APPENDIX – XI

SOCIAL DIMENSION SURVEY

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SOCIAL DIMENSION SURVEY

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1. Identification of Local Needs

General guideline of the participatory socio-economic survey is shown in the Attachment 1. As a major part of Stage I Survey, prior to carry out the field works, key informants are selected and asked various questions in order to narrow down study area. Table 1 shows key issues, key informants and key questions for the purpose of identifying specific survey area. As a result, the area known as Nyarupakwe within Chesina I Ward has been selected as initial target survey area.

No specific project components nor its purpose was known at this stage of survey to key informants except for which it would be an agricultural development project. This is a practice imposed on the Survey Team, ITDG-Zimbabwe, in order to begin the survey without any prior information that may lead the Survey Team members pre-judging of the existing plan of Pilot Project, or prejudice the key informants with known information. This is also a way to elicit the local population's needs and demands for their daily-to-day life and economic activities purely from their points of views. Thus real needs and development demands associated to their present economic activity within the local community as a whole are possibly probed without any intentions of the project owner imposed on them.

The size of Chesina I Ward is approximately 10 km from Northwest to Southeast, and 30 km from Northeast to Southwest. It is bordered by Mudzongwe River in the north, Nyamachene River in the south, Munyati River in the east and 1,100 m contour of which it forms the edge of Mafungabusi Plateau i.e. escarpment belongs to Chesina I Ward.

Since Chesina I Ward is a part of Gokwe South District, interview survey to key informants was then held among the staff of Gokwe South District Administration. Major key informants are the staff of Gokwe South District Administration, including AGRITEX extension officers for Gokwe South District. The representatives of the following government offices have also been interviewed:

- Veterinary Services Officers;
- District Development Fund;
- Ministry of Road for Gokwe South;
- Ministry of Water for Gokwe South; and
- Gokwe Hospital.

As a result, further interview survey to key informants in Chesina I Ward was carried out in order to narrow down the focus of survey as specific as possible. Among the key informants within Chesina I Ward are the local administrative staff of Chesina I Ward such as the local councilor, AGRITEX extension officers, veterinary service officers, teachers, clinic staff, shop owners including cooperative management staff and farmers. There was no questionnaire prepared for the interview survey.

Based on the information obtained from the above key informants of district level and ward level, local needs and demands in terms of economic development known to the

administrative level or from the view points of local organizations have been roughly identified. One of the most in needs was water resources development for agricultural use including livestock rearing followed by road network for better communication and marketing, including community telephone system, supply of clinic, educational facilities and others.

There are a number of bore holes and dug-out wells for groundwater exploitation that took place in the past around Nyarupakwe River in Chesina I Ward. All of the dug-out wells are privately owned at the moment, which are found to be limiting their yield for agricultural use. A large number of villagers are relying on the well water for their drinking and cooking purposes. Some of the dug-out wells dry up during the dry season. However, the villagers manage to obtain some waters for drinking and domestic purposes from various sources. On the other hand, there has been very high demand of small scale dam construction that has been looked at as the most appropriate means to supply water for the agricultural needs of local population during the dry season.

The rivers within Chesina I Ward have been exploited one way or other in the past for impoundment of water by the local community. However, although its tributary has been exploited for water resources to some extent, the main stream of Nyarupakwe River has not been exploited for its water resources while local population within its catchment area were in need of water for their agriculture practice and livestock rearing as well as for domestic use. It is therefore the survey area was further narrowed down to the area along Nyarupakwe River, which has not been fully exploited for water supply to date.

2. Identification of Specific Administrative Units as Survey Area

Based on the roughly selected survey area of Nyarupakwe River, the Survey Team paid a visit to Nyarupakwe Business Center and asked the local administrative staff for cooperation to hold public hearing in respect of the area along Nyarupakwe River. As a result, the following villages as specific administrative units subject to survey for local needs and demands have been selected:

- Marumbe
- Muchina
- Makarichi
- Muza
- Sekema
- Murandu
- Hlamba
- Magonyo
- Jeffrey

3. Preparation of Public Hearing

Total number of households of the villages initially selected for survey is 706 and the number of population is 4,515 as are shown in the Table 2. At full attendance to a public hearing, 1,412 people are expected provided both male and female member of each household attend the meeting. With the expected rate of attendance between 30 % and 50 %, the number of people who would attend the meeting could become 420 - 700. Thus it would be sensible to divide the survey area into two or three sections in order to manage public hearing meeting so as to avoid overly large number of attendance. The survey area was therefore subdivided into two sections in view of the limited survey period, staff and facilities.

4. Subdivision of Survey Area

4.1 Survey Area - A

Public Hearing meeting was held on February 17th, Thursday, 2000 for Marumbe, Muchina, Makarichi, Muza, and Sekema village. These villages are grouped as "Survey Area - A" as is shown in the Fig. 1. They are generally located in the upper half of Nyarupakwe River. The venue of the public hearing followed by group interview as PRA exercise was Chiumbu School located within Muza approximately 3 km to southwest of Nyarupakwe Business Center.

Attendance was growing up in the afternoon comparing to the morning. Some were leaving in the middle of meeting and some attended later. As a result, 1,073 people attended the meeting. This is mainly due to the fact that Thursday is a off-working day for the local community. There were only three people attended the meeting from Sekema village and they opted to join Muza village for wealth ranking during the PRA exercise. As a result, more than three people of husband, wife and adult child of each household from the Survey Area - A attended the meeting. This is considered as very significant rate of attendance.

