

APPENDIX - IX
AGRICULTURAL SUPPORT
SERVICES

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AGRICULTURAL SUPPORT SERVICES

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1. Kudu Dam Irrigation Project

1.1 Agricultural Support Services in the Study Area

1.1.1 Agricultural Research

(1) Current Status

The Department of Research and Specialist Services (DR&SS) within MOLA is responsible for most of the agricultural research conducted in Zimbabwe focussing on small-scale agriculture. The DR&SS's major works are agricultural technology development and specialist services including seed certification, soil testing and the development of agricultural industry health standards. DR&SS is organized into three main divisions: crops, livestock and pastures, and research services. In addition, a Farming Systems Research Unit (FSRU) is directly responsible to the Director as are the heads of the three main divisions. The Department is divided into 17 institutes along disciplinary lines and operates 12 research stations throughout the country. DR&SS have been to maintain high professional standards. However, these standards are under increasing pressure of financial constraints and the loss of more senior and experience staff.

Beside DR&SS, some privately funded research is also playing an important role in the agricultural sector development particularly in commercialized crop development. The list of major research institutes and stations is shown in Table 1. As indicated in the table, most of the research facilities are located in NR II where commercial farming is dominant, and only one facility of the Cotton Research Institute is available in Region III in Kadoma.

Privately funded research includes that of the Tobacco Research Board, the Agricultural Research Trust, the Zimbabwe Sugar Association, and the Zimbabwe Seed Companies. Agricultural research is also conducted by the University of Zimbabwe. All publicly funded research is coordinated by the Agricultural Research Council (ARC) which serves as an advisory body to MOLA.

(2) Government Policy on Research

The strategies of research activities stated in the Zimbabwe's Agricultural Policy Framework (1995-2020) are as follows:

- (a) Demand-driven research, linked to the needs of farmers, extensionists and researcher,
- (b) Adaptive research

- (c) Greater coordination between public and private research institutions,
- (d) Participatory approaches in determining research priorities,
- (e) Linkages with external organizations to keep abreast of regional and world developments, and
- (f) Greater commercialization and cost recovery in selected research services.

In relation with the above (f), the commercialization of DR&SS's services is in progress. These include contract research, royalties on crops and animal breeds developed by the department and revision of service charges on cost recovery basis. In addition, MOLA has plans for the sale of experimental produce on market prices, production activities on excess land and infrastructure at various research and experiment stations, through the provision of consultancy services and training.

(3) Cotton Research Institute

The institute was established in 1925 at the present location in Kadoma where agro-ecologically belongs to NRIII (semi-intensive farming region) and suitable for cotton production. Since the establishment, the institute has been responsible for research activities solely on cotton. The institute is considerably well equipped with research facilities and equipment within the allocated total land area of about 350 ha. The research facilities include a laboratory for each section with research equipment, a computer room with five computers, a library, four green houses, a building for several cotton processing machines, etc. Three tractors with attachments mainly for the research farm operation and five pickup trucks mainly for field trials (for about 90 locations) are also equipped. The size of research farm is about 120 ha which is utilized under three-year rotation, e.g. cotton – maize – fallow. Thus, research activities in the farm are being carried out in about 40 ha annually. Recent research priority is being given to hybrid cotton, organic farming, and colored cotton according to the institute.

Under the head, the institute has five sections, i.e. breeding, agronomy, entomology, pathology, and farm support. The staffing in each section is shown below:

Staffing of Cotton Research Institute

Section	Research Officer	Research Technician	Agriculture Assistant	Total
Breeding	2	1	2	5
Agronomy	2	1	1	4
Entomology	2	1	2	5
Pathology	1	1	1	3
Farm Support	1 a/	1	2	4
Total	8	5	8	21

a/; Farm manager

In addition to the above research staff, about 110 research hands including a few administration staff are also working in the institute. The annual budget allocated to the institute for FY 1999 was about 3.1 million of which 1.3 million was from the Government and 1.8 million was granted by EU.

1.1.2 Agricultural Extension

(1) Organization and staffing

AGRITEX under MOLA plays the most important role in the public sector agricultural extension services particularly in small-scale farming areas. At the national level, AGRITEX services are organized into two major divisions, i.e. Field division and Agricultural Engineering and Technical division. The Field division is responsible for the field extension services. The Agricultural Engineering and Technical division includes the branches of Irrigation, Soil and Water Conservation, Engineering, Agricultural Management, Animal Production, Crop Production, Land Use Planning and Training (see Fig. 1).

Each of the eight Provinces is led by a Chief Agricultural Extension Officer (CAEO) who is responsible for the agricultural extension in all the provincial districts. CAEO is also expected to provide the linkage between the Provincial Government and Head Office, and usually serves in a number of Provincial Government Committees concerned with agriculture and rural development. Until recently, the CAEO was supported by two Principal Agricultural Extension Officers (PAEOs), one was for leading and managing the provincial extension organization, and the other was for managing a group of Provincial Subject Matter Specialist (SMSs) as a part of the Technical division. This structure remains intact, but AGRITEX has decided to reduce the number of management positions including that of the PAEO. All these officers are now in the process of transfer and expected to be operational extension officers.

Each district (53 in total) is led by a District Agricultural Extension Officer (DAEO) who coordinates the extension services carried out at the district level by Field Agricultural Extension Officers (FAEOs), who were assigned as Agricultural Extension Officers (AEOs), Agricultural Extension Supervisors (AES) or Agricultural Extension Workers (AEWs) till recently. Like CAEO, DAEO provides the linkage between Provincial AGRITEX and the district government, and serves on a number of District Government Committees concerned with agriculture and rural development. FAEOs are stationed at ward/village level and responsible for the front line extension services.

As of December 1996 figures, AGRITEX had a total staff of 3,491. Among them, 3,075 or about 88% are stationed in the provinces and districts. The Field division had the largest number of staff of 2,428 or about 70% of the total staff. The Engineering Division, which provided specialist services and training in irrigation development, soil and water conservation and agricultural engineering, comprised 700 or 20% of the total staff. The Technical division, which provided a range of services including specialist backup to the Field division, and land use planning and training, included 308 or about 9% of the total staff. The remaining 55 or about 1% are involved in administration and support at Head Office. Currently, the Engineering and Technical division were amalgamated to form the Agricultural Engineering and Technical division.

Due to the above mentioned structural reform, the Provincial level staffing of AGRITEX is decreasing in number, and presently only eight SMSs are available (3-irrigation, 1-training, 1-crops/horticulture, 1-livestock, 1-farm management and 1-planning) in Midlands province. While in the Mashonaland West province, nine SMSs are still working in their positions (1-irrigation, 1-training, 1-crop, 2-planning, 1-soil and water conservation, 1-livestock, 1-farm mechanization and 1-marketing). However, they are also the subject of restructuring.

The present assignment of extension staff in three districts related to the Study area is presented in Table 2. The number of FAEOs is 41 in Kadoma, 42 in Gokwe North and 57 in Gokwe South. On an average, one AEW serves about 670 farmers in Kadoma, 810 farmers in Gokwe North and 930 farmers in Gokwe South district. These figures are still higher than the AGRITEX's target of 400 farmers per AEW. Although AGRITEX is now in the process of FAEOs' qualification upgrading program, most of them are agricultural certificate holders.

(2) Extension methodology

FAEOs implement a variety of programs with smallholders. They usually work through farmer groups with which they have contact on a regular basis. Prior to the crop season, FAEO and farmers have a meeting so-called farmer-extension worker meeting. In the meeting, annual group program is formulated. The group program varies depending on the groups' production characteristics, e.g. cropping programs for crop farmers, livestock program for livestock farmers, and irrigation programs for irrigation farmers. Following the formulated group program, FAEOs disseminate specific production technologies and practices aimed at addressing the farmers needs as reflected in the farmer-extension worker annual program plan. One farmer group consists of about 100-150 farmers.

FAEOs' field activities are supervised by senior FAEOs (formerly called AESs) stationed also in wards/villages, and, as per needs, district level training for FAEOs is provided usually once or twice per month at selected venue within the FAEO's area. Further, FAEOs are trained at their respective provinces or at AGRITEX Head Office, Domboshawa Training Center, Hatclif Engineering Training Institute and other venues depending on the nature of the training or course required. The resource trainers include the SMSs from AGRITEX and others from various specialisms.

The Master Farmer (MF) training program is a special training activity for farmers. Ordinary MFs are qualified after duration of two years' undergone special training offered by the FAEOs and practices as per the ordinary MFs curriculum. For one to qualify, one will have satisfied the assessors who inspect one's MF training book and practicals. They can be advanced MFs after additional one-year training and passing the AGRITEX's national examination. The contents of training program are well organized and cover various technological aspects including crop and livestock farming, farm economy, marketing of products, housing and sanitary. In case of Gokwe South, one FAEO takes charge of the MF training for about 10-20 farmers every year. AGRITEX staff needs to devote a comparatively large proportion of their time to the MF program. As other works of FAEOs, they implement demonstrations and organize field days. Nowadays, most of demonstrations are being carried out with an assistance of private sector (e.g. seed producers) which supplies improved seeds and other inputs for crop demonstration.

(3) Government Policy on Extension

The strategies on agricultural extension works stated in the Zimbabwe's

Agricultural Policy Framework (1995-2020) are as follows:

- (a) The active participation of technology users will be encouraged in guiding priorities, projects and programs,
- (b) Develop human resources through in-service training and short-course program aimed at improving the professional/technical capacity of staff,
- (c) Professional/technical information will be developed and updated through a sound management information system,
- (d) Mass communication instruments which have a higher coverage will be developed,
- (e) Government will continue to support the institutions over and above funds realized through commercialization, and
- (f) Agri-business and other agricultural private companies will be assisted and encouraged to provide extension services to farmers.

(4) Cotton Training Center (CTC)

The Cotton Training Center (CTC) was established in 1972 by the Commercial Cotton Growers' Association (CCGA), an organization of large scale commercial cotton growers. The CTC is located at the northeastern part of Kadoma town nearby the Cotton Research Institute or about 5km from the center of the town. The objectives of CTC are, (i) to facilitate the provision of training and advisory services of the highest caliber, (ii) to ensure the future development of cotton production, particularly in respect to new growers in both the large and small scale sectors. CTC has provided training services for some 25,000 trainees after its establishment, covering cotton cultivation technique and marketing, solely for cotton.

The facilities available in the center include an administration block, two classroom blocks and assembly hall, large dining room and canteen, four dormitory blocks and a small recreation shelter. CTC can accommodate up to 300 persons and provides full board and lodging for trainees and other users. It is entirely owned and operated by the CCGA, who employ a director and about 60 members of staff to provide both the Training and Cotton Check Scout services from CTC.

Organizationally, CTC consists of five sections, i.e. training, research, extension,

commercial farm and administration under the director. As full-time staff, 6 teaching staff and 15 supporting staff are assigned in the Training Section, 1 researcher and 3 supporting staff in the Research Section, 1 extensionist and six supporting staff in the Extension Section, 1 farm manager and 25 supporting staff in the Commercial Farm, and 4 clerks in the Administration.

The CTC is providing several training courses which can be classified in terms of the contents, duration and type of trainees. Major courses presently offered are two-week regional cotton production course, three-week production course for farmers and two-week cotton production course (this is mainly for FAEOs). The training courses for small-scale farmers are usually provided during May-September period where off-season of cotton cultivation. During this period, 7 courses are usually offered. In the remaining period, CTC gives training service for extension staff of AGRITEX and other trainees from research and extension institutes including ones from other African countries.

The Commercial Farm of 292 ha is operated as a small-scale commercial unit. Any surplus from the farm is used to offset training costs, whilst the farm itself provides a practical training base including facilities. The farm is equipped with 5 tractors with a complete set of attachments such as plow, planter, cultivator, etc. The research activities are also undertaken by CTC, beside the Cotton Research Institute, aiming at more deepen or detailed research works such as on drip irrigation.

The annual operation cost required is about Z\$ 4 million in terms of present value of Z\$. CTC is now sounding a potential of assistance from EU for its expansion of facilities to give more training on cotton producers.

1.1.3 Agricultural Credit

Financial institutions in Zimbabwe have provided credit to the agricultural sector for over 30 years, although informal credit is also widely prevalent, especially in the communal areas. The informal sector includes private moneylenders, traders, shopkeepers, relatives and friends. The formal sector includes the Agribank (formerly called Agricultural Finance Corporation/AFC), five commercial banks with branches throughout the country, the Cotton Company of Zimbabwe (COTCO), the largest provider of formal credit to farmers in the Study Area, the Cold Storage Commission (CSC), a few Cooperatives whose role in credit has diminished over the past decade, a few non-government organizations (NGO's) and companies engaged in contract farming. Over the last few years these latter

companies are becoming increasingly important.

All financial institutions concentrate on the more profitable large-scale commercial agricultural sector. Small farmers as a rule have met their agricultural financing needs from their own resources. In fact, a survey of the project area carried out in December 1998 revealed that 65% of farmers did not or could not obtain credit in the 1997/98 cropping season. The main sources of finance for farmers who did not get credit from formal sources are cash from the sale of agricultural produce and remittances from family members working outside. Of those who sought credit some were ineligible because of a lack of collateral; could not provide a guarantor or had defaulted on loans in the recent past.

This is the pattern in communal areas throughout the country where only some 5% received any loan credit from the formal sector. However, the December 1998 survey revealed that 35% of farmers borrowed for cultivation in the 1997/98 season. This is higher than the national average mainly because of the importance of cotton cultivation and access to COTCO credit facility.

Agribank's lending is somewhat restricted in the project area as a result of internal reforms and its concentration on a much-reduced clientele due to an emphasis on quality lending. The bank had low recovery rates in the early to mid nineties, partly because of the droughts but also due to poor loan appraisal and loan administration. The countrywide number of small holders receiving loans from the bank has declined from 100,000 in 1985 to 30,000 in 1998. Source of loans in the project area based on the survey is as follows:

Source of Loans		
Source	Average Loan Size (Z\$)	Percentage of Recipients (%)
Agribank	3,300	26.1
COTCO	5,553	60.9
Cargill Company	1,935	4.3
Friends/Relatives	250	4.3
Cooperatives	5,000	4.3

In the project area, Agribank's lending in the last two years is rather limited. Information available for two branches namely, Sanyati and Muzvezve I indicate a total of 225 short term loans in 1997/98 with the average size of loan of Z\$ 8800 and 184 short term loans in 1998/99 with average size of loan of Z\$ 10,360. Medium term loans are also very limited details of which appear below. Interest

rates on the short-term loans are high at 34% p.a. in 1997/98 and 36.5% in 1998/99.

Agribank Loan Disbursement in Sanyati and Muzvezve I (1997-1999)

	Loan Type	Beneficiaries (person)	Total Loans (Z\$)
SANYATI			
1997/98	Short term	30	242,962.00
	Medium term	11	330,000.00
1998/99	Short term	49	453,856.00
	Medium term	Nil	Nil
MUZVEZVE I			
1997/98	Short term	195	1,734,588.00
	Medium Term	6	87,000.00
1998/99	Short term	135	1,452,534.00
	Medium term	2	97,432.00

Source: Agribank branches in Sanyati and Muzvezve I

Agribank also offers credit to small holders through various schemes such as the Small Farm Credit Scheme, Resettlement Credit Scheme and the Group Lending Credit Scheme. The group lending scheme has been promoted as a means of reducing credit delivery costs through consolidation of multiple loan applications from small scale farmers and improving repayment performance through incorporation of peer pressure as group loans are subject to joint and several liability. The bank provides training to groups in credit administration before a group is eligible to apply for loans and groups have to set up a savings account with a bank or building society as a condition of a loan. Group lending by the bank has increased markedly since 1993 and now accounts for around half of the value of all loans to small holders.

