure improvement plan, large-scale improvement of the existing road networks will not be made; instead, emphasis will be put on improvement of the existing tracks connecting villages to villages. And these tracks will be widened upto the width of 3.0m and surfaced by gravel with a thickness of 20cm on average.

### (2) Improvement and Strengthening of the Rural Water Supply By Boreholes

Improvement and strengthening of rural water supply shall be made by rehabilitation and additional provision of the boreholes according to the plan shown in Table 2 to achieve the water supply standards recommended by NRWSSP (National Rural Water Supply and Sanitation Program) of 250 persons per borehole. With this improvement and rehabilitation plan, it is expected that present difficulty in obtaining the drinking as well as domestic water in the rural area will be eased to some extent.

### (3) Communication Systems

Under this rural infrastructure improvement plan for the project area, no community centers will be constructed as was suggested in the interim report that was prepared by JICA study team in August 1999. Because, it has been proposed to construct a community development center at Nyarupakwe Business Center as one of the pilot project components, which can accommodate approximately 300 people. However, it may be proposed that several community centers may be constructed in the future at different points of the related districts in the project area, only when the proposed community development center at Nyarupakwe has been found successful and effective for dissemination of information. It is proposed that, under this rural infrastructure improvement plan, improvement of the existing communication systems shall be made by provision of several sets of audiovisuals and cars etc. These audiovisuals will have a function of providing the farmers with agriculture-related technology and information applicable to their daily farming activities. These equipment will be handled and managed by 3 working groups, each of which consists of 3 agricultural extension officers of AGRITEX (Department of Agricultural, Technical and Extension Services) and utilized at different places as movable tools for information dissemination by visiting villages to villages of the related districts in the study area. It is proposed that each working party should have one audiovisual set and one car. And it is proposed that the maintenance cost of the equipment shall be borne by AGRITEX.

## **2. Nyarupakwe Pilot Project**

### **2.1 General Description of Nyarupakwe Pilot Project**

Nyarupakwe pilot project area lies within the altitude of about 850 to 1,100 meters. The area occupies a part of Gokwe Communal Area on the left bank of the Munyati River, and is located within the basin of the Nyarupakwe River, which is one of the tributaries of the Munyati River. The area is located 25km northeast of Gokwe, the biggest town in the district, and 40km northwest of the downstream of the proposed Kudu dam. The access to the area by car is relatively easy. The area has priority nature to be developed into a pilot project area as a part of Kudu Dam Irrigation Project.

All the households of the villages in the pilot project area consist of farmer families, and each village consists of small units of households and the villages are scattered away from each other. Main agricultural products in the pilot project area are cotton, maize and groundnuts. Livestock such as cattle, goats as well as poultry are commonly observed in the pilot project area. Rain-fed agriculture is practiced throughout the area.

In general, the infrastructure in the pilot project area is poor. As common infrastructure in the pilot project area, there are boreholes, dugwells, business centers and collection points etc. Also, there are 2 secondary schools, 4 primary schools and 1 clinic in the area; however, they have poor facilities and equipment. Electricity is available only at very limited places in the pilot project area.

Due to lack of marketing facilities in the area, farmers have to carry their agricultural products to the collecting points away from their farmlands or to the markets in Sanyati and Gokwe either by themselves or by means of hiring private transporters. Transportation distance from the pilot project area to Sanyati or Gokwe is about 60km, which forces the farmers to shoulder the difficulty in daily life, agricultural activities, as well as in transportation and selling their agricultural products.

## **2.2 Present Condition of the Main Infrastructure in Nyarupakwe Pilot Project Area**

### **2.2.1 Road**

#### **(1) Road Network**

The road network in the pilot project area consists of tertiary roads and others, namely, District Development Fund Roads, Local Authority Roads and footpaths. These roads are not paved. The width of district development fund ranges from 6.0 to 8.0m local authority roads 4.0 to 6.0m and footpaths 1.0 to 2.0m in general. Out of which, local authority roads and footpaths are under control of Rural District Councils and Village Development Committees. These road networks play an important role for transportation of agricultural products either by animal or trucks.



However, the transportation system in the pilot project area is yet to be developed.

## (2) Road Density

The road density of the pilot project area is estimated at about 70.0 m/ha, using the topographic maps with a scale of 1 to 5,000 and contour intervals of 2.0m

## (3) Operation and Maintenance of the Road Network

District Development Committees and Village Development Committees are responsible for operation and maintenance of the road network in the pilot project area, utilizing their budget allocated to each road section. However, due to shortage of the budget, no satisfactory operation and maintenance of the road network has ever been achieved. Small-scale operation and maintenance of the road network is being carried out at several places in the pilot project area on FWP (Food for Work Program) basis. Usually, the operation and maintenance work carried out under the program is simple; it only includes leveling of the road surface by labors or grader, and compaction of the leveled surface by road roller etc.

### 2.2.2 Boreholes and Dugwells

#### (1) Boreholes

There are 17 boreholes in the pilot project area. These boreholes are functioning as sources of drinking water and agricultural activities as well. A typical borehole in the pilot project area has a diameter of 150mm, and depth of 30.0 to 60.0m 40.0m on average. BUSH type pumps and galvanized pipes with a diameter of 75mm are installed in all the boreholes. Data on the yield from each borehole are not available. Most of the boreholes in the pilot project area were installed in 1954, since then, maintenance works such as replacement of parts, repairs of broken pumps etc., have been made several times according to the maintenance record that is kept at Gokwe South District Office.

The field survey during the study period has revealed that nearly half of the boreholes in the pilot project area are not functioning well due to loss of parts, damages to pipes etc. And even some of the boreholes, which are functioning now, face the problem of decreasing yield due to drawdown of the groundwater table. District Development Fund is responsible for excavation and maintenance of the boreholes. However, due to lack of the District's budget, Village Development Committees, in place of District Development Fund, are now taking over operation and maintenance of the boreholes, which is not being carried out satisfactorily because of the funds, thus, the condition of the boreholes is getting worse year by year.

#### (2) Dugwells

Villagers in the pilot project area also get water from dugwells for domestic use and livestock. No subsidies are given to construction of dugwells; accordingly, farmers

who want to have a dugwell have to bear all the cost. Due to drawdown of the groundwater table during dry seasons, deeper excavation is required for getting water, which forces the farmers to bear additional cost. At present, there are 57 dugwells in the pilot project area as shown below and all of which are privately owned. However, neighbors can access to the privately owned dugwells free of charge with owners' permission. A typical dugwell is 30.0m in depth and it has a diameter of 1.0 to 2.0m covered with sun-dried bricks.

**Village-wise Breakdown of the Dugwells in the Pilot Project Area**

Name of Village	Number of Dugwells
Marumbe	3
Muchina	2
Makarichi	9
Muza	7
Sekema	2
Magonyo	7
Hlamba	2
Murandu	12
Jeffery	0
Mateuro	3
Mujubeki	3
Mahvondo	2
Komboni	0
Gunde	1
Mabharani	4
Total	57

### 2.2.3 Business Centers and Collecting Points

There are 3 business centers and collecting points in and around the pilot project area as specified below. Out of which, electricity is available only at Ganyungu business center.

- Business Center: 3 places in total, each at Nyarupakwe, Ganyungu and Marundu.
- Collecting Points: 4 places in total, each at Nyarupakwe and Gayungu, and 2 places (COTTCO and COTPRO) at Nyamacheni.

### 2.2.4 Electricity

Electricity is not available in and around the pilot project area except some limited places, such as at Ganyung business center, Gwamure secondary school, a part of Tukwayo village, and at a grind mill, being supplied electricity from 33 KVA lines of ZESA (Zimbabwe Electricity Supply Authority) passing nearby Ganyung business center. Rural electrification projects in Zimbabwe have been carried out under the Rural Electrification Program. However, under the present policy by ZESA, if a community wants have electricity, the cost for electrification must be shared by each other, namely, 50 % by community and 50 % by ZESA.

## **2.3 Rural Infrastructure Improvement and Development Plan in Nyarupakwe Pilot Project Area**

### **2.3.1 General**

In formulation of the rural infrastructure improvement and development plan for Nyarupakwe Pilot Project, reference was made to the results of analysis and evaluation on the local people's request identified through the social environmental survey. Summarizing the request, as the basic components of rural infrastructure development plan, three components, i.e., (i) road improvement (ii) rehabilitation and additional installation of boreholes, and (iii) construction of a community development center, have been taken up.

### **2.3.2 Basic Strategy for Improvement and Strengthening of the Rural Infrastructure in the Pilot Project Area**

The basic strategy for improvement and strengthening of the rural infrastructure in the pilot project area includes the following. In establishing the strategy, reference was made to the results of analyses and evaluation on the farmers' requests.

- (1) The main stay of the agricultural development in the pilot project area will be to establish a systematized irrigation system for the farmland of about 60 ha., utilizing the water from a small dam to be constructed on the Nyarupakwe River as a series of the agricultural development in the said area. This also means that irrigated agriculture is being introduced to the said area for the first time. In this sense, prior education, training as well as technical and substantial support for the farmers must be made properly to cope with the new experiences that the farmers may face. Accordingly, the rural infrastructure improvement and strengthening plan to be applied to the said area shall be made in line with the purpose mentioned above. At the same time, the plan should be made utilizing the existing rural infrastructure to the maximum extent, avoiding introduction of new infrastructure as much as possible from the viewpoint of economic liabilities of implementation of the pilot project.
- (2) Implementing authority of the pilot project shall assure the farmers the rights to take part in every implementation stage of the pilot project as partners. Also, the supports by several NGOs shall be made to observe the progress of the pilot project as well as to monitor the surrounding environment during implementation of the pilot project.
- (3) The design strategy to be applied to the newly introduced infrastructure under the plan is that the structures should be designed to be simple and maintenance free. And all the structures shall be designed according to the Zimbabwean structural design standards unless otherwise specified. Also, construction materials, engineers, labors available in Zimbabwe shall be used to the maximum extent for design and implementation of the pilot project.

Based on the above-mentioned basic strategy, JICA study team tentatively proposes to implement the pilot project, which includes the following components.

### 2.3.3 Basic Project Components

The pilot project will consist of the following basic components.

- (1) Rehabilitation of the existing boreholes in and around the pilot project area in due consideration of improvement of present performance of the boreholes, and additional installation of boreholes where necessary to improve the present access to the drinking water.
- (2) To rehabilitate the existing roads of about 30km in the pilot project area to improve the present transportation condition of agricultural products to the collection points and markets.
- (3) To rehabilitate the road of about 24km, connecting Nyarupakwe to Gokwe, to allow free passage of buses and trucks for further expansion of economic activities in both townships. The rehabilitation will include partial pavement by asphalt at the places where the roads pass the mountainous area. Typical cross section of the road after improvement is given in Fig. 1.
- (4) Construction of a simple building, designed for multi-purpose use by the farmers in the pilot project area, with accommodation capacity of about 300 people. It will be furnished with full roofing, lowered walls for free ventilation, and concrete-paved floor. Also, it will be equipped with potable generators and bench-type chairs and desks to serve as the place to hold meetings and workshops with audiovisuals, also, to serve as the place to issue small pamphlets that may help bridge the prevailing information gaps among the farmers. In addition, a small office cum storeroom will be annexed to the building, where the equipment such as audiovisuals, motorcycles, bicycles, cyclostyle machine, all of which are needed as tools of information transmitter, will be kept and maintained by the farmers. This proposal was made by JICA study team, considering the importance of further information dissemination among the farmers in the pilot project area. Layout of the proposed Community Center is shown in Fig. 2.

## ***TABLES***



**Table 1 Summary of Rural Road Rehabilitation Plan under Kudu Dam Irrigation Project**

District	Type of Road (4 types)	Road length to be improved (km) and change of road type	Road length to be constructed (km)	No. of benefited household	No. of benefited population	Remarks
Kadoma	① Wide Tarred					
	② Narrow Tarred					
	③ Gravel or Earth		(156)			
	④ Track	97 km ④ to ③		9,260	57,003	
Gokwe North	① Wide Tarred					
	② Narrow Tarred					
	③ Gravel or Earth		(71)			
	④ Track	54 km ④ to ③		4,346	27,013	
Gokwe South	① Wide Tarred					
	② Narrow Tarred					
	③ Gravel or Earth		(69)			
	④ Track	98 km ④ to ③		6,846	42,198	
Kwekwe	① Wide Tarred					
	② Narrow Tarred					
	③ Gravel or Earth					
	④ Track	30 km ④ to ③		3,208	17,928	
Kadoma to Gokwe North						
<b>Total</b>		<b>279 km</b>	<b>(**296)</b>	<b>23,660</b>	<b>143,542</b>	
	Narrow Tarred					
	Gravel or Earth					

Note: \*\*296 km shows the length of operation/maintenance roads to be constructed along the proposed main irrigation canals. Accordingly, this road will be excluded from the road improvement plan under the rural infrastructure improvement plan for the whole study area.

**Table 2 Summary of Construction and Rehabilitation Plan of Boreholes under Kudu Dam Irrigation Project**

Ward Name	Farm Type	Nos. of Existing Boreholes	*Nos. of Boreholes to be Rehabilitated	Population	Availability of Boreholes	**Recommended Nos. of Boreholes	Required Nos. of Boreholes	Remarks
		①	① x 20 %	②	③ = ②/①	④ = ②/250	⑤ = ④ - ①	
Makore I (GN 11)	Communal	37	7	10,721	290	43	6	
Makore II (GN 12)	-do-	51	6	7,197	232	29	0	
Chisina I (GS 23)	-do-	36	7	17,253	479	69	33	
Chisina II (GS 24)	-do-	24	5	13,303	554	53	29	
Mabura (KW 6)	-do-	33	7	6,435	195	26	0	
Sidakeni (KW 7)	-do-	20	4	6,419	320	26	6	
Sanyati Communal (K20, K21, K22, K23 and K24)	-do-	156	31	45,804	293	183	27	
Sachuru (K28)	Resettlement	55	11	9,203	167	37	0	
Nyaurungwe, Gokwe District	-do-	(Not known)	-	4,819	-	19	-	
Muzvezve I (K17)	-do-	59	12	8,829	150	35	0	
Total		(392)	(90)	129,983		520	(101)	

Note: 1) \* Rehabilitation of boreholes: It mainly includes rehabilitation of hand pumps attached on the top of boreholes.

2) \*\* 250 persons per borehole proposed by NRWSSP (National Rural Water Supply and Sanitation Program).

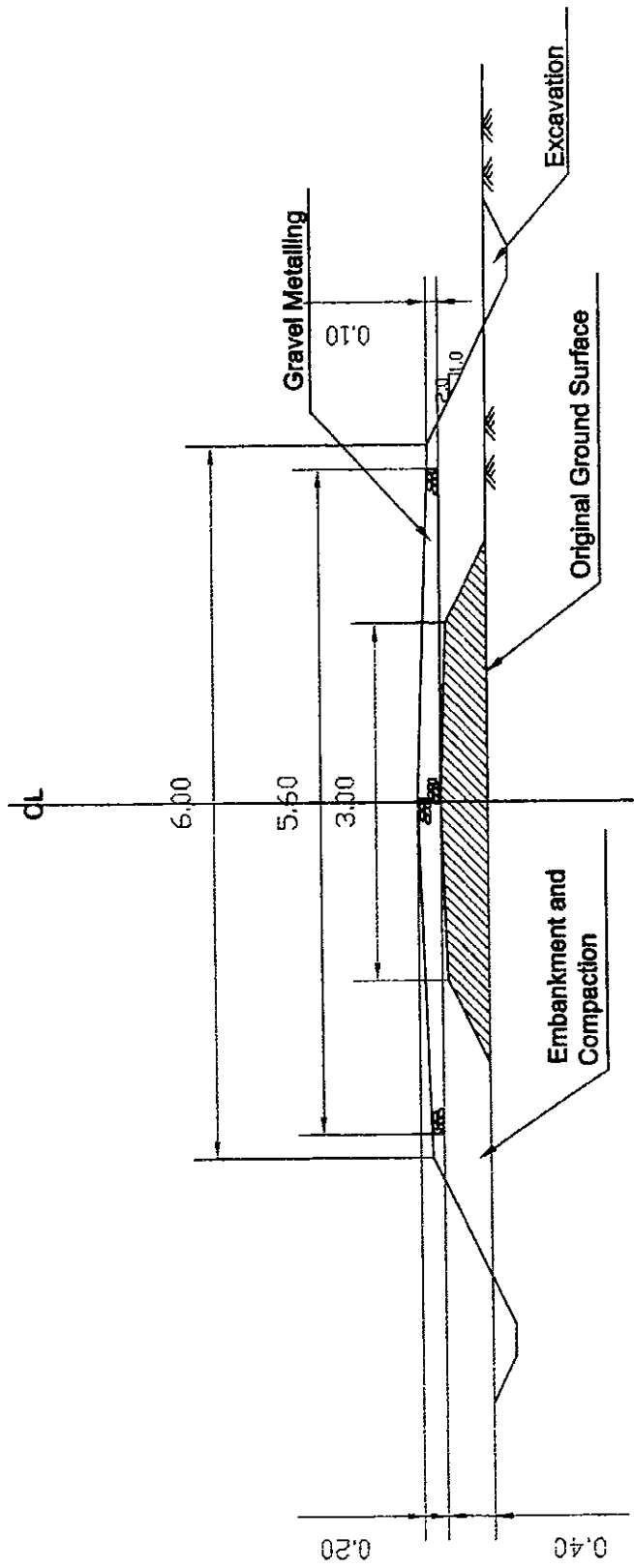
3) Figures given in each column of the above Table were worked out using 1998 basis information.

4) Rehabilitation ratio of boreholes was estimated at 20 %.



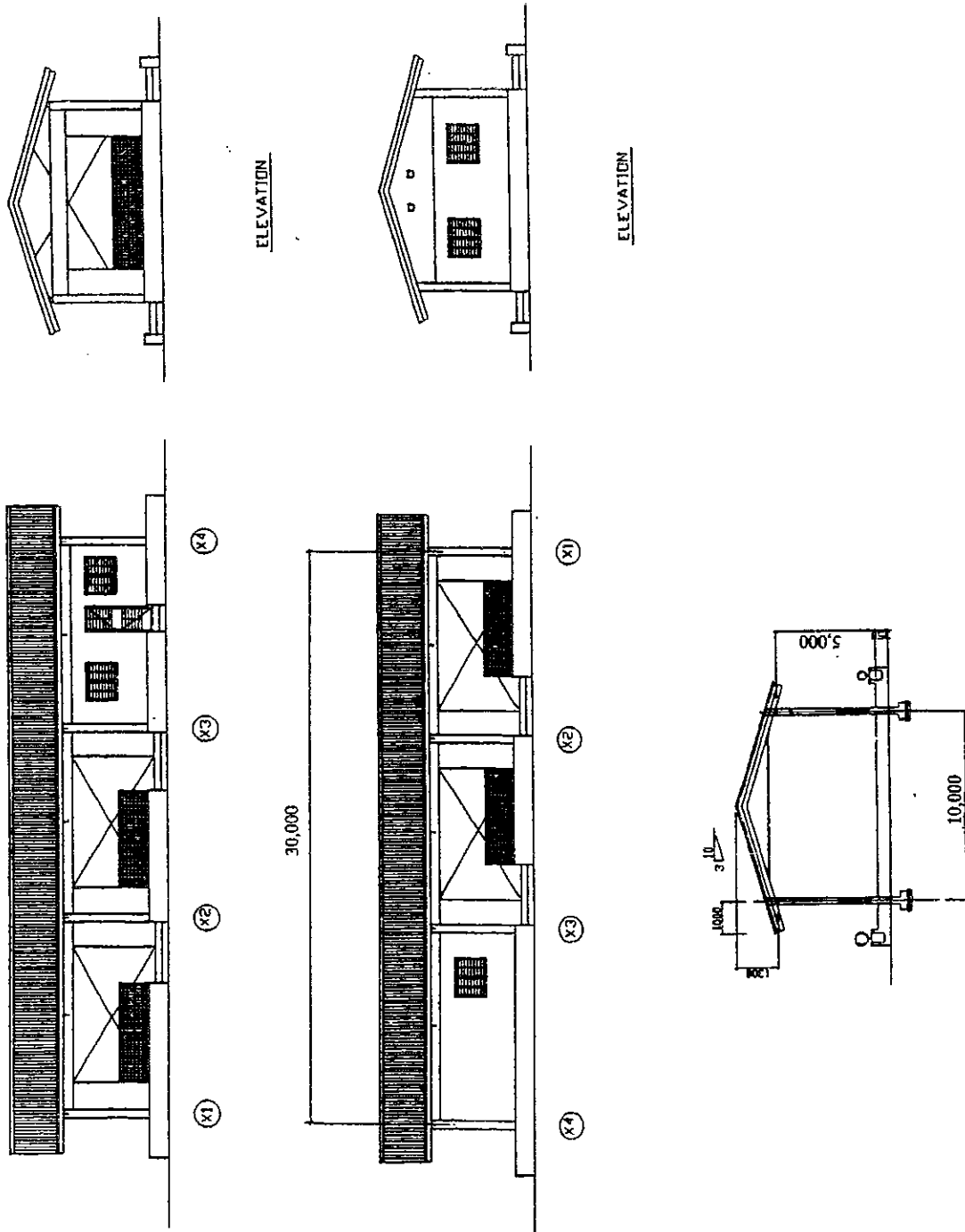
## ***FIGURES***





Note: All dimensions are in meters  
unless otherwise specified.