4.2 Survey Area - B

Public Hearing meeting was held on February 25th, Friday, 2000 for Murandu, Hlamba, Magonyo, Jeffrey village. These villages are shown in the Fig. 1 as "Survey Area - B". They are generally located in the mid-stream area of Nyarupakwe River. The venue of the public hearing followed by group interview as PRA was Murandu School approximately 3 km to east of Nyarupakwe Business Center.

Attendance was 85 at the time of starting and the number was maintained throughout the duration of meeting. This is due to the fact that Friday was working day for the local community. No part of Jeffrey attend the public hearing meeting due to the village wise funeral on the day of public hearing meeting. Thus attendance of the

three villages of 189 households is accounted for 22 % of the total expected number of attendance i.e. husband and wife of each household.

4.3 Survey Area - C

Survey Area - C is the area indirectly affected by the project. They consist of six villages that are added as a result of the initial public hearing meeting. There was no PRA exercise carried out for them as the previous result of PRA exercises was assumed to be applied. Thus only baseline survey was carried out for 60 household over six villages in the downstream area of Nyarupakwe River. This would cover 17.8 % of the total number of 337 households of the survey area.

5. Grouped Interview as PRA Exercise

5.1 Sub-grouping for PRA Exercise

Upon introduction of the purpose of survey during the initial public hearing meeting, attendants were subdivided into villages for a brief orientation session. They were then further subdivided into the following five groups for PRA exercise:

- Group 1: Identification of Community Needs;
- Group 2: Historical Profiles of the Community;
- Group 3: Institutional Development in the Community;
- Group 4: Wealth Ranking of the Community; and
- Group 5: Gender Issue

Each subgroups selected a couple of people for recording the contents of discussions that took place. They were also presenter of the result of discussions at the end of PRA session.

5.2 Result of PRA Exercises

5.2.1 Profile of the Initial Survey Area

During the first and second public hearing meetings including PRA exercises, a general list of statements on the problems the villagers in the survey area face at the moment has been generated. These are considered as the local needs that the villagers have been hoping to solve with an assistance of the government. In general the following is in this order a number of identified needs of the survey area based on the PRA exercises held during the Stage I Survey Period:

- Water for livestock and agricultural activities;
- Road linking to Gokwe;
- Health Services;
- Communication system;
- Pastures; and
- Limited resources as opposed to increase of population.

Among them, the participants of the public hearing meeting clearly defined that water

is the most and acutely needed natural resources for their livelihood. Use of the water if available could be of a lot of help for vegetable gardening, and fish farming. If dam is built, watering cattle, domestic/school/clinical use, irrigation for horticultural and/or cash crops, and for other business such as brick making or diary industry development will become possible. It is identified that various means of obtaining water and use of it is considered in heavy demand for sustaining livelihood of the local population. Summarized result of the needs and demands recorded during the PRA exercise is attached as per Table 3.

5.2.2 Historical Profile of the Survey Area

(1) History of Settlement

The earliest settlers in the pilot project area are the Shangwe tribe people who came into the area from Mozambique during the late part of the 19th Century. These people were attracted into the area by the abundance of wild game animals, honey and wild fruits. These settled in the area that are presently Mabharani, Marumbe and Magonyo villages. Underdevelopment of infrastructure in the area, coupled with prevalence of tsetse flies, malaria and dangerous wild animals kept the area sparsely populated for the period before 1954.

As payment for participating in the World War II the then Rhodesian government decided to give farms to the White war veterans. Rhodesdale in Kwekwe was earmarked for this exercise. All the Black people in this farm were forcibly moved and resettled in the area near the Pilot Project area in 1954. Murandu village was formed at that time. Slowly but steadily other people came in from all over the country in search for better and bigger agriculture land. These included people who were released from the colonial government in 1962 who started Hlamba village. To date it is estimated that only two out of 10 people in the area near the Pilot Project are direct descendants of the original *Shangwe* settlers. The rest are new settlers or *dherukas*, as they are called by the *Shangwe* people.

As a group of people migrated from Rhodsedale in Kwekwe and settled in the area around Chesina I Ward in 1954, each household was entitled to hold 10 - 12 acres, or 4.5 - 5.0 ha of land for settlement, cultivation and grazing. The allocated area was then covered with thick forest and wildlife population was dense threatening the family members and their livestock.

They began cultivating sweet potatoes, millet, and sorghum at the time. Later, in 1960s, cotton and maize were introduced by government initiative and it was well received by the local population. It was this time that the local population engaged to cash crop for monetary income first time in their history of settlement in the area near the Pilot Project.

In relation to the agricultural development within the Survey Area, there were a number of periodical dry years as the elderly residents recall. They occurred in 1965,

1967, 1975, 1977, 1982, 1987, 1992, 1995, and 1997. It is noted therefore that the dry years tend to occur at the interval of 2-8-2-5-5-5-3-2 years during the past 35 years, or roughly 2-3 years otherwise 5-8 years apart.