The five commercial banks operating in Zimbabwe concentrate on the corporate business sector. In the rural areas, the commercial banks provide short term financing mainly to large-scale commercial farmers through overdraft facilities and to small businesses and enterprises. Lending to small farmers especially in communal areas is very restricted as farmers. This is because of the low productive potential and limited repayment capacity, high overhead costs of loan administration and supervision and high perceived lending risks associated with small-holder lending due in part to the absence of collateral.

The Cotton Company (COTCO) provides loans through the Input Credit Scheme to registered cotton growers in the large-scale commercial and small holder

sectors. For small holders, loans are provided to groups of registered cotton growers to enable purchase of seed, fertilizer, agricultural chemicals and spraying equipment. The scheme provides credit to about 30,000 farmers countrywide on an annual basis and is currently the most important source of credit to farmers in the project area. The interest rate is below the market rate and the initial capital was provided through a World Bank credit facility. The recovery rate is high as the loan is repaid as a deduction from the sale of the crop on delivery to COTCO.

The CSC operates a credit facility for both large and small holder farmers for cattle production. The scheme is however, very limited in coverage and the bulk of the credit is for commercial farmers. Some savings and credit cooperatives also offer credit to its members, but reach only a limited number of farmers. The NGOs that are currently engaged in localized development projects, often funded by overseas donor agencies also provide production loans to farmers. But such facilities are more of a pilot nature and are very limited in coverage.

A recent and increasingly important source of credit for small farmers, especially in irrigated cultivation are the contract companies for outgrower farmers. These companies also operate in the project area and provide farmers with contracts for delivery at pre-announced prices and the companies provide seeds, fertilizers and agricultural chemicals as part of the contract for delivery of produce to the company.

Major problems in the provision of agricultural credit is that the small farmer is largely excluded because lending policies are based on viability, proven past performance and the provision of collateral. There is also a lack of training and expertise in financial institution staff on financial management and a lack of a credit culture. The current credit structure in Zimbabwe is inappropriate to small farmer needs. Group lending has overcome some of these problems but has not yet become widespread. In an overall sense, it is clear that credit available to farmers in the project area is inadequate. More farmers receiving credit for working capital could ensure higher yields and farm productivity. Farm survey data indicates that only 35 % of the farmers surveyed obtained cultivation loans.

A credit facility from a non-budgetary source similar to the COTCO Input Credit Scheme (but applicable to all crops and livestock) could provide the necessary start up for such a credit facility. However, such a scheme needs to also tie up compulsory delivery of produce to a marketing agency as the provider of the loan. In addition, precise and clear guidelines are necessary for appraisal of loan

applications.

1.1.4 Agricultural Cooperatives

There are three production cooperatives in the resettlement Ward 17 (Muzvezve 1) in Kadoma district. All these cooperatives have been established under Model B of resettlement program. Total land allocated to the cooperatives is about 7,440 ha of which only about 930 ha or 12% are presently cultivated as shown in the table below.

Production Cooperatives in the Study Area

Items	Pazvavambua Coop.	Chiwirirano Coop.	Tashinga Coop.
Year established	1993	1996	1983
Member farmers	10	78	70
Area allocated	2,401 ha	2,658 ha	2,383 ha
Present cultivation area	70 ha	358 ha	500 ha
of which irrigated	70 ha	30 ha	0 ha
Irrigation method	Pump+splinkler	Pump+splinkler	-
Major crops cultivated	Maize, Cotton, Horticulture (tomato, cabbage, etc.)	Maize, Cotton, Horticulture (green maize, paplica, etc.)	Mize, Cotton
Farm machinery	1-tractor with attachments	No machinery; They hire it based on needs.	Draft power is used instead of machinery
No. of cattle	25	41	150

Source: Each cooperatives visited during January - February, 1999 period

Each cooperative organizes a management committee that consists of the Chairman, Vice Chairman, Secretaries, Treasurer, and committee members. Support services for the cooperatives are provided mainly by the District Department of Cooperatives under the Ministry of National Affairs, Employment Creation and Cooperatives. Major supports provided are training on the cooperative management system usually at the initial stage of cooperative formation, extension services, marketing and financial assistance. In case of Kadoma district, the number of staff assigned in the District Department of Cooperatives is only 14 for extension services. With this number of staff, proper services are difficult to provide to the production cooperatives, since there are many non-agricultural cooperatives beside the production cooperatives. They include for mining, clothing, home industry, savings and credit, retails, etc.

1.1.5 Non-governmental Organizations (NGOs)

Before 1980, the most prominent NGOs in Zimbabwe were concerned with

welfare (emergency relief, health, education, home crafts) or religious activities. After independence, however, many NGOs including international NGOs emerged and started to support new local initiatives for community and/or rural development, income generation projects and agriculture as important areas of activity alongside relief and welfare. As members of National Association of Non-Governmental Organizations (NANGO), there are 180 local and international NGOs, and most of which are concerned with the above mentioned new activity, although their degrees of involvement depend on their characteristics. According to relevant data (Muir 1992), there are at least 50 NGOs which employ more than 20 staff and have a turnover in excess of US\$ 65,000 a year.

Although there are many NGOs in Zimbabwe, their activities are limited in the Study Area. According to AGRITEX, many NGOs have sifted their activities from the rural areas in the Study Area to other dry zones, e.g. southeastern part of Zimbabwe where climate is drier than the Study Area. NGOs' major supporting fields in the Study Area are health and sanitation (Catholic Mission and Red Cross Society) and water supply (Manyura Mhanzi Trust) in a small scale.

Nevertheless, NGOs are playing an important role in community and rural development in Zimbabwe. In fact, a number of NGOs are active providing financial and technical support for many programs. Some important NGOs in agricultural and natural resources development are outlined in Table 3.

1.2 Plan for Strengthening Agricultural Support Services

1.2.1 Agricultural Research and Extension

(1) Research

The agricultural research system in Zimbabwe has been well established and has primarily benefited farmers, in the LSCF sector. In the planning of research component for the Project, however, some attentions have to be paid to the following:

- (a) In the related three districts, there is only one public research facility; the Cotton Research Institute, and facilities for other crops are not available;
- (b) The system of research-extension linkages are not established and functioning, so that research results are not always available to extension staff; and
- (c) The present emphasis on commercialization of research would need to

be recognized in the planning of this Project.

In consideration of the above, the research facilities proposed for the Project is based on the following concept:

- (a) There is no justification for the establishment of a new research facility for high-level research (e.g. breeding) under this Project. However, a facility for adaptability of technologies developed by other research stations/institutes is warranted and should be established as one of sections of the Project O&M Office to be established under the Project O&M.
- (b) The objective of this Section is to establish proper production technologies under irrigated conditions by carrying out field trials and adaptive research trials particularly on farmers fields.
- (c) In the execution of adaptive research work, therefore, consideration should be given to the conditions of beneficiary farmers, e.g. man-power and production inputs availability, and their needs for research, which would be clarified through farmers participation in the research as well as through training in new technologies.

The major activities undertaken by the proposed Research Section would be as follows:

- (a) Monitoring of research and technology developments and collection of relevant research results through coordination with other research stations/institutions including private sector.
- (b) Execution of adaptive research trials based on research results provided by other research stations/institutions.
- (c) Planning of demonstration plot which would be operated by FAEOs.

The proposed Applied Research Section in the O&M Office would carry out a variety of trials giving a priority to development of irrigated agriculture. However, it would also cover dry land crops, livestock and grazing land in order to assist the prevailing agricultural production system in the study area.

(2) Extension

The AGRITEX's structural reform is on-going under the Agricultural Services and Management Project (ASMP) so as to make more rational and cost effective organization for the execution of extension services. With ASMP, reorganization

of AGRITEX, and reallocation of extension staff, etc. are being carried out with commercialization of some components of the extension services and by promoting private sector's involvement. On the other hand, proper extension system is needed to be developed and introduced for the successful operation of the Project, although it usually requires an additional cost of the executing agency. With sufficient support, particularly at the initial stage of the Project, expected production and income increases would be accomplished both at small holders and national levels.

As characteristics of the beneficiary farmers, the important points to be taken into account are; (i) they are not well-experienced in irrigated agriculture, (ii) their educational level is low and nearly half of the household heads are non-educated and/or did not complete primary school, (iii) women are assuming a lot of activities in crop farming, (iv) while, men's involvement is higher than women's in all communication activities, and (v) cattle is the most popular livestock in the area and playing an important role in agricultural production by providing draft power.

Taking the above discussion into account, the proposed extension services for the Project are planned based on the following concept:

- (a) With the objective of establishing technical guidance and extension services on irrigated agriculture to beneficiary farmers of irrigation development, technical centers called Irrigated Agriculture Extension Center (IAEC) should be established in the both sides of the Munyati River of the Project Area. The one is at the left bank side by expanding the Agricultural Extension Center (AEC) to be established under the Nyarupakwe Pilot Project. The other is in the proposed irrigated area of the Seke dam at the right bank of the river. The IAECs should be established as the bases for the extension services provided under the Project.
- (b) The extension services should be cost effective with an appropriate number of capable staff and utilization of existing facilities as far as possible;
- (c) The services should be given mainly for farmers within the irrigation area. However, grazing land which keep draft animals should also be covered and improved under the Project, since such animals would play an important role in the irrigated agriculture;

- (d) The services should be provided densely at the initial stage of the Project for a period of about 10 years. Thereafter, each tertiary unit should be operational by the farmers themselves in terms of water management and cropping technologies with sparse services provided by the Project; and
- (e) Private sector, in particular, input supply company and companies with outgrower schemes should be involved in the extension effort.

Major roles of the project extension services would be as follows:

- (a) Supply of technologies to beneficiary farmers to ensure their production under irrigated conditions;
- (b) Assistance of beneficiary farmers in formation of Water Users Association (WUA) at each tertiary and secondary levels. These WUAs would be responsible for O&M in the respective command areas;
- (c) In collaboration with the Applied Research Section, supply of training courses to the farmers on irrigated agriculture including O&M technologies using existing training facilities, e.g. the Cotton Training Center, Hatclif Engineering Training Institute, and Domboshawa Training Center; and
- (d) Maintain close cooperation with input supply companies and outgrower schemes and arrange for training by private sector in areas of irrigated agriculture.

In order to provide the above services, a new organization so-called Extension and O&M Support Section would be established under the proposed O&M Office. This Section would be responsible for agricultural extension services in the irrigation development area, instead of the present agencies of District AGRITEX in Kadoma, Gokwe North and Gokwe South. The extension staff would be recruited from these agencies including Provincial AGRITEXs in Mashonaland West and Midlands Provinces or even from other Provinces/Districts. Although the number of extension staff required for the Project is difficult to decide at this study stage, at least one FAEO would be needed for every three tertiary units (each tertiary unit usually have an irrigated area of 100 ha). In the assignment of extension staff, it is proposed to recruit women's extension staff more than 20% of the requirements in the light of women's importance in the crop farming in the Project Area. Since most FAEOs are lack knowledge of irrigated agriculture, they

should be trained in new technologies prior to the assignment. Such training would also be provided using the existing training facilities (e.g. the Cotton Training Center, Hatclif Engineering Training Institute, and Domboshawa Training Center).

1.2.2 Proposals for Improving Credit Availability

The method of disbursing credit to small farmers had changed drastically in the last few years, particularly in that most credit provided by Agribank and COTCO (which two account for almost 90% of the credit in the Project Area) are now given out as group loans. This highlights the importance of group formation under the project. The group lending scheme should be promoted as a means of reducing credit delivery costs through consolidation of multiple loan applications from small scale farmers and improving repayment performance through incorporation of peer pressure as group loans are subject to joint and several liability. Formation of producer groups also has other advantages for farmers and it is therefore recommended that:

- (1) Every effort is made under the Project to form farmer groups whether it is producer associations or water user associations as this is now becoming a basic condition for obtaining cultivation credit. However, formation of groups does not necessarily ensure that credit would be available to all farmers in the Project. Farmers would be eligible for group credit from COTCO for cultivation of cotton. Agribank group loans would meet some other short-term financing needs. Farmers cultivating vegetables as outgrowers from export companies and agro-processors would have access to credit for seeds, fertilizer and chemicals from the contract companies. However, growers of maize, groundnuts and wheat would need to seek other sources of credit for cultivation. In view of the increased cultivation resulting from the increase in irrigated area under the Project it is recommended that:
- (2) Agribank is requested to make arrangements to provide group loans to farmers in the Project Area for cultivation of wheat, maize and groundnuts. The total cultivation cost for these three crops annually is estimated at current prices as Z\$267.0 million. In addition, it is recommended that arrangements are made with Agribank for an increase in training on credit administration which is currently conducted by the bank as a pre-condition for group loan eligibility.

- (3) COTCO is requested to make arrangements to provide credit for cultivation of an additional 17,500 ha per year in the Project Area for which the cultivation costs is estimated at Z\$153.0 million annually. It is further recommended that an adequate number of collection points be set up in the proposed irrigated areas.

1.2.3 Proposals for Marketing System

The reform of the marketing system for farm products brought about by the liberalization of pricing, deregulation of statutory marketing controls, and opening up of the export /import trade has led to a more competitive market environment through the emergence of many traders and agro-processors and market determined prices. The Agricultural Policy Framework 1995-2020 acknowledges that the policy and institutional changes have now been completed and that the future emphasis should be on improvements to rural infrastructure.

(1) Rationale for Market Intervention

A marketing plan for the Project Area has to be formulated within the framework of existing government policies and programs. The basic concept in this regard is that with a highly de-regulated market environment there is now a more competitive marketing system with prices for inputs and outputs being determined by the market. Within this context, it has to be recognized that due to market structure, conduct and performance, there could exist market distortions. Such market distortions or failures should be dealt with using the right policy or market interventions to ensure that farmers in the Project Area are not disadvantaged and that they have timely access to input and product output markets just as experienced by all other sectors of the economy. In addition, for equity considerations e.g. remoteness of rural areas, lack of infrastructure facilities and lack of farm inputs at the right time, place and price and the lack of market information, there is a case for market intervention. The approach taken in this Project in formulating a marketing plan for the Project Area is to propose market interventions based on market distortion and market failures as well as for equity considerations.

(2) Farm to Market Roads

The first prerequisite for the marketing plan is for a satisfactory network of roads in the Project Area. A survey conducted in December 1998 revealed that the distance to market in the Project Area varies between 3.5 to 65.0 km, with an

average distance of 25km. As part of the design of the proposed irrigated area all-weather farm roads need to be in place so that farmers have access to a road no more than 5km from their respective farms. The rationale for this is that the majority of farmers transport farm inputs and outputs to the nearest motorable road by animal driven carts (scotch carts) mainly on gravel roads and distances in excess of 5 km are not possible for the animals due to road surface and load considerations. A detailed review of the existing farm to market road network in the proposed irrigated area indicates that there are a sufficient number of roads with width of over 3 m which are well distributed so as to ensure that farmers would not have to transport farm inputs and outputs more than 5 km by cart. In a few instances these roads are in very bad condition and impassable during times of the year. These would need to be identified and improvements undertaken so as to ensure all weather use. It is recommended that farm to market roads in the proposed irrigated areas that require improvement be identified and work undertaken.