Fig.1 Typical Cross Section of Improved Road



**Fig.2** Layout of Proposed Community Center

## **APPENDIX - VIII**

# **RURAL SOCIETY AND INSTITUTIONS**



## APPENDIX - VIII

### RURAL SOCIETY AND INSTITUTIONS

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## 1. Kudu Dam Irrigation Project

### 1.1 Present Condition of Rural Society in the Study Area

#### 1.1.1 Introduction

There are three districts related to the potential irrigation development area identified in the Master Plan Study (1995). The name of these districts is Kadoma, Gokwe North and Gokwe South. In this Section, general conditions of rural society such as administrative structure, population and households, resettlement program, education, and health are firstly described in Sub-sections from 1.1.2 to 1.1.6. Such general conditions are clarified based mainly on secondary data obtained from relevant agencies. In Sub-section 1.1.7, the results of household and household member surveys conducted in the present Study are described in detail so as to understand the conditions of rural society exactly in the potential irrigation development area.

#### 1.1.2 Administration in Rural Area

Within the three relevant districts, ten wards have direct relation to the potential irrigation development area, consisting of six wards in Kadoma, two wards in Gokwe North, and another two wards in Gokwe South district (see table below). The administration boundaries of each ward are illustrated in Fig. 1.

**Provinces, Districts and Wards Related to the Study Area**

Province (Name)	District (Name)	Ward	
		(Code No.)	(Name)
Mashonaland West	Kadoma	K17	Muzvezve
		K20	Ward Twenty
		K21	Ward Twenty One
		K22	Ward Twenty Two
		K23	Ward Twenty Three
		K24	Ward Twenty Four
Midlands	Gokwe North	GN11	Makore 1
		GN12	Makore 2
	Gokwe South	GS23	Chisina 1
		GS24	Chisina 2

Among ten study wards, one ward of Muzvezve (K17) in Kadoma district falls into resettlement area, and other nine wards are all within the communal lands.

Public services at district and ward levels are maintained by three lines of local government, i.e. the District Administrator (DA), Rural District Council (RDC) and government departments<sup>4)</sup>. The relation between these organizations is somewhat complicated as shown in Fig. 2.

The local authority of RDC was adopted in 1993 based on the decentralization

<sup>4)</sup> In addition, the Urban Council at district level provides similar services with RDC solely for urban center area.

policy of the Government. RDC in each district is development and planning authority for its rural command area covering communal and resettlement lands and SSCL. This local authority is composed of elected councilors, each representing a ward. The election of councilors every four years ensures participation by local communities in the process of governance at the local level. Local authority works mainly through committees established mainly for finance, health, environment and roads. Other committees that form a part of the local government structures are Village Development Committees (VIDCOSs) and Ward Development Committees (WADCOSs). These planning institutions focus their attention on local level development initiatives. Communities use them to organize projects such as construction of schools and clinics, domestic water supply, irrigation and other infrastructure projects. However, these institutions have generally not functioned as expected due to the lack of financial and technical expertise that is required to enable lower tier structures to plan in a realistic manner.

The government departments at district level also provide public services up to the ward and village levels. These departments include AGRITEX, Veterinary Services, Education, Health, Social Welfare, Construction, Tsetse Control, etc. DA, as the chairperson of District Development Committee, coordinates the rural development activities carried out by RDC and the government departments at district level.

Beside the above administration structure, traditional leaders are important component of the local government process and activities in the communal land. They wield tremendous influence and are highly respected by their communities. The traditional leaders consist of Chiefs, Headmen and Kraal heads. In the Study Area, there are four Chiefs, two Headmen and about 400 Kraal Heads as shown in the following table.

**Distribution of Chiefs, Headmen and Kraal Heads in the Related Districts**

District (Name)	Name of Chief	Chiefs Area (as Wards)		Headman (No.)	Kraal Head (No.)
		(Code No.)	Name		
Kadoma	NEUSO	K20	Ward 20	0	22
		K21	Ward 21		19
		K22	Ward 22		67
	Sub-total			0	108
	WOZHELE	K23	Ward 23	1	29
		K24	Ward 24		29
Sub-total		1	58		
Gokwe North	MAKORE a/	GN11	Makore 1	0	93
		GN12	Makore 2		
	Sub-total		0	93	
Gokwe South	NJELELE a/	GS23	Chisina 1	1	205
		GS24	Chisina 2		
		GS25	Chisina 3		
	Sub-total		1	205	
<b>Total</b>	<b>4 Chiefs</b>			<b>2</b>	<b>464</b>

Note: a/; Data on the distribution of Kraal Heads by ward is not available.  
GS25 is not included in the Study Area

Major Chief's role are to maintain traditional and cultural values, facilitate development issues, preside over local courts, and assist in maintaining public order. The Headman assists his Chief in these activities. The Kraal Head is a head of the terminal unit of village, which consists of 30-50 households. In general, six neighboring villages form a VIDCO.

The Traditional Leaders Act enacted in January 2000 by replacing the Chiefs and Headmen Act has enhanced the influence of traditional leaders in recognition of the role of villages in development process. The amended act establishes local-planning committees chaired by a Kraal Head, called the Village Assembly organised at each village. They will form a communication link between the RDC and the local people.

### 1.1.3 Population and Households in the Related Ten Wards

The 1998 population in the related 10 wards is estimated at about 103,000 as shown in Table 1. Of the total population, about 53% live in Kadoma district, 17% in Gokwe North, and the remaining 30% in Gokwe South. The population density is about 41.2 persons/km<sup>2</sup> in the Study Area. The density is the highest in Ward 20 (167.7 persons/km<sup>2</sup>) in Kadoma district, and the lowest in resettlement Ward 17 (8.7 persons/km<sup>2</sup>) also in Kadoma district. Within the communal lands, in general, the wards in the Sanyati Communal Land (Wards 20 to 24) are densely populated, while four wards in the Gokwe Communal Land are scarcely populated. However, population growth is high recently in the Gokwe Communal Land receiving migration from other communal lands where population pressure is comparatively higher. The number of households in the related ten wards is about

17,800, and the average size of household is about six.

#### 1.1.4 Resettlement Program

The Land Resettlement Program was initiated in 1980 with the goals of: redressing inequities in land distribution, improving the base for productive agriculture among small holders. The resettlement program was implemented under four models as follows:

- (1) Model A; Village settlements were established with individual allocations of arable land. However, grazing and wood lands were allocated for communal use.
- (2) Model B; Commercial farms were converted into producer cooperatives and membership ranges between 50-200 members. Both farmland and infrastructure are utilized collectively.
- (3) Model C; This was based on individual settler plots averaging 10ha surrounding a core estate owned by the state farm authority, ARDA. The authority provides research, training, credit, input supply and marketing services to the settlers, who are required to produce a common crop with the estate.
- (4) Model D; This scheme was mainly intended for agro-ecological regions IV and V. It provides for paddock grazing areas, but not settlement, in neighboring ranches. Benefiting communities are expected to contribute to the running costs of the managed or paddock ranches. However, less than three such schemes have been tested successfully, especially in Mataveleland South.

In the Study Area, there are Model A and B schemes in Ward 17, and Model C scheme in the ARDA's Sanyati Estate in Kadoma district. The number of farmers settled under Model A was about 1,100 in 1980's in the allocated land of about 4 ha each. Three production cooperatives under Model B were settled also during 1980's for a total area of about 7,440 ha. Among them, two were failed in management and new settlement of two cooperatives are now managing the same plots allocated to the former cooperatives, respectively.

In addition to the above, another two new models have been adapted recently to the resettlement program, i.e. Self Contained Model and Farm Settlement Model. The Self Contained Model was developed with the object of ensuring land conservation on individual basis by allocating lands for grazing, cropping, woods harvest and homestead. The land size allocated to each farm household was 50 ha or more. In the Study Area, about 12,150 ha of land have been delineated for 162 farm families under this resettlement model. During 1997-98 period, 108 farm families have been settled, and accordingly land plots are still available for 54 farm households. The Farm Settlement Model is of large-scale farmer

resettlement made usually in the former LSCF areas. Under this model, a total of six farm households was settled in a total area of about 5,910 ha in 1994 in Ward 17.

### 1.1.5 Education

The formal education system in Zimbabwe is summarized in the table below.

School	Level	Grade	Age	Remarks
Primary (7 years)	Infant	1&2	6-7	
	Junior	3&7	8-12	
Secondary (6 years)	ZJC	Form 1&2	13-14	National exam. at F.2
	GCE-O	Form 3&4	15-16	National exam. at F.4
	GCE-A	Form 5&6	17-18	National exam. at F.6
University/ College (3-4 years)			19+	

ZJC= Zimbabwe Junior Certificate

GCE-O = General Certificate of Education, Ordinary Level

GCE-A = General Certificate of Education, Advanced Level

There are 317 primary schools and 104 secondary schools in the three districts. The estimated enrolment ratio is considerably high at nearly 100%<sup>5)</sup> in the primary schools, and about 39% in the secondary schools as shown in the table below. Although reliability of these estimates are considered to be low, enrolment ratio must be high particularly in the primary schools reflecting the government policy which gives higher priority to the consolidation of primary education. The pupils' male-female ratio is 51:49 in the primary schools, and 54:46 in the secondary schools showing slightly higher enrolment for male particularly in the secondary education.

<sup>5)</sup> The school age population was estimated based on population data provided by each RDC referring age-group information available in the 1992 Population Census. The 1998 actual population in Gokwe North must be larger than the estimated figure of RDC, because the estimated result of enrolment ratio is higher than 100%.

### Conditions of Primary and Secondary Education in the Related Districts in 1998

	Unit	Kadoma District	G. North District	G. South District	Total or Average
<b>Primary School</b>					
Number of Schools a/	(No.)	103	87	127	317
Number of Teachers b/	(person)	1,271	1,080	1,789	4,140
- Qualified b/	(person)	1,177	674	1,000	2,851
- Non-qualified b/	(person)	94	406	789	1,289
- Proportion of qualified	(%)	92.6	62.4	55.9	68.9
Enrolment b/	(person)	51,431	52,297	71,693	175,421
Male : Female b/	(%)	51:49	51:49	54:46	51:49
Average Number of Pupils per teacher	(person)	40.5	48.4	40.1	42.4
School Age Population (6 to 12 yr-old) c/	(person)	54,656	43,134	75,854	173,644
Enrolment rate	(%)	94	121	95	101
<b>Secondary School</b>					
Number of Schools a/	(No.)	38	24	42	104
Number of Teachers b/	(person)	689	422	584	1,695
- Qualified b/	(person)	625	294	502	1,421
- Non-qualified b/	(person)	64	128	82	274
- Proportion of qualified	(%)	90.7	69.7	86.0	83.8
Enrolment b/	(person)	19,112	12,164	17,231	48,507
Male : Female b/	(%)	53:46	54:46	54:46	54:46
Average Number of Pupils per teacher	(person)	27.7	28.8	29.5	28.6
School Age Population (13 to 18 yr-old) c/	(person)	39,450	30,930	54,392	124,772
Enrolment rate	(%)	48	39	32	39

Source: a/; RDC in each district

b/; Education office in each district as 1998 December figures)

c/; Estimated based on data from each RDC by referring 1992 Population Census.

Total number of teachers in the primary schools is 4,140 out of which 69% are qualified or university/college graduates and the remaining 31% are non-qualified. In case of secondary school, about 84% are qualified and 16% are non-qualified. In general, qualified teachers dislike to work in rural areas which they consider to be remote. Accordingly, GCE (O or A) graduated teachers are being recruited.

#### 1.1.6 Health

Major diseases reported by the Kadoma hospital are ARI (acute respiratory infection), malaria, injuries and poisonings, tuberculosis and intestinal infectious diseases. The patients of these five diseases occupy about 53% of total patients of the hospital in 1988<sup>9)</sup>. Although rural clinics are available in most wards at present, it can be said that the health facilities and personnel are poorly arranged in the three districts, particularly for doctors. As shown in the table below, average population per doctor in the three district is about 12,500. Many rural people probably have no access to health facilities even they get serious disease such as ARI and malaria.

<sup>9)</sup> Normal deliveries are not included in the total.

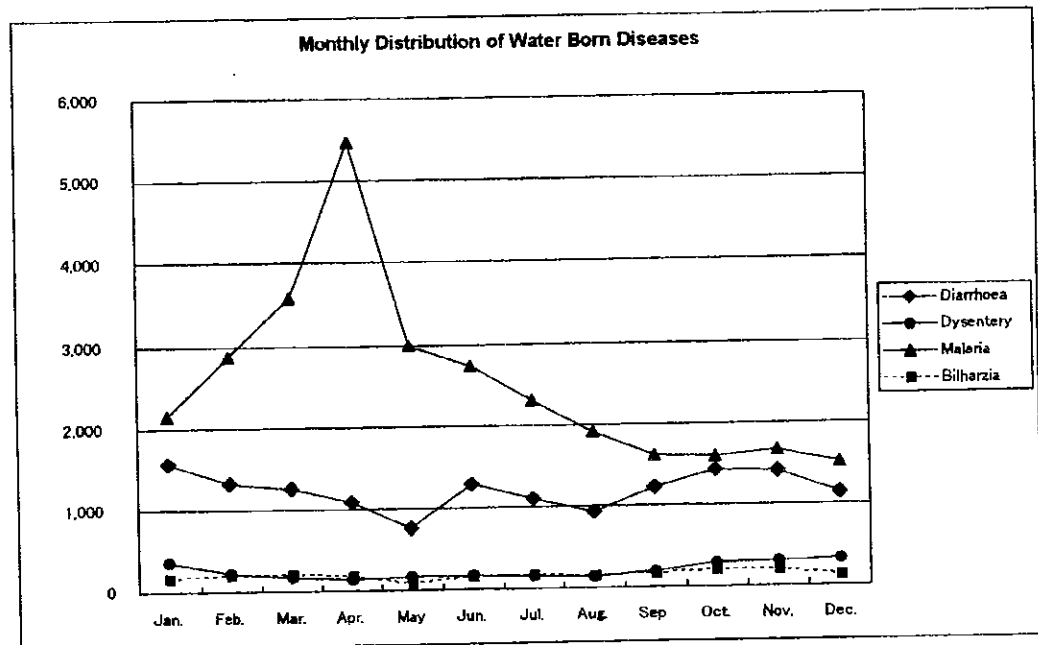
### Health Facilities in the Related Districts

District	Hospital			Clinic a/			Popul. per Doctor (person)	Popul. per Clinic (person)	Population (person)
	Building (No.)	Doctor (person)	Nurse (person)	Bed (No.)	Building (No.)	Nurse (person)			
Kadoma	4	10	227	506	23	33	63,082	10,971	252,328
Gokwe North	0	0	0	0	15	20	-	13,024	195,364
Gokwe South	2	3	79	259	25	38	172,133	13,771	344,265
Total	6	13	306	765	63	91	60,920	12,571	791,957

Note: a/; Including rural heal centers and mission's clinics

Source: District Department of Health

Major water born diseases reported also by the Kadoma district are malaria and diarrhea. Cases of dysentery and bilharzia (schistosome) are also reported, but those are not remarkable. The below presented figure shows the monthly distribution of these water born diseases prepared based on data from the Kadoma hospital. As shown in the figure, the incidence of malaria is remarkably higher in April. The incidences of other diseases are more constant than malaria.



#### 1.1.7 Results of Household and Household Member Surveys

The present condition of rural society in the potential irrigation development area was clarified based mainly on the household survey and household member survey. These two surveys were carried out, during the First Field Work period, in the course of Social Environmental Survey which was sublet to a local consulting firm (Scott Wilson). These two surveys covered 23 VIDCOs/villages within the potential irrigation development area which falls into 12 wards and three districts (see table below). Among 23 VIDCOs/villages, three villages in Ward 17 are located in the Resettlement area, and other 20 VIDCOs/ villages are all in the Communal area.

**VIDCOs/Villages Covered by Household and Household Member Survey**

District	Ward	Village/Vidco
Gokwe North	Makore 1 (Ward 11)	Chiringakudenga Kagwegwe Kuedza Kushinga
	Makore 2 (Ward 12)	Nyamazangwe
Gokwe South	Chisina 1	Chiridzangoma Mudzongwe
	Chisina 2	Batanai Pamwe Kubatana Mhungwe
Kadoma	Ward 17	Village 13 Village 14 Village 15
	Ward 20	Makwechere (Vidco 20)
	Ward 21	Mbaba (Vidco 13) Sungaidzisimbe (Vidco 22)
	Ward 22	Chimbadze (Vidco 5) Mbuyanehande (Vidco 6)
	Ward 23	Mujiba (Vidco 2) Munyaka (Vidco 37)
	Ward 24	Chisungano (Vidco 40) Musonza (Vidco 39) Tawiriana (Vidco 28)

The household and household member surveys were conducted with the following objective:

- (a) To clarify the socio-economic characteristics of households,
- (b) To gauge the intentions of household members for improvement/development of their economy and living standards.

In addition, the survey questionnaire provided opportunities for rural people to consider various problems relating to their lives, environment and their solutions.

This Sub-section summarizes the results of these surveys.

**(1) Survey Methodology**

The sample size was 357 households in the household survey and 580 persons in the household member survey. Random sampling method was applied to both surveys. However, only household members over 16 years were sampled in the household member survey. Inquiries using questionnaires were made to heads of sample households in the household survey and to household members in the household member survey. The sample size and its distribution by district were as follows.



### Sample Size of Household and Household Member Survey

District	Household Survey		H'hold Member Survey	
	Sample Size (No.)	Distribution (%)	Sample Size (No.)	Distribution (%)
Gokwe North	88	25%	178	31%
Gokwe South	90	25%	129	22%
Kadoma	179	50%	273	47%
Total	357	100%	580	100%

#### (2) Household and Population

The demographic conditions of sample households in the household survey is presented in the table below. The total population of the sample households is 2,543 with male and female ratio of about 50:50, and the average size of household is 7.12. As for the age group composition, about 40% of the population belong to the age group of less than 15 years old, while 5% belong to the age group of over 61 years old. The economically active population which belongs to the age group 16-60 years old is to be about 54% of the total population.