(2) Past Development Projects

The people in the survey area demands services from the government and supporting institutions since independence. Some of them are met with demands and some are not. These development project are identified during PRA Exercises and individual household survey. They are assessed by during the last stage of the survey period. Looking at the community's experiences in development projects, there are not much variety but restricted to dam for watering livestock, road and schools. The following is by all means exhaustive list of the past development projects for infrastructure demanded by the villagers within the survey area.

Infrastructure	Year
Nyarupakwe Primary School (St. Paul School)	1957
Nyamachene Dam*	1962
Zvionere Dam*	1976
Nyamachene – Ganyungu Road via Gunde	1953
Nyamachene Business Center *	1970
Murandu Primary School	1957
Murandu Borehole	1954
Nyarupakwe Dam	1974
Mutatu Dam	1983
Mahacha Dam	1992
Ganyungu Primary School	1960
Gwamure Secondary School*	1982
Nyarupakwe Clinic	1979
Ganyungu Dip Tank	1955
Matanda Dam*	1973

(Note: * - Outside of the Survey Area)

(a) Water Resources Development

(i) Nyamachene Dam

This project was initiated by the government through the Ministry of Water after it was realized that there was not enough water available in the area along Nyamachene River, which borders Chesina I Ward and Chesina II Ward. Southeastern corner of Jeffrey village borders on the edge of the reservoir. The local authority provided assistance in the form of construction materials. Local residents assisted by providing labour which was paid for by the project. Height of the dam is approximately 5 m and its length is 180 m. To this date,

siltation has been hampering the problem to use is for irrigation.

(ii) Nyarupakwe Dam

Communities from Murandu, Magonyo and Sekema selected a number of individuals to form a committee and selected a chairman to promote dam construction project within their villages. They raised funds from the villages and bought cement for the project. Agritex carried out feasibility studies. Local residents provided labour whilst local council offered construction materials. Central government did not offer any assistance. The project was however delayed by lack of fund. The funds contributed by the local communities was not adequate at a time. Upon completion, however, because of the siltation, and eventual over-topping of the earth-fill dam, it was damaged. It is not used at the moment.

(iii) Matatu Dam

Murandu, Magonyo and Yaniso began working together to build a small dam on the tributary of Nyarupakwe river. It is located on the border between Murandu and Magonyo. These villages selected a committee to promote dam construction. The committee then approached local council for materials, which they provided. Government did not offer any direct assistance. The communities mobilized all locally available resources including labour.

(iv) Mahacha Dam

Murandu, Hlamba and Magonyo selected a committee which approached the local authority for assistance of the promotion of dam construction. The local council provided assistance in the form of construction materials. As the assistance offered by the local council was not enough, a member of the committee approached European Union for assistance. EU then became the major donor that eventually provided financial assistance whilst the community provided labour. Government's assistance was minimal, and was only provided through Agritex.

(b) Borehole

Borehole was sunk in the early 1950s at the time of migrating majority of the population within the survey area. One bore hole per village was provided at the time of resettlement. Approximately a half of them are functioning to date.

(c) Medical Facility of Nyarupakwe Clinic

The local residents frequently use Nyarupakwe Business Center (B.C.) approached the local authority for promotion of medical facility. Because of the lack of fund, it supplied roofing materials. The local community members played a significant role in providing labour as well as some funds. It is now

afflicted of crinkle shortage of medical supply.

(d) Dip Tank

Because there was no dip tank for cattle inoculation in the area, the local community approached the government for assistance. Department of Veterinary Services provided assistance up to the end of the project.

(e) Educational Facility

All of the identification and the construction works of to establish schools within the survey area was carried out by Christian missionaries and the government through the local authority. Although there was real need for the school to be built within the villages, the parents and the community were not consulted. However, the parents assisted by molding bricks for buildings and labour to put up the structures. The government through the local authority provided building materials whilst the bulk of the work was done by missionaries.

Government's assistance was not adequate and eventually the community played a crucial role as the missionaries later withdrew from the operation, maintenance and teaching the these schools. Although there are not many people who remember the local history, other schools within the survey area are more or less the same as above.

(i) Murandu Primary School

The original idea to establish Murandu Primary School in Murandu Village began by the parents of the village after realizing there was a need of school nearby. After a meeting with the people, the village head approached Local Development Officers (LDO) for assistance. Church members of the community played a crucial role as they kept pressuring the local authority. The Local Authority then provided building materials and the community provided locally available raw materials including labour. The village head played the most significant role for the project to succeed whilst the committee ensured the project was well maintained.

(ii) Nyarupakwe Primary School

This school is known as St.Paul School and it is so recorded on the 1:50,000 scale map used for the survey. The identification and the citing of the school was done by missionaries and the government through the local authority in the early years of colonial period. Although there was real need for the school at the time, the parents/community was not consulted for its scale of operation, site and maintenance. However, the parents assisted by molding bricks for buildings and labour to put up the structures. The government through the local authority provided building materials whilst the bulk of the work was done

by missionaries. There was not enough government assistance adequately and timely provided. Eventually the community then played a crucial role as the Missionaries later withdrew from the project. Name of the school was then changed to the present name.

(iii) Chiumb Primary School

This school is located on the border between Muza and Muchina village. It was established in the late 1950s as resettlement began taking place in this area. Within the survey area, this is the only school that serves to the villages in the upstream area. Some of the school children go to school over 7-8 km of distance on foot. The school is in need of better water supply system for washing, cooking and toilet as well as to maintain flower and vegetable gardens that the school children can learn to grow horticultural crops and also enjoy cooking and eating of them.