(3) Collection Points and Input Sales Points

The major commodity organizations such as GMB, COTCO, Dairibord, and CSC as well as private companies supplying inputs and purchasing outputs should be contacted and arrangements made for temporary Collection points (not a project cost). In addition, in planning the Growth Point consideration should be given to office and storage facilities (on a cost recovery basis) to encourage these trading organizations to set up collection centers and selling points. GMB and COTCO now operate such points in Sanyati, Gokwe, and Nembudziya. Seedco also have an outlet in Nembudziya for sales of seeds. The maximum distance for farmer to deliver cotton or grains should be 15 km.

(4) Growth Point

As the farming population on completion of settlement would be in excess of 50,000, it would be necessary for a focal point for all economic activity to bring together government agencies, private traders, input suppliers and financial institutions etc, to serve the new settled area. A new Growth Point should therefore be set up with social and administrative facilities (such as roads, sewage, water, schools and administrative buildings for government and local government agencies, grocery store, shops, offices, banks, post office etc.). The Growth Point should centrally located either in Marungu or Ganyungu Business Center. In addition to the Growth Point, there should also have an Open Market for selling

fresh produce which the farms could dispose of from time to time. Such an open market (approximately 60x60 m) with three open sides, roof and concrete floor should provide for individual stalls (4 x 4 m) with provision for water, electricity, drainage, weighing room and weighing scales, loading bay for trucks, waste disposal facilities, toilet, telephone, an office room for a Manager/Accounts Clerk and a security/ guard room. The manager should collect stall fees and utilize funds for self-financing maintenance of the facility.

(5) Producer Association

A Producer Association should be set up for every 200 farmers with Articles of Association and registration with LMRBA. The Association would over time be responsible for bulk purchase of inputs, group negotiation for production credit (a condition of COTCO production loans and a pre-condition for Agribank loans), and provide easier market access to companies doing outgrower contracts due to the companies interest in bulk, uniform production methods and quality control. The association would also benefit in bulk purchase of inputs, and increased bargaining power in sale of produce. The producer association should open a savings account in a bank or building society and members should receive training in finance and management. An Association Center (similar to the Training Centers now set up by AGRITEX) should be set up a building with an office room, meeting room, a small store room for storing inputs such as seed and fertilizer and an adjoining well ventilated shed for grading and packing high value fresh produce.

(6) Market Promotion

The Market Promotion Section would be set up within the proposed organizational structure of LMRBA. This Section will assist farmers in the whole Project Area by facilitating the sale of farm produce and purchase of farm inputs. The Section would not directly or indirectly handle inputs or outputs. The Section's primary role would be to seek market opportunities by contacting exporters, processors and input suppliers and assist in organizing farmers so as to enhance bargaining power in sale and purchase of produce and inputs respectively. It is designed to reduce production and market risks through contract farming. The Section would also review market developments and explore potential for high value crops either for export or processing. Recent experiences with producers after the introduction of a market based pricing system indicates a need for such a service to ensure producers receive fair price for their produce and engage in marketing activities

with necessary market information.

The Section will facilitate production and marketing of high value crops. In particular, the Section will: (i) review market opportunities and market potential, analyze market trends and return to farmers, the risks associated with new products and provide advise to farmers on crop alternatives; (ii) maintain frequent and regular contacts with exporter and producer organizations such as the Zimbabwe Horticultural Council and follow developments in fresh agricultural product demand and supply; (iii) monitor market for farm inputs and prices of suppliers and provide advise to farmers on farm inputs; (iv) provide advise in formation of producer associations, association management and finance, and association purchase of inputs or sale of association produce; (v) assist farmers in entering into contracts with processors/ exporters on contract provisions relating to product pricing, grading, packaging and transport of produce; (vi) collect statistical information on farm production and returns as well as marketable surplus; (vii) assist farmers and producer associations in obtaining legal advise on contract provisions; and (viii) liaise with AGRITEX and research agencies and assist in dissemination of technical information on production, marketing, grading, quality control, packaging, transport, cold storage and export regulations.

1.2.4 Programs for Strengthening Agricultural Support Services under the Project

In accordance with the proposed approaches for the strengthening of agricultural support services in the previous sections, the proposed programs for strengthening agricultural support services under the Project are formulated as presented below.

Establishment of IAECs

Establishment of two IAECs: one at the Nyarupakwe Pilot Project Area by expanding the AEC established under the Pilot Project; one at the proposed irrigated area close to the Seke dam of the Seke River. The components of the program include: construction of IAEC building with office rooms, lecture/meeting rooms, stores, water and electricity supply facility and provision of office equipment & facility and training equipment.

Adaptive Trials

Adaptive trials on crop selection & production, irrigation methods, water management and range land improvement & management.

Extension Programs

Field programs (small & large-scale demonstration), training programs (farming practices, water management, group dynamics & farmers organization, range management etc.), and study tour.

WUG/IMC Formation Guidance

Supporting formation and establishment of WUA and IMC at each tertiary unit level. Activities under the program include mass guidance, training and support for the formation of organization.

Farmer Organizations Formation Guidance

To strengthen or support formation of farmers organizations of beneficiaries of the grazing area development pilot scheme under the Project.

The program descriptions are presented in Table 4.

The improvement of farm to market roads is planned in Appendix VII and the capacity building of extension staffs will be implemented in the scope of the establishment of the proposed project office, LMRBA. While, the development of an open market is planned under the Pilot Project as a pilot case.

1.2.5 Estimated Costs for Strengthening Agricultural Support Services

The implementation of the strengthening plan for agricultural support services is to be implemented in 5 years consistently with the implementation schedules of the establishment of project office, irrigation works and development and livestock sub-sector development plan.

The costs for the strengthening plan for agricultural support services are estimated based on the program unit cost shown in Table 5 and the implementation schedule (cost schedule) of the plan as shown in Table 6. The overall costs for the strengthening plan are estimated at Z\$ 21,800 as shown below.

Estimated Costs for Institutional Strengthening

<u>Component</u>	<u>Estimated Cost (Z\$1,000)</u>
Establishment of LAECs	11,020
Adaptive Trials	1,910
Extension Programs	5,610
Other Programs 1/	3,260
Overall Costs	21,800

1/: WUA/IMC & Farmer Organizations Formation Guidance

2. Nyarupakwe Pilot Project

2.1 Agricultural Support Services in the Pilot Project Area

2.1.1 Project Related Institutions and Organizations

A number of institutions and rural organizations are deployed and providing agricultural support services in and around the Pilot Project. Among such institutions, major project related support institutions and organisations are: a) agricultural technical and extension service institutions, b) agricultural research institutions, c) agricultural credit institutions, d) farmers organizations as follows;

(a) Agricultural Technical and Extension Service Institutions

- AGRITEX District Office, District Veterinary Office, District Office of Forestry Commission and private sector

(b) Agricultural Research Institutions

- Gokwe Sub-station of Plant Protection Research Institute (PPRI)

(c) Marketing Support Organizations

- COTCO, Umniati Producers Cooperative Society Ltd, COTPRO, National Foods, Cargill etc.

(d) Agricultural Credit Institutions

- Agribank, COTCO and Umniati Producers Cooperative Society Ltd

(e) Farmers Organisations

- Zimbabwe Farmers Union (ZFU), Umniati Producers Cooperative Society Ltd and lending groups

Note: Activities of NGOs are seldom reported in the Project Area.

The overall network of the agricultural extension and support services in the Pilot Project Area is illustrated in Fig. 2.

The functions, activities and weaknesses of the said institutions except for marketing are discussed in the following sections. The activities of the marketing support organizations are discussed in Appendix V.

2.1.2 Agricultural Extension

(1) General

AGRITEX under the MOLA plays the most important role in the public sector agricultural extension services on the crop and livestock sub-sectors, particularly

in small-scale farming areas in Zimbabwe. At the national level, the services of AGRITEX are organised into two major divisions, i.e. Field division and Agricultural Engineering and Technical division. The Field division is responsible for the field extension services. The Engineering and Technical division includes eight branches of Irrigation, Engineering, Crop production, Animal Production, Soil and Water Conservation, Agricultural Management Services, Planning and Training.

At province level, the provincial office of AGRITEX is led by the Chief Agricultural Extension Officer (CAEO) who is responsible for agricultural extension in all the provincial districts. CAEO is also expected to provide the linkage between Provincial Government and Head Office. The structure of the provincial office of AGRITEX is in the process of restructuring under the Agricultural Services and Management Project (ASMP) and currently Midlands Provincial Office of AGRITEX is staffed with eight Subject Matter Specialists (SMSs; 3-irrigation, 1-crops/horticulture, 1-livestock, 1-farm management, 1-planning and 1-training) under CAEO.

District level agricultural extension services are provided by AGRITEX District Office led by a District Agricultural Extension Officer (DAEO) who co-ordinates the extension services carried out by Field Agricultural Extension Officers (FAEOs) deployed at ward/village level. The recent restructuring of the District AGRITEX has reassigned all the former extension staffs of Agricultural Extension Officer (AEO), Agricultural Extension Supervisor (AES), Agricultural Extension Worker (AEW) as front line extension officers (FAEO).

The major strategies on agricultural extension stated in the Zimbabwe's Agricultural Policy Framework (1995-2020) are: 1) active participation of technology users, 2) developing professional/technical skills of extension, 3) continuation of government support for the institution over and above funds realized through commercialization, and 4) encouraging private sectors involvement in extension services

In addition to the department of AGRITEX, the Department of Veterinary Services (VET) of the MOLA and the Forestry Commission (FC) of the MMET are providing extension services on relevant sub-sectors. The extension services of the VET cover animal health and genetic resources improvement and operate from its district offices. The major extension services of the FC include afforestation and community forest programs and farmer training provided

through its district office.

The involvement of private sector in agricultural extension is government promotion area in extension services. A number of agricultural marketing firms, processing firms and input suppliers are providing extension services at different extents. Among such private firms, the COTCO is most actively involved in extension services on cotton production and marketing. Major private firms introducing the outgrowers scheme with small holders in irrigated areas are Olivine Industry, Selby Enterprises and HORTICO

(2) Agricultural Extension in and around the Pilot Project Area

The institutions providing agricultural extension services in and around the Pilot Project Area are the district offices of AGRITEX, VET and FC located in Gokwe. Among the institutions, the institution having most important role in agricultural extension is the department of AGRITEX. The private sector extension activities in and around the Area are carried out by commercial companies e.g. COTCO, Windmill, Zimbabwe Fertiliser Corporation, Agricura, National Foods and etc.

(a) AGRITEX

The public sector technical and extension services on crop and animal husbandry sub-sector in and around the Pilot Project Area are provided by the Gokwe South AGRITEX District Office. The services of the Office are rendered through FAEOs deployed at ward/village level, who were formerly assigned as AES or AEW. The Pilot Area is located within the service areas of three FAEOs of the Munyati Sub-area Team as shown in the organizational set-up of AGRITEX illustrated in Fig. 3.

The extension system employed by the FAEOs is a group and participatory approach, in which they usually work through farmer groups on a regular contact basis as shown in Table 7. Prior to the cropping season, FAEO and farmers have a so-called farmer-extension worker meeting. In the meeting, annual group program is formulated. The group program varies depending on the groups' production characteristics, e.g. cropping programs for crop farmers, livestock program for livestock farmers and so on. FAEOs provide technical guidance on specific production technologies and practices aimed at addressing the farmers needs as reflected in the farmer-extension worker annual program plan. Such technical guidance is to be provided through field guidance to farmer groups, demonstration, field days, discussion and

distribution of extension materials.

The deployment of extension staff in the Pilot Area is limited compared to the extent of service areas and target groups. The service area per FAEO deployed in the Area is more than 10 villages.

The main extension programs conducted by the FAEOs in the Pilot Area include Master Farmer Training (MFT) and field guidance to farmer groups as shown in Table 8. The implementation of field demonstrations with or without support of farm inputs suppliers is limited in the Area.

The prominent feature of the extension programs operated by AGRITEX is the MFT, which is intensively implemented by the district office. The MFT program is a special training activity for farmers as shown in Table 7. The ordinary MFs are qualified after two-year special training offered by the FAEOs. The ordinary MFs can become the advanced MFs after additional one-year training and after passing the AGRITEX's national examination. The contents of training program are well organized and cover various technological aspects including crop and livestock farming, farm economy, marketing of products, housing and sanitary. In case of Gokwe South district, on average one FAEO trains 10 MFs every year. Accordingly, the extension staff needs to devote a comparatively large proportion of their time to the MFT program. The number of ordinary MFs trained by the FAEOs deployed in the Pilot Project Area is more than 80 and currently 15 farmers are being trained for the advanced MF by them.

The results of the survey on socio-economic environment indicate that farmers are aware of the availability of AGRITEX extension services but seldom received the services in the past as shown in Table 9.

The weakness of the AGRITEX's extension services in the Pilot Area is: 1) inadequate number of extension staff deployed, 2) poor logistic support for providing extension services (no transportation means are provided by the government), and 3) limitation of budget for operation.

(b) VET

Veterinary services in the Pilot Project Area are offered by the Veterinary District Office in Gokwe. The Office is currently staffed with 1 Senior Animal Health Inspector (SAHI), 8 Veterinary Extension Assistants (VEAs) and 4 Veterinary Patrol Units (VPUs). In the Area, the Sub-area VET Office

is established at Nyarupakuwe and one VEA and Dip Attendant (D/A) are posted as shown in Fig. 2. The services provided by the Office through field staffs include: 1) disease control & surveillance, 2) disease diagnosis, 3) meat inspection, 4) Tsetse control and 5) farmer training (Table 8). The artificial insemination service is currently provided from the provincial office because of no accommodation for a veterinary doctor in the district. The Office is poorly equipped without any vehicle for field works and with limited drugs and veterinary kits. The financial status and shortage of staffs are also the weakness of the sub-sector.

(c) FC

The afforestation and community forest program, farmer training and awareness program on forest conservation and provision of fencing materials are the major extension services provided by the FC and such services in the Pilot Area are rendered by the District Forestry Office in Gokwe. The Office is staffed with a District Forestry Extension Officer and a Project Co-ordinator. The community forestry program is extensively promoted by the Office under the Tree Growing & Care Project. In the Area, the project is implemented in three schools of Nyarupakwe, Ganyungu and Murandu.

(d) Private Sector

The private sector involved in the agricultural extension services in and around the Pilot Project Area includes COTCO, Windmill, Zimbabwe Fertiliser Corporation (ZFC) and other farm input suppliers or dealers. Among the private companies, the COTCO is most important and the activities of others are still limited. It provides farm inputs together with technical services to the beneficiaries of its Group Lending Credit Scheme. In the Pilot Area, the COTCO lending group is organised in 12 villages and the membership of the groups is 297 in total.

2.1.3 Agricultural Research

(1) General

The agricultural researches are undertaken by both the public and private sector in Zimbabwe. Research activities of the public sector in the fields of crop, land & water conservation and livestock are executed under the jurisdiction of the Department of Research and Speciality Services (DR&SS). The department is divided into 17 research institutes along disciplinary lines and operates 12

research stations through out the country.

The contribution of the private sector in the agricultural research has currently become important and the major research oriented services provided by the private sector include: 1) research services by the COTCO, 2) research activities of dairy firms and 3) research and technical development services of seed and chemical suppliers.