#### Average Size of Household, Gender and Age Distribution of Household Members in Sample Households

District	Sample H'hold (No.)	Population (person)	Ave. Size of H'hold (person)	Sex Distribution		Age Distribution				
				Male (%)	Female (%)	0-6 (%)	7-15 (%)	16-40 (%)	41-60 (%)	61+ (%)
Gokwe North	88	632	7.18	50.6%	49.4%	13.3%	24.0%	45.5%	13.3%	3.8%
Gokwe South	90	648	7.20	49.3%	50.7%	14.2%	28.0%	39.8%	12.8%	5.3%
Kadoma	179	1,263	7.06	50.7%	49.3%	15.2%	26.9%	41.0%	12.1%	4.8%
Total	357	2,543	7.12	50.3%	49.7%	14.5%	26.5%	41.8%	12.6%	4.7%

Major ethnic groups are Zezuru and Karanga in the potential irrigation development area, and consist of 39% and 36% of the total sample households, respectively (see table below). It is said that Zezuru are the typical group in Mashonaland West province. Since Kadoma district falls under Mashonaland West province, the proportion of Zezuru in this district is higher than that in other districts. On the other hand, Karanga are historical migrants from Masvingo province, the southern part of the country. Many of them have migrated after independence. Based on interviews with farmers and AGRITEX extension workers, marriage between different Shona sub-tribes is common, and villagers consisting of three to four tribes support each other on special occasions, e.g. funerals and marriage. Because of such facts, it is considered that it is not necessary to pay to the tribal issue in a development planning. In general, however, mutual support relationships among neighbors is weak in the resettlement area compared to that in the communal area where household are more closely interrelated.

### Distribution of Sample Households by Ethnic Groups

District	Sample H'hold (No.)	Respondents (No.)	Ethnic Groups						Total (%)
			Karauga (%)	Zezuru (%)	Korekore (%)	Ndebele (%)	Nyanja (%)	Others (%)	
Gokwe North	88	84	35%	39%	21%	0%	2%	2%	100%
Gokwe South	90	90	30%	30%	14%	18%	0%	8%	100%
Kadoma	179	175	39%	44%	2%	5%	1%	9%	100%
Total	357	349	36%	39%	10%	7%	1%	7%	100%

As for the period of settlement, 37% of the sample households settled in their respective villages more than 30 years ago on average. The proportion of households settled more than 30 years ago is 49% in Gokwe North, 45% in the Gokwe South, and 28% in Kadoma district which shows comparatively lower percentage than the former two districts. In the resettlement area alone, although its sample size is considerably small, the result of analysis reveals that the households settled less than 20 years ago are 86% of the samples.

### Distribution of Sample Households by Length of Settlement

District	Sample H'hold (No.)	Respondents (No.)	Length of Settlement				Total (%)
			Within the Last 10 Years (%)	From 10 to 20 Years (%)	From 20 to 30 Years (%)	More than 30 Years (%)	
Gokwe North	88	82	17%	17%	17%	49%	100%
Gokwe South	90	85	20%	25%	11%	45%	100%
Kadoma	179	167	23%	28%	21%	28%	100%
Total	357	334	21%	25%	17%	37%	100%

Of the population of sample households, 7% are absent in the VIDCOs/villages for more than 3 months in a year on average. Absentees of males and females are 8% and 6%, respectively showing slightly higher percentage for males (see table below).

### Presence and Absence of Household Members

District	Sample H'hold Members (person)	Presence and Absence of Household Members								
		Total			Male			Female		
		Respondents (person)	Present (%)	Absent (%)	Respondents (person)	Present (%)	Absent (%)	Respondents (person)	Present (%)	Absent (%)
Gokwe North	632	632	94%	6%	320	92%	8%	312	96%	4%
Gokwe South	648	643	92%	8%	317	91%	9%	326	93%	7%
Kadoma	1,263	1,263	93%	7%	640	91%	9%	623	94%	6%
Total	2,543	2,538	93%	7%	1,277	92%	8%	1,261	94%	6%

### (3) Education Status

The survey results made on education status of the household heads is presented in the table below. As a whole, about 24% of the household heads received no formal education, and about 19% did not complete primary school. Accordingly,

it can be said that nearly half of the household heads are non-educated and/or did not complete primary school in the potential irrigation development area. On the other hand, the proportion of household heads who were educated beyond primary school is about 29%. However, the proportion of GCE-A level graduates (which correspond to high school graduates) is only 1.4% of the household heads.

#### Education Level of Household Heads

District	Sample Hhold (No.)	Respon-dents (No.)	Education Level					Total (%)
			No Formal Education (%)	Drop Out Primary Sc. (%)	Primary Sc. Graduate (%)	More than Primary Sc. (%)	Other (%)	
Gokwe North	88	87	28.7%	14.9%	25.3%	31.0%	0.0%	100.0%
Gokwe South	90	90	24.4%	26.7%	18.9%	25.6%	4.4%	100.0%
Kadoma	179	179	20.7%	17.9%	30.2%	29.6%	1.7%	100.0%
Total	357	356	23.6%	19.4%	26.1%	28.9%	2.0%	100.0%

#### (4) Occupation

The survey results on occupation status of heads of household are summarized in the table below. As seen in the table, 85% of the heads of household are farmers followed by salary workers (6%) and in private business (3%). The proportion of farmers is slightly higher in Gokwe North district than that in other two districts. The household heads who have no job are small in proportion at only 3%.

#### Occupation of Sample Heads of Household

District	Sample Hhold (No.)	Respon-dents (No.)	Main Occupation of Household Heads						Total (%)
			Farmer (%)	Wage Labour (%)	Salary Worker (%)	Private Business (%)	Pension Receiver (%)	No Job (%)	
Gokwe North	88	88	88%	0%	8%	2%	1%	1%	100%
Gokwe South	90	90	84%	2%	4%	3%	0%	6%	100%
Kadoma	179	179	84%	3%	5%	2%	3%	3%	100%
Total	357	357	85%	2%	6%	3%	2%	3%	100%

The distribution of household members by occupational group is shown in the table below. As a whole, about 44% of the household members are farmers. However, the proportion of farmers becomes 65%, if students and children are excluded from the calculation. In the same manner, salary workers, wage labors and jobless people account for 8%, 2% and 9% of the household members, respectively.

### Occupation of Sample Household Members

District	Main Occupation of Household Members								
	Farmer (%)	Wage Labour (%)	Salary Worker (%)	Private Business (%)	Pension Receiver (%)	Student (%)	Child (below School.) (%)	No Job (%)	Total (%)
Gokwe North	50%	1%	6%	1%	0%	30%	10%	2%	100%
Gokwe South	45%	2%	5%	1%	0%	27%	12%	8%	100%
Kadoma	40%	2%	5%	1%	0%	32%	13%	7%	100%
Total	44%	2%	5%	1%	0%	30%	12%	6%	100%

In response to a question whether the household members were involved in farming, about 78% of the male population and 80% of the female population are fully and/or partly involved in the farming (see table below). This percentage is very high, since both young and old are included as household members.

### Involvement in Farming by Household Members

District	Sample H'hold Members (person)	Total		Male		Female	
		Involved (%)	Not Involved (%)	Involved (%)	Not Involved (%)	Involved (%)	Not Involved (%)
Gokwe North	632	82%	18%	79%	21%	84%	16%
Gokwe South	648	78%	22%	78%	22%	79%	21%
Kadoma	1,263	78%	22%	77%	23%	78%	22%
Total	2,543	79%	21%	78%	22%	80%	20%

#### (5) Involvement in community organization

Religious organization, farmers' group and ZFU are the major community organizations in the area, and their proportion of membership are 38%, 13% and 10% of the household heads, respectively (see table below). However, a fairly large proportion of the households heads (about 21%) do not belong to any community organization. Of the non-members, the greater proportion is male at 59% compared to 41% of the female population. The community organizations relevant to rural and agricultural development are generally inactive as indicated by the low membership rates indicated by the survey.

### Organizational Membership of Household Heads

District	Sample H'hold (No.)	Organization						Total (%)
		ZFU (%)	Farmer's Group (%)	Religious Organi. (%)	Women's Group (%)	Others (%)	Non-Member (%)	
Gokwe North	88	8%	22%	42%	2%	14%	13%	100%
Gokwe South	90	11%	7%	42%	1%	13%	26%	100%
Kadoma	179	11%	12%	35%	2%	18%	22%	100%
Total	357	10%	13%	38%	2%	16%	21%	100%

## (6) Cash Income Source

The importance of cash income sources of sample households is indicated by scores<sup>7)</sup> as shown in the table below. As seen in the table, it is evaluated that, among several sources, "crops" is the most important cash income source of the households (with score of 92). The scores in other sources are comparatively low, e.g. 12 for livestock, 11 for salary, 10 for wage and 9 for remittance.

**Importance of Cash Income Sources in Sample Households**

District	Sample Hhold (No.)	Income Sources								
		Crops (Score)	Live-stock (Score)	Home Industry (Score)	Salary (Score)	Wage (Score)	Pension (Score)	Remittance (Score)	Private Business (Score)	Others (Score)
Gokwe North	88	92.9	8.8	2.0	13.1	7.4	1.1	8.7	7.3	4.9
Gokwe South	90	93.7	10.1	9.0	6.4	6.3	3.0	12.8	5.8	2.7
Kadoma	179	91.3	14.3	6.8	12.8	12.7	4.7	7.6	5.1	3.7
Total	357	92.3	11.9	6.2	11.3	9.8	3.4	9.2	5.8	3.8

## (7) Living Condition

### (a) Fuel for Cooking/Heating

Among several fuel sources, fuel wood is the most important for cooking and heating purposes in the area. Use of other sources such as crop residue and paraffin is not a common practice in the area. Almost all the households fetch their own fuel wood needs, and only 2% of the households buy their fuel wood (see table below).

The distance or time required to get to fuel wood sources is about 54 minutes to the first source and 45 minutes to the second source on average. Although they are spending about one hour to get to fuel wood sources, only 9% of households answered that fuel wood was very difficult to obtain. Spending about one hour to fuel wood sources is likely to be common practice for most households in the area. The availability of fuel wood is lower in Gokwe North district where forests are scarcely expanded (see table below).

<sup>7)</sup> The score is calculated as follows;  
 $(A*3+B*2+C*1) / T / 3 * 100$  (max. score=100, min. score=0)

Where; A : number of answer for 1<sup>st</sup> priority  
B : number of answer for 2<sup>nd</sup> priority  
C : number of answer for 3<sup>rd</sup> priority  
T : number of total answers for the question

**Fuel Wood Availability, Its Source and Distance to Main Fuel Wood Forests**

District	Sample H'hold (No.)	Fuel Wood Availability			Source of Fuel Wood		Time Required to Main Fuel wood Forests	
		Easily Available (%)	Difficult to Obtain (%)	Very Difficult to Obtain (%)	Own Harvest (%)	Purchased (%)	Source 1	Source 2
							(mins)	(mins)
Gokwe North	88	68%	18%	14%	97%	3%	69	34
Gokwe South	90	78%	17%	6%	99%	1%	49	97
Kadoma	179	75%	17%	8%	98%	2%	50	33
<b>Total</b>	<b>357</b>	<b>74%</b>	<b>17%</b>	<b>9%</b>	<b>98%</b>	<b>2%</b>	<b>54</b>	<b>45</b>

(b) Food

The degree of food sufficiency in the households is given in the table below. As indicated in the table, the proportion of households having sufficient production greater than their requirements is on average about 30% for cereals, 10% for vegetables and 3% for meat. Household needs are purchased or exchanged in about 36% of the households in cereals, 54% in vegetables and 79% in meat. Based on these figures, it appears that about one-third of the households have surpluses of cereals, vegetables cultivated in the area are mostly for home consumption (although these are produced insufficiently), and meats are insufficient in many households.

**Food Condition of Sample Households**

District	Sample H'hold (No.)	Food Condition					Total (%)
		Respon- dents (No.)	1 (%)	2 (%)	3 (%)	4 (%)	
<b>Cereals</b>							
Gokwe North	88	88	25%	45%	30%	0%	100%
Gokwe South	90	90	31%	28%	41%	0%	100%
Kadoma	179	179	31%	31%	37%	0%	100%
<b>Total</b>	<b>357</b>	<b>357</b>	<b>30%</b>	<b>34%</b>	<b>36%</b>	<b>0%</b>	<b>100%</b>
<b>Vegetables</b>							
Gokwe North	88	88	10%	42%	48%	0%	100%
Gokwe South	90	90	9%	38%	53%	0%	100%
Kadoma	179	179	11%	32%	57%	0%	100%
<b>Total</b>	<b>357</b>	<b>357</b>	<b>10%</b>	<b>36%</b>	<b>54%</b>	<b>0%</b>	<b>100%</b>
<b>Meat</b>							
Gokwe North	88	87	1%	14%	84%	1%	100%
Gokwe South	90	90	4%	12%	83%	0%	100%
Kadoma	179	178	3%	22%	74%	1%	100%
<b>Total</b>	<b>357</b>	<b>355</b>	<b>3%</b>	<b>18%</b>	<b>79%</b>	<b>1%</b>	<b>100%</b>

**Food Condition**

1. Own harvest / product exceeds the household demand
2. Own harvest/product just meets household demand
3. Purchased or exchanged to meet the household demand
4. Do not consume the food item

Households were also asked the length of time food was short of requirements. Households facing 4-6 months food shortage is the highest at 20% in cereals, 26% in vegetables and 32% in meat. Although there are many livestock raised in the area, animals are seldom consumed and less important as a source of cash income compared to crops. These facts

indicate that most of livestock are kept as farmers' property or wealth.

(c) Health and Sanitation

According to the survey results on major diseases of the households, malaria is the most popular disease, and nearly 50% of children and adults had an occurrence during the last 12 months. The rates of occurrence in other diseases are comparatively small. For children, 4% for diarrhea, 2% for skin disease, and 2% for respiratory disease, and or adults 6% for respiratory disease, 4% for diarrhea, 2% for eye disease and 2% for pneumonia. On the other hand, about 37% of children and 24% of adults had "no disease" during the last 12 months.

To the question about a treatment when they had slight illnesses, 76% of households selected the answer of "go to a clinic/hospital within the ward". In case of severe illnesses, 55% selected the answer of "go to a clinic/hospital outside the ward". The proportion of households whose answers were "no medical treatment" is small at 6% in case of slight illnesses, and 3% in severe illnesses. It can be said that the people in the area depend mainly on medical services available in and around the area when they fall sick (see table below).

**Action Taken by Households for Diseases**

District	Sample H <sup>h</sup> hold (No.)	Respon-dents (No.)	Action Taken for Diseases					Total (%)
			No Medical Treatment (%)	Buy Medicine (%)	Go to a/ Clinic/ Hospital (%)	Go to b/ Clinic/ Hospital (%)	Go to Tradition Healer (%)	
<b>Slight diseases</b>								
Gokwe North	88	88	2	3	83	10	1	100
Gokwe South	90	89	6	12	76	.3	2	100
Kadoma	179	177	8	8	72	12	0	100
Total	357	354	6	8	76	9	1	100
<b>Severe Diseases</b>								
Gokwe North	88	88	0	0	35	65	0	100
Gokwe South	90	89	2	1	43	53	1	100
Kadoma	179	177	5	1	45	50	0	100
Total	357	354	3	1	42	55	0	100

Note: a/; Go to a clinic/hospital within ward

b/; Go to a clinic/hospital outside ward

The proportion of households who own a toilet is 54% in the area. This proportion is higher in Kadoma district (61%) and lower in Gokwe South district (45%).

(d) Family planning

As for the survey results on the status of family planning, 73% of the households indicated that they had been visited by a family planning health worker in their area. The availability of the workers is much higher in Gokwe North where 97% cited that they were receiving the health workers. In Gokwe South, only 51% had been visited by the health personnel. In general, however,

the services of family planning are being strengthened in the area through the development of clinics and/or health centers.

(8) Agricultural Supporting Services

The table below shows the utilization of support services provided by AGRITEX, financial and veterinary services. The proportion of households who receive the services in every year is 80% in AGRITEX extension, 50% in financial support, and 60% in veterinary service. It can be evaluated that the AGRITEX extension service is more densely provided than other two services in the area. Among the districts, the AGRITEX service seems to be inactive in Gokwe North district. Similarly, the financial service is weakly provided in Gokwe North and Gokwe South districts, and the veterinary service is low in Gokwe South district.

**Household Experience in Use of Supporting Services**

Supporting Service/ District	Sample H'hold (No.)	Respon- dents (No.)	1 (%)	2 (%)	3 (%)	4 (%)	Total (%)
<b>AGRITEX Service</b>							
Gokwe North	88	88	81%	9%	1%	9%	100%
Gokwe South	90	88	63%	14%	0%	24%	100%
Kadoma	179	178	80%	12%	2%	6%	100%
Total	357	354	76%	12%	1%	11%	100%
<b>Financial Service</b>							
Gokwe North	88	84	42%	12%	5%	42%	100%
Gokwe South	90	83	52%	12%	1%	35%	100%
Kadoma	179	177	61%	13%	5%	21%	100%
Total	357	344	54%	13%	4%	29%	100%
<b>Veterinary Service</b>							
Gokwe North	88	79	65%	20%	3%	13%	100%
Gokwe South	90	84	62%	13%	2%	23%	100%
Kadoma	179	165	61%	15%	7%	16%	100%
Total	357	328	62%	16%	5%	17%	100%

**Code for Support Experience**

1. Receive the service in every year
2. Received service 2 to 3 times in last five years
3. Received service once in last five years
4. Not received service once in last five years

The survey results on households' experience in availability of support services are shown in the table below. The proportion of households who answered that the services are difficult to access is 27% in the AGRITEX service, 38% in financial service, and 35% in veterinary service. Among the three districts, the services are difficult to access in the districts where the respective services are weakly provided as evaluated in the above.