5.2.3 Wealth Ranking System of the Community

As is shown in the Table 4, criteria of wealth ranking system determined by the local residents during the PRA exercise has revealed that there are diversified thoughts between the rich person in one village to the other. The wealth ranking system has been generated from the PRA exercise carried out for the residents in the Survey Area - A and - B. However, it is assumed the same and applied to those in the Survey Area - C.

What seems to be true to the local residents in terms of their value system is that they value number of cattle they possess. This appears to be the basic standard of measurement of wealth among the villagers. This is in fact true to most of the Bantu families throughout sub-Saharan African countries.

Although there is a variation from one village to the other, common concern of the local residents in the survey area in general are a number of agricultural tools they possess while there is no value placed on the area of land they own. There is as a matter of course on the trend of change. Nevertheless, this reflects the present land ownership system of the country that the land ownership is not permanent and private to the local residents. Bank account appears to be another important criteria to measure wealth followed by a quantity of grain production and a level of the development of homestead. In other words, "movable asset in time of needs to dispose/disposable income" is more important in the area where dry seasons hamper family life in rural Africa. The Survey Area is not the exception.

5.2.4 Existing Institutions/Organizations in the Survey Area

(1) Agricultural Supporting Institutions within the Survey Area

Munyati Cooperative was introduced in 1961 and it has been in operation since. There are 700 members of agricultural commodity producers at the moment. Other

institutions present in the survey area is shown in the Table 5.

It is interesting to note that the local residents form various type of village organizations according to their needs and demands as well as their ages and social status. Thereby they help each other and supplement the lack of bank loans usually available at the large town or city.

Major governmental, non-governmental and private support services within the survey area are generally available at all time. In terms of percentage availability and the experiences of the use of them as a result of individual household survey as shown in the tables below. All of them are agricultural supporting service organizations.

Availability of Support Services

Services	% availability when needed
AGRITEX	80
VET	82
ZFU	92
AFC	54
COTCO	99

Experiences in the Use of Supporting Services

Services	AGRITEX	VET	ZFU	AFC	COTCO
Every year	25	60	58	27	93
2-3 months in the last 5 years	6	10	2	3	1
Once in the last 5 years	9	5	5	7	0
Not received service in the last 5 years	60	25	45	63	6

From the table above it is very clear that the services to support the local population is very high. In turn, they are available upon completion of the Pilot Project. What is disturbing however is the under-utilization of these services within the survey area. The most commonly used service is that of COTCO/COTPRO. In relation to the cropping patterns in the survey area and the income sources of the local population, cotton marketing companies are the most utilized supporting organization among others. This is followed by VET and ZFU.

The services of AGRITEX and AFC need to be strengthened because, if the current trend prevails, the success of local economic activities heavily depends on agricultural activities. A low rate (27%) in the use of AFC services would suggest a need for an alternative or complementary loan financing institution to support the proposed Pilot Project. It is disturbing to note that up to 67% of the respondents had not received any form of service from AFC in the past 5 years.

A high rate (80%) of the availability of AGRITEX service coupled with a very low rate (25%) of regular use of services could suggest unwillingness by the community to use the services of the institution. It is also true that there are three AGRITEX Extension Office stationed in Chesina I Ward. Only one AGRITEX Extension

Office is made available to cover the survey area, approximately the area between Nyarupakwe river and Ganyungu river.

On the other hand, a high rate of using the services that COTCO provides might also suggest that COTCO is offering the services, which AGRITEX would otherwise have provided given that this organization is as private interest in this major cotton growing region.

5.2.5 Gender Issue

(1) Present Gender Issues in the Pilot Project Area

Result of PRA exercise for gender issue is shown in the Table 6. It is interesting to note that a typical daily activities of a wife as opposed to a husband are more on the wife's side in terms of their burden of domestic works. Wife's distance of travel and frequency of going back and forth between the field and the house is more than twice as much as a husband does. Number of tasks of a wife is twice as much as that of a husband. Number of domestic resources that are controlled by husband is almost monopoly from the views of a wife. These aspect of domestic life should be incorporated into the project design so as to reduce burden of female spouse's household upon implementation of the project.

(2) Institutions Supporting Women

A number of institutions exist in the community along Nyarupakwe River and these include group-lending institutions such as ZFU, Cotpro and Cotco. Although this information was not gender desegregated, 35% of the survey population reported not to belong to any institution. However the majority of women are the members of the local church especially in terms of women's activities. From the PRA exercise it was also clear that there was no functional women's cooperative except one which was a distance away.

6. Marginal Development Area

Fig. 2 "Spatial Analysis of Marginal Development Area" shows the left bank of Munyati River between Empress Mine and Sanyati Bridge. Major tributaries and their dams constructed across them are also shown. This figure indicates the area of present water resources exploitation. As is shown, impoundment of river water on the tributaries draining into Munyati River is carried out in the area approximately at the midstream area.

Circle centered on each artificial water reservoir including natural water reservoir indicates 5 km in radial. This is the distance Veterinary Services Department use when they construct dip tank for cattle cleansing. It is at the same time the distance the cattle owners would drive their cattle for watering. This distance is used as a general distance that the villagers drive cattle driving during the dry season for

grazing and watering.