(2) Agricultural Research Activities in and around the Pilot Project Area

The agricultural research activities in Zimbabwe are rather focused on Natural Region (NR) II. In the Pilot Area, the services are carried by the Sub-station of the PPRI located in Gokwe. The Sub-station is engaged in the surveillance and forecasting of pest and disease of food crops and is providing technical services in the District. Further, around the Area the COTCO provides some research services in variety selection and trial through its subsidiary firm, QUOTEN Seed Company. However, it appears that currently the Pilot Area has limited access to the research and technology development services.

2.1.4 Agricultural Credit

(1) General

A number of formal and informal institutions are involved in agricultural credit in Zimbabwe. The formal institutions include the Agribank (formerly called Agricultural Finance Corporation/AFC), five commercial banks with branches throughout the country, the COTCO, the COTPRO, the Cold Storage Commission (CSC), cooperatives, non-government organisations (NGO's) and companies engaged in contract farming. The formal institutions concentrate more on profitable large-scale commercial agricultural sector and the access to formal credit by smallholders is more or less limited. The informal credit sources include private moneylenders, traders, shopkeepers, relatives and friends and are widely used in the rural areas, especially in the communal areas.

(2) Agricultural Credit in and around the Pilot Project Area

The major formal credit institutions operating in the Pilot Project Area are the Agribank and COTCO. Agribank has its branch in Gokwe where the Pilot Area receives credit services from. The bank offers credit to smallholders through the Group Lending Credit Scheme. The interest rate of the Scheme is 62 to 66 %, depending of credit status of clients, as its terms and conditions shown in Table 10. The Scheme has been promoted by the bank as a means of reducing credit

delivery costs and improving repayment performance and the credit disbursement under the group loan arrangement increased markedly in recent years in Gokwe South District. In the Pilot Area, only one farmer group for the credit is formed. The credit services of the bank in the Area is operated from its Rural Bank Office in Sanyati. The number of beneficiary groups and recovery rate of the credit rendered by the Gokwe branch in 1999 are respectively 167 groups and 95 % as shown in Table 10.

The COTCO provides loans through the Group Lending Credit Scheme to registered cotton growers in the large-scale commercial and small holder sectors. For small holders, loans are provided to groups of registered cotton growers to enable purchase of seed, fertilizer, agro-chemicals and farm implements. In the Pilot Area, it operates such credit service mostly from its Sanyati Ginerry and partly from its Gokwe Ginerry. The mark-up rate is 25 % per season, below the market interest rate of about 70 % per year as shown in the terms and conditions of the Scheme in Table 10. In 1999, the Gokwe Ginerry provided the credit to 150 groups and the recovery rate was as high as 96 % as the loan is repaid as a deduction from the sale of the crop on delivery to COTCO (Table 10). In the Pilot Area, lending groups for the credit are formed in 12 villages and the total membership of the groups is 297.

Other institutions providing credit services in the Pilot Area include COTPRO and Umniati Producers Cooperative Society Ltd.

A recent and increasingly important source of credit for small farmers in the country, especially in irrigated areas, is the contract companies for outgrower farmers. However, the operation of this credit in the Pilot Area is not reported.

The weakness in the provision of agricultural credit to smallholders is that the smallholders is still excluded because bank lending policies are based on viability, proven past performance and the provision of collateral. Group lending of the Agribank and the COTOCO have overcome some of these problems but has not yet become widespread. In an overall sense, it is clear that credit available to farmers in the Pilot Area is still inadequate.

2.1.5 Farmers Organizations

The Zimbabwe Farmers Union (ZFU) which is the apex organization of farmers clubs and associations, Umniati Producers Cooperative Society and lending groups of cotton growers organized by the COTCO are the major farmers organizations actively operating in and around the Pilot Project Area. The

features and functions/activities of such organizations are explained in Table 11 and briefed below

Zimbabwe Farmers Union (ZFU)

The ZFU is an apex organisation of farmers association/clubs established under "the Social Welfare Act" and is composed of five tiers of organisations; Union at national level, provincial, district and ward farmers associations and farmers club at a village level. In the Pilot Area, the Union provides its services operated from the Gokwe district office to members through associations and clubs. The services rendered by the organisation are: 1) to ensure a better input package for farmers, 2) supporting for marketing & price negotiation, 3) supporting group works e.g. Agribank group lending scheme and 4) technical and marketing information. In Gokwe South District, the Union has 180 clubs and 30 ward level farmers associations with some 14,000 active members and in the Chisina 1 there are six farmers clubs, including three clubs in the Area, Muchina, Murandu and Ganyungu.

Umniati Producers Cooperative Society Ltd.

The Cooperative is established under "the Cooperatives Society Act" in 1961 and has its head office in Nyarupakwe. Its membership totals 865 and 400 to 500 members out of which are active members. Its service areas include purchasing and marketing of farm products, farm inputs supply, provision of loan, operation of cooperative shop and tractor hiring and transportation services.

Lending Group

12 lending groups for the COTCO Group Lending Credit Scheme are formed in the Pilot Area. The membership of the groups is 297 in total. The groups are organised by the company as the objective organisations of its credit services. They have supply of farm inputs prior to cropping season in kinds and deliver their products (cotton) at collection points of the company located in Ganyung and Nyamacheni in the Pilot Area.

Women Participation

Women participation in farmers organisations is common in the Project Area and the women members account for 708 or 47 % of the total membership of some 1,500 of the agricultural organisations excluding Umniati Producers

Cooperative Society in the Area. In addition, four women's groups are formed for gardening, poultry, vegetable and oil seeds production as shown in Table 11.

2.2 Plan for Strengthening Agricultural Support Services

2.2.1 Strengthening of Agricultural Extension Services

(1) Basic Concepts and Scope

The productivity of crop and livestock sub-sectors in the Pilot Project Area remains at substantially low level due to technical and socio-economic constraints. Such constraints are partly addressed through the institutional development proposed in Appendix VIII Chapter 2. While, the strengthening of agricultural extension services through the implementation of extension programs is essential for duly addressing the technical constraints and a part of socio-economic constraints for the attainment of the project objectives at an early stage as envisaged in the proposed development plans within the Project. The strengthening plan of the services under the present Pilot Project is formulated on the basis of the basic concepts established for the formulation enumerated below.

- Extension services of the AGRITEX and VET to be strengthened under the current extension system and in the framework of its institutional strengthening plans proposed in Appendix VIII Chapter 2 and extension services to be operated from the proposed Agricultural Extension Center (AEC),
- Formulation of strengthening plan of agricultural extension services incorporating the outcome of the socio-economic environmental survey,
- Formulation of strengthening plan of agricultural extension services to be primarily directed to support the agricultural development plan and the development plans of livestock sub-sector and targeted to the beneficiaries of the plans,
- Placing emphasis on the irrigation technology development and transfer and on the field oriented and practical programs,
- Assist and encourage private sectors involvement in agricultural extension activities,
- Present strengthening plan of agricultural extension services to be reviewed to meet the actual needs of the services users through the workshop for the formulation of annual program plans through farmer-

extension officer workshop/meetings, and

- Strengthening of guidance and support of senior extension and technical staff from the provincial offices should be envisaged.

(2) Strengthening Plan of Agricultural Extension Services

On the basis of the basic concepts, the strengthening plan of the agricultural extension services is formulated on field programs, farmer training programs, workshops, field guidance and strengthening of guidance and support of senior staff as follows;

Field Programs: Crop Production

- Demonstrations/Trials - New crops, variety, fertilisation rate, recommended package technology, irrigation methods & water management, pre-planting
- Training cum Field Guidance - Training & periodical field guidance by a newly recruited FAEO experienced in irrigated agriculture to all farmers groups in irrigated area on water management, farming practices etc. (refer to Appendix VIII)

Field Programs: Livestock

- Demonstrations: - Beef fattening, pasture & veld establishment, agro-forest development

Farmer Training Programs: Crop Production

- Agronomy: - Recommended practices, pest control, chemical use, farm mechanisation etc.

Farmer Training Programs: Livestock

- Animal Husbandry: - Routine herd management, herd health program, veld & pasture management, animal nutrition
- Animal Health: - Herd health program, genetic improvement

Farmer Training Programs: Organisation, Farm Management & Study Tour

- Organisation: - Leadership course, group dynamics, formation of group/organisation
- Management: - Record keeping, marketing, financial planning & management
- Study Tour: - Advanced irrigation schemes, farming areas & animal husbandry areas, marketing facilities etc.

Workshops

- Seasonal program evaluation & annual program planning
- Innovation dissemination

Field Guidance on Formation/Establishment of Farmers Organisations

- Strengthening of field guidance & support on formation or strengthening of farmers organisations/groups and guidance & support on group activities

Guidance & Support of Senior Staff

- Periodical visits of senior staff for strengthening guidance & support to field staff

The program descriptions are presented in Table 12.

2.2.2 Improvement of Marketing System

(1) Basic Concept and Scope

In view of recent Government policy of encouraging a free market system with little or no public sector involvement in marketing, public sector support for processing or agri-business activities has not been incorporated in these proposals. Consideration has been given to proposals that would enhance market efficiency by bringing together buyers and sellers for making cost effective transactions.

(2) Plans for Improvement of Marketing System

On the basis of the said concept, the plans for the improvement of marketing system under the Pilot Project are formulated on the rehabilitation/upgrading of the farm-to-market roads, the establishment of a collection point, the construction of an open market and the formation of producers groups/associations.

(a) Rehabilitation of Farm-to-Market Main Road

As the pilot area farmers are seriously handicapped due to the distance to the nearest marketing town center, a road to Gokwe from Nyarupakwe is proposed to be rehabilitated for providing financial gains to the community and increase farm income. This road improvement was indicated as the most important need by farmers at the public meetings. The detail plan is discussed in Appendix VII Rural Infrastructure.

(b) Rehabilitation of Farm-to-Market Link Roads

There are many link roads from farmer's fields connecting to the main roads in the Pilot Area. These roads will also be rehabilitated for transport of agricultural production, inputs, etc. as described in Appendix VII.

(c) Establishment of Collection Points

All major agencies involved in marketing have provided some facility for setting up collection points in and around the Pilot Area. COTCO has

decided that it sets up a collection point in Nyarupakwe in the forthcoming season. Natfoods and Cargill also have some arrangements through agents to collect produce from farmers. Private abattoirs also visit the cattle auctions. Overall, for cotton, there is adequate number of collection points. But for maize and sunflower as farmers have to move produce to Sanyati, farmers have to bear the heavy cost of transport of output and inputs. In this regard, it is recommended that GMB should have a collection point in Nyarupakwe business center after dam construction as production is expected to increase.

(d) Development of Open Market

With the availability of water for a second crop, the production of vegetables and high value crops is expected to increase. There is a need for some central marketplace for farmers to bring produce from their homestead for sale. Even today it is common for farmers to bring their produce to the Nyarupakwe business center for sale. A central place would attract traders who could purchase large quantities. With the objectives to support farmers in marketing their produce, the development of an Open Market with the following specification as illustrated in Fig. 4 is proposed in the Nyarupakwe business center.

- i) 4 units of marketplace of 20 x 4m, each comprising 5 stalls of 4 x 4m
- ii) Structure: roofed with concrete floor & 3 open sides
- iii) Facilities: water & electricity supply, drainage & waste disposal facility, Blair toilets and a loading bay for trucks

A stall fee would be charged for daily use and the proceeds could be utilised for maintenance of the facility.

(e) Formation of Producers Groups/Associations

While there are a number of farmers groups operating in the Pilot Area, most of these are for the purposes of qualifying for the group loan schemes operated by COTCO and Agribank. Umniati Producers Cooperative Society is a producers organization in the Area. However, its membership is limited and services are for its members. Especially in the irrigated area, there is therefore a need to set up producer associations because the substantial volume of production of vegetables or high value crops is expected and the current outlet of such produce in and around the Area is limited. The

formation of the associations should be promoted through the agricultural extension services and the support of the Project Office in cooperation with purchasers of the produce on need and demand basis. The involvement of private sector is essential for the formation of the organization.

2.2.3 Approaches for Improvement of Agricultural Credit Availability

The method of disbursing agricultural credit to the smallholders sector had changed drastically in the last few years in Zimbabwe and most of the credit to the sector provided by the Agribank and COTCO are now given out as group loans. This highlights the importance of the group formation under the institutional development plan of the Project. The proposed approaches that should be taken for the improvement of the agricultural credit availability in the Pilot Project Area, therefore, include the strengthening of farmers organization through the institutional development and the strengthening of the agricultural extension services and, assisting and encouraging the credit institutions for their expansion of agricultural credit coverage in the Area as follows;

- Formation or strengthening of farmer organizations eligible for the conditions of agricultural credit schemes of the financial institutions and other formal credit suppliers through the awareness program of the institutional development plan and the farmer training through strengthening of agricultural extension programs,
- Implementation of farmers/farmer groups training on credit administration which is currently conducted by the Agribank as a pre-condition for group loan eligibility under the collaboration of the AGRITEX and the Agribank,
- Encouraging and assisting farmer groups applying for agricultural credit by the field extension staff of the AGRITEX, the FAEOs, and
- Encouraging and assisting the Agribank, COTCO, COTPRO and other institutions in and around the Project Area involved in marketing of farm products, farm input suppliers and firms with outgrowers scheme in expanding their credit operations or in involvement in the same.

2.2.4 Implementation Schedules and Estimated Costs for Strengthening Agricultural Support Services

The implementation of the strengthening of agricultural support is to be implemented consistently with the implementation schedules of irrigation works,

livestock sub-sector development plans and institutional strengthening.

The costs for the strengthening of agricultural support services are estimated based on the program unit cost shown in Table 13 and the implementation schedule and cost schedule of the plan as shown in Table 14 and 15.

The estimated overall costs for the strengthening of extension services are estimated at Z\$ 1,047 and the same for the improvement of marketing system are at Z\$ 760. The overall costs for the strengthening of agricultural support services are Z\$ 1,807 as shown below.

Estimated Costs for Strengthening Agricultural Support Services

Component	Estimated Cost (Z\$1,000)
Strengthening Extension Services	1,047
Improvement of Marketing System	760
Overall Costs	1,807

The activities for the improvement of credit availability are to be implemented within the scope of the institutional strengthening and agricultural extension services and no costs are allocated for the sub-sector.