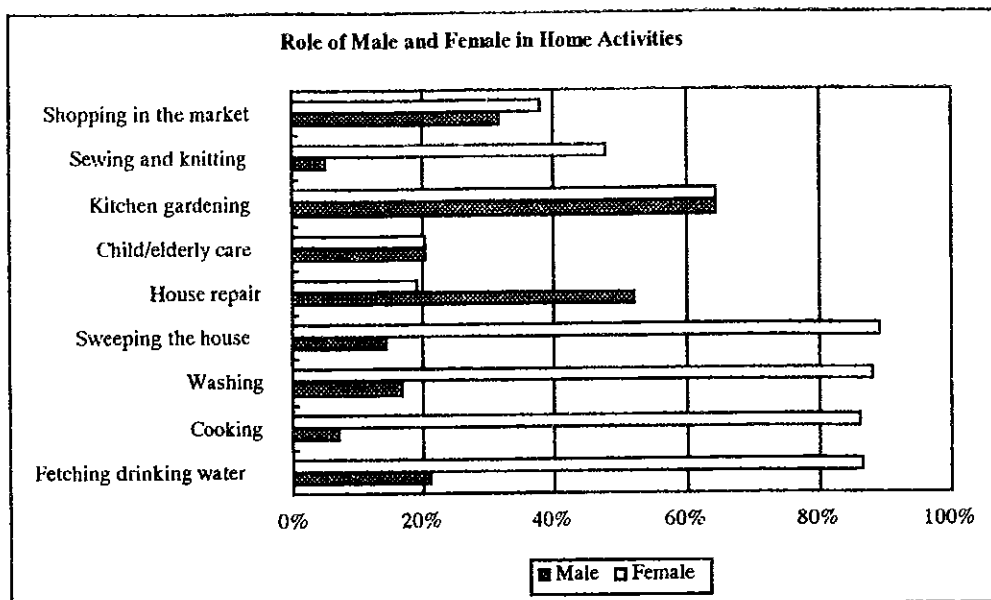
### Households' Experience in Availability of Supporting Services

Supporting Service/ District	Sample Hhold (No.)	Respon- dents (No.)	Easily Available (%)	Difficulty in Availabil. (%)	Total (%)
<b>AGRITEX Service</b>					
Gokwe North	88	88	77%	23%	100%
Gokwe South	90	88	58%	42%	100%
Kadoma	179	178	79%	21%	100%
Total	357	354	73%	27%	100%
<b>Financial Service</b>					
Gokwe North	88	83	59%	41%	100%
Gokwe South	90	83	48%	52%	100%
Kadoma	179	177	70%	30%	100%
Total	357	343	62%	38%	100%
<b>Veterinary Service</b>					
Gokwe North	88	77	69%	31%	100%
Gokwe South	90	84	57%	43%	100%
Kadoma	179	165	67%	33%	100%
Total	357	326	65%	35%	100%

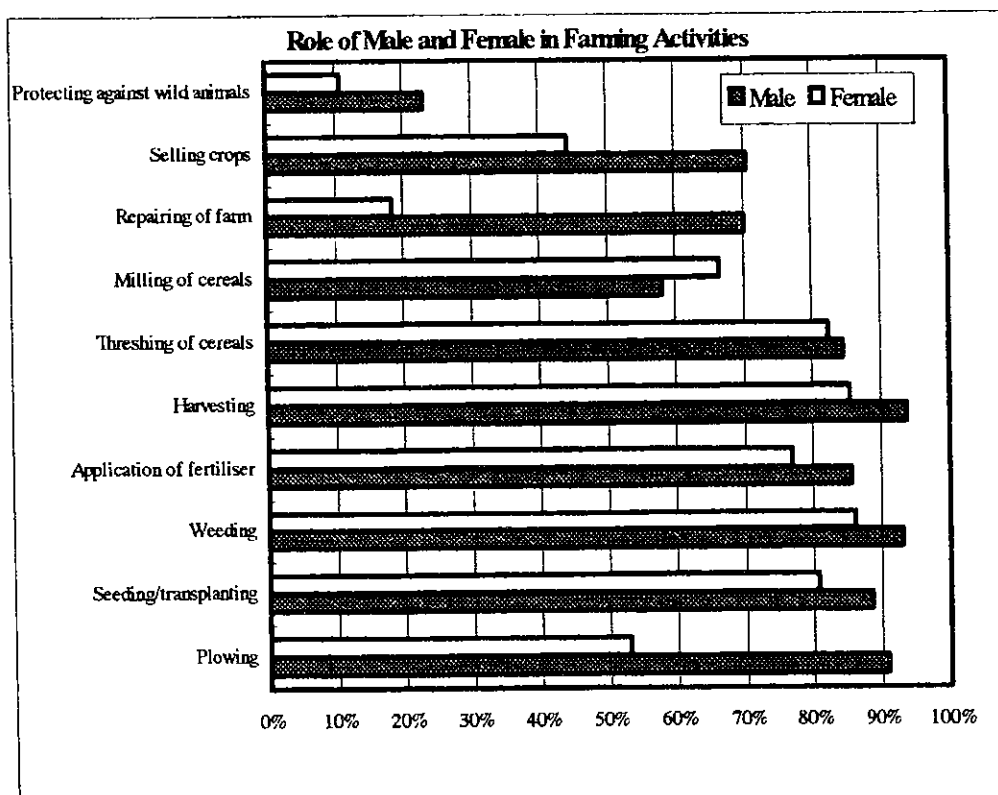
#### (9) Role of Male and Female

In the household member survey, male and female household members over 16 years of age were asked the frequency of their participation in eight major categories of activities. These eight categories include (i) home activities, (ii) farming activities, (iii) raising of livestock, (iv) keeping of poultry and other small animals, (v) forestry and bush activities, (vi) communication, and (vii) religious/cultural activities. In all, these eight categories subsume 48 items of activities. The percentages of male and female household members who “usually engage” in each of these eight activities including their internal sub-divisions are presented in the graphs below (also refer to Table 2).

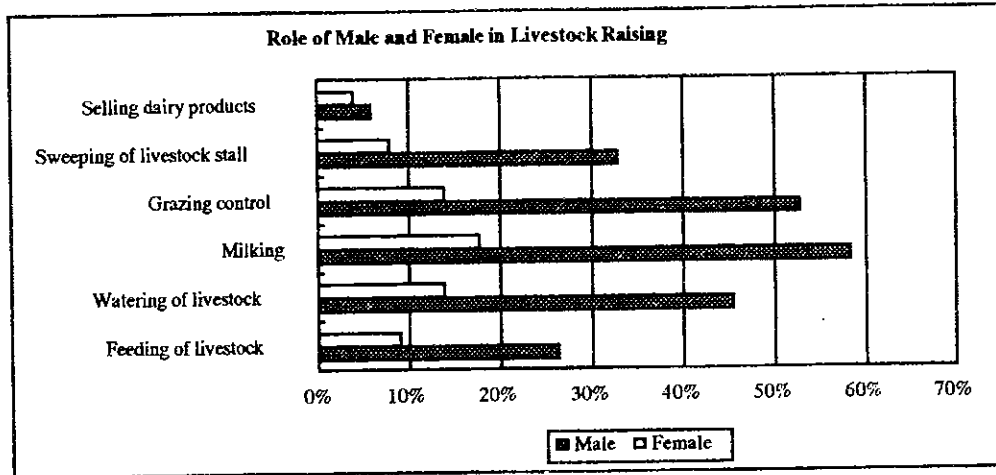
Home activities include fetching drinking water, cooking, washing, sweeping the house, house repair, child/elderly care, kitchen gardening and shopping in the market. The survey result shows that women play a more dominant role in fetching drinking water, cooking, washing, sweeping the house, and sewing and knitting. In contrast, the percentage of men who “usually participate” in house repair is greater than that of women. Both men and women are usually engaged in kitchen gardening, shopping in the market and child/elderly care.



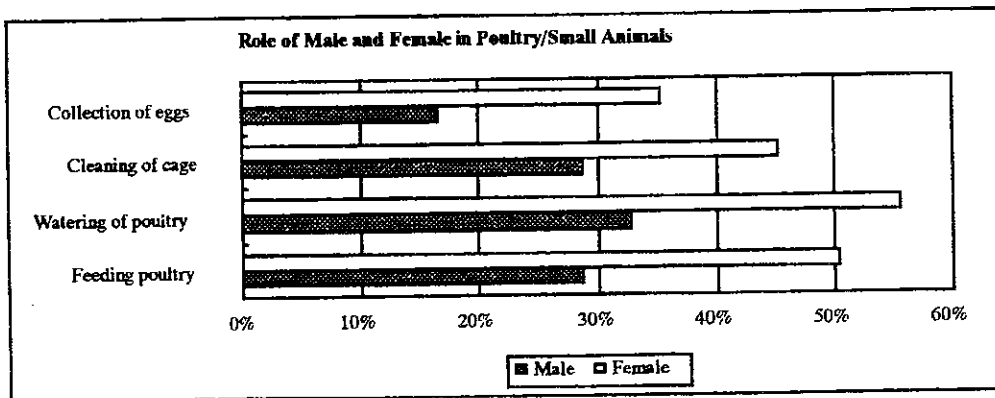
In the farming activities, the proportion of men “usually engaged” is generally higher than that of women in many activities. However, women are also engaged in these activities with considerably high engagement rates except for plowing, repairing of farm and protecting against wild animals. It is clear that women are also playing an important role in many farming activities in addition to home activities most of which are undertaken by women. Because of the survey results showing considerably high engagement rate of men in selling crops and shopping in the market (see above graph), it is considered that men tend to manage the household economy in the study area.



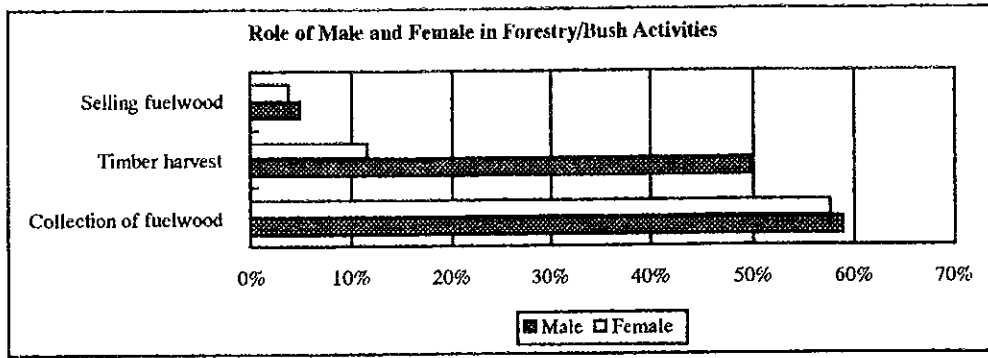
In livestock raising, the proportion of men “usually engaged” is higher than that of women in all activities. Men and women who “usually engage” in selling dairy products are very small in percentages (6% in men and 4% in women). Thus it is considered that there are limited number of households selling dairy products such as milk in the study area.



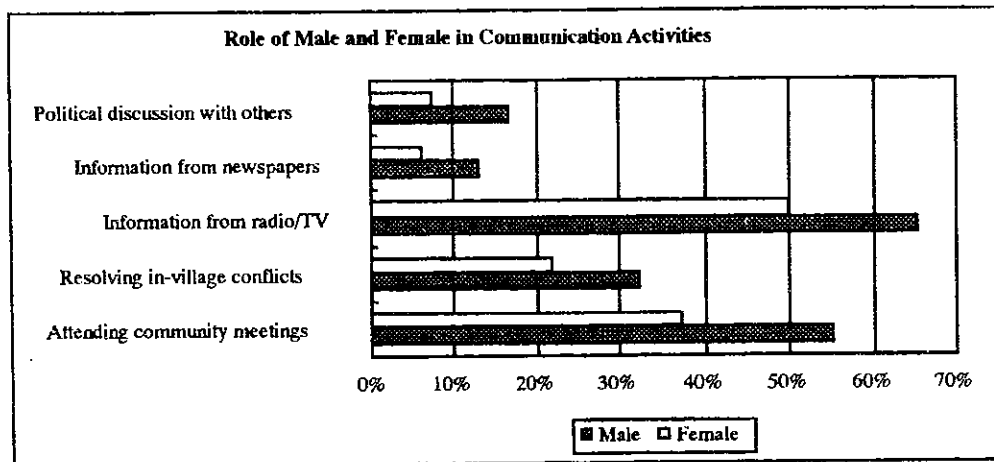
In contrast to the raising of large livestock, women dominate in the raising of poultry and other small animals.



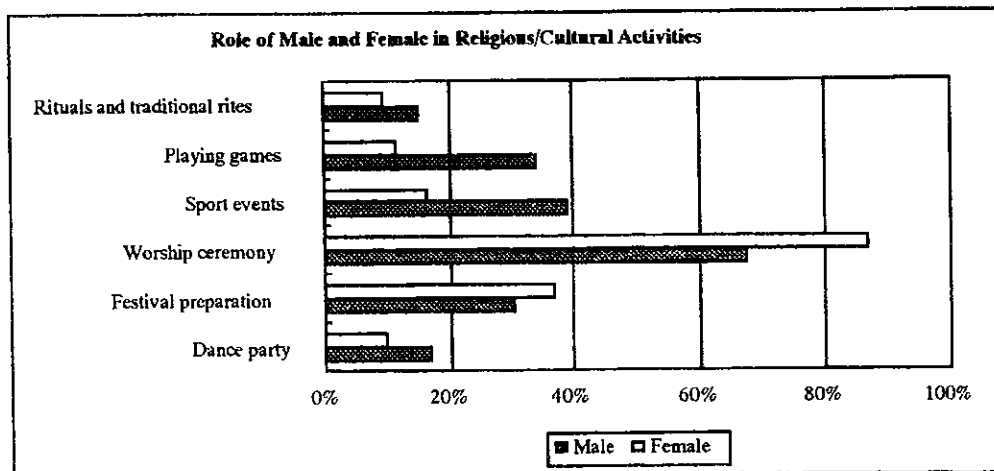
The main activities included in forestry/bush activities are collecting fuel wood, timber harvest and selling fuel wood. Both men (59%) and women (58%) play a near equivalent part in collecting fuel wood. However, more men (50%) than women (12%) are engaged in timber harvesting. Engagement rates in selling fuel wood are very small both in men and women showing that most of households in the study area consume their own harvested fuel wood.



Men's involvement is higher than women's in all communication activities. However, women also "usually participate" to a certain extent in these activities, e.g. 50% in getting information from radio (households having TV are negligible small) and 37% in attending community meetings. The participation rates are low both in men and women in political discussion with others and getting information from newspapers.



In religious and cultural activities, women's participation is higher in worship ceremony and festival preparation. While men dominantly engage in other activities such as sport events and games.



#### (10) Activities that People Want to Make Easy

In the household member survey, adult members (over 16 years old) were asked which activity they want to lighten their workload among their daily activities, and to select one activity among 33 activities listed in Table 2. The survey results are presented also in Table 2. The table below summarizes the activities with higher scores both for men and women.

Male's Priority		Female's Priority	
Activities	Score	Activities	Score
1. Plowing	67.1	1. Plowing	48.5
2. Weeding	49.2	2. Weeding	48.4
3. Harvesting	31.4	3. Fetching drinking water	33.7
4. Collection of fuel wood	21.5	4. Harvesting	32.1
5. Seeding/transplanting	17.0	5. Collection of fuel wood	25.1

For men, major activities they want to lighten the workload are all farming related activities such as plowing and weeding except for collecting of fuel wood. These are also similar in women except for fetching drinking water, because this is largely done by women. It is clear that most of men and women want to make easy their farming activities which consume more labor and time than other activities. Further, both men and women want to make easy the fetching of water.

#### (11) People's Present Concerns

The degrees of people's concerns in connection with various economic, political and cultural issues are presented in Table 3. As seen in the table, the importance of people's concerns indicated in the scores are different between the districts and genders. However, if the above 10 important items (or top 10 scores) are selected, these items are similar in all districts and both genders.

The overall results show that the people strongly concerned about "cash income", "irrigation", "food availability" and "crop productivity". The scores of all these items are ranked from 1<sup>st</sup> to 4<sup>th</sup> both for men and women. The next higher scores are shown in the items of "motorable roads", "electricity", "health", "communication facility", and "drinking water". The items having large differences between men and women are "health" and "sanitation". In these items, women's scores are higher than men's. Among the districts, the score of "drinking water availability" is higher in Gokwe North and Gokwe South districts than that in Kadoma district.

#### (12) People's Participation to Collective Action

##### (a) People's Experience in Collective Action

The people's collective action taken in the past on the above mentioned items

was also asked to the household members (see Table 4). As a result, more than 60% of men and women have equally taken actions in the past on their concerns of “food availability”, “cash income” and “crop productivity”. And more than 50% of men and women have also equally taken actions with “sanitation”, “drinking water availability”, “labor force availability”, “religious beliefs” and “meeting on community development”. In “land slide/soil erosion”, 57% of men and 46% of women have taken actions. In other items of concerns, such percentages are all less than 50%.

(b) External Assistance in the Past

Household members were asked whether external assistance has been rendered for each of the above mentioned items (see Table 4). More than 70% of men and women answered that the external assistance has been provided for “food availability”. Other items in which more than 50% of men and women have received external assistance are in “sanitation”. It can be concluded that the external assistance for the development of rural economy and social infrastructure is generally inactive in the study area.

(c) Willing to Take Actions/Participate

Moreover, the household members were asked whether they were willing to take actions/participate in improvement/development of the above items (see Table 4). As a result, more than 90% of men and women are equally willing to take actions with regards to improving their “cash income”. More than 80% of both genders were also willing to take action in “food availability” and “crop productivity”. More than 70% of both genders were also interested in “irrigation”, “land slide/soil erosion”, “electricity supply”, “sanitation”, “health”, “fuel wood availability”, “drinking water availability” and “communication facility”. There are small differences between men and women in their willingness for improvement/ development of their rural economy and social infrastructure.

(13) Preference for Irrigated Land

In the household member survey, a question was asked on whether they would like to have land within the irrigation command area. Their answers are summarized in the table below, 79% of men, 74% of women and 77% of both genders showed a willingness to have irrigated land.

**Activities that People Want to Make Easy**

	Yes	No
Male	79%	21%
Female	74%	26%
Total	77%	23%

The household members whose answers were “yes” in the above question were

further asked about their preference in crops that they want to cultivate in the irrigated land. As a result, 49% of people indicated maize and 32% cotton for summer crops, and 36% of them prefer vegetables, 18% wheat, 17% beans, and 13% maize for winter crops as shown in the table below.

**Crops which People Want to Cultivate with Irrigation**

Crop	Summer	Winter
Maize	49%	13%
Wheat	2%	18%
Cotton	32%	9%
Groundnuts	1%	2%
Vegetables	9%	36%
Beans	6%	17%
Fruit trees	0%	2%
Green maize	1%	1%
Sorghum/millet	0%	0%
Other	0%	0%
Roundnuts	0%	0%
Sweet potato	0%	0%
Others	0%	0%
Total	100%	100%

To the household members who liked to have irrigation land, further question was asked whether they would still like land even if they have to pay for water charges. The results of this question reveal that about 94% maintained that they would still like land even if they were to pay for water charges. Only 4% would not like land if water charges are levied.

In the same manner, a further question whether they would still like irrigation land even when they may have to organize a water user group for routine operation and maintenance of irrigation system. To this question, 91% of all the respondents who would like irrigation land said that they would like to participate in a water user group if group work for operation and maintenance does not disturb the farming activities. About 6% did not like to have irrigation land if they have to do group work for the operation and maintenance. About 2% could not give answer on this question.

The questionnaire further asked to the household members whether one hectare per household in the irrigation area is sufficient. The results reveal that 67% of the respondents think that one hectare of irrigation land per household is sufficient, and 33% think that this size of land allocation is not enough.

The other question whether they still would like land even if this entails resettlement in a location nearby the irrigation area. The results clarify that only about 19% maintained that they would like irrigation land even if they have to pay for the cost of resettlement. About 55% of the respondents are willing to resettle provided the government assists them to cover the costs of resettlement. A further 20% said that they would rather not have land in the irrigation area if this entails resettlement. About 6% could not answer at the time of interview. The answers of

this question are different between men and women. The percentage of respondents who answered that they would rather not have irrigation land are larger in women (22%) than men (17%).

The reasons why some people (about 23% of household members) do not want to have irrigation land were also asked in the survey. The major reasons given by the respondents are labor shortage in irrigated farming (22%), too old (19%), and sufficient income with present farming (12%). Other reasons given for not wanting irrigation land include lack of interest in irrigation (7%), ill health (3%), exacting labor demands of irrigation (3%), etc.



2. Nyarupakwe Pilot Project  
 2.1 Rural Society and Institutions  
 2.1.1 Rural Administration

The country has five tiers of administrative structure built-up of central, province, district, ward and village. The Pilot Project Area is administratively consisted of 15 villages (kraals) in the Ward GS 23 Chisina I, Gokwe South District, Midlands Province as shown below.

Administrative Tiers of the Pilot Project Area				
District / Ward	Village (Kraal)			
Gokwe South GS 23 Chisina I ( 46 villages )	Villages in Pilot Project Area	1. Marumbe	2. Muchina	3. Makarichi
		4. Sekema	5. Muza	6. Murandu
		7. Magonyo	8. Hlamba	9. Jeffrey
		10. Komboni	11. Gunde	12. Mahvondo
		13. Mabarani	14. Mujubeki	15. Mateuro
	Villages Outside	31 villages		

The province is under the territorial jurisdiction of the Central Government with the Governor appointed by the President, while the administration is executed by the Provincial Offices of the central departments with a certain extent of autonomy. The district-level administration is entrusted to the District Administrator (DA) and the District Offices of the departments. Ward is a local administrative unit under the district and composed of a number of villages. The administration at the ward level is by the Ward Development Committee (WADCO) organized by the chairpersons of Village Development Committees (VIDCOs) and a ward councillor as a chairperson. The village level administration is conducted by the VIDCO, which is also an autonomous institution and the terminal organization of local administration.