The area covered by the circles are therefore the area cattle owners do not feel the distance is excessively long for driving their cattle to drink water. The areas not covered by the circles within the survey area is the area away from available cattle watering point. This is approximately compatible with the boundaries of Marumbe and Muchina put together, or Qualitative Survey Area of Sub-group 1.

In general, the distance greater from the edge of circle the area more difficult to raise their cattle is. This is the area termed as "Marginal Development Area" within the framework of Nyarupakwe Pilot Project. Thus Marumbe and Muchina are left from the benefit of dam construction for irrigation area development.

7. Possession of Dam as Water Resources for Dry Season

Based on the result of first public hearing meeting, the most aspired needs and demands of the "Survey Area - A" is a small scale dam within the accessible distance of the villages of Marumbe, Muchina, Makarichi, Sekema and Muza. The location is approximately 5 km upstream of the dam site selected by JICA Study Team. The villagers began forming dam committee in August 1999 for promotion of a small scale dam construction in the upstream area of Nyarupakwe River. Main purpose of the dam was to maintain watering point for livestock in the vicinity of the community during the dry season. Thereby the cattle driving do not cause any inconveniences to adjacent villages.

Cattle is as important as cash saved in a bank account for the people in the rural area. In principle, the more a family holds cattle the more wealthy they are because cattle is asset that is sold for money in time of need i.e. insurance to supplement cash income, while it is a source of power for ploughing field, and a source of milk for drinking, and for an occasional supply of meat. Without ensuring the traditional way of cattle rearing, the local population whose major economic activity is to maintain cattle while farming is a means to supply food for family consumption, they will not be ready to move further ahead with agricultural activities for which major changes of their economic activities are involved in it. Thus, priority for water resources development for cash crop irrigation is relatively low in this area but in acute need of water for livestock during the dry season.

Intention to construct small scale dam in the area within the easy reach of these villages and that these villages work together. This in turn functions as a catalyst to bring villages as a block of local economic unit. Such cohesive relationship among them is on its development.

8. Acceptance of Irrigation Scheme

Comparing to the needs and demands of the people in the "Survey Area - A", those of the "Survey Area - B" are comparatively content with what they have at the moment. They own a small dam constructed in 1995 storing water during dry season for cattle rearing. It makes them feel secure of the way they raise livestock. It is therefore their feeling that they are ready to take further step of development, in this case an irrigation scheme.

Mahacha Dam constructed on the tributary of Nyarupakwe river within the "Survey Area - B" is a communal possession of Murandu, Magonyo, and Hlamba village. Negotiation to construct the dam was carried out with a chain of events as follows:

- A group of people work together to form "Dam Committee", usually consisting of several villages;
- A chairman is selected to delegate the committee and negotiate with the local councilor;
- The Dam Committee chairman raised the fund for dam construction;
- Upon fund raising foreseen successful, petition to construct dam is submitted to Rural District Council;
- District Administration asks AGRITEX to examine the location of dam
- If considered appropriate, AGRITEX designs the dam;
- Dam height is limited to 5 m as its maximum height. Any dam exceeding 5 m should be examined by Ministry of Water;
- Approved small scale dam is constructed by a local contractor as the Dam Committee select a contractor and pay for it as the Dam Committee raised enough fund.

The dam constructed in this way is clearly defined as community's possession and the reservoir is used exclusively for the benefit of the community that raised the fund for dam construction. Thereby a sense of possession of a dam is maintained among the people within the community i.e. it becomes a property of community. In this point of view, ownership and trusteeship for operation and maintenance of the facilities provided under the Pilot Project has to be clearly defined and its demarcation is essential in order to avoid conflicts that may occur in the future associated with the operation and maintenance of any part of the Pilot Project among the members of the local community.

9. Preparation of the Individual Household Interview Survey

Based on the result of group survey, a set of questionnaire was developed as per attached Attachment 2, and 3. The Attachment 4 shows supplementary questionnaire to the quantitative questionnaire as per Attachment 2. For the purpose of individual households survey, two enumerators from each village were employed. Individual household survey was carried out based on the following

criteria:

- Select 10 or all whichever is smallest of those ranked as wealthy class as a result of wealth ranking exercise during the public hearing followed by PRA exercise. Any excessive number is carried over to the middle class;
- Select 20 or all whichever is smallest of the middle class households. Based on random numbers obtained from hand calculator, households are selected from the numbered wealth ranking list generated through PRA exercise. Any excessive number is carried out to the poor class;
- In the case of Marumbe, where the villagers subdivided the households into four classes, 10 households are selected from each class. Where the households are not more than 10 in one class, excessive number is carried over to the next lower class;
- Select 10 or all whichever is smallest of those ranked as poor class.
- Half of the selected number of households are visited with quantitative questionnaire while the other half are visited with open-ended qualitative questionnaire.

Because of an item of question for livestock holding number was missing in the quantitative questionnaire, the other enumerators with a questionnaire for open-ended qualitative survey, it was added into the open-ended qualitative questionnaire.

Total interviewed number of households both in the "Survey Area - A & B" as well as the "Survey Area - C" increased in the later stage of the survey for quantitative questionnaire survey and open-ended questionnaire survey are shown in the Table 7. Average of 20.8 % of the total household in the survey area was interviewed for socio-economic environmental analysis.