TABLES

Table 1 List of Major Research Institutes and Stations in Zimbabwe

Name of Station/ Institute	Major Objective Crops/ Activities	Location	Responsible Organization	Natural Region	Remarks
Public Sector					
Research on Crops					
1. Horticultural Research Center (HRC)	Horticultural crops	Marondera, Mashonaland East Province	DR&SS, MOLA	Ila	Under No.1
2. Nyanga Experimental Station	Potatoes and fruit trees	Nyanga, Manicaland Province	DR&SS, MOLA	I	Under No.1
3. Chipinge Research Station	Coffee and tea	Chipinge, Manicaland Province	DR&SS, MOLA	I	
4. Cotton Research Institute (CRI)	Cotton	Kadoma, Mashonaland West Province	DR&SS, MOLA	III	
5. Crop Breeding Institute (CBI)	Breeding of food crops	Harare	DR&SS, MOLA	Ila	
6. Agronomy Research Institute	Food crops	Harare	DR&SS, MOLA	Iic	
7. Plant Protection Research Institute	Plant health & quarantine	Harare	DR&SS, MOLA	Iic	
8. Chiredzi Research Station	Agronomy in NR IV and V	Chiredzi, Masvingo Province	DR&SS, MOLA	V	Under No. 6
9. Kutsaga Research Station	Flue cured tobacco	Harare	Tobacco Research Board	Ila	Parastatal
10. Banket Research Station (out station of No. 9)	Burley tobacco	Banket, Mashonaland West Province	Tobacco Research Board	Ila	Parastatal
11. Hatchliffe	Irrigation, soil conservation, etc.	Harare	AGRITEX, MOLA		
Research on Livestock					
1. Makohoki Research Station	(Suitable animals	Mashvingo, Masvingo Province	DR&SS, MOLA	IV	
2. Grasslands Research Station	Beef production	Marondera, Mahonaland East Province	DR&SS, MOLA	Ila	
3. Henderson Research Station	Poultry feeds	Mazowe, Mashonaland Central Pro.	DR&SS, MOLA	Ila	
4. Matopos Research Station	(Milk production	Matopos, Matabeleland South Province	DR&SS, MOLA	IV	
5. Pig Industry Bord	Pig	Aecturus, Mahonaland East Province	Pig Industry Bord	Ila	Parastatal
Private Sector and Others					
Research on Crops					
1. Chiredzi Sugar Research Station	Sugar cane	Chiredzi, Masvingo Province	Cane Growers Association	V	
2. Export Agents (e.g. Hortico and Can Pak)	Suitability test of export crops	Several locations, e.g. Harare, Chegutu			
3. Seed Suppliers (e.g. Seed Coop)	Demonstration of crops	Several locations, including Kadoma			
4. Agro Chemical Companies (e.g. ZFC)	Farm trials on chemicals	Several locations, e.g. Harare, Kwekwe			
5. Research Stations under ART	Food crops (only trials)	Harare	Agri. Research Trust		CFU
6. University of Zimbabwe	Food crops, soils, economy, etc.	Harare		Ila	
Research on Livestock					
1. Irvines	Poultry	Harare		Ila	
2. Henderson Research Station	Poultry feeds	Mazowe, Mashonaland Central Pro.		Ila	
4. University of Zimbabwe	Small stock feeds	Harare		Ila	

Source: Zimbabwe's Smallholder Agricultural Sector Development Strategy and Action Plan, 1997 - 2020
and Zimbabwe's Agricultural Policy Framework, 1995 - 2020

**Table 2 Number of Extension Staff and Available Transportation Means
in the Districts Related to the Study Area**

Staff	Grade	(Unit)	Kadoma	Gokwe North	Gokwe South	Total or Average	Kwekwe
Extension Staff							
DAEO	University graduate	(person)	1	0	1	2	1
	Diploma holder	(person)	0	0	0	0	0
	Certificate holder	(person)	0	0	0	0	0
	Sub-total	(person)	1	0	1	2	1
AEO 1/	University graduate	(person)	0	0	0	0	0
	Diploma holder	(person)	5	3	2	10	4
	Certificate holder	(person)	0	0	0	0	0
	Sub-total	(person)	5	3	2	10	4
AES 1/	University graduate	(person)	0	0	0	0	0
	Diploma holder	(person)	0	0	0	0	0
	Certificate holder	(person)	4	3	8	15	2
	Sub-total	(person)	4	3	8	15	2
AEW 1/	University graduate	(person)	0	0	0	0	0
	Diploma holder	(person)	0	0	1	1	0
	Certificate holder	(person)	32	36	45	113	25
	Sub-total	(person)	32	36	46	114	25
No. of FAEOs (AEO+AES+AEW)		(person)	41	42	56	139	31
No. of Farm Household per FAEO		(person)	673	805	925	814	891
No. of Farm Household in 1998		(No.)	27,589	33,821	51,784	113,194	27,636
Vehicles/bicycles							
Car		(No.)	2	2	2	6	3
Motorcycle		(No.)	24	31	39	94	13
Bicycle		(No.)	12	8	15	35	17
Total		(No.)	38	41	56	135	33

Source: Respective District Office of AGRITEX; as of January 1999

1/: Former position titles of extension staffs (FAEOs)

Table 3 List of Non-Governmental Organizations (NGOs) - 1/3

1. Research Oriented NGOs

Research oriented NGOs are involved in research in natural resource utilization, community development and agricultural development. Some of these are also involved in training in community development.

1.1 Center for Applied Social Sciences (CASS) is largely involved in the socio-economic monitoring and evaluation activities of the Communal Area Management Program for Indigenous Resources (CAMPFIRE) program. The center has also carried out extensive research into grazing schemes, woodland management and gender issues in community resources management. In conjunction with the International Union for Conservation and Nature (IUCN), CASS is developing short-term high level training courses in community resources management, Participatory Rural Appraisal, baseline surveys and Applied Social Research Methods.

1.2 Zimbabwe Environmental Research Organization (ZERO) is a research-oriented NGO formed by a network of Zimbabwean development experts in rural development, specializing in environment and energy issues. ZERO has initiated a series of publications, with a view to generation debate on the awareness of current environment, energy and rural development issues, among experts in Zimbabwe and the SADC region as a whole.

1.3 Intermediate Technology Development Group (ITDG) has experience in introducing various forms of appropriate technology to communities. ITDG apparently pays careful attention to adapting projects to local circumstances and to training needs.

2. Community Development Oriented NGOs

There are NGOs involved in community development activities such as development community gardens, promotion of community and group savings clubs and community income generating projects.

2.1 The Manicaland Development Association (MDA) works in Manicaland with a mandate to initiate and accelerate the social and material development of the people badly affected by the liberation war. Its emphasis is on small-scale agricultural projects, environmental conservation and commercial enterprise development with includes training in technical and business skills.

2.2 Christian Care (CC) is active in several districts in Manicaland and Masvingo, being concerned with organization and distribution of drought relief, rehabilitation of small dams and irrigation schemes, grazing schemes and livestock improvement. In the productive sector, it also supports vegetable gardens and fisheries development.

2.3 Lutheran World Federation (LWF) has specialized in small-scale, community based irrigation schemes and grazing schemes, in the dry areas of CAs in Manicaland and Masvingo. It has shown particularly good results in mobilizing villagers to participate in the construction and management of irrigation schemes, and to develop self-reliance in participatory processes. The methodology adopted by LWF results in substantial cost savings as well as improved self-reliance. LWF has developed effective means of integrating its activities with those of the RDCs, VIDCOs and WADCOs and of collaboration with sectoral ministries. It has professional staff and is presently undertaking not less than nine irrigation small-scale schemes. In total two grazing schemes have been implemented. LWF has made financial evaluation of most of its projects.

Table 3 List of Non-Governmental Organizations (NGOs) – 2/3

2.4 Self-help Development Foundation (SDF) has long standing experience in establishing and assisting savings groups of 25-30 people. SDF assists these groups with administrative systems of high quality, developed for use at village level. SDF provides: training for group leaders on savings management and the use of administrative systems; materials; follow-up visits to strengthen groups. Around 85% of group members are women. SDF has limited manpower capacity with one officer per province.

2.5 SNV Netherlands Development Organization (SNV) has been working with RDCs to strengthen the planning capacity and increase community participation in development planning.

2.6 World Vision activities are exclusively directed at village groups and whole communities. It acts only in response to specific requests from the community, and has supported grazing schemes, cattle fattening, community infrastructure, and small-scale agricultural and manufacturing activities.

3. Training Oriented NGOs

3.1 Silveira House (SH) offers a long standing training course called "Training for Transformation". This is a three-week training course on participation and community organization. The course includes some PRA techniques but mostly focuses on attitudes and general participation approaches. SH also engages in education for district councilors. SH has its own training facilities which are of good quality and can cater for up to 100 people. Capacity to offer external training is limited (3-4 training officers).

4. Natural Resources Development/Conservation Oriented NGOs

There are organizations involved in promotion of sustainable use of natural resources. Some of the activities also include research into natural resource use and the distribution of new technologies for natural resource use.

4.1 Zimbabwe Trust (ZT) has considerable experience in community participation through its involvement in the CAMPFIRE program. Its activities include: building community capacity to manage and monitor wildlife resources; cooperation with RDCs and executive officers projects for wildlife management; awareness meetings on different levels; workshops with councilors and other officials. Training includes meeting skills, financial management, discussion techniques, by-laws, decision making. They organize "look and learn" tours. Various publications include "handbook for members of ward and village natural resources management committees". Capacity for external training is limited.

4.2 Association of Zimbabwe Traditional Healers and Ex-Combatants (AZTREC) was initially established as a collaborative effort between traditional healers, spirit mediums and ex-combatants from the liberation armies to implement environmental and resource conservation programs in CAs. Initial AZTREC programs involved the establishment of woodlots of indigenous plants. These were very successful and AZTREC has now extended their activities to include general afforestation programs, sustainable land management and developing approaches to community group development. They were involved in participatory planning under the Rural Integrated Water Sanitation Program. Because of the cadre that has been mobilized by AZTREC and the influential position they hold in rural communities, AZTREC could be a useful partner in the design and implementation of communal resource management programs.

Table 3 List of Non-Governmental Organizations – 3/3

4.3 The Catholic Development Commission (CADEC) was established in 1969 as an initiative of the Catholic Bishops of Zimbabwe. CADEC's agricultural activities include: rehabilitation of dams, drilling boreholes, and installing new irrigation schemes; training for savings and credit unions and for farmers' groups; support for on-farm micro-projects; and training for women in productive activities. Its credit groups were the first ones to be absorbed into AFC's group lending program.

4.4 Environment and Development Activities (ENDA) is the local affiliate of Dakar-based NGO having two functional divisions, i.e. the Environment Resource Management Division (ERMD) and the Small Grains Division (SGD). ERMD promotes communal management of natural resources as well as carrying out detailed baseline research to establish existing resources and current utilization practices. Working in conjunction with other NGOs, ERMD has produced a useful data-base on CA resources in Zimbabwe, particularly concerning woodland resources and fuelwood use by communal households. A start has also been made in implementing afforestation programs in CAs in the Midlands province. SGD promotes the adoption of small grains in the drier CAs in NRs IV and V through a seed multiplication program. SGD also provides processing technology for the small grains to CA farmers through credit-supported small enterprises development program. ENDA also has substantial experience with participatory community development. Their approach includes an identification and a self-diagnosis phase, with workshops for preparation, in intermediary phases, and for finalization. The approach has a more technical focus than that of several other NGOs, with strong experiences on fertility management.

4.5 Natural Farming Network (NFN) covers 12 NGOs working in the field of sustainable agriculture, with a total of 250 personnel. Most of the activities are on training and extension. NFN aims at developing a counter movement towards the conventional type of agriculture, and get involved in training at the agricultural colleges. There have been fruitful contacts with the university. Approaches on Participatory Rural Appraisal are being developed. Practical experience is with permaculture mainly. Experience is being built up on participatory planning procedures.

4.6 International Union for Conservation of Nature (IUCN) has developed a wealth of information and experiences on natural resources management, and is appreciated as an independent body for organizing workshops and for monitoring and evaluation of projects. IUCN assisted in convening a scoping workshop to review the environmental problems of the save catchment and facilitate the development of an action plan to rehabilitate and monitor development in the catchment. IUCN would be responsible for management, monitoring and evaluation, and personnel recruitment of the community based catchment rehabilitation and development program.

Source: South-Eastern Dry Areas Project, Appraisal Report, January 1996, IFAD (International Fund for Agricultural Development)

Table 4 Proposed Programs for Strengthening Agricultural Support Services under the Project - 1/2

Program	Program Descriptions	Location,		Program Components & Cost (Z\$ 1,000)	Responsible Agency
		Target Area / Group,	Program Requirements		
I. Establishment of Irrigated Agriculture Extension Centers (IAECs)					
1-1. Establishment of IAEC, Seke	<ul style="list-style-type: none"> - Establishment of IAEC in the proposed irrigated area of the Seke dam, the right bank of the Munyati River area of the Seke dam - To establish a nucleus place for irrigated agricultural extension - To establish an office/place to accommodate field extension officers and a place for farmer training & meeting 	In the proposed irrigated area of the Seke dam	IAEC Building (300 m ²) (4 office rooms, 1 lecture room, 1 lecture/meeting, 2 stores) Generator & electricity supply Water supply facility Training equipment Office facilities & equipment	1 unit 5,400.0 1 set 400.0 1 set 760.0 1 set 300.0 1 set 200.0 Program Cost 7,060.0	LMRBA
1-2. Establishment of IAEC, Nyarupakwe	<ul style="list-style-type: none"> - Establishment of IAEC in the Nyarupakwe Pilot Project Area by expanding AEC established under the Pilot Project. - To establish a nucleus place for irrigated agricultural extension - To establish an office/place to accommodate field extension officers and a place for farmer training & meeting 	In the Nyarupakwe Pilot Project Area	IAEC Building (150 m ²) (1 office room, 1 lecture/meeting room, 1 store) Generator & electricity supply Water supply facility Training equipment Office facilities & equipment	1 unit 2,700.0 1 set 250.0 1 set 760.0 1 set 150.0 1 set 100.0 Program Cost 3,960.0	LMRBA
2. Adaptive Trials	<ul style="list-style-type: none"> - Adaptive trials on variety, crops, cultivation method, irrigation methods, water management, range improvement etc. - To test field adaptability of technologies developed by research institutions 	Crop production: 1 trial site per 1,000 ha of irrigated areas in common & resettlement areas Trial for 3 seasons Range improvement (1 ha 1st year 1 trial site per ward Trial for 3 years	Crop Production(cost per trial/season): Inputs/material costs Operation & supervision costs Range improvement(cost per year/ha): 1st year Inputs/material costs Operation & supervision costs 2nd & 3rd year	1 set 9.0 1 set 17.7 Program Cost 26.7 1 set 12.8 1 set 20.3 Program Cost 33.1 Program Cost 19.0	LMRBA/ DR&SS/ AGRITEX
3. Extension Programs					
3-1. Field Programs					
Small-scale Demonstrations	<ul style="list-style-type: none"> - Demonstration on: - New crops & variety - Recommended practices, fertilization etc. - Irrigation method & water management 	Selected farmer fields	Demonstration (1.0 ha) Demonstration (0.5 ha)	1 unit 20.5 1 unit 20.5	LMRBA/ AGRITEX
Vegetables: 1.0 ha					
Vegetables: 0.5 ha					
Large-scale Demonstrations (25 ha)	- Demonstration on water management at out-let committee block	At out-let committee block	Demonstration (25 ha)	1 unit 134.0	LMRBA/ AGRITEX

Table 4 Proposed Programs for Strengthening Agricultural Support Services under the Project - 2/2