Public services at district, ward and village levels are maintained by three lines of local government, i.e. the DA, the Rural District Council (RDC) and central government departments. The RDC is development and planning authority for its rural command area covering communal and resettlement lands and SSCL. This Council is composed of elected councillors, each representing a ward. It works mainly through committees established for finance, rural district development, health, environment, roads and others. Other committees that form a part of the local government structures include the WADCO, the VIDCO and the Village Assembly. These planning institutions focus their attention on local level development initiatives. Communities use them to organize projects such as construction of schools and clinics, domestic water supply, irrigation and other infrastructure projects. However, these institutions have generally not functioned as expected due to the lack of financial and technical expertise, which is required

to enable lower tier structures to plan in a realistic manner.

The government departments at district level also provide public services up to the ward and village levels. These departments include AGRITEX, Veterinary Services, Education, Health, Cooperatives, Social Welfare, Construction, Tsetse Control, etc. The DA, as the chairperson of the Rural District Development Committee (RDCC), co-ordinates the rural development activities carried out by the RDC and the government departments at district level. However, the major responsibilities for local services are still in the hands of the ministries/departments since the vertical linkages that represent effective resources flow from the central are apparently dominant.

Beside the above administration structure, traditional leaders are important component of the local government process and activities in the communal land. They wield tremendous influence and are highly respected by their communities. The traditional leaders consist of Chiefs, Headmen and Kraal Heads. The Pilot Project Area is under Chief Njcelele, Headman Chisina I and 15 Kraal Heads. The major Chief's roles are to maintain traditional and cultural values, facilitate development issues, preside over local courts, and assist in maintaining public order. The Headman assists his Chief in these activities. The Kraal Head is a head of the terminal unit of village.

The Traditional Leaders Act enacted in January 2000 by replacing the Chiefs and Headmen Act has enhanced the influence of traditional leaders in recognition of the role of the village in the development process. The amended act establishes local-planning committees chaired by a Kraal Head, called the Village Assembly organized at each village. They will form a communication link between the RDC and the local people. The organisational set-up for the rural development is illustrated in Fig. 3.

### 2.1.2 Rural Institutions

#### (1) Project Related Rural Institutions

Major institutions involved in rural administration and/or development activities in and around the Pilot Project Area include: 1) Gokwe South RDC, 2) Rural District Development Committee (RDCC), 4) WADCO of Chisina I and 5) VIDCOs of project 15 villages as shown in Table 5. The major functions and activities of the institutions are summarized below:

##### (a) Gokwe South RDC

The RDC is the administrative body at district level representing the central government and the local population. The council has, therefore, the dual structures of political side and executive side. In the political side, the council has committees for special purposes as creatures of central government and currently it has eight such committees. Among the

committees, the ones related with the present Project are Planning & Development Committee, Road Committee, RDDC and WADCO. On the executive side, the RDC has five departments of Finance, Economic Planning & Development, Social Services, Technical Service and Administration. The functions of the departments are linked to the Council committees.

(b) RDDC

The RDDC is mainly composed of technocrats and this committee acts as the technical arm of the RDC with special responsibility to consider development plans submitted to Council and make recommendations to it. It also investigates and implements the above mentioned development plans as per council's institutions. This Committee works through three sub-committees, namely, Agriculture & Conservation, Infrastructure and Social Development Sub-committee.

(c) WADCO of Chisina I

The WADCO is established in each ward of the Council area and it prepares and submits a ward development plan. Such a plan, however, evolves from the lowest planning unit at village level, the VIDCO. The WADCO is organised by Chisina I Ward councillor as a chairperson and chairpersons of VIDCOs.

(d) VIDCOs

The VIDCO is the planning and implementation committee of development plans at a village level, which is organised by Kraal Head as a chairperson and 7 – 10 village representatives selected at a Village Assembly. The Assembly, which is organised by all villagers above 18 years of age and chaired by Kraal Head, supervises the activities of the Committee.

(2) Rural Organizations for Social Services

A number and variety of rural organizations are formed in the project villages as shown in Table 6. While, those are mostly for agricultural purposes and organisations for social services are rather limited in number in the Pilot Area. Further, the estimated participation rates of villagers to such social organisations except for a football club and a group for bridge construction appear to be low varying from 10 % to 40 % as shown in the Table. Among the organizations, the ones having active functions with substantial membership include Nyarupakwe Bridge group of Gunde village, Gunde Football Club, Nyamacheni Bakery group (inter-kraal group) and Zvitirei Club (inter-kraal group).

## **2.2 Institutional Strengthening Plan**

### **2.2.1 Institutional Framework for Development and Its Potential and Weakness**

A number of institutions/organisations/individuals are involved in development of the Pilot Project as shown in the institutional framework for development

illustrated in Fig. 4. Among such institutions/organisations, the key institutions which should take primary roles in the planning, development and management of the present Project and should be strengthened to enhance the capacity to act as the service providers or the project beneficiaries include: 1) AGRITEX, 2) VET, 3) Pilot Project Area Community (VIDCOs & Village Assemblies), and 4) farmers groups or organisations.

Although the limited financial resources may be the major factor encumbering the capacity of the institutions, the potential and weakness of the key institutions identified through the present Study, especially through the survey on socio-economic environment in the Area are discussed below.

#### (1) AGRITEX

The service areas of AGRITEX cover crop production, irrigation development and water management, animal husbandry, marketing and farmer organisation and it should carry out its core function as a service provider for the project development and management through its district office in Gokwe, and from its provincial or head office. AGRITEX as a whole has long experience in dealing with smallholder irrigation in terms of engineering and crop production. However, the Irrigation Branch of Agricultural Engineering and Technical Division is not represented at district level. In addition, the department remains relatively inexperienced in the fields of social, organisational, small business management, and marketing aspects that are required for the smooth transfer to farmers of scheme management and O&M responsibility.

In practical areas, the Gokwe South AGRITEX District Office is poorly equipped with vehicle and extension equipment and inadequately staffed in terms of irrigation and water management. In the field level, its field staff, 3 FAEOs posted in the Pilot Area are poorly provided with transportation means and extension equipment to carry out their duties and no office facility is established even for the sub-area team covering the Area. In addition, the FAEOs deployed in the Area have limited experiences in some aspects of irrigation and water management, irrigation agronomy, high value crops, marketing and animal husbandry.

Further, the results of the survey on socio-economic environment indicate services of AGRITEX regularly reached to 25 % of sample farmers in the Project Area which is far below the expectation since 80 % of them knew the availability of its services. This might mean that farmers are not satisfied with the services offered by AGRITEX. This dictates the necessity of reviewing the current field extension activities so that the services will meet the actual needs of the users.

#### (2) VET

The VET through its District Office in Gokwe and the sub-area office/Veterinary Service Center in the Pilot Area has long been providing veterinary services in

general and also genetic resources improvement services, but to a limited extent. While, in spite of the importance of the livestock sub-sector as an income source in the Area, the productivity of animals is rather poor due partly to insufficiency of veterinary services. To support the development plans in the livestock sub-sector under the Project, the strengthening of the capacity of the Office and sub-area office is essential. The areas to be addressed include: 1) strengthening of logistics of the offices, 2) enhancing of the capability of staff, and 3) introduction of integrated approaches with AGRITEX services.

### (3) Pilot Project Area Community (VIDCOs & Village Assemblies)

The communities in the Pilot Project Area have some limited experiences in planning, development and management of rural development works such as construction of schools, clinics, minor dams and etc. Such development initiatives taken by the communities were promoted by establishing committees composed of a single or plural village representatives, through the former VIDCO (formerly VIDCO was organised by plural villages, generally six villages) or by the leadership of village heads. The contributions of the communities or villagers to such development works are generally in the form of labour supply. However, the same through supply of locally available materials and/or funds from their own resources were also made.

Accordingly, the communities appear to have some capability to plan, implement and manage development plans through the newly established village level development planning and implementation institutions of VIDCOs and Village Assemblies. However, their technical skills and managerial capacity need to be strengthened to a greater extent. The support of the service providers in all aspects of development will be essential from the planning to management stage of the Project.

### (4) Farmers Groups/Organisations

A number of farmers' organisations for agricultural purposes are formed at a village level or inter-village level in the Pilot Area. Some of them such as Ummiati Producers Cooperative Society, lending groups organised by the COTCO, Farmers Clubs and some women's groups are firmly established but the majority are not for the participation rate of farmers in such organisations is rather low in most of villages.

Most of the development plans proposed under the Project entail collective activities of beneficiaries for the successful implementation and management of the development. Such plans include: 1) irrigation and agricultural development plan, 2) livestock development plan, 3) improvement of marketing system and 4) rural infrastructure development. For example, farmers' organisations in the irrigated area of the Project, Water Users Group (WUG) and Irrigation Management Committee (IMC), are to be established, while no such organisation

exists in the Pilot Area. In addition, the formation or strengthening of farmers' organisations for production and marketing, group purchasing of farm inputs and group lending is also essential.

### 2.2.2 Basic Concepts for Institutional Strengthening

The basic direction of the present Project, which has been established through the participatory approach, is to meet the development needs expressed by the communities in the Pilot Project Area and to answer the development options raised by them. Accordingly, the institutional strengthening plans should primarily be directed to support the development envisaged by the Project because such approach will meet the requirements of the said direction of the Project.

The basic concepts established for the institutional strengthening under the present Project are as follows;

- Capacity building of both the institutions and groups/organisations directly involved in the Project to be aimed at through the institutional strengthening. Therefore, the priority of institutional strengthening to be placed in the institutions and groups directly involved in the project development,
- Need for capacity building in the critical areas for the planning, implementation and management of the proposed development plans under the Project to be duly addressed,
- To enhance the capacity of key institutions to act as service providers at planning, implementation and management stage of development, especially to enhance the capacity of AGRITEX to carry out its core function in the Project,
- Institutional strengthening of women groups and youth to be duly addressed, and
- Establishment of a project management committee to ensure the receipt of public sector services of an integrated manner and to amalgamate development efforts of both the public and the communities in the Pilot Area.

The overall approach for the institutional strengthening under the Project is illustrated in Fig. 5.

### 2.2.3 Plan for Strengthening of Rural Institutions

The plans for strengthening the project related rural institutions are formulated for the key institutions directly involved in development plans and for duly addressing

the weaknesses of planning, implementation and management of plans as presented in the following sections.

(1) AGRITEX

The strengthening plan of AGRITEX is directed to the enhancement of the capacity of its Gokwe District Office and the field extension officers that are expected to take core functions under the Project. The strengthening program consists of: a) establishment of the Agricultural Extension Center, b) logistic support strengthening, c) capacity building of field extension officers, FAEOs and d) posting a FAEO experienced in irrigated agriculture and high value crops in the Project Area and e) strengthening of technical guidance of provincial staff (SMS).

a) Establishment of Agricultural Extension Center (AEC)

- Objectives:
- To establish a nucleus place for agricultural extension, especially for irrigated agriculture, in the Pilot Area, and
  - To establish an office/place to accommodate all the field extension officers in the Area in order to make possible their integrated approach for extension.
- Program Component:
- Construction of the AEC with office rooms, meeting room and demonstration field,
  - Provision of a 4 wheel vehicle, training equipment, office facilities & equipment

The AEC could be strengthened and expanded as a nucleus technology center for irrigated agriculture under the Lower Munyati River Basin Agricultural Development Project.

b) Logistic Support Strengthening

- Objectives:
- To enhance capability of FAEOs in the Pilot Area and to strengthening technical guidance to FAEOs from district or provincial AGRITEX
- Program Component:
- Provision of motorcycles to FAEOs and a 4-wheel vehicle to District Office

c) Capacity Building of Field Extension Staff

- Objectives:
- To improve capability of FAEOs in the Area through in-service training
- Program Component:
- Periodical in-service training of FAEOs at province level

d) Recruitment of a FAEO

- Objectives:
- To meet farmers demand for technical guidance and training on irrigated agriculture

Program Component: - To post a FAEO well experienced in irrigated agriculture, water management and high value crops in the Area

e) Strengthening of Technical Guidance of Provincial Staff (SMS)

Objectives: - To strengthening technical guidance to FAEOs and farmers, especially on irrigated agriculture, water management, animal husbandry and marketing.

Program Component: - Periodical visit of provincial staff to the Pilot Area for delivering technical guidance to FAEOs and farmers

(2) VET

The improvement of the logistic support status of the District Office and its Sub-area office and the enhancement of capacity of extension officers are envisaged under the institutional strengthening of VET. The program consists of: a) logistic support strengthening and b) capacity building of field extension officers, VEA and 3) posting of an additional extension officer.

(a) Logistic Support Strengthening

Objectives: - To enhance field operation capability of an extension staff (VEA) and Animal Health Instructor (AHI) in the Project Area and to strengthening technical guidance and support from the district VET to meet requirements rising from the implementation of the livestock development plans under the Project.

Program Component: - Provision of motorcycles to VEA and AHI and a 4-wheel vehicle to District Office

(b) Capacity Building of Field Extension Staff

Objectives: - To improve capability of VEA and AHI in the Area through in-service training

Program Component: - Periodical in-service training of VEA and AHI at province level

(3) Pilot Project Area Community (VIDCOs & Village Assemblies)

With the aim to effectively mobilise communities, organise them and build their capacity to manage the development within the Project in a sustainable manner, the strengthening plan of the Pilot Project Area Community, represented by the VIDCOs and Village Assemblies, has been formulated in the areas of: a) community awareness raising, b) enhancement of technical and managerial capacity of VIDCOs, and c) formation of a project management committee within the community through the consolidation of VIDCOs and Village Assemblies for the development within the Project, and d) establishment of a multipurpose community development center to accommodate an office of the management organisation, meeting place and other facilities.



(a) Awareness Program

Objectives: - To aim at initial mobilisation of the communities through raising awareness of their grass root institutions of the Village Assemblies that are organised by all the villagers above 18 years of age and also to aim at activating the newly established Assemblies.

Program Component: - Public hearings at the project related Village Assemblies  
- Consultation meetings with influential people in the Pilot Project Area to compliment the public hearings.  
- Participatory workshop (PCM workshop or else) of selected participants.

(b) Capacity Building of VIDCOs

Objectives: - To enhance of technical and managerial capacity of VIDCOs so that they will be established as planning, implementation and management institutions for rural development at village level.

Program Component: - Capacity building training of representatives of project related VIDCOs  
- Mass guidance to all members of VIDCOs  
- Workshop of representatives of VIDCOs  
- Study tour of representatives of VIDCOs

(c) Formation of Project Management Committee (PMC)

Objectives: - To support formation and establishment of a project management committee of the community that is responsible for the implementation, management and sustainability of the Project.

Program Component: - Public hearings at Village Assembly level  
- Formation guidance to representatives of Village Assemblies and VIDCOs  
- Workshops of representatives of VIDCOs  
- "Learning by Doing" under the support of the Project Office established by support providers  
- Study tour of representatives of the organisation

Note: The organisation of the PMC is discussed in 4.4.11 of the main report.

(d) Establishment of Multipurpose Community Development Center

Objectives: - To establish a multipurpose community development center with an office space for the management organisation, a multipurpose meeting hall, a lecture room and a store.

Program Component: - Construction of a multipurpose community development center  
- Provision of motorcycle, bicycle, generator and training equipment and office facilities

Note: Details are discussed in Appendix VII Rural Infrastructure.

The program descriptions are presented in Table 7.

#### 2.2.4 Plan for Strengthening of Farmers Organizations

In accordance with the basic concept for the institutional strengthening, the plan for the strengthening of farmers organisations is formulated primarily aimed at the establishment, nurturing and maintaining the development process management capacity of the primary development beneficiaries. The components of the present strengthening plan include the execution of support programs for: a) formation and establishment of the WUG and IMC in the irrigated area under the Project, b) strengthening or formation of farmers organisations for livestock sub-sector development plans, c) awareness program at village level, and d) strengthening and formation through services provided by the agricultural extension and the Project Office as follows;

##### (a) Formation of WUG and IMC

Objectives: - To support formation and establishment of WUG and IMC in the irrigated area responsible for the implementation, O&M and sustainability of the irrigation scheme.

Target Groups: - Beneficiary group of Irrigation Development Plan

Program Component: - Awareness program for irrigation beneficiaries  
- WUG & IMC formation guidance to the beneficiaries  
- Workshops for formation of WUG & IMC  
- "Learning by Doing" under the support of the Project Office organised by support providers  
- Study tour of representatives of the WUG

##### (b) Strengthening/Formation of Farmers Organisations of Beneficiaries of Livestock Development Plans

Objectives: - To strengthen or support formation of farmers organisations of beneficiaries of livestock development plans that are responsible for the implementation, O&M and sustainability of the development.

Target Groups: - Beneficiary groups of Grazing Area Development, Handling Facilities & Fattening/Holding Pens, Beef Fattening Program (strengthening)  
- Beneficiary group of poultry and fisheries development (formation)

Program Component: - Awareness program for beneficiaries  
- Farmer to farmer guidance  
- Farmers organisation strengthening or formation guidance to the beneficiaries

- Workshops for strengthening or formation of farmers organisation
- Follow up guidance & support by extension staff and by the project management task force team

(c) Awareness Program at Village Level

Objectives: - To support the formation and establishment of farmers organisations in the Pilot Project Area such as producers group, marketing group, lending group, farm inputs purchasing group, women farmers & youth group and etc.

Target Groups: - Members of Village Assemblies & youth

Program Component: - Awareness program for target groups at village or Pilot Area level

(d) Strengthening/Formation of Farmers Organisations through Services Provided by Extension and the Project Office

Objectives: - Supporting formation/strengthening farmers' organisations in the Pilot Project Area on need or demand basis

Target Groups: - Members of Village Assemblies & youth

Program Component: - Guidance/support by extension staff and the Project Office

The program descriptions are presented in Table 7.

2.2.5 Estimated Costs for Institutional Strengthening

The implementation of the institutional strengthening covering the areas of the strengthening of rural institutions and the strengthening of farmers organisations is to be scheduled based on the implementation schedules of irrigation works and development, livestock sub-sector development plans, rural infrastructure development works and strengthening of the agricultural support.

The costs for the institutional strengthening plan are estimated based on the program unit cost shown in Table 7 and the implementation schedule of the plan as shown in Table 8. The overall costs for the strengthening of rural institutions are estimated at Z\$ 7,300 and the same for the strengthening of farmers organisations are at Z\$ 70. The estimated overall costs for the institutional strengthening plan are Z\$ 7,374 as shown below.