10. Result of the Interview Survey

10.1 Analysis of the Socio-economic Environment - Quantitative Survey

10.1.1 Analysis of the Socio-economic Environment: Overall Survey Area

(1) Profile of Household

The number of households interviewed for the quantitative survey is 217 as is shown in the Table 8. Its percentage distribution is remarkable that female headed households are approximately 19 % of the total interviewed households as is shown in the following table. This reflects that male households are losing the grip of family, either by becoming migrant worker staying in major cities otherwise died of disease, predominantly AIDS. The overall male: female ration is 678:661, or 50.6: 49.4. The average size for households is 6.03. Average age is 47.9 years old. Majority is 31-40 years old followed by 41 - 50 years old and 51 - 60 years old.

Gender Distribution of Household Head

Female Headed	Female Headed	Male Headed	No Answer	Total
No. of Households	41	171	5	217
%	18.9	78.8	2.3	100

Occupation of the household head is predominantly farmer. As is shown in the following table, 50.2% of the household heads are farmers. This is compared to the overall occupation distribution. Total interviewed household members 1,339 and there are 589 people engaged in farming. This is 43.9% of the total population of the interviewed households. If infants and school children are not included in the occupation, there is 72.6 % of them as farmer. Since male school children are an important labor for cattle rearing, farming population including stock farming should become 80-85 % of the total population.

Occupation Distribution

Occupation	Household Head	Overall Population
Infant	-	188
School Children/Student	-	340
Farmer	109	589
Wage Labor	42	45
Salaried Worker	29	20
Pensioner	16	18
Jobless	2	85
No Answer	-	16
Total	217	1,339

Gender distribution of farmers is 269 of male vs. 320 of female, or 45.7% : 54.3%. This is compared to the 18.9 % of female headed households. There are a number of households that are "headed by male" as they are so answered. However, some of these households are actually run by female as the male household head are away to a large towns or cities for employment. Thus, the ratio of female headed household could become 25%. Thus, female farmers in the survey area could become 60-65 % of the total number of household. This is a very significant proportion as farming community.

(2) Economic Characteristics of Household

(a) Income Sources

Survey area's predominant economic activity is agriculture. Majority of them therefore rely their income source on the sale of agricultural commodities. As is shown in the Table 8, crop and live stock sales share more than half of their income source. Their average income is Z$60,248 as three different sources of income added together. Primary income source share 66% of the total income, followed by the secondary income of 20. 5%, and 13.5% of the tertiary income source. This is slightly above average of the farming community in Zimbabwe.

(b) Land Holding and Cropping

Average agricultural land holding is 4.7 ha per family. Since majority of the population within the survey area is resettled to the present area, and that they were given 5 ha of land per family for their self-reliance life style, the present land holding size is slightly lower than what they were given in the early 1950s. However, 11.5 % of them own more than 10 ha of land. There are 5.5 % of people who own the land between 5 and 10 ha. On the other hand, 68 % of the population own less than 5 ha of land. This indicates that there are a small number of large landowners on the increase.

Cropping area is predominantly cotton followed by maize, groundnuts and vegetables. While cotton is cash earner, slightly more than 10 % of it is consumed at home. On the other hand, maize is a staple food in the survey area. Thus, 59 % of the harvest is consumed at home. The same is true to ground nuts that its 72% is consumed at home.

Cotton is also used as cash that its 6 % is spent as payment for debt. Maize is also spent its 7 % of total harvest as debt payment. Their expenditure is considerably good comparing to the average earning. Thus in general, the household in the survey area is on the healthy side of economy as far as their income and expenditure are concerned.

(3) Socio-economic Characteristics of Households

Land holding is predominantly in male name. This is compared to the household head. As is stated above, female headed household could be as high as 25 % as some statistics do not reveal hidden data. On the other hand, unless otherwise the answer is deliberately changed to which the land holding is titled under female name, the survey data represents the true conditions of the survey area i.e. it is disproportionate that female headed households still maintains male name when the land is registered. There are a lot of social dimensions that needs to express it .

Gender Distribution of Land Holding Title

	Female	Male	No Answer/Other	Total
Land Holding	38	150	29	217
%	17.5	69.1	13.4	100
Household Head	41	171	5	217
%	18.9	78.8	2.3	100

As is shown in the Section 3 of Table 8, there are a number of problems that the local population of the survey area has been experiencing to date. This is compared to the contents presented in the Table 3. Thus local needs of water for agricultural activities including stock farming based on the public hearing and the result of household interview survey are compatible each other. Other demands on transportation for marketing agricultural commodities, passenger transportation, medical care are all the problems that the local population feel that they need to be

solved as much as possible. Experiences with Agritex, veterinary services, cooperatives, NGOs and other services are considered not sufficient to meet the local demands.

The local population expect, to some extent, that the Pilot Project will be of a help to enhance local economy. They stated, as is shown in the Table 8, road, medical care, bridge construction, and transportation development might not be of a great help. However, they recognize that the Pilot Project is hoped to solve the problems on water supply for domestic use, agriculture and livestock.

While there was no question made in the questionnaire if fish supply is a major problem, the local population stated that the benefit of the dam is to keep fish in the reservoir. This reflects their demand on protein food, apart from beef as conventional food item, adding to the present eating habit. Fish could also be of an income generating item if properly maintained in the reservoir. The Pilot Project is also looked at the major water supply for their agricultural activities as they understood the purpose of the project.