Program	Program Descriptions	Location,		Program Components & Cost (Z\$ 1,000)	Responsible Agency	
		Target Area / Group,	Program Requirements			
3. Extension Programs - continued						
3-2. Farmer Training Programs	- Farmer training course on special subjects on farm; Representative of WUAs practices, water management, group dynamics & farmer organization, range management etc. (1 day/4 hours; 25 farmers/course) (3 days/12 hours; 25 farmers/course)	1 day course: Trainers cost (district staff) Field operation allowances Materials & miscellaneous	1 staff 1 staff i.s.	1.2 0.3 0.3	LMRBA/ AGRITEX	
		3 days course: Trainers cost (province staff) Trainers cost (district staff) Materials & miscellaneous	3 staff 3 staff i.s.	5.1 3.6 2.8		
			Program Cost	11.5		
3-3. Study Tour	- Study tour to advanced irrigation scheme & farming areas, marketing facilities etc.	Travelling costs Trainers cost Subsistence Allowance Materials & miscellaneous	25 person 3 staffs 26 person i.s.	6.0 4.1 3.9 2.8	LMRBA/ AGRITEX	
			Program Cost	16.8		
4. WUA/IMC Formation Guidance	- Supporting formation of WUA & IMC through Awareness program - WUA/IMC formation guidance - Workshops for formation of WUA/IMC - "Learning by Doing" under Project Office support - Study tour of representatives of the WUA - To support formation and establishment of WUA & IMC at tertiary unit level	Beneficiary groups of irrigation development (1 WUA/100ha) In total of 145 WUAs in communal & resettlement area	Per WUA Guidance: Awareness program WUA/IMC formation guidance Workshop (1 day) Study tour	1 time 1 time 3 times 1 tour	0.7 1.3 2.1 16.8	LMRBA/ AGRITEX
			Program Cost	20.9		
5. Farmer Organizations Formation Guid.	- Supporting strengthening/formation of farmers groups of grazing area development pilot scheme	Beneficiary groups of 10 project related target ward (10 beneficiary groups) Farmer to farmer guidance Strengthening guidance (1 day) Formation guidance Workshop (1 day)	Per Formation Guidance: Awareness program Farmer to farmer guidance Strengthening guidance (1 day) Formation guidance Workshop (1 day)	1 time 1 time 1 time 1 time	0.7 0.7 0.7 0.7	LMRBA/ AGRITEX
			Program Cost	2.8		

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

Table 5 Estimated Costs for Strengthening Agricultural Support Services

Program	Unit Rate (Z\$000)	Quantity	Program Cost (Z\$000)	Implementation Agency
1. Establishment of IAECs (Irrigated Agriculture Extension Centers)				
1-1. Establishment of IAEC, Seke	7,060	1	7,060	LMRBA
1-2. Establishment of IAEC, Nyarupakwe	3,960	1	3,960	
Establishment of IAECs Total			11,020	
2. Adaptive Trials				
1-1. Crop Production	26.7	45	1,202	LMRBA/DR&SS /AGRITEX
1-2. Range Improvement	71.1	10	711	
Adaptive Trials Total			1,913	
3. Extension Programs				
3-1. Field Programs				LMRBA/ AGRITEX
Small-scale Demonstrations	20.5	90	1,845	
Large-scale Demonstrations (25 ha)	134.0	20	2,680	
Field Programs Total			4,525	
3-2. Farmer Training Programs				
1 Day Course	1.8	50	90	
3 Days Course	11.5	50	575	
Farmer Training Programs Total			665	
3-3. Study Tour	16.8	25	420	
Extension Programs Total			5,610	
4. WUA/IMC Formation Guidance	20.9	145	3,031	LMRBA/ AGRITEX
5. Farmer Organizations Formation Guidance	2.8	80	224	LMRBA/ AGRITEX
Overall Program Costs			21,797	

Table 6 Cost Schedules for Strengthening Agricultural Support Services / Kudu

Program	Unit Rate (Z\$000)	Items	Year					Total
			1st	2nd	3rd	4th	5th	
1. Establishment of IAECs (Irrigated Agriculture Extension Centers)								
1-1. Establishment of IAEC, Seke		Schedule						
		O'ty	1					1
	7,060	Amount	7,060					7,060
1-2. Establishment of IAEC, Nyarupakwe		Schedule						
		O'ty	1					1
	3,960	Amount	3,960					3,960
Establishment of IAECs Total		Amount	11,020					11,020
2. Adaptive Trials								
1-1. Crop Production		Schedule						
		O'ty	5	15	15	10		45
	26.7	Amount	133.5	400.5	400.5	267.0		1,201.5
1-2. Range Improvement		Schedule						
	1st year: 33.1	O'ty		5	10	10	5	30
	2nd & 3rd year: 19.0	Amount		165.5	260.5	190	95.0	711.0
Adaptive Trials Total		Amount	133.5	566.0	661.0	457.0	95.0	1,912.5
3. Extension Programs								
3-1. Field Programs								
Small-scale Demonstrations		Schedule						
		O'ty	10	20	20	20	20	90
	20.5	Amount	205.0	410.0	410.0	410.0	410.0	1,845.0
Large-scale Demonstrations (25 ha)		Schedule						
		O'ty		5	5	5	5	20
	134.0	Amount		670.0	670.0	670.0	670.0	2,680.0
Field Programs Total		Amount	205.0	1,080.0	1,080.0	1,080.0	1,080.0	4,525.0
3-2. Farmer Training Programs								
1 Day Course		Schedule						
		O'ty	10	10	10	10	10	50
	1.8	Amount	18.0	18.0	18.0	18.0	18.0	90.0
3 Days Course		Schedule						
		O'ty	10	10	10	10	10	50
	11.5	Amount	115.0	115.0	115.0	115.0	115.0	575.0
Farmer Training Programs Total		Amount	133.0	133.0	133.0	133.0	133.0	665.0
3-3. Study Tour		Schedule						
		O'ty	5	5	5	5	5	25
	16.8	Amount	84.0	84.0	84.0	84.0	84.0	420.0
Extension Programs Total		Amount	422.0	1,297.0	1,297.0	1,297.0	1,297.0	5,610.0
4. WUA/IMC Formation Guidance								
		Schedule						
		O'ty	45	50	50			145
	20.9	Amount	940.5	1,045.0	1,045.0			3,030.5
5. Farmer Organizations Formation Guidance								
		Schedule						
		O'ty		20	20	20	20	80
	2.8	Amount		56.0	56.0	56.0	56.0	224.0
Overall Program Costs		Amount	12,516.0	2,964.0	3,059.0	1,810.0	1,448.0	21,797.0

Table 7 Agricultural Extension System of AGRITEX in the Pilot Project Area

Items	Activities
<p>1. Program Formulation</p>	<p>FAEO Preparation of Annual Program Plan (APP) for FAEO service area in early August through participatory approach (farmer-extension worker meeting)</p> <p style="text-align: center;">↓</p> <p>District Office Preparation of District Annual Program Plan (APP) by reviewing APP prepared by FAEO in end of August</p> <p style="text-align: center;">↓</p> <p>Province Office Preparation of Provincial Annual Program Plan (APP) by reviewing APP prepared by District Office (August/September)</p> <p style="text-align: center;">↓</p> <p>National Preparation of National Annual Program Plan (APP) by reviewing APP prepared by Province Office (September)</p>
<p>2. Implementation Schedule of APP</p>	<p>District Office Review of annual implementation schedule of District APP in December</p> <p style="text-align: center;">↓</p> <p>FAEO Review of annual implementation schedule of APP in service area in December</p>
<p>3. Extension System</p>	<p>Approach: group/participatory approach; participatory planning of APP Service Area: ward/villages (12 - 19 villages) No. of Groups per FAEO: 24 farmer groups (2 - 4 groups/village) Ext. System: Participatory & change partner method MFT (target 10 farmers/FAEO/year) Field days/field guidance to groups (once a month in general) Distribution of extension materials/pamphlet Field demonstration Discussion, workshop on Annual Program Planning</p>
<p>4. Master Farmer Training (MFT)</p>	<p><u>Ordinary Master Farmer Training</u> Target Group: Selected positive farmers Period: For 2 years Subjects: Crop, livestock, soil conservation, home management etc. Volume: 24 lessons in 2 years Test: 1st year --- performance tests of practices/fields/animals etc. 2nd year --- performance tests of practices/fields/animals etc. Certified: Certified as Ordinary Master Farmer by provincial AGRITEX staff for master farmer training Benefits: Priority in resettlement program & higher credit accessibility</p> <p><u>Advanced Master Farmer Training</u> Target Group: Ordinary Master Farmer Period: For 1 year Subjects: Crop, livestock, soil conservation, home management etc. Volume: 24 lessons in 1 year Test: Written test at the end of training Certified: Certified as Advanced Master Farmer by provincial AGRITEX staff for master farmer training</p>
<p>5. No. of Ordinary MFs</p>	<p>District: No. of farmers qualified as MFs from 1994 to 1998 3,284 farmers (male 2,205 & female 1,079)</p>
<p>6. Advanced MFs</p>	<p>No advanced MFs in the Pilot Project Area</p>
<p>7. Staff Training</p>	<p><u>Compulsory & Optional Course</u> Target Group: All AGRITEX staffs Period: 1-2 weeks, in general Subjects: Depending/on need basis Timing: Throughout the year Place: At head office or provincial office</p> <p><u>Refresher Course</u> Target Group: Refresher training of AES/AEW Period: 1 day, in general Subjects: Depending/on need basis Place: At district office Timing: Throughout the year Frequency: Once/month(currently not being held)</p>

Table 8 Extension Staffs and Their Activities in the Pilot Project Area

Extension Staffs	Service Areas / Kraal (Village)	Age	Sex	Experience (years)	Former Title	Grade Certificate	Specialized in	Transport Means	Major Activities	Constraints / Problems
FAEO - A	12 villages in all Within Project Area 6 villages - Marumbe - Makarichi - Sekeme - Jeffrey - Komboni - Gunde	49	Male	20 years	As FAEO 20 years	AEW	General	Motorcycle (AGRITEX)	Annual Programs in 1999/2000 - Ordinal MFT: 10 farmers - Advanced MFT: 15 farmers - Farming Competition: 47 farmers - Vegetable Group: 49 farmers - Beef Management: 51 farmers - Poultry Group: 25 farmers Other Activities - Dam Repair (Nyamachenii; plan) - Goat Project (plan) - Vegetable garden (plan)	- Insufficiency of operation funds - Transportation - Shortage of training materials - District staff guidance: once/month - No provincial staff guidance
FAEO - B	19 villages in all Within Project Area 4 villages - Muchina - Muza - Murandu - Magonyo	58	Male	7 years	As FAEO 25 years	AEW	General	Bicycle (own)	Annual Programs in 1999/2000 - Ordinal MFT: 24 farmers - Farming Competition: 30 farmers - Cattle fattening Group: 18 farmers - Oil Seed Prod. Group: 24 farmers - Dairy Farming Group: 4 farmers Other Activities - Fertiliser Demonstration (1 acre) - York Making - Fruit Growing	- No supply of subsistence allowance - Transportation - High input costs
FAEO - C	5 villages - Hlamba - Mahvondo - Mabarani - Mujubeki - Mateuro	58	Male	7 years		AEW	General	Bicycle (own)		
VEA	70 villages in all Within Project Area 15 villages (whole Project Area)	57	Male	10 months As VEA 15 years				Bicycle (own)	Major activities & programs - Inspection & dipping - Disease diagnosis & treatment - Genetic resources improvement - Farmer training	- Shortage of dip tank - Transportation - Insufficient equipment

Source: Interview survey with extension staffs

Table 9 Coverage of Extension/Support Services in the Pilot Project Area

Inquiry	AGRITEX	VET	ZFU	Agribank	COTCO
1. Farmers Understanding of Availability of Services (%)					
- Proportion of respondents know the availability	80	82	92	54	99
2. Past Experiences in Receiving Services (%)					
- Received Services Every Year	25	60	58	27	93
- Received Services 2 to 3 Times in Last 5 Years	6	10	2	3	1
- Received Services Once in Last 5 Years	9	5	5	7	0
- Never Received Services in Last 5 Years	60	25	45	63	6
	100	100	100	100	100

Source: Survey on Socio-economic Environment conducted by the JICA Study Team, Feb. - April, 2000

Table 10 Terms and Conditions of Main Credit Schemes Operated in the Pilot Project Area

Scheme & Types	Credit Institution	Interest/Mark-up	Terms & Conditions	Performance 1/
Group Lending Credit Scheme	Agribank	62 %	Loan Amount: No ceiling amount	Beneficiary in 1999
- Group loan to small farmers	Gokwe Branch	} 66 % per ann.	Loan Period: - Short term: < 12 months - Medium term: 2 - 5 years - Long term: 5 - 20 years	- 167 groups - 2,000 members
			Eligibility: Elder than 19 years old Not a defaulter Collateral: Basically not needed Other Conditions: Encouraging to include women in a group	Recovery Rate: 95 %
	Rural Banking Office, Sanyati			Beneficiary in 1999 - 103 groups - 1,452 members (male:1089/female:363)
Group Lending Credit Scheme	COTCO	25 %	Group: 20 - 50 cotton growers	Beneficiary in 1999
- Group loan to registered cotton growers, supplying farm inputs	Gokwe Ginnery	per season (mark-up)	Loan Amount: Z\$5,000-12,000/ha Loan Period: about 6 months	- 150 groups
- Individual responsibility & not group guarantee system			Eligibility: Registered as a cotton grower by COTCO More than 2 seasons of cotton cultivation	Recovery Rate: 96 %
- When crop failure, rescheduled to next season			Loan: Basically in kinds; seed, fertiliser, chemical, bail etc.	
Credit Scheme	Umnati Producers Coop. Society	17 % per season (mark-up)	Loan Period: about 6 months	Beneficiary in 1999 - 300 - 400 members
- Credit scheme to members for purchasing farm inputs & farm implements etc.				

1/: Performance - performance in Gokwe South District

Source: Agribank Gokwe South Branch, COTCO Gokwe Ginnery & Umnati Producers Cooperative Society Ltd.