<b>Estimated Costs for Institutional Strengthening</b>	
Component	Estimated Cost (Z\$1,000)
Strengthening of Rural Institutions	7,304
Strengthening of Farmers Organizations	70
Overall Costs	7,374

## ***TABLES***

**Table 1 Demographic Conditions in the Wards Related to the Study Area in 1998**

District/ Ward No.	Ward Name	1992 Figures Based on Census				Estimated 1998 Figures				Popul. Increase 92-98 (% p.a.)	Area b/ (ha)	Popul. Density in 1998 (prn/km <sup>2</sup> )
		Popu- lation (prn)	H'hold (No.)	Ave. Size of HH (prn)	Popu- lation a/ (prn)	H'hold a/ (No.)	Ave. Size of HH a/ (prn)	Popul. c/ (prn)	Farm H'hold c/ (No.)			
<b>Kadoma</b>	K17 Muzvezve 1	NA	NA	NA	8,829	1,472	6.00	8,388	1,398	-	101,000	8.74
	K20 Ward Twenty	NA	NA	NA	10,998	1,833	6.00	10,448	1,741	-	6,557	167.73
	K21 Ward Twenty One	NA	NA	NA	5,708	951	6.00	5,423	903	-	6,173	92.47
	K22 Ward Twenty Two	NA	NA	NA	5,757	960	6.00	5,469	912	-	8,589	67.03
	K23 Ward Twenty Three	NA	NA	NA	13,474	2,246	6.00	12,800	2,134	-	10,123	133.10
	K24 Ward Twenty Four	NA	NA	NA	9,867	1,645	6.00	9,374	1,563	-	13,458	73.32
	Sub-total or average	NA	NA	NA	54,633	9,107	6.00	51,901	8,652	-	145,900	37.45
<b>Gokwe North</b>	GN11 Makore 1	9,159	1,431	6.40	10,721	2,117	5.06	10,185	2,011	2.66	13,452	79.70
	GN12 Makore 2	6,148	1,027	5.99	7,197	1,528	4.71	6,837	1,452	2.66	16,186	44.46
	Sub-total or average	15,307	2,458	6.23	17,918	3,645	4.92	17,022	3,463	2.66	29,638	60.46
<b>Gokwe South</b>	GS23 Chisina I	14,376	2,336	6.15	17,251	2,875	6.00	16,388	2,731	3.09	82,813	20.83
	GS24 Chisina II	10,186	1,807	5.64	13,303	2,217	6.00	12,638	2,106	4.55	60,060	22.15
	Sub-total or average	24,562	4,143	5.93	30,554	5,092	6.00	29,026	4,838	3.71	142,873	21.59
	Total or Average	-	-	-	103,105	17,844	5.78	97,950	16,952	-	-	-
<b>Kwekwe Rural</b>	KW6 Mabura	5,542	944	5.87	6,435	1,096	5.87	6,113	1,041	2.52	16,942	37.98
	KW7 Sidakeni	5,529	1,106	5.00	6,419	1,284	5.00	6,098	1,220	2.52	14,296	44.90
	Total or Average	11,071	2,050	5.40	12,854	2,380	5.40	12,211	2,261	2.52	31,238	41.15

Source:

a/: Estimated by each Rural District Council as 1998 figures.

b/: AGRITEX in each district except for K17 which is estimated by the JICA Study Team based on 1/50,000 ward boundary map.

c/: Assumed that 95% of population and households in 1998 are engaged in agriculture.

**Table 2 Involvement in Different Activities and Activities to Make Easy in the Downstream Area**

	Involvement in Activities (%)						Activities to Make Easy (Score)	
	Males (N=285)			Females (N=295)			Males	Females
	Usually	Sometimes	None	Usually	Sometimes	None		
<b>Home Activities</b>								
Fetching Drinking Water	21.1%	22.5%	56.5%	86.8%	7.8%	5.4%	15.0	33.7
Cooking	7.0%	24.2%	68.8%	86.4%	9.2%	4.4%	2.5	7.4
Washing	16.8%	18.6%	64.6%	88.1%	8.1%	3.7%	1.0	7.5
Sweeping the House	14.4%	17.9%	67.7%	89.5%	6.4%	4.1%	0.8	2.6
House Repair	52.3%	28.1%	19.6%	19.3%	21.4%	59.3%	2.5	0.0
Child/elderly Care	20.4%	22.8%	56.8%	20.4%	22.8%	56.8%	1.1	2.9
Kitchen Gardening	64.4%	17.6%	18.0%	64.4%	17.6%	18.0%	5.6	10.2
Sewing and Knitting	5.3%	6.3%	88.4%	48.1%	24.4%	27.5%	0.1	1.8
Shopping in the Market	31.6%	36.8%	31.6%	38.0%	40.3%	21.7%	1.1	2.2
Other household activities	2.5%	0.7%	96.8%	5.4%	2.0%	92.5%	0.0	0.1
<b>Farming Activities</b>								
Plowing	91.2%	6.7%	2.1%	53.2%	22.0%	24.7%	67.1	48.5
Seeding/Transplanting	88.8%	8.1%	3.2%	80.7%	15.3%	4.1%	17.0	19.0
Weeding	93.3%	5.6%	1.1%	86.1%	12.2%	1.7%	49.2	48.4
Application of Fertiliser	85.6%	9.5%	4.9%	76.9%	15.9%	7.1%	8.5	6.8
Harvesting	94.0%	5.3%	0.7%	85.4%	12.5%	2.0%	31.4	32.1
Threshing of Cereals	84.6%	9.8%	5.6%	82.4%	12.9%	4.7%	15.6	17.7
Milling of Cereals	58.2%	26.7%	15.1%	66.4%	19.7%	13.9%	5.5	9.6
Repairing of Farm	70.2%	22.1%	7.7%	18.6%	16.3%	65.1%	8.3	2.9
Selling Crops	70.5%	13.7%	15.8%	44.4%	20.7%	34.9%	8.2	6.1
Protecting against wild animals	23.2%	13.0%	63.9%	10.8%	9.2%	80.0%	1.1	1.8
Other farming activities	18.9%	2.1%	78.9%	3.7%	3.7%	92.5%	6.5	2.0
<b>Livestock Raising</b>								
Feeding of Livestock	26.3%	29.1%	44.6%	9.2%	18.6%	72.2%	3.5	2.4
Watering of Livestock	45.3%	23.2%	31.6%	13.9%	20.0%	66.1%	4.6	1.7
Milking	58.2%	20.4%	21.4%	18.0%	19.7%	62.4%	0.3	0.8
Grazing Control	52.8%	20.4%	26.8%	13.9%	22.7%	63.4%	12.1	2.1
Sweeping of Livestock Stall	33.0%	22.8%	44.2%	7.8%	11.2%	81.0%	1.1	0.5
Selling Dairy Products	6.0%	7.0%	87.0%	4.1%	8.8%	87.1%	0.0	0.0
<b>Poultry/small animals</b>								
Feeding Poultry	28.8%	22.5%	48.8%	50.5%	19.0%	30.5%	0.9	0.9
Watering of Poultry	33.0%	22.5%	44.6%	55.6%	18.0%	26.4%	0.2	0.5
Cleaning of Cage	28.8%	20.4%	50.9%	45.1%	24.1%	30.8%	0.6	0.0
Collection of Eggs	16.5%	19.3%	64.2%	35.3%	19.0%	45.8%	0.0	0.0
<b>Forestry/bush activities</b>								
Collection of Fuel Wood	58.9%	25.3%	15.8%	57.6%	23.7%	18.6%	21.5	25.1
Timber Harvest	49.8%	29.8%	20.4%	11.5%	15.6%	72.9%	6.6	2.5
Selling Fuelwood	4.9%	3.9%	91.2%	3.7%	1.7%	94.6%		
<b>Domestic Business</b>								
Shopkeeping	2.8%	1.8%	95.4%	3.1%	1.7%	95.3%		
Manufacturing of Goods	3.5%	2.8%	93.7%	2.0%	2.0%	95.9%		
<b>Communication</b>								
Attending Community Meetings	55.1%	21.4%	23.5%	37.3%	26.1%	36.6%		
Resolving in-village conflicts	32.3%	25.6%	42.1%	22.0%	29.2%	48.8%		
Information from Radio/TV	65.3%	24.9%	9.8%	49.8%	32.5%	17.6%		
Information from Newspapers	13.0%	42.8%	44.2%	6.1%	26.4%	67.5%		
Political Discussion with Others	16.5%	35.9%	47.5%	7.5%	22.4%	70.2%		
<b>Religious/cultural activities</b>								
Dance Party	16.8%	22.1%	61.1%	9.8%	19.3%	70.8%		
Festival Preparation	30.5%	38.9%	30.5%	36.9%	32.9%	30.2%		
Worship Ceremony	67.4%	13.0%	19.6%	86.8%	7.5%	5.8%		
Sport Events	39.3%	22.5%	38.2%	16.3%	12.9%	70.8%		
Playing Games	34.0%	20.7%	45.3%	11.5%	13.2%	75.3%		
Rituals and Traditional Rites	15.1%	16.8%	68.1%	9.5%	18.3%	72.2%		
Other cultural activities	1.4%	1.1%	97.5%	0.7%		99.3%		

**Table 3 People's Concerns in the Downstream Study Area**

Concern	All Districts				Gokwe North				Gokwe South				Kadoma			
	Male		Female		Male		Female		Male		Female		Male		Female	
	Order	Score	Order	Score	Order	Score	Order	Score	Order	Score	Order	Score	Order	Score	Order	Score
Food Availability	3	81.4	2	83.0	2	83.7	2	80.4	4	77.3	3	76.9	3	82.0	2	
Fodder Availability		60.5		67.8		61.3		54.3		57.8		61.1		61.5		
Fuel Wood Availability	10	70.6	8	73.6	7	76.0	7	63.9		67.7		66.2	8	68.5	6	
Drinking Water Availability		68.6		72.2	8	72.3	10	80.4	4	71.0	9	60.4		64.7		
Crop Productivity	4	76.0	4	71.7	10	78.0	5	73.2	9	75.1	6	71.7	4	75.1	5	
Cash Income	1	88.0	1	88.5	1	88.6	1	86.1	1	86.0	1	86.6	1	88.7	1	
Motorable Roads	5	72.0	7	81.4	3	77.4	6	83.6	3	80.8	2	60.6		63.4		
Irrigation	2	79.0	3	77.9	5	81.5	4	84.3	2	76.2	4	80.6	2	78.8	3	
Electricity Supply	6	74.2	6	68.3		73.6	9	76.4	6	72.9	7	70.6	5	75.4	4	
Communication Facility	8	69.0	10	72.0	9	71.2		74.6	8	70.4	10	64.8	10	66.7	8	
Labour Force Availability		65.4		63.7		67.0		67.5		64.7		64.6		64.6		
Education of Children		68.9		71.0		71.9		69.6		73.2		60.8		64.4		
Education of Myself		63.7		62.3		64.8		66.4		63.0		63.5		60.3		
Health	7	74.9	5	78.2	4	83.7	2	70.7	10	75.9	5	66.6	7	68.2	7	
Family Planning		53.0		57.2		57.8		53.2		56.4		51.4		57.3		
Sanitation		65.9		70.0	9	73.8	8	68.9		70.7	8	59.9		65.5	10	
Landslide & soil erosion		67.4		64.5		66.6		70.7		64.1		64.8		63.4		
Flood	9	66.2		66.9		67.7		75.4	7	65.2		67.0	6	65.6	9	
Forest resources	60.9		58.8		61.6		59.6		53.7		61.0		60.5			
Security/threat of theft	66.7		63.6		66.0		69.6		64.4		65.9		62.3			
Security/threat of wild animals	48.0		47.9		43.9		47.7		49.6		50.6		47.2			
Festivals and traditions	49.5		49.8		47.6		55.4		52.6		48.3		48.1			
Religious beliefs/activities	61.8		66.5		59.1		60.4		67.7		64.1		64.3			
Political discussion	53.1		51.5		54.7		51.4		50.7		52.7		51.8			
Meeting on Community Development	65.5		63.5		68.5		66.8		62.5		63.1		60.6			

**Table 4 People's Collective Action on their Concerns in the Downstream Study Area**

	Males (N=285)						Females (N=295)					
	Action/participation in the past		External assistance in the past		Willing to Take Action/participate		Action/participation in the past		External assistance in the past		Willing to Take Action/participate	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Food Availability	83%	17%	75%	25%	89%	11%	81%	19%	74%	26%	84%	16%
Fodder Availability	34%	66%	11%	89%	58%	42%	26%	74%	11%	89%	50%	50%
Fuelwood Availability	41%	59%	13%	87%	73%	27%	46%	54%	13%	87%	72%	28%
Drinking Water Availability	50%	50%	53%	47%	72%	28%	55%	45%	47%	53%	72%	28%
Crop Productivity	66%	34%	43%	57%	84%	16%	66%	34%	39%	61%	82%	18%
Cash Income	81%	19%	16%	84%	94%	6%	76%	24%	17%	83%	93%	7%
Motorable Roads	47%	53%	53%	47%	69%	31%	39%	61%	46%	54%	70%	30%
Irrigation	11%	89%	5%	95%	79%	21%	9%	91%	5%	95%	78%	22%
Electricity Supply	12%	88%	7%	93%	73%	27%	13%	87%	7%	93%	77%	23%
Communication Facility	21%	79%	20%	80%	72%	28%	16%	84%	19%	81%	75%	25%
Labour Force Availability	50%	50%	30%	70%	65%	35%	50%	50%	28%	72%	69%	31%
Education of Children	48%	52%	33%	67%	68%	32%	49%	51%	32%	68%	72%	28%
Education of Self	45%	55%	45%	55%	58%	42%	41%	59%	13%	87%	57%	43%
Health	44%	56%	54%	46%	71%	29%	49%	51%	47%	53%	77%	23%
Family Planning	41%	59%	41%	59%	46%	54%	42%	58%	48%	52%	62%	38%
Sanitation	54%	46%	54%	46%	75%	25%	58%	42%	58%	42%	78%	22%
Land slide/Soil Erosion	57%	43%	22%	78%	78%	22%	46%	54%	13%	87%	70%	30%
Flood	46%	54%	15%	85%	73%	27%	35%	65%	10%	90%	68%	32%
Forest Reserve	37%	63%	28%	72%	68%	32%	31%	69%	25%	75%	59%	41%
Security/Threat of Threat	56%	44%	58%	42%	73%	26%	46%	54%	49%	51%	69%	31%
Security/Threat of Wild Animals	20%	80%	9%	91%	40%	60%	19%	81%	7%	93%	40%	50%
Festivals & Traditions	23%	77%	10%	90%	27%	73%	28%	72%	12%	88%	39%	61%
Religious Beliefs	54%	46%	26%	74%	59%	41%	65%	35%	38%	62%	74%	26%
Political Discussion	35%	65%	31%	69%	43%	57%	35%	65%	30%	70%	41%	59%
Meeting on Community Development	55%	45%	39%	61%	69%	31%	51%	49%	42%	58%	61%	39%



**Table 5 Major Project Related Institutions and Organizations Deployed in and around the Pilot Project Area -1/2**

Institutions/Organizations	Gov. Agency Concerned	Office Location	Offices/Facilities in & around the Project Area	Functions/Activities/Others
Gokwe South Rural District Council (RDC)	RDC	Gokwe	RDC Office & other facilities	Administrative body at district level, RDDC is a Committee of the Council
Rural District Development Committee (RDDC)	RDC	Gokwe	Meet periodically at RDC	Technical arm of the Council and reviews & implements development plans submitted to the Council
District Development Fund (DDF)	RDC	Gokwe	District Office Site office in Ganyung	Channel establishment for funding most district-level investment expenditures. Established in each district and as a member of RDDC, it offers public works facility for developing and maintaining public infrastructure, including boreholes, small dams, road, water points etc., mainly in the communal areas.
Ward Development Committee (WADCO)	RDC	Nyarupakwe	No office facility	The Committee of the RDC established in a ward: to prepare & submit a ward development plans which evolve from the VIDCO.
Village Development Committee (VIDCO)	RDC	15 villages in Project Area	No office facility	Village level committee for planning & implementing village development plans
ZINWA	MRRWD	Sanyati	Catchment Area Office (To be established)	Responsible for mandate transferred from DWD including design, construction supervision and the operation of water delivery structures and pumping stations
AGRITEX	MOLA	Gokwe	AGRITEX District Office	Agricultural technical & extension services 3 FAEOs deployed in Project Area
Department of Veterinary Services (VET)	MOLA	Gokwe	Veterinary District Office	Veterinary & genetic resources dev. Services
Livestock Development Trust (LDT)	MOLA	Nyarupakwe Gokwe	Veterinary Service Center & 2 dips District Office	1 technical staff deployed in Project Area Provision of cattle, sales pen development, collection of dip fees through LDC, marketing support
Gokwe Dairy Center (government property)	MOLA	Gokwe	Purchasing (collection) & processing center	Purchasing & processing of milk To be transferred to the Gokwe Dairy Farmers Association
Livestock Development Committee (government organization)	MOLA	Gokwe	Established recently by LDT	Collection of dip fees
Grain Marketing Board (DMB)	MOLA	Gokwe	Depot & storage facility	Purchasing & storing grains, provision of loan
Gokwe Dairy Farmers' Association	MOLA	Gokwe	Dairy processing center (Gokwe)	Milk producers association with milk processing facility
Gokwe Dairy Development Project (ARDA)	MOLA	Gokwe	Members organized Gokwe Dairy Farmers' Association which owns a	ARDA is a parastatal operating under MOLA, originally formed to develop core estates with settler outgrowers. Dairy Development Project is not operated in the Project Area.

Source: Interviews with relevant institutions & field survey by the JICA Study Team

Table 5 Major Project Related Institutions and Organizations Deployed in and around the Pilot Project Area -2/2

Institutions/Organizations	Gov. Agency Concerned	Office Location	Offices/Facilities in & around the Project Area	Functions/Activities/Others
Department of Research & Specialist Services (DR&SS)	MOLA	Gokwe	PPRI, Sub-station, Gokwe	Pest & disease forecasting & control
Agribank	MOF	Gokwe Sanyati	Gokwe Branch Office Rural Bank Office	Agricultural credit supply
Forestry Commission (FC)	MMET	Gokwe	Gokwe Forestry Office	Afforestation & community forestry program, farmer training, provision of fencing material
Natural Resources Board (NRB)	MOLA	Gokwe	District office	Veld management, soil erosion control, pest control, fishing regulation
Zimbabwe Farmers Union (ZFU)	MOLA	Gokwe	District office	Apex organization of farmers' clubs/associations; providing services for inputs procurement, price negotiation, technical/marketing information
Umnati Producers Cooperative Society	MLGNH	Nyarupakwe	Office, shop, storage, tractor, bus	Group purchase of farm inputs, provision of credit, operation of cooperative shop; 865 members
Irrigation Management Committee (IMC)	MOLA	To be established in the proposed irrigated area under the Project		Organization elected by the plot holders of a scheme and established with the guidance of AGRITEX and required to assume full financial and managerial responsibility for its scheme. Usually comprised of 7 to 9 members with an elected chairperson, secretary and treasurer. Through the IMC, a scheme operates under established by-laws, however, the committee-scheme entity presently has no formally recognized legal status.
Cotton Company of Zimbabwe (COTCO)	-	Gokwe Sanyati Project Area	COTCO Ginnery & Collection Depot (2, Gokwe & Sanyati) Collection Points (2, Ganyungu & Namachen)	Cotton purchase, farm inputs supply through group loan scheme, technical services, variety development & experiments, operation of cotton ginnery
Grain Marketing Board (GMB)	-	Gokwe/Sanyati	Collection center	Purchasing maize, sunflower
Other Private Companies	-	Nyarupakwe	Windmill, Agricura, Cargill, ZFC National Foods, Seedco, etc.	Purchasing of cotton & grains or farm inputs supply
Cattle Sales Pen	-	Nyarupakwe	1 sales pen operated by a private firm	Auctioning/purchasing animals
Animal Dip Tank	VET	2 in Project Area	Dips of VET at Nyarupakwe & Ganyungu	Dipping services under the VET, District Office

Source: Interviews with relevant institutions & field survey by the JICA Study Team