The local population recognizes that the Pilot Project scheme, mainly irrigation, will create further burden of work load as 18.9 % of them answered. It would be a coincidence that 41 household, same number of household headed by female, answered that it would be the case.

For relocation, 108 out of 217, or 49.8%, of the interviewed household showed their attitude of moving to other area for implementation of the project. In the case of the conditions of relocation, 128 out of 217, or 59%, stated that the proper compensation is a minimum condition for relocation. Although 86 household stated that they are not willing to move, there was only 11 household, or 5%, who did not want to state the conditions of relocation. This is an indication that very high percentage of the local population is willing to relocate for implementation of the project.

10.1.2 Analysis of the Socio-economic Environment: Survey Area - A

(1) Profile of Households

Marumbe, Muchina, Makarichi, Muza, and Sekema consist of the Survey Area - A. These villages are the area first surveyed under the socio-economic environment survey and they form upstream area of Nyarupakwe River.

Total interviewed household are 81 and their total population is 488. This represents 17.4 % of the total number of 466 households in this survey area. Size of households in the Survey Area - A in average is 6.0 members, the largest being 13 members and the smallest one person per household. There are 84% of them as male-headed households. The age distribution of the Survey Area - A is that there are less than 20 years of age constitutes 55 % and less than 19 % it over 40years. This reflects a high dependency ratio of young generation to labour force and a

relatively low life expectancy in the survey area. Average age of the Survey Area - A is 46 years old and this is compared to 47.9 years old of overall survey area.

Gender Distribution of Household Head: Survey Area - A

	By Gender of Household Head			
	Female Headed	Male Headed	No Answer	Total
No. of Households	12	68	1	81
Percentages	14.8	84	1.2	100

Table : Form of Marriage: Survey Area - A

	By Marital Status			
	Monogamous	Polygamous	Single Parent	Total
No. of Households	69	6	6	81
Percentages	85.2	7.4	7.4	100

Stock farming is the main occupation of the population of Survey Area - A. As is shown in the following table, there are 43 % of the household head engaged in farming. This is compared to 39.3 % of farmers of the total population within the household interviewed in the Survey Area - A. These figures are compared to that of the overall survey area, which are 50.2 % and 43.9 % respectively. The geographical conditions of Survey Area - A involves escarpment of Mufungabusi Plateau where livestock rearing has been traditionally more viable than farming. This is particularly true to Marumbe, the indigenous tribe in the survey area located in the upper most area of Nyarupakwe River.

Occupation Distribution: Survey Area - A

Occupation	Household Head	Overall Population
Infant	-	80
School Children/Student	-	142
Farmer	35	192
Wage Labor	18	26
Salaried Worker	11	0
Pensioner	9	0
Private Business Owner	7	21
Jobless	1	27
No Answer	-	0
Total	81	488

Gender distribution of farmers is 49.5 % of male and 51.5 % of female. This is compared to the gender distribution of the entire interviewed population that is 236 : 237 i.e. female farmers and female population are compatible each other.

(2) Economic Characteristics of Household

(a) Income Sources

Main source of income of the Survey Area - A is livestock rearing than farming. As is shown in the Table 8, sale of livestock is 50.6 % of the primary income source while crop sales, mainly cotton and maize, is accounted for 44.4 % of the primary source of income. This reflects the distribution of occupation that

there are more people occupying stock farming than crop farming.

The average annual income of the Survey Area - A is Z$ 53,749. This is 10.7 % lower than the average for overall survey area. Muchina and Makarich are particularly low. Their low income is probably the soil conditions being poor for cotton and maize growing while livestock rearing is limited due to the lack of grazing area, or the lack of water.

(b) Land Holding and Cropping

Average agricultural land holding is 3.8 ha per family in the Survey Area - A. Since majority of the population within the Survey Area - A is resettled to the present area, and that they were given 5 ha of land per family for their self-reliance life style, the present land holding size is 24 % lower than what they were given in the early 1950s. There are a large number of them own more than 10 ha of land in Marumbe and Muchina without those who lost their land. In contrast to this, there are a large number of household who do not own more than 5 ha in Makarichi, Muza and Sekema while almost no household own more than 10 ha of land. There is a possibility that those in Marumbe and Muchina acquired land in Makarichi, Muza and Sekema. During the field survey for those who would lose their farming area to the reservoir, the Survey Team found that some farmers stated that he owned more than 10 ha of farming area for cotton. Thus there are some variations in the actuality. However, in general, this is an indicative figure that Makarichi, Muza and Sekema are generally low income villages within the Survey Area - A. This is substantiated with the amount of income as the following table shows.

Comparison of Income Values in the Survey Area - A

	Primary Income	Secondary Income	Tertiary Income	Total
Marumbe	40,507	16,400	12,166	69,073
Muchina	33,833	4,833	4,000	42,666
Makarichi	37,835	6,230	1,357	45,422
Muza	46,077	5,077	8,615	59,769
Sekema	40,839	6,349	4,625	51,813

It is not surprising that Marumbe is the indigenous tribal area that they selected present locations because of the infertility of the flat area from their traditional lifestyle point of view. They are successfully maintaining their traditional cattle rearing supplemented by cropping. Thus making a good achievement of above average than national income. This indicates that there are a small number of large landowners on the increase and a large number of average size landowners have lost their land.