Table 11 Farmers Organizations in and around the Pilot Project Area

Name	Type / Features	Organised under / by "Social Welfare Act"	Related Agencies	Location/ Coverage	Established in		Membership		Functions/Activities /Performance in 1999 & etc.	
					1991	1991	Male	Female		Total
ZFU, Gokwe district office	- Union of farmers association - Apex organization of farmers association	"Social Welfare Act"	MOLA	Gokwe	10,000	4,000	14,000	(membership in district)	- To support members in: - ensuring a better package - negotiating for producers prices - coordinating marketing facilities - coordinating transport arrangement - working for sales tax exemption - facilitating purchase of implement - providing technical services - Member fee: Z\$50/year	
Chisina I Farmers Association	- Federation of farmers clubs at ward level - Federation of 16 clubs/villages	"Social Welfare Act"	MOLA	Nyarupakwe						
Marandu Farmers Club				Murandu						
Ganyungu Farmers Club	- Village level farmers association	"Social Welfare Act"	MOLA	Ganyungu						
Muchina Farmers Club	- Grass root level organization of ZFU			Muchina						
Umniani Producers Cooperatives Society Ltd.	Producers cooperatives Society	"Cooperatives Society Act" No. 6 of 1990	MNAECC	Nyarupakwe	1961		865		- Purchasing & marketing of cotton, maize, sunflower, livestock etc. - Supply of farm inputs - Provision of loan - Operation of cooperative shop - Tractor hiring/transportation services	
Lending Groups in 12 Villages	Group of cotton growers registered & organised by COTCO for group loan services provided by the firm	by support of COTCO		12 villages in Project Area	1991	1998	167	130	297	- Organised for group loan scheme provided by COTCO - Supply of seed, fertiliser, chemical, bail basically in kinds - Individual responsibility - Delivery cotton at collection points
Women's Group - Muchina Club	- Group of women farmers		AGRITEX	Muchina	1995			20	20	Gardening, poultry & sewing group
- Mahacha	- Group of women farmers		AGRITEX	Murandu Magonyo	1999			46	46	Vegetable production (demonstration) group of 2 villages
- Kuronga	- Group of women farmers		AGRITEX	Mahvondo	1997			22	22	Gardening group
- Nyamacheni Oil Seeds Group	- Group of women farmers		AGRITEX	Inter-kraals	1995			85	85	Production & selling of groundnut

Source: Interview with relevant institutions, extension staff & Survey on Socio-economic Environment

Table 12 Proposed Programs for Strengthening Agricultural Support Services under the Pilot Project - 1/2

Program	Program Descriptions	Location or Target Area / Group	Program Cost (Z\$ 1,000)	Volume	Cost	Implementation Agency
I. Strengthening of Agricultural Extension Services						
1. Field Programs: Crop Production	- Adaptability tests, technology development & techn. Primary irrigated area & its beneficiaries					
1) Demonstrations cum Trials	- Demonstration cum trials on: - New crops & variety - Recommended practices, fertilization, pre planting - Irrigation method & water management					
Field crops: 1.0 ha				1 unit	20.5	AGRITEX
Vegetables: 0.5 ha				1 unit	20.5	
				1 unit	11.5	
2) Training cum Field Guidance	- Training & periodical guidance by a FAEO experienced in irrigated agriculture to all farmer groups in irrigated area on water management, farming practices etc.	Farmer groups in irrigated area				
				2 times	20.8	AGRITEX
				3 times	5.1	
				1 staff	3.0	
				1.s.	5.8	
				Program Cost	34.7	
2. Field Programs: Livestock						
1) Demonstrations	- Demonstration on improved technologies on animal husbandry - Demonstration on: - Beef fattening (15 heads/unit) - Pasture & veld establishment (1 ha/unit) - Agro-forestry Development (2 ha)	Selected farmers groups in the Project Area				
				1 set	21.0	AGRITEX
				1 set	1.5	
				5 times	5.0	
				1.s.	4.5	
				Program Cost	32.0	
						AGRITEX
				1 times	1.6	
				1 unit	12.0	
				1 unit	0.8	
				3 times	3.0	
				1.s.	4.6	
				Program Cost	22.0	
						AGRITEX
				2 ha	50.0	
				3 times	3.0	
				1.s.	7.0	
				Program Cost	60.0	
3. Farmer Training Programs: Crop						
1) Agronomy	- Farmer training course on special subjects on crop production on need & demand basis; (1 day/4 hours; 25 farmers/course) - Recommended practices, pest control, chemical use, farm mechanization etc.	Selected farmers groups in the Project Area				
				1 staff	1.2	AGRITEX
				1 staff	0.3	
				1.s.	0.3	
				Program Cost	1.8	
4. Farmer Training Programs: Livestock						
1) Animal Husbandry	- Farmer training course on special subjects on animal husbandry on need & demand basis; (1 day/4 hours; 25 farmers/course) - Herd management, herd health program, veld & pasture management, animal nutrition	Selected farmers groups in the Project Area				
				1 staff	1.2	AGRITEX
				1 staff	0.3	
				1.s.	0.3	
				Program Cost	1.8	

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

Table 12 Proposed Programs for Strengthening Agricultural Support Services under the Pilot Project - 2/2

Program	Program Descriptions	Location or Target Area / Group	Program Cost (Z\$ 1,000)	Implementation Agency
I. Strengthening of Agricultural Extension Services - continued				
4. Farmer Training Programs: Livestock - continued	- Farmer training course on special subjects on animal health on need & demand basis; (1 day/4 hours; 25 farmers/course)	Selected farmers groups in the Project Area	Trainers cost (district staff) Field operation allowances Materials & miscellaneous	1 staff 1.2 1 staff 0.3 l.s. 0.3 Program Cost 1.8
2) Animal Health	- Herd health program, genetic improvement			
5. Farmer Training Programs: Organization & Others				
1) Organization	- Farmer training course on organizational aspects; [3 days (12 hours); 25 farmers/course]	Selected farmers groups in the Project Area	Trainers cost (province staff) Trainers cost (district staff) Trainers cost (NGO) Materials & miscellaneous	2 staff 3.4 2 staff 2.4 2 man-day 8.0 l.s. 2.8 Program Cost 16.6
2) Farm Management	- Leadership course, group dynamics, formation of group/organization etc. - Farmer training course on farm management; [3 days (12 hours); 25 farmers/course]	Selected farmers groups in the Project Area	Trainers cost (province staff) Trainers cost (district staff) Materials & miscellaneous	3 staff 5.1 3 staff 3.6 l.s. 1.7 Program Cost 10.4
3) Study Tour	- Record keeping, marketing, financial planning & management etc. - Study tour to advanced irrigation scheme, farming areas & livestock areas, marketing facilities etc. (1 day; 25 farmers/tour)	Selected farmers groups in the Project Area	Travelling costs Trainers cost Subsistence Allowance Materials & miscellaneous	25 persons 6.0 3 staffs 4.1 26 person 3.9 l.s. 2.8 Program Cost 16.8
6. Workshop	- Workshop for seasonal evaluation & annual program planning - Workshop for innovation dissemination (1 day; 50 farmers/workshop)	- FAEOs - Representatives of farmers groups - Selected farmers in the Project Area	Workshop (1 day)	1 time 8.2 AGRITEK / PMC
7. Field Guidance on Formation / Establishment of Farmers Organizations				
	- Strengthening of field guidance & support on formation or strengthening of farmers organizations/groups	- Farmer groups in the Project Area	Field operation allowances (per year)	1 FAEO 30.0 AGRITEK / Project Office
8. Guidance & Support of Senior Staff				
	- Strengthening of guidance/support on group activities - Periodical visits of senior staff for strengthening guidance & support to field staff (1 day by provincial SMS)	- FAEOs - Representatives of farmer groups	Field supervision cost	1 visit 1.7 AGRITEK
II. Improvement of Marketing System				
1. Development of Open Market	- Construction of an open market Marketplace, loading bay & market facilities	Nyarupakwe BC	Market stalls Loading bay Water & electricity supply Drain & waste disposal Toilet, fence	4 stalls 260.0 1 unit 80.0 1 set 200.0 1 set 100.0 1 unit 120.0 Program Cost 760.0

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

Table 13 Estimated Costs for Strengthening Agricultural Support Services

Work Items/Plans	Unit Rate (Z\$000)	Quantity	Program Costs (Z\$000)	Implementation Agency
I. Strengthening Agricultural Extension Services				
1. Field Programs: Crop Production				
1) Demonstrations cum Trials				
- Vegetables/High Value Crops (0.1 ha)	20.5	5	102.5	AGRITEX
- Field Crops (1.0 ha)	20.5	5	102.5	
- Water Management (5 ha)	11.5	3	34.5	
2) Training cum Field Guidance				
- Training cum Field Guidance	34.7	9	312.3	
Program Total			551.8	
2. Field Programs: Livestock				
1) Demonstrations				
- Beef Fattening	32.0	3.0	96.0	AGRITEX
- Pasture & Veld Establishment	22.0	4.0	88.0	
- Agro-forestry Development	60.0	1.0	60.0	
Program Total			244.0	
3. Farmer Training Programs: Crop				
1) Agronomy				
- Vegetables/High Value Crops	1.8	3	5.4	AGRITEX
- Field Crops	1.8	3	5.4	
- Irrigation & Water Management	1.8	6	10.8	
Program Total			21.6	
4. Farmer Training Programs: Livestock				
1) Animal Husbandry	1.8	3	5.4	AGRITEX
2) Animal Health	1.8	3	5.4	VET
Program Total			10.8	
5. Farmer Training Programs: Organization/Others				
1) Organization	16.6	5	83.0	AGRITEX
2) Farm Management	10.4	5	52.0	
3) Study Tour	16.8	5	84.0	
Program Total			219.0	
6. Field Guidance on Formation/Establishment of Farmers Organizations 1/				AGRITEX/ Project Office
7. Guidance & Support of Senior Staff 2/				AGRITEX
Costs for Strengthening Agricultural Extension Services			1,047.2	
II. Improvement of Marketing System				
Development of Open Market	760.0	1.0	760.0	RDC
Overall Costs for Strengthening Agr. Support Services			1,807.2	

1/: Routine activities of extension & Project Office; costs not allocated under strengthening agricultural support services

2/: Costs accommodated in Institutional Strengthening Plan

Table 14 Implementation Schedule for Strengthening Agricultural Support Services / Pilot

Work Items/Plans	Implementation Agency	Items	Year			
			1st	2nd	3rd	
Surface Water Development Irrigation Development Agricultural Development Livestock Development	Project Office	Schedule	---			
	AGRITEX / Project Office	Schedule	---	---	---	
		Schedule	---	---	---	
		Schedule	---	---	---	
I. Strengthening of Agricultural Extension Services						
1. Field Programs: Crop Production						
1) Demonstrations cum Trials						
- Vegetables/High Value Crops (0.1 ha)	AGRITEX	Schedule	---	---	---	
		Qty(unit)	1	2	2	
- Field Crops (1.0 ha)		Schedule	---	---	---	
		Qty(unit)	1	2	2	
- Water Management (5 ha)		Schedule	---	---	---	
		Qty(unit)	1	2		
2) Training cum Field Guidance						
- Training cum Field Guidance		Schedule	---	---	---	
		Qty(unit)	3	3	3	
2. Field Programs: Livestock						
1) Demonstrations						
- Beef Fattening	AGRITEX	Schedule	---	---	---	
		Qty(unit)	1	1	1	
- Pasture & Veld Establishment		Schedule	---	---	---	
		Qty(unit)		2	2	
- Agro-forestry Development		Schedule	---	---	---	
		Qty(unit)		1		
3. Farmer Training Programs: Crop						
1) Agronomy						
- Vegetables/High Value Crops	AGRITEX	Schedule	---	---	---	
		Qty(unit)	1	1	1	
- Field Crops		Schedule	---	---	---	
		Qty(unit)	1	1	1	
- Irrigation & Water Management		Schedule	---	---	---	
		Qty(unit)	3	3		
4. Farmer Training Programs: Livestock						
1) Animal Husbandry						
	AGRITEX	Schedule	---	---	---	
		Qty(unit)	1	1	1	
2) Animal Health						
	VET	Schedule	---	---	---	
		Qty(unit)	1	1	1	
5. Farmer Training Programs: Organization/Others						
1) Organization						
	AGRITEX	Schedule	---	---	---	
		Qty(unit)	1	2	2	
2) Farm Management						
		Qty(unit)	1	2	2	
3) Study Tour						
		Qty(unit)	1	2	2	
6. Field Guidance on Formation/Establishment of Farmers Organizations						
		Schedule	---	---	---	
7. Guidance & Support of Senior Staff						
		Schedule	---	---	---	
II. Improvement of Marketing System						
1. Rehabilitation of Farm to Market Main Road						
	Project Office / RDC	Schedule	---	---	---	
2. Rehabilitation of Farm to Market Link Road						
		Schedule	---	---	---	
		Qty(unit)	1			
3. Development of Open Market						
III. Improvement of Credit Availability						
1. Strengthening of Farmers Organizations						
	AGRITEX / Project Office	Schedule	---	---	---	
2. Strengthening of Agricultural Extension Services						
		Schedule	---	---	---	
3. Assisting & Encouraging Credit Institutions						
		Schedule	---	---	---	

Table 15 Cost Schedule for Strengthening Agricultural Support Services / Pilot Project

Amount: Z\$ 1,000

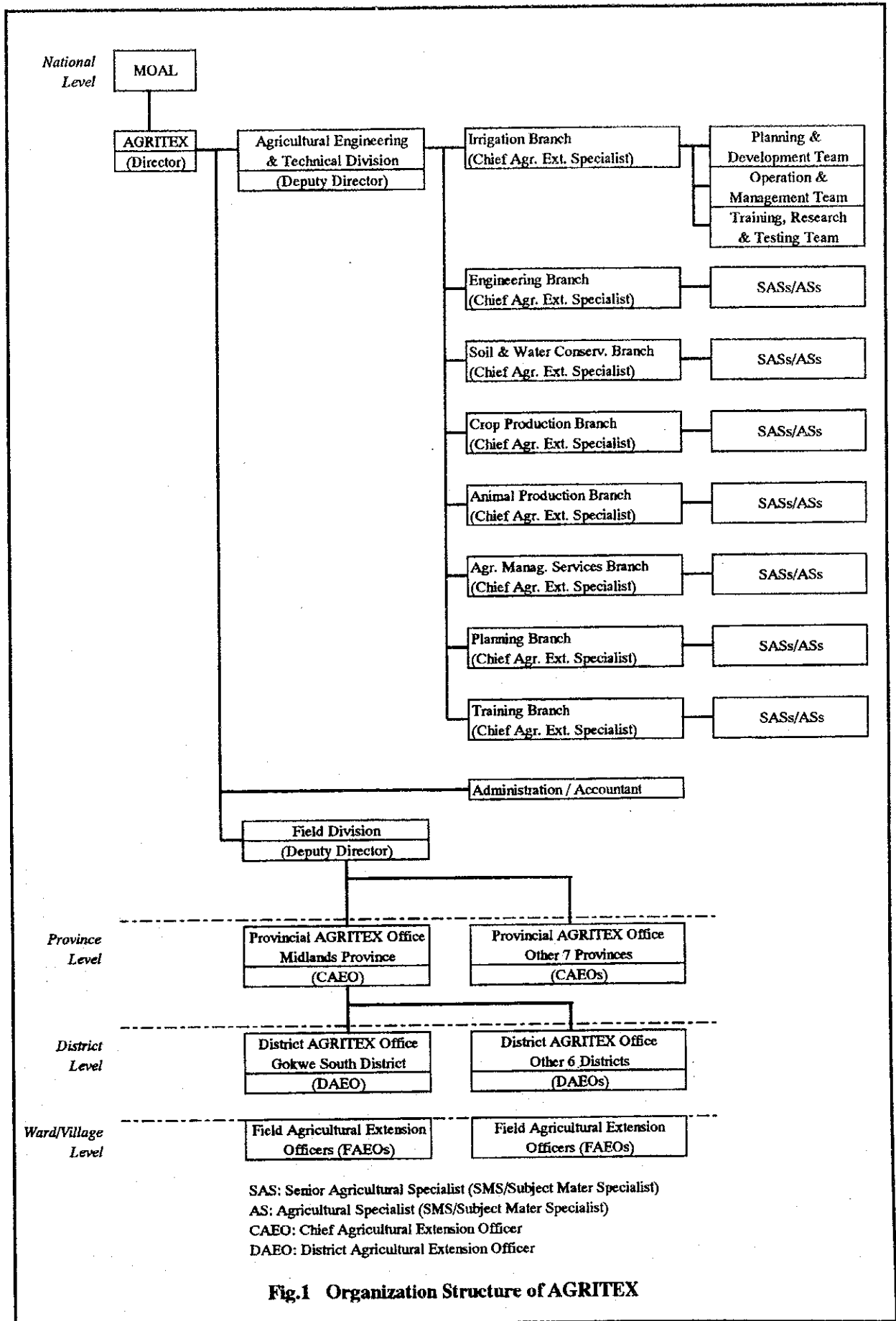
Work Items/Plans	Unit Rate (Z\$000)	Items	Year			Total
			1st	2nd	3rd	
I. Strengthening Agricultural Extension Services						
1. Field Programs: Crop Production						
1) Demonstrations cum Trials						
- Vegetables/High Value Crops (0.1 ha)	20.5	Qty	1	2	2	5
		Amount	20.5	41.0	41.0	102.5
- Field Crops (1.0 ha)	20.5	Qty	1	2	2	5
		Amount	20.5	41.0	41.0	102.5
- Water Management (5 ha)	11.5	Qty	1	2		3
		Amount	11.5	23.0		34.5
2) Training cum Field Guidance						
- Training cum Field Guidance	34.7	Qty	3	3	3	9
		Amount	104.1	104.1	104.1	312.3
Program Total		Amount	156.6	209.1	186.1	551.8
2. Field Programs: Livestock						
1) Demonstrations						
- Beef Fattening	32.0	Qty	1	1	1	3
		Amount	32.0	32.0	32.0	96.0
- Pasture & Veld Establishment	22.0	Qty		2	2	4
		Amount		44.0	44.0	88.0
- Agro-forestry Development	60.0	Qty		1		1
		Amount		60.0		60.0
Program Total		Amount		136.0	76.0	244.0
3. Farmer Training Programs: Crop						
1) Agronomy						
- Vegetables/High Value Crops	1.8	Qty	1	1	1	3
		Amount	1.8	1.8	1.8	5.4
- Field Crops	1.8	Qty	1	1	1	3
		Amount	1.8	1.8	1.8	5.4
- Irrigation & Water Management	1.8	Qty	3	3		6
		Amount	5.4	5.4		10.8
Program Total		Amount	9.0	9.0	3.6	21.6
4. Farmer Training Programs: Livestock						
1) Animal Husbandry	1.8	Qty	1	1	1	3
		Amount	1.8	1.8	1.8	5.4
2) Animal Health	1.8	Qty	1	1	1	3
		Amount	1.8	1.8	1.8	5.4
Program Total		Amount	3.6	3.6	3.6	10.8
5. Farmer Training Programs: Organization/Others						
1) Organization	16.6	Qty	1	2	2	5
		Amount	16.6	33.2	33.2	83
2) Farm Management	10.4	Qty	1	2	2	5
		Amount	10.4	20.8	20.8	52
3) Study Tour	16.8	Qty	1	2	2	5
		Amount	16.8	33.6	33.6	84.0
Program Total		Amount	43.8	87.6	87.6	219.0
6. Field Guidance on Formation/Establishment of Farmers Organizations 1/		Schedule	---	---	---	
7. Guidance & Support of Senior Staff 2/		Schedule	---	---	---	
Costs for Strengthening Agricultural Extension Services		Amount	213.0	445.3	356.9	1,047.2
II. Improvement of Marketing System						
1. Rehabilitation of Farm to Market Main Road 3/		Schedule	---	---	---	
2. Rehabilitation of Farm to Market Link Road 3/		Schedule	---	---	---	
3. Development of Open Market	760.0	Qty	1			1
		Amount	760.0			760.0
III. Improvement of Credit Availability						
1. Strengthening of Farmers Organizations 1/		Schedule	---	---	---	
2. Strengthening of Agricultural Extension Services 1		Schedule	---	---	---	
3. Assisting & Encouraging Credit Institutions 1/		Schedule	---	---	---	
Overall Costs for Strengthening Agr. Support Services		Amount	973.0	445.3	356.9	1,807.2