**Table 6 Rural Organisations in the Pilot Project Area -1/3: Village Organisations**

Kraal (Village)	Name	Type of Organization 1/	Year of Establishment	Membership		Participation Rate(%)/2/	Function/Activities	Current Status of Activity	Remarks 3/
				Male	Female				
1. Marumbe	1. Scud Missile	S	1992	30	0	30	23 Football & entertainment	Active	
	2. Vanavevhu	A	1994	40	23	63	49 Farming & provision of loan	Active	
	3. Chiumbu Group Lending	A	1992	9	7	16	12 Lending group / provision of loan & mailing	Active	Organised by COTCO
2. Muchina	1. Muchina Burial Society	S	1984	7	4	11	11 Burial services & savings	Active	
	2. Arsenal Football Club	S	1993	23	0	23	22 Entertainment & farming	Active	
	3. Muchina Youth Group	A	1993	16	7	23	22 Farming	Active	
	4. Muchina Group Lending	A	1992	10	12	22	21 Lending group / provision of loan & mailing	Active	Organised by COTCO
	5. Simbanebadza Group	A	1992	12	4	16	16 Poultry & gardening	Active	
	6. Muchina Club	A (Women's Group)	1995	0	20	20	19 Gardening, poultry & sewing	Active	
	7. Muchina Farmers Club	A	1995				Association / purchasing of farm inputs	Active	Under S.W.A
3. Makarichi	1. Pepukai Burial Society	S	1999	8	8	16	20 Burial services & savings	Active	
	2. Murume Makuru Football C.	S	1994	30	3	33	42 Football & entertainment	Active	
	3. Makarichi Group Lending	A	1991	15	0	15	19 Lending group / provision of loan & farming	Active	Organised by COTCO
	4. Kushinga Group	A	1992	12	17	29	37 Farming & sewing	Active	
	5. Tambanevhu Club	A	1992	30	23	53	67 Farming & provision of loan	Active	
	6. Murume Makuru Club	A	1994	3	15	18	23 Farming & sewing	Active	
4. Sekema	1. B/H 28 Football Club	S	1998	22	0	22	40 Football & entertainment	Active	
	2. Badzaradisa	A	1996	21	6	27	49 Lending group / provision of loan & farming	Active	Organised by COTCO
5. Muza	1. Muza Income Generation G.	S	1998	2	11	13	13 Poultry, sewing, saving, gardening & pre-school	Active	
	2. Muza Lending Group	A	1992	10	7	17	17 Lending group / provision of loan & farming	Active	Organised by COTCO
	3. Chitendero Group	A	1996	25	15	40	40 Farming & provision of loan	Active	
6. Murandu	1. Mahacha	A (Women's Group)	1999	0	18	18	24 Vegetable production/demonstration	Active	
	2. Murandu Group	A	1996	8	16	24	32 Lending group / provision of loan & farming	Active	Organised by COTCO
	3. Murandu Farmers Club	A					Association / purchasing of farm inputs	Active	Under S.W.A

Source: Survey on Socio-economic Environment & interview survey with FAEO

1/; S --- Organisation for social services, A --- Agricultural organisation

2/; Estimated figures: Total membership/No. of household in the village x 100

3/; Legal background for organisation or main institution supported formation. S. W. A. = Social Welfare Act, C. S. A. = Cooperatives Society Act

**Table 6 Rural Organisations in the Pilot Project Area -2/3: Village Organisations**

Kraal (Village)	Name	Type of Organization 1/	Year of Establishment		Membership		Participation Rate(%)/ 2/	Function/Activities	Current Status of Activity	Remarks 3/
			Male	Female	Total					
7. Magonyo	1. Magonyo Group	A	1996	12	17	29	41	Lending group / provision of loan & farming	Active	Organised by COTCO
	2. Mahacha	A (Women's Group)	1999	0	28	28	39	Vegetable production/demonstration	Active	
8. Hlamba	1. Tongwe Club	A	1975	13	15	28	88	Livestock management	Active	
	1. Nyamacheni 80	A	1995	20	6	26	42	Lending group / provision of loan & farming	Active	Organised by COTCO
9. Jeffrey	2. Kwayedza	S (Women's Group)	1993	0	14	14	23	Saving club & cookery	Not Active	
	1. Matingwende	A	1998	1	1	2	9	Broiler production	Active	
10. Komboni	2. Kufuma Ishungu	A	1998	2	0	2	9	Buying & selling off layers	Active	
	1. Gunde Football Club	S	1991	100	0	100	167	Entertainment	Active	
11. Gunde	2. Nyarupakwe Bridge	S	1992	88	88	176	293	Construction of bridge	Active	
	3. Gunde Women's Club	S	1990	0	12	12	20	Sewing & knitting	Active	
4. Batanai	4. Batanai	S	1994	0	6	6	10	Group purchasing (women's group)	Active	
	5. Cut Cost Cooperative S.	S	1995	3	8	11	18	Cooperative / rural industry (sewing)	Active	
6. Gunde	6. Gunde	A	1995	5	0	5	8	Poultry production	Active	
	7. Gunde Gardens	A	1990	44	44	88	147	Lending group / provision of loan & farming	Active	
8. Tavengwa AFC	8. Tavengwa AFC	A	1994	8	5	13	22	Farming & provision of loan	Active	
	9. Murandu Farmers Club	A						Association / purchasing of farm inputs	Active	Under S.W.A
12. Mahvondo	1. Rufaro Poultry Club	A	1999	4	6	10	13	Broiler production	Active	
	2. Group 5	A	1996	25	6	31	40	Lending group / provision of loan & farming	Active	Organised by COTCO
3. Kuronga	3. Kuronga	A (Women's Group)	1997	0	22	22	29	Gardening	Active	
	1. Mabarani Group	A	1996	12	30	42	52	Lending group / provision of loan & farming	Active	Organised by COTCO
14. Mujubeki	1. Mujubeki Group	A	1997	10	20	30	70	Lending group / provision of loan & farming	Active	Organised by COTCO
	1. Barika	A	1998	15	3	18	34	Lending group / provision of loan & farming	Active	Organised by COTCO
15. Mateuro	1. Barika	A	1999	4	3	7	13	Broiler production	Active	
	2. Kupfamaishungu	A							Active	
<b>Total in Pilot Project Area</b>				<b>699</b>	<b>550</b>	<b>1,249</b>	<b>120</b>			

Source: Survey on Socio-economic Environment & interview survey with FAEO

1/; S --- Organisation for social services; A --- Agricultural organisation

2/; Estimated figures; Total membership/No. of household in the village x 100

3/; Legal background for organisation or main institution supported formation; S. W. A. = Social Welfare Act, C. S. A. = Cooperatives Society Act

**Table 6 Rural Organisations in the Pilot Project Area -3/3: Inter-village Organisations**

Kraal (Village) Inter-kraals	Name	Type of Organization 1/ S	Year of Establishment		Membership		Participation Rate(%) 2/ -	Function/Activities	Current Status of Activity	Remarks 3/ Active	
			1959	2000	Male	Female					Total
1.	Zvitirei Club	S	1959		5	32	37	Sewing, gardening, banking, singing, net ball & volley ball	Active		
2.	Tongwe Disabled Cooperative Society	S	2000		8	2	10	Gardening, general dealer/store, bottle store & grinding mill	Active		
3.	Nyamacheni Bakery	S (Women's Group)	1996		0	51	51	Baking of bread & buns Sewing & knitting	Active		
4.	Umnisi Producers Cooperative Society Ltd.	A	1961				865	Purchasing & marketing of farm products Farm inputs supply & coop. Shop	Active	Under C.S.A	
5.	Nyarupakwe Cattle Fattening	A	1982		50	3	53	Cattle fattening & marketing	Not Active		
6.	Nyamacheni Club/Cattle Fattening	A	1992		52	3	55	Cattle fattening, purchasing and marketing provision of loan	Active		
7.	Nyarupakwe Good Farming Competition	A	1978		50	60	110	Farming competitions	Active		
8.	Tongwe Young Farmers Club	A	1998		4	3	7	Provision of loan for farm equipment Group purchasing	Not Active		
9.	Nyamacheni Central	A	1991		40	36	76	Farming competitions & provision of loan	Active		
10.	Nyamacheni Good Farming Competition	A	1976		74	85	159	Farming competitions	Active		
11.	Nyamacheni Farmers Association (ZFU)	A	1984		85	15	100	Purchasing of farm inputs	Active	Under S.W.A	
12.	Nyamacheni Oji Seeds Group	A (Women's Group)	1995		0	85	85	Growing & selling of groundnuts	Active		
13.	Nyamacheni Master Farmers	A	1995		52	0	52	Farming & york making	Active		
14.	Nyamacheni Sorghum Group	A	1994		7	8	15	Sorghum production & selling to Chibuku	Active		
<b>Total</b>							<b>427</b>	<b>383</b>	<b>1,675</b>		

Source: Survey on Socio-economic Environment & interview survey with FAEO

1/: S --- Organisation for social services; A --- Agricultural organisation

2/: Estimated figures: Total membership/No. of household in the village x 100

3/: Legal background for organisation or main institution supported formation; S. W. A. = Social Welfare Act, C. S. A. = Cooperatives Society Act

**Table 7 Proposed Programs for Institutional Strengthening under the Pilot Project - 1/3**

Program	Program Description/Objectives	Location or Target Area / Group	Program Components & Cost (Z\$ 1,000)	Implementation Agency
<b>I. Strengthening of Rural Institutions</b>				
<b>I-1. AGRITEX</b>				
1. Establishment of Agricultural Extension Center (AEC)	- Establishment of AEC in/around the irrigated area. In or around irrigated area especially for irrigated agriculture - To establish a nucleus place for agricultural extension, especially for irrigated agriculture - To establish an office/place to accommodate all the field extension officers in the Project Area to make possible their integrated approach for extension	In or around irrigated area (3 office rooms, 1 class room & 1 store)	AEC Building (150 m <sup>2</sup> ) Generator & electricity supply 4 wheel vehicle Training equipment Office facilities & equipment <u>Program Cost</u> 2,300.0	AGRITEX / Project Office
2. Logistic Support Strengthening	- Provision of motorcycles to FAEOs & 4 wheel vehicle to District Office - To enhance capability of FAEOs in the Project Area & to strengthening technical guidance to FAEOs from district or provincial AGRITEX	4 FAEOs in Project Area (1 newly recruited staff) 4 wheel vehicle	Motorcycle 4 wheel vehicle <u>Program Cost</u> 1,152.0	AGRITEX
3. Capacity Building of Field Extension Staff	- Periodical in-service training of FAEOs at provincial level - To improve capability of FAEOs through in-service training	4 FAEOs in Project Area (1 newly recruited staff)	In-service Training Course (5 days) (Z\$ 5,600/staff/course)	22.4 AGRITEX
4. Recruitment of FAEO	- To post a FAEO well experienced in irrigated agriculture, water management & high value crops - To meet farmers demand for technical guidance & training on irrigated agriculture	1 FAEO	Remuneration/allowances/year	240.0 AGRITEX
5. Strengthening of Technical Guidance of Provincial Staff	- Periodical visit of provincial staff to the Project Area for delivering technical guidance to FAEOs & farmers	Provincial staff (SMS)	Field Guidance Cost Materials <u>Program Cost</u> 1.7 1 set 0.3 2.0	AGRITEX
<b>I-2. VET</b>				
1. Logistic Support Strengthening	- Provision of motorcycles to VEA & AIII & 4 wheel vehicle to District Office - To enhance field operation capability of an extension staff (VEA) & Animal Health Inspector (AHI) in the Project Area and to strengthening technical guidance and support from the district VET to meet requirements rising from the livestock development plans	VEA & AHI - VET District Office	Motorcycle 4 wheel vehicle <u>Program Cost</u> 76.0 1,000.0 1,076.0	VET

Source: Program costs estimated based on current costs for similar programs implemented by AGRITEX

**Table 7 Proposed Programs for Institutional Strengthening under the Pilot Project - 2/3**

Program	Program Description/Objectives	Location or Target Area / Target Group		Program Components & Cost (Z\$ 1,000)			Implementation Agency
				Items	Volume	Cost	
<b>I. Strengthening of Rural Institutions</b>							
1-2. VET - continued							
2. Capacity Building of Field Extension Staff	<ul style="list-style-type: none"> <li>- Periodical in-service training of VET &amp; AHI at province level</li> <li>- To improve capability of VET &amp; AHI through in-service training</li> </ul>	- 1 VEA & 1 AHI		In-service Training Course (5 days)	2 staff (Z\$ 5,600/staff/course)	11.2	VET
<b>I-3. Pilot Project Area Community (VIDCOs &amp; Village Assemblies)</b>							
1. Awareness Program	<ul style="list-style-type: none"> <li>- Awareness raising of villagers in Project Area through public hearings at the project Village Assemblies</li> <li>- Public hearings with influential people in the Area to complement the public hearings</li> <li>- Participatory workshop of selected participants</li> <li>- To aim at mobilization of the communities through raising awareness of Village Assemblies organized by all the villagers above 18 years of age</li> <li>- To aim at activation of the Assemblies</li> </ul>	- 15 Village Assemblies - Influential people - Selected participants		Public hearings (1 day) Consultation meeting ( half day) Workshop (1 day)	1 time 1 time 1 time	4.4 4.2 4.4	AGRITEX/ Project Office/ NGOs
2. Capacity Building of VIDCOs	<ul style="list-style-type: none"> <li>- Capacity building of VIDCOs through:                             <ul style="list-style-type: none"> <li>- Capacity building training of representatives of project related VIDCOs</li> <li>- Mass guidance to all members of VIDCOs</li> <li>- Workshop of representatives of VIDCOs</li> <li>- Study tour of representatives of VIDCOs</li> <li>- To enhance of technical &amp; managerial capacity of VIDCOs so that they will be established as planning, implementation &amp; management institutions for rural development at village level</li> </ul> </li> </ul>	- 15 VIDCOs' members - VIDCOs' representatives		Capacity building training (3 days) Mass guidance (1 day) Workshop (1 day) Study tour (1 day)	1 course 1 time 1 time 1 tour	16.6 4.4 4.4 16.8	AGRITEX/ Project Office/ NGOs
3. Formation of Project Management Committee	<ul style="list-style-type: none"> <li>- Formation &amp; establishment of the PMC through:                             <ul style="list-style-type: none"> <li>- Public hearings at Village Assembly level</li> <li>- Formation guidance to representatives of Village Assemblies &amp; VIDCOs</li> <li>- Workshop of representatives of VIDCOs</li> <li>- "Learning by Doing" under Project Office support</li> <li>- Study tour of representatives of the PMC</li> <li>- To support formation &amp; establishment of the PMC that is responsible for implementation, management &amp; sustainability of the Project</li> </ul> </li> </ul>	- Village Assemblies - VIDCOs' representatives		Public hearing (1 day) Formation guidance Workshop (1 day) Study tour (1 day)	1 time 1 time 1 time 1 tour	4.4 1.3 0.7 16.8	AGRITEX/ Project Office/ NGOs

Source: Program costs estimated based on current costs for similar programs implemented by AGRITEX

**Table 7 Proposed Programs for Institutional Strengthening under the Pilot Project - 3/3**

Program	Program Description/Objectives	Location or Target Area / Target Group	Program Components & Cost (2\$ 1,000)	Implementation Agency
<b>I. Strengthening of Rural Institutions</b>				
<b>I-3. Pilot Project Area Community (VIDCOs &amp; Village Assemblies) - continued</b>				
4. Establishment of Multipurpose Community Development Center	<ul style="list-style-type: none"> <li>- Establishment of multipurpose community development center</li> <li>- To establish a multipurpose center to accommodate office space for Project Office &amp; PMC, a multipurpose meeting hall, a lecture room and store</li> </ul>	Nyarupakwe BC	Items Center building (300 m <sup>2</sup> ) Generator & electricity supply Office facilities & equipment Training equipment Motorcycle Bicycle	Costs estimated in Annex VII RDC
<b>II. Strengthening of Farmers Organizations</b>				
<b>1. Formation of WUG &amp; IMC</b>	<ul style="list-style-type: none"> <li>- Supporting formation of WUG &amp; IMC through Awareness program</li> <li>- WUG/IMC formation guidance</li> <li>- Workshops for formation of WUG/IMC</li> <li>- "Learning by Doing" under Project Office support</li> <li>- Study tour of representatives of the WUG and IMC in the irrigated area responsible for the implementation, O&amp;M and sustainability of scheme</li> </ul>	Beneficiary groups of irrigation development	Awareness program WUG/IMC formation guidance Workshop (1 day) Study tour	1 time 1 time 1 time 1 tour 0.7 AGRITEX/ 1.3 Project Office 0.7 16.8
<b>2. Strengthening / Formation of Farmers Organizations of Beneficiaries of Livestock Development Plans</b>	<ul style="list-style-type: none"> <li>- Supporting strengthening/formation of farmers organizations of livestock development: beneficiary livestock development plan</li> <li>- Grazing Area Develop.(strengthening)</li> <li>- Livestock Water Development Scheme(strengthening)</li> <li>- Fishery Development Scheme (formation)</li> </ul>	Beneficiary groups of	Awareness program Farmer to farmer guidance Strengthening guidance (1 day) Formation guidance Workshop (1 day)	1 time - 1 time 1 time 1 time Program Cost 2.8 0.7 AGRITEX/ Project Office 0.7 0.7 0.7 0.7
<b>3. Awareness Program at Village Level</b>	<ul style="list-style-type: none"> <li>- Awareness program for formation/establishment of farmers organizations</li> <li>- To support formation and establishment of farmers organizations in the Project Area such as producers group, marketing group, lending group, input purchasing group, women group, youth group etc.</li> </ul>	Village Assemblies members & youth	Awareness program	1 time 0.7 PIU / AGRITEX
<b>4. Strengthening / Formation of Farmers Organizations</b>	<ul style="list-style-type: none"> <li>- Guidance/support on strengthening/formation farmers organizations by extension staff/Project Office</li> <li>- To support formation and establishment of farmers organizations in the Project Area such as producers group, marketing group, lending group, input purchasing group, women group, youth group etc.</li> </ul>	Village Assemblies members & youth	To be implemented through routine services provided by extension staff and the Project Office	PIU / AGRITEX

Source: Program costs estimated based on current costs for similar programs implemented by AGRITEX



**Table 8 Estimated Program Costs for Institutional Strengthening Plan**

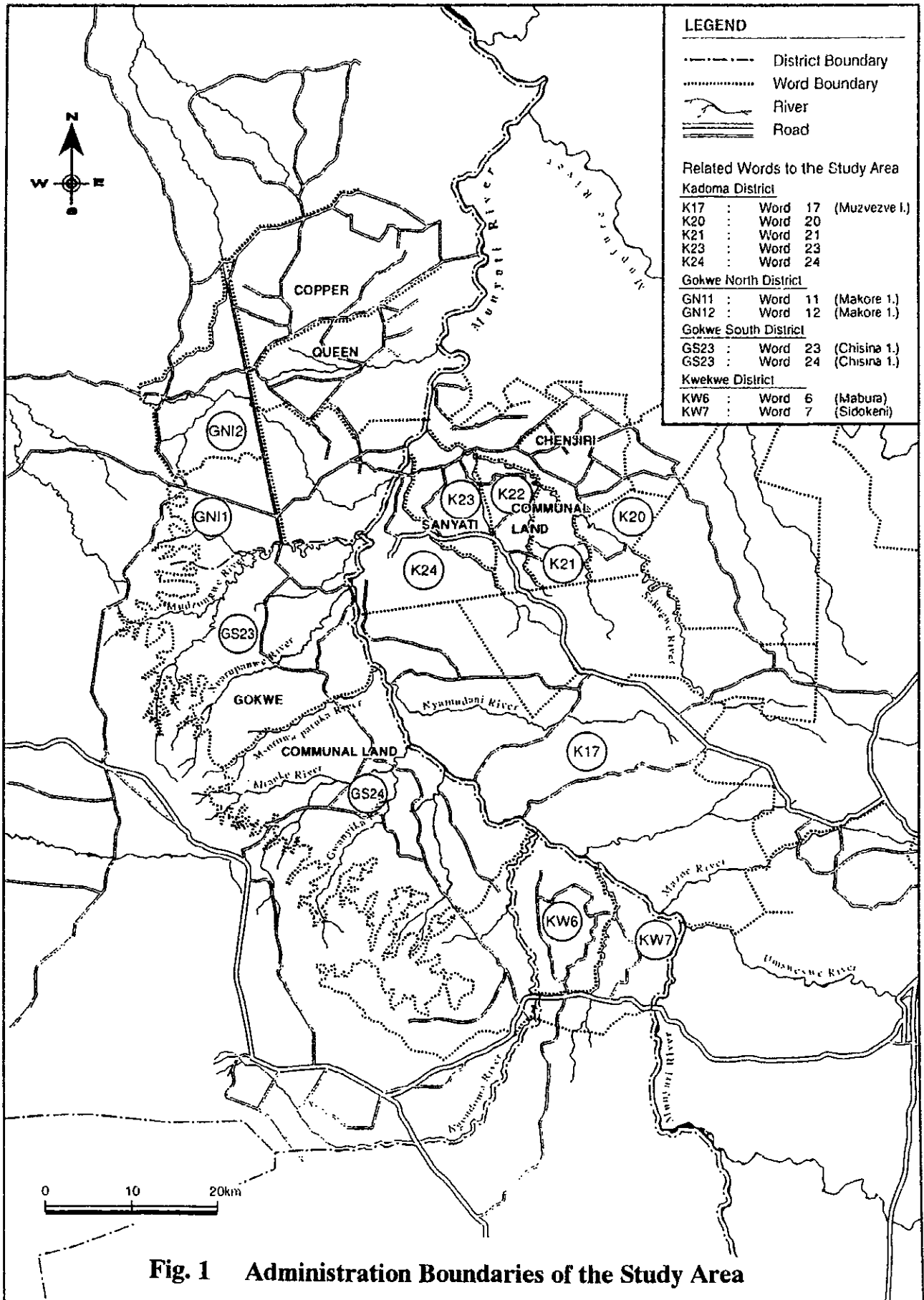
Work Items/Plans	Unit Rate (Z\$1,000)	Quantity	Program Costs (Z\$1,000)	Implementation Agency
<b>I. Strengthening of Rural Institutions</b>				
Establishment of AEC	3,800.0	1	3,800.0	AGRITEX
Logistic Support Strengthening	1,152.0	1	1,152.0	
Capacity Building of Field Extension Staff	22.4	5	112.0	
Recruitment of FAEO	240.0	3	720.0	
Strengthening of Technical Guidance of SMS	2.0	30	60.0	
Logistic Support Strengthening	1,076.0	1	1,076.0	VET
Capacity Building of Field Extension Staff	11.2	5	56.0	
<b>Awareness Program</b>				
- Public Hearing	4.4	15	66.0	AGRITEX/ Project Office/NGOs
- Consultation Meeting	4.2	3	12.6	
- Participatory Workshop	4.4	3	13.2	
<b>Program Total</b>			91.8	
<b>Capacity Building of VIDCO</b>				
- Capacity Building Training	16.6	1	16.6	AGRITEX/ Project Office/NGOs
- Mass Guidance	4.4	1	4.4	
- Workshop	4.4	3	13.2	
- Study Tour	16.8	3	50.4	
<b>Program Total</b>			84.6	
<b>Formation of Project Management Organization</b>				
- Public Hearing	4.4	15	66.0	AGRITEX/ Project Office/NGOs
- Formation Guidance	1.3	1	1.3	
- Workshop	0.7	1	0.7	
- Study Tour	16.8	5	84.0	
<b>Program Total</b>			152.0	
<b>Establishment of Multipurpose Community Center 1/</b>				Project Office/RDC
<b>Costs for Strengthening of Rural Institutions</b>			7,304.4	
<b>II. Strengthening of Farmers Organizations</b>				
<b>Formation of WUG and IMC</b>				
- Awareness Program	0.7	1	0.7	AGRITEX/ Project Office
- WUG/IMC Formation Guidance	1.3	1	1.3	
- Workshop	0.7	3	2.1	
- Study Tour	16.8	3	50.4	
<b>Program Total</b>			54.5	
<b>Strengthening/Formation of Farmers Organization 2/</b>				
- Grazing Area Development (strengthening)	2.8	1	2.8	AGRITEX/ Project Office
- Livestock Water Development Scheme (strengthening)	2.8	1	2.8	
- Fishery Development Scheme (formation)	2.8	1	2.8	
<b>Program Total</b>			8.4	
Awareness Program at Village Level	0.7	10	7.0	PIU/AGRITEX
<b>Strengthening/Formation of Farmers Organization 3/</b>				PIU/AGRITEX
<b>Costs for Strengthening of Farmers Organizations</b>			69.9	
<b>Overall Costs for Institutional Strengthening</b>			7,374.3	

1/: Cost accommodated in Rural Infrastructure Development

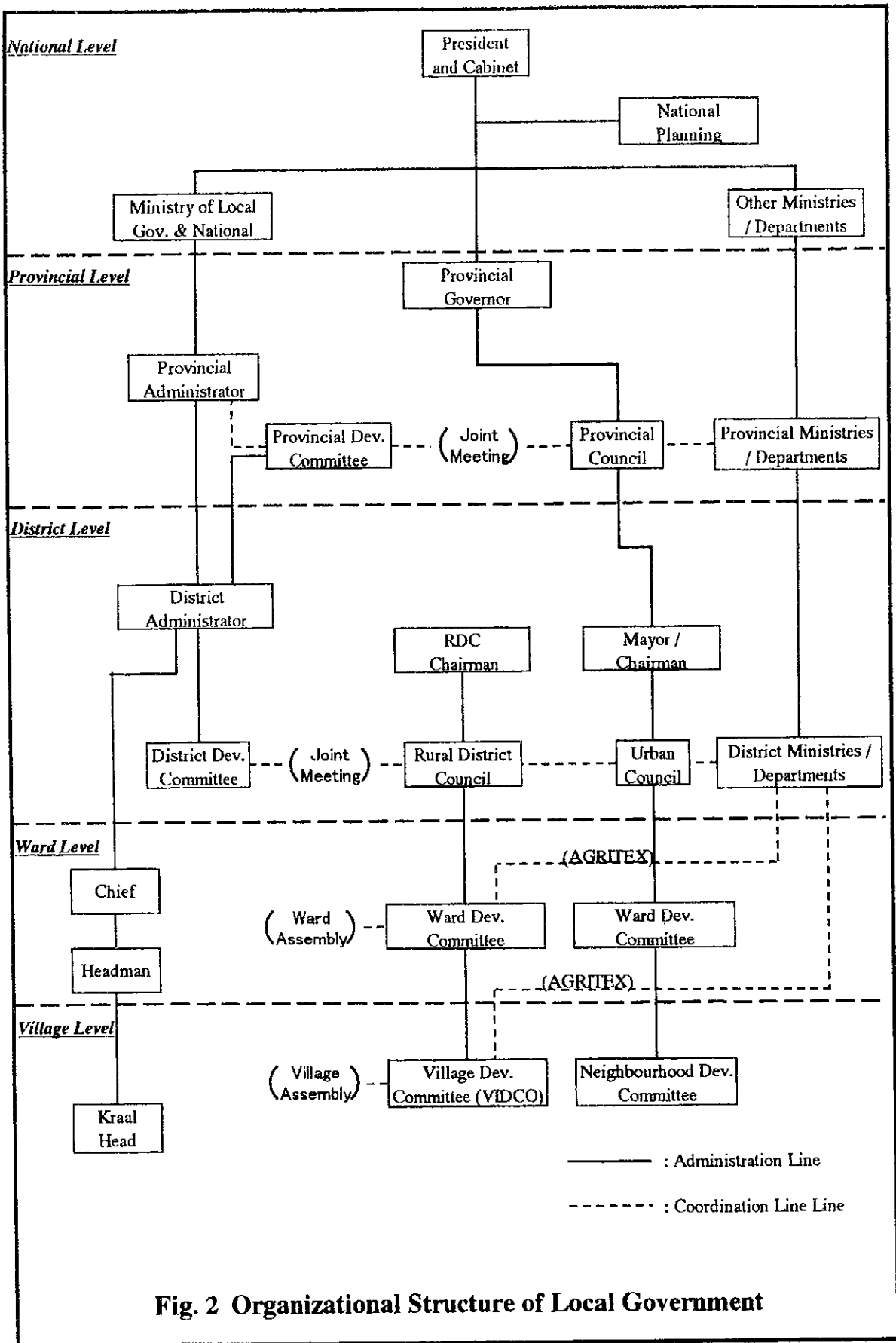
2/: Strengthening/formation of farmers organization of beneficiaries of livestock development plans

3/: Strengthening/formation of farmers organization by routine extension activities & PIU; costs not allocated under institutional strengthening

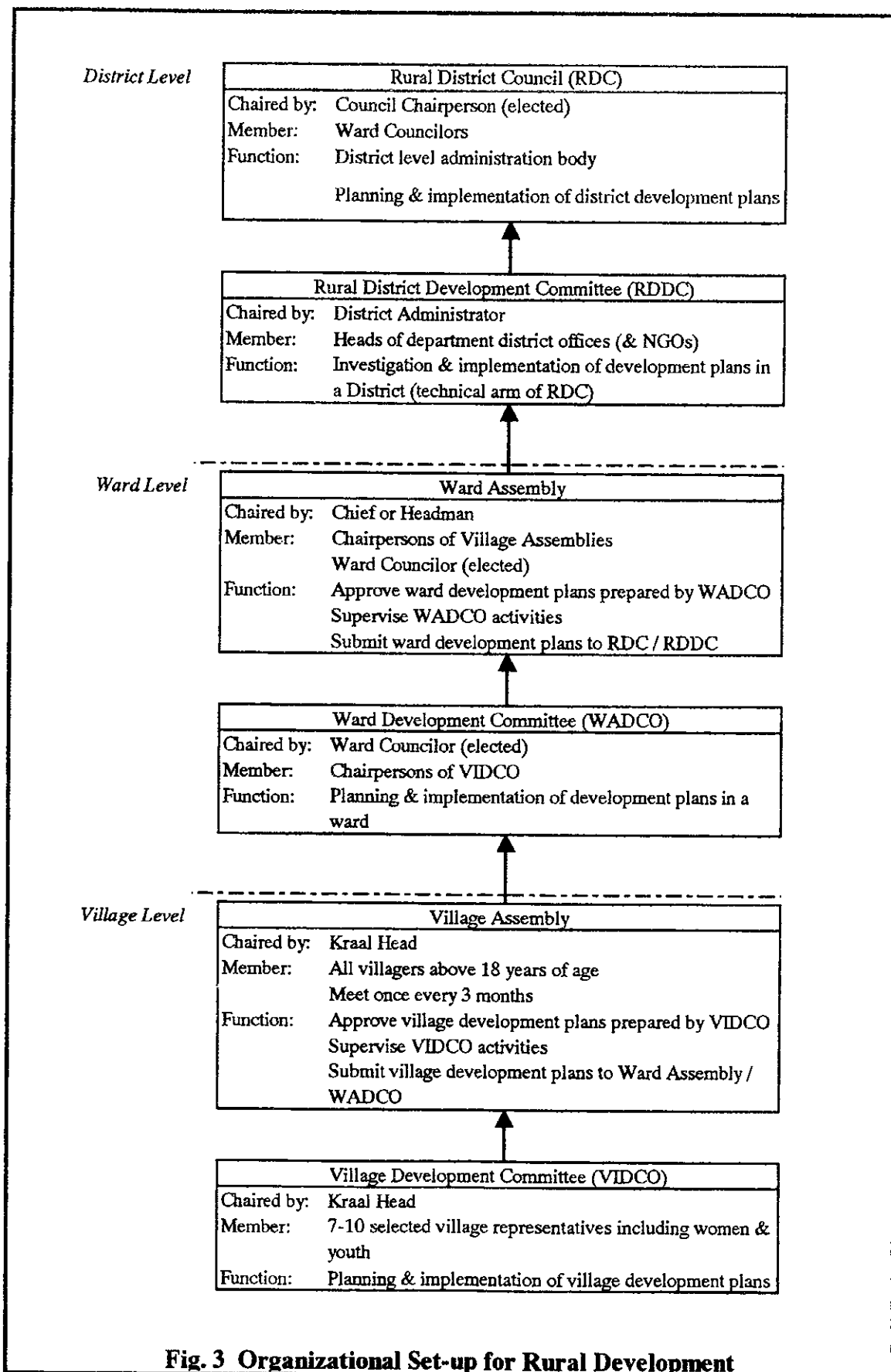
## ***FIGURES***



**Fig. 1 Administration Boundaries of the Study Area**



**Fig. 2 Organizational Structure of Local Government**



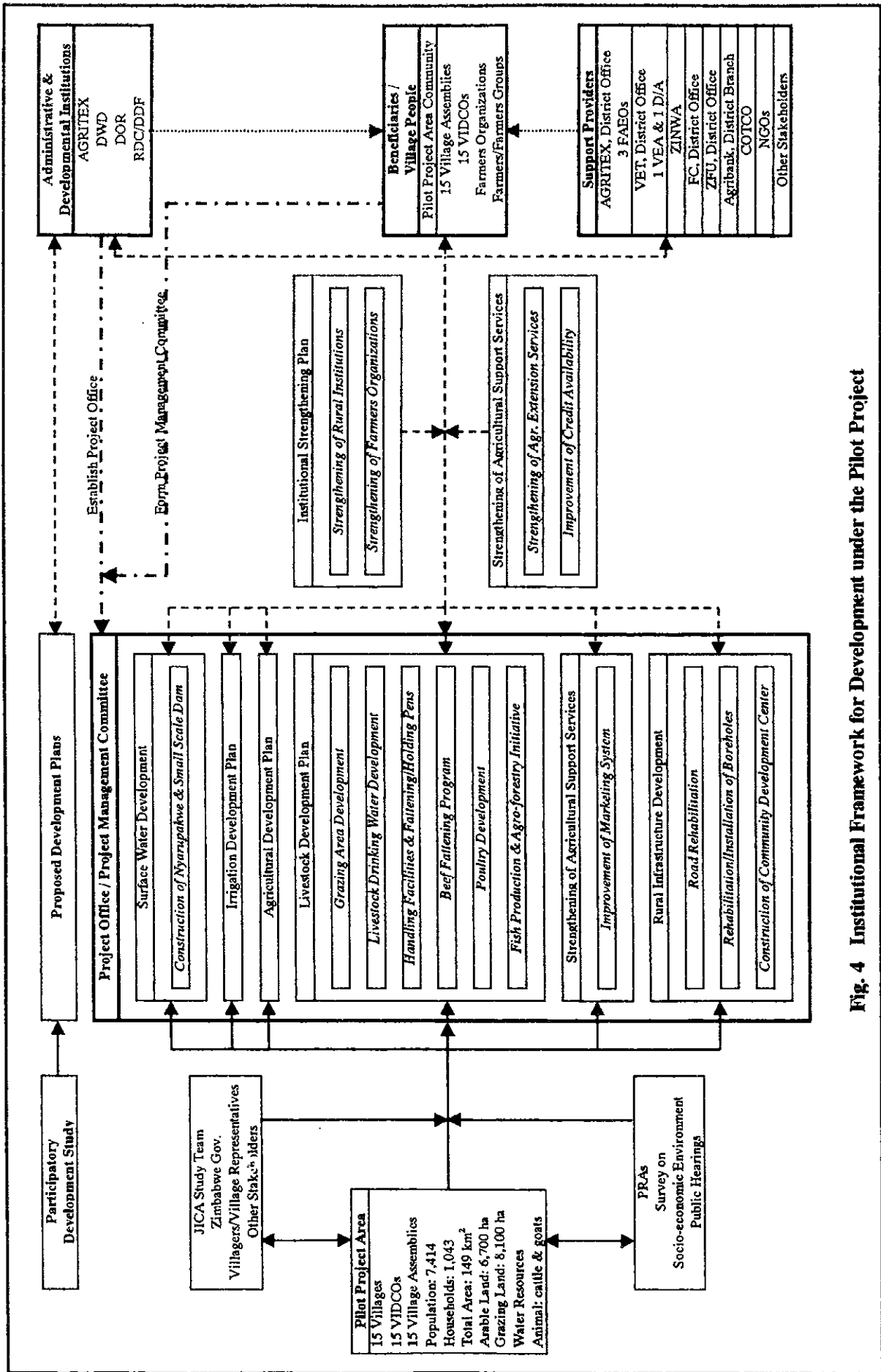


Fig. 4 Institutional Framework for Development under the Pilot Project

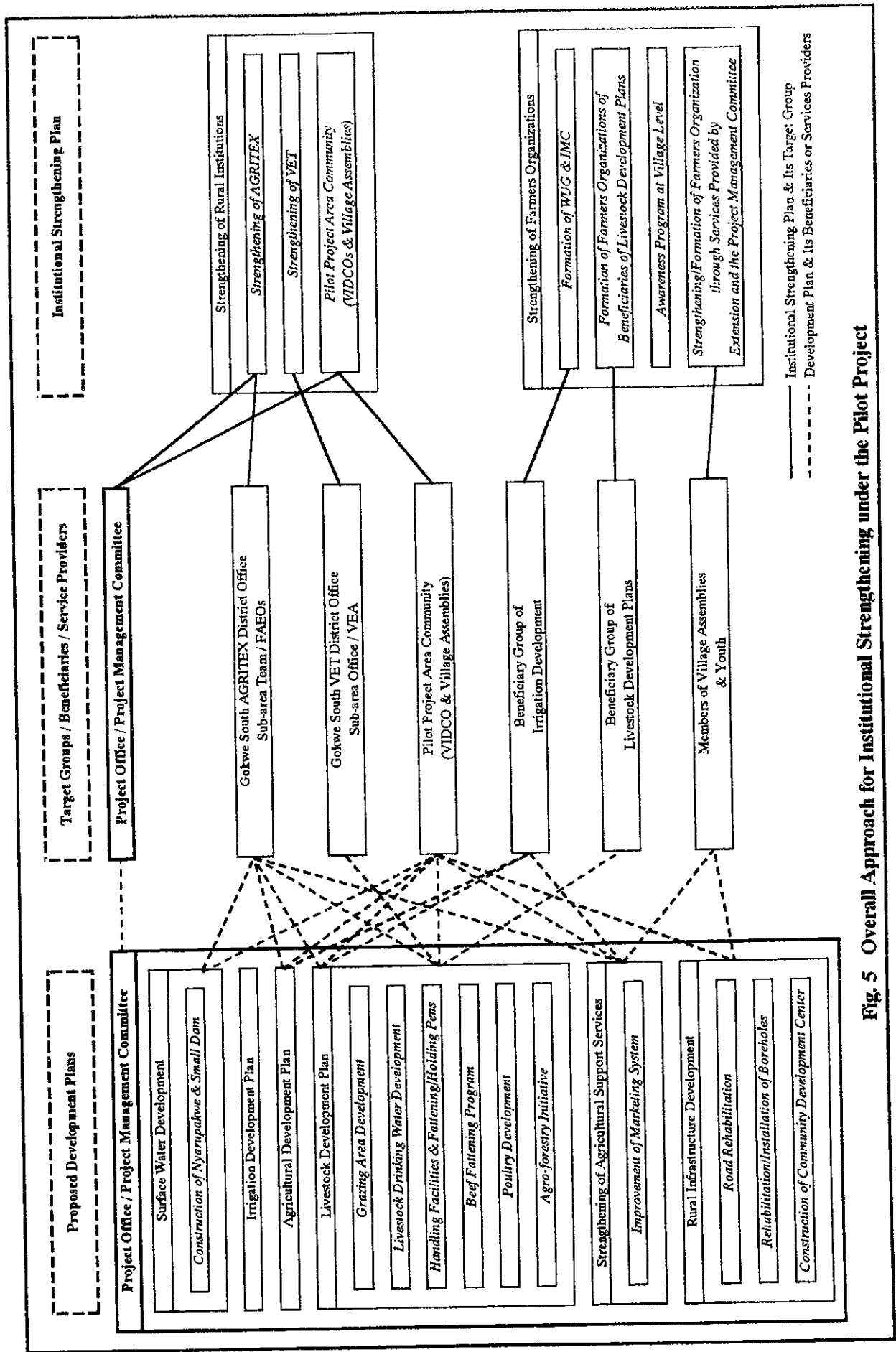


Fig. 5 Overall Approach for Institutional Strengthening under the Pilot Project