Cropping area is predominantly cotton followed by maize, groundnuts and vegetables. Marumbe is recording 2 - 5 times large area of cotton field than other villages within the Survey Area - A. It is also compared to the other part of survey area that Marumbe use more areas for cotton than other villages.

The following table shows that Marumbe's cotton growing area and income level to other villages in the survey area.

Comparison of Income Values and Cotton Growing Area and its Yield: Survey Area - A

	Cotton Grow- ing Area (ha)	Production (bale)	Total Income (Z$)
Marumbe	2.63	15.9	69,073
Mgonyo	2.06	10.2	56,555
Hlamba	3.30	29.0	71,979
Gunde	2.93	14.7	62,471
Mateuro	3.15	9.4	38,360
Mahvondo	2.21	8.0	60,300

As is shown in this table, high income and large cotton growing area is somewhat related to each other except in the case of Mateuro. This may due to the soil fertility of the area provided that other conditions are the same as other villages. While cotton is cash earner, 18 % of its harvest is consumed at home. On the other hand, maize is a staple food in the survey area. Thus, 58.4 % of the harvest is consumed at home. The same is true to ground nuts that its 74.3 % is consumed at home.

Cotton is less used as cash that its 0.1 % is spent as payment for debt. Maize is also spent its 4.6 % of total harvest as debt payment. The average expenditure of the Study Area - A is considerably good comparing to the average earning except for Makarichi and Sekema, which carry relatively heavy debt. The household in other villages of the Survey Area - A is on the healthy side of economy as far as their income and expenditure are concerned.

(3) Socio-economic Characteristics of Households

There are a large number of answers that the land holding title is not known or not registered. Provided that these are male registered land, 23.5 % of the land in the Survey Area - A is registered in the female name. This is compared to the ratio of household head i.e. there are relatively a large number of female holding land.

Gender Distribution of Land Holding Title: Survey Area - A

	Female	Male	No Answer/Other	Total
Land Holding	19	37	25	81
%	23.5	45.7	30.8	100
Household Head	12	68	1	81
%	14.8	84	1.2	100

As is shown in the Section 3 of Table 8, there are a number of problems that the local population of the survey area has been experiencing to date. This is compared to the contents presented in the Table 3. Thus local needs of water for agricultural activities including stock farming based on the public hearing and the result of household interview survey are compatible each other. Other demands on transportation for marketing agricultural commodities, passenger transportation, medical care are all the problems that the local population feel that they need to be

solved as much as possible. Experiences with Agritex, veterinary services, cooperatives, NGOs and other services are considered not sufficient to meet the local demands.

The local population expect, to some extent, that the Pilot Project will be of a help to enhance local economy. They stated, as is shown in the Table 8, road, medical care, bridge construction, and transportation development might not be of a great help. However, they recognize that the Pilot Project is hoped to solve the problems on water supply for domestic use, agriculture and livestock.

While there was no question made in the questionnaire if fish supply is a major problem, the local population stated that the benefit of the dam is to keep fish in the reservoir. This reflect their demand on protein food, apart from beef as conventional food item, adding to the present eating habit. Fish could also be of an income generating item if properly maintained in the reservoir. The Pilot Project is also looked at the major water supply for their agricultural activities as they understood the purpose of the project.

The local population recognizes that the Pilot Project scheme, mainly irrigation, will create further burden of work load as 50.6 % of them answered. The villagers in Marumbe are not concerned with such question as it is not applicable to them.

For relocation, 59 out of 81, or 72.8 %, of the interviewed household showed their attitude of moving to other area for implementation of the project. In the case of the conditions of relocation, 36 out of 81, or 44.4 %, stated that the proper compensation is a minimum condition for relocation. Although 21 household stated that they are not willing to move, there was only 2 household, or 2.5%, who did not want to state the conditions of relocation. This is an indication that very high percentage of the local population is willing to relocate for implementation of the project.

10.1.3 Analysis of the Socio-economic Environment: Survey Area - B

(1) Profile of Households

Murandu, Hlamba, Jeffrey and Magonyo consist of the Survey Area - B. These villages form mid-stream area of Nyarupakwe River. Interviewed household are 76 and their total population is 457. This represents 31.7 % of the total number of 240 households in this survey area. Size of households in the Survey Area - B in average is 6.1 members, the largest being 32 members and the smallest of two persons per household.

There are 80.3% of them as male-headed households and 19.7 % of the total interviewed households are female headed. This is compatible to the ratio of female headed household of the overall survey area. The age distribution of the Survey Area - B is that there are less than 20 years of age constitutes 11.8 % and more than 40 % of it is over 40years. This reflects a high dependency ratio of old generation

to labour force and a relatively high life expectancy in this survey area. Average age of the Survey Area - B is 49.6 years old and this is compared to 47.9 years old of overall survey area, which is slightly younger. However, this survey area, from the feeling of the field survey, that older generation is more active and making large contribution to the work force.

Gender Distribution of Household Head: Survey Area - B

	By Gender of Household Head			
	Female Headed	Male Headed	No Answer	Total
No. of Households	15	61	0	76
%	19.7	80.3	0	100

Form of Marriage: Survey Area - B

	By Marital Status			
	Monogamous	Polygamous	Single Parent	Total