1/: Routine activities of extension & Project Office; costs not allocated under strengthening agricultural support services

2/: Costs accommodated in Institutional Strengthening Plan

3/: Costs accommodated in Rural Infrastructure Development

FIGURES



SAS: Senior Agricultural Specialist (SMS/Subject Mater Specialist)
 AS: Agricultural Specialist (SMS/Subject Mater Specialist)
 CAEO: Chief Agricultural Extension Officer
 DAEO: District Agricultural Extension Officer

Fig.1 Organization Structure of AGRITEX

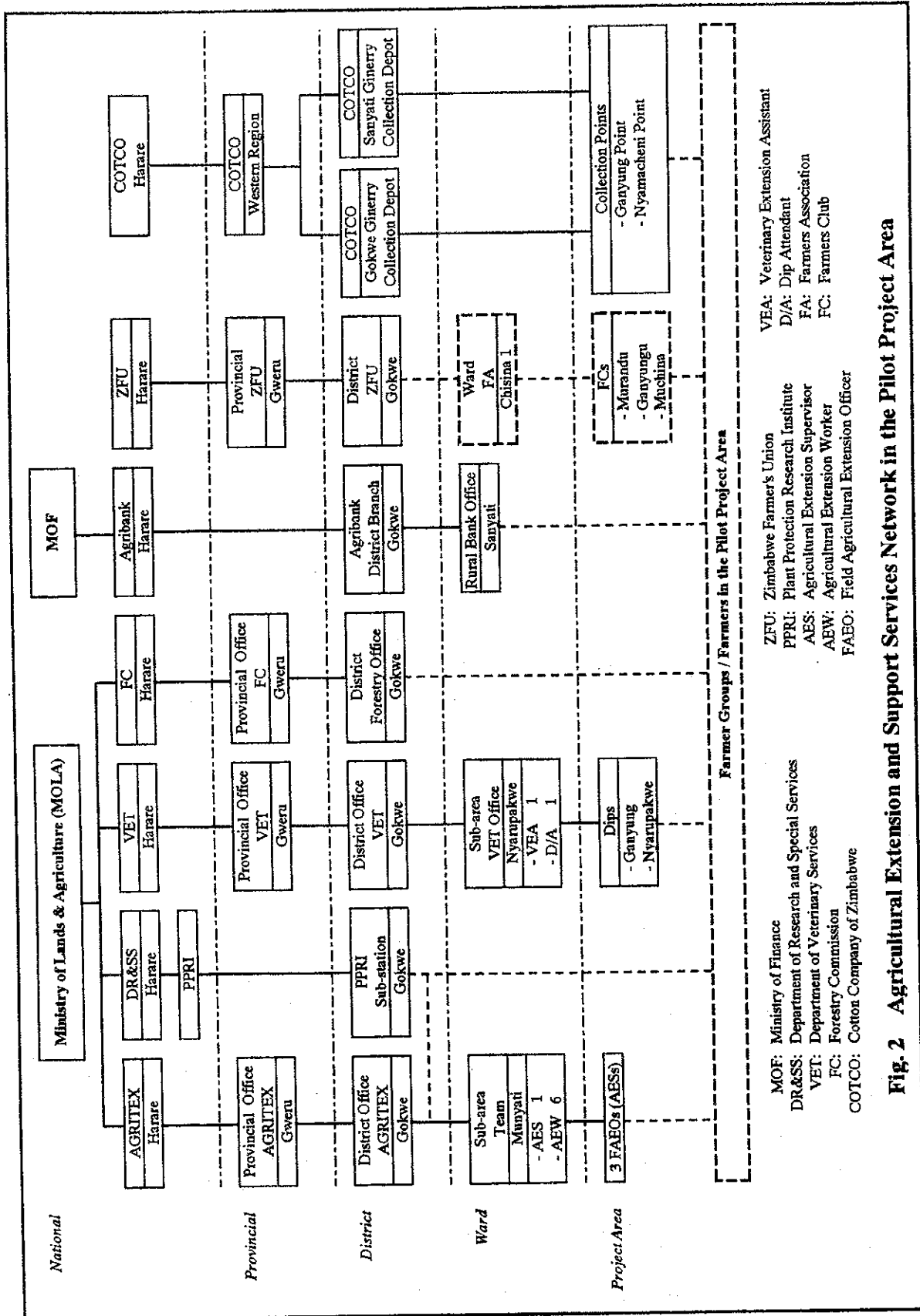


Fig. 2 Agricultural Extension and Support Services Network in the Pilot Project Area

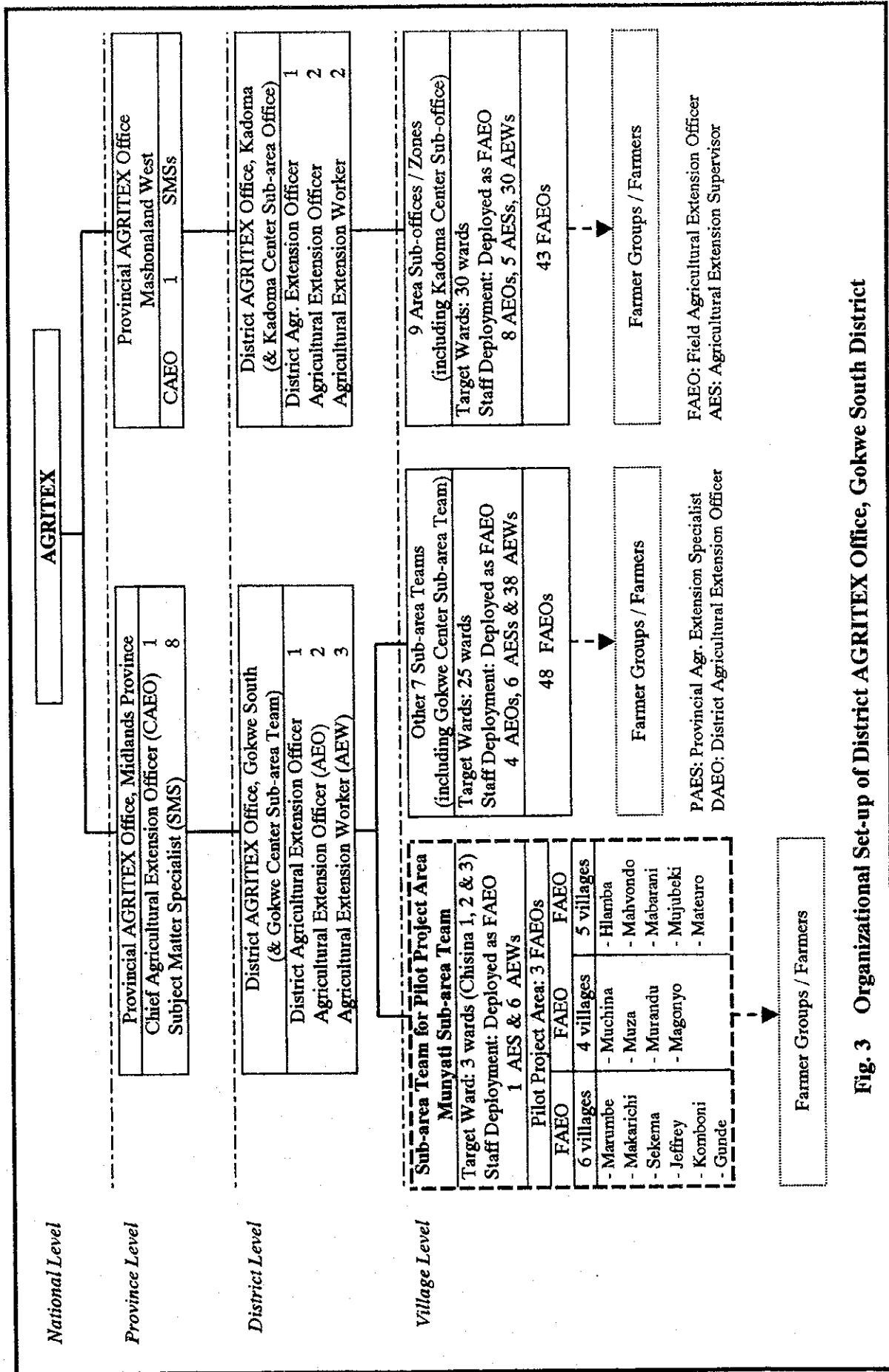
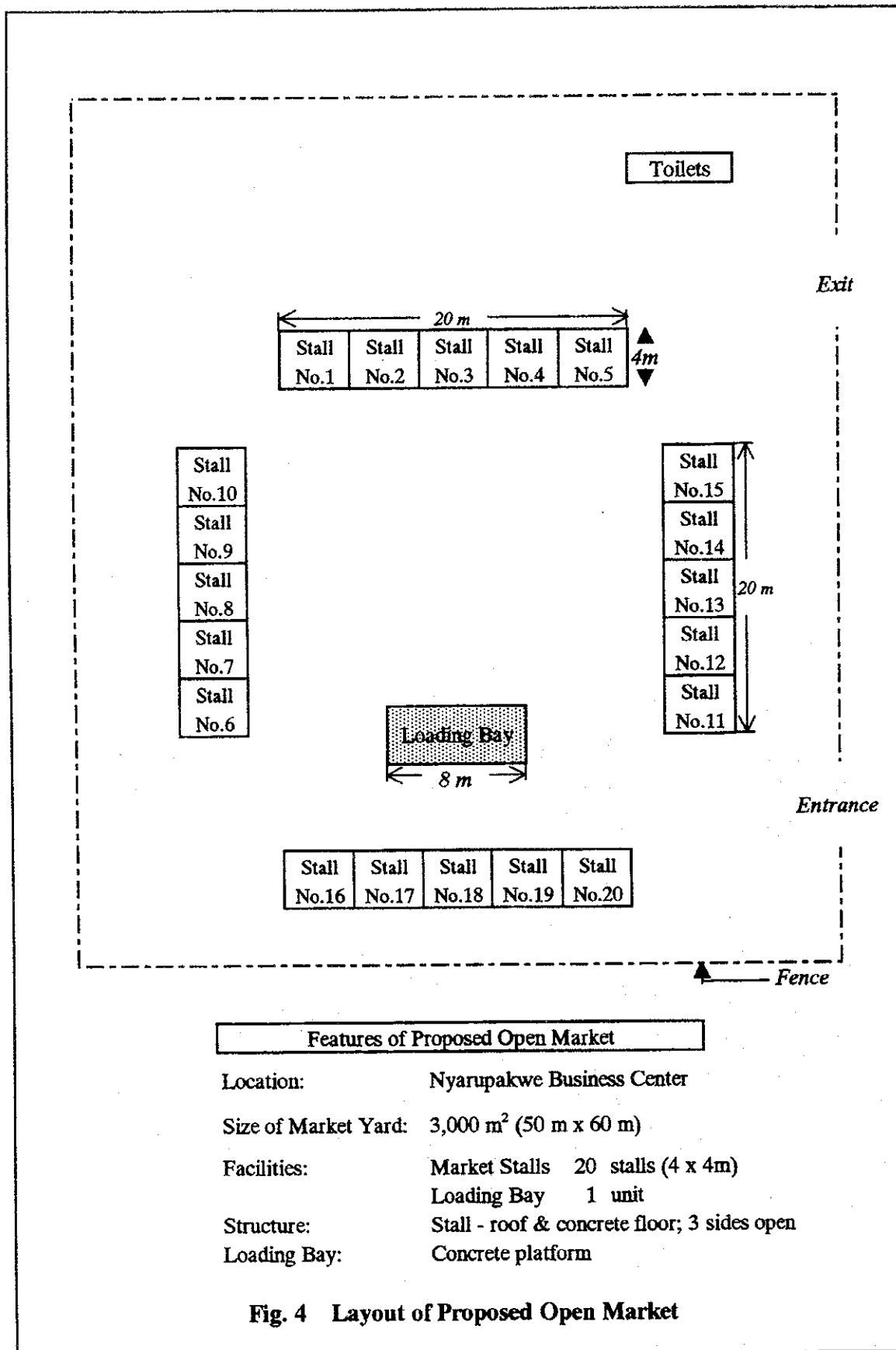


Fig. 3 Organizational Set-up of District AGRITEX Office, Gokwe South District



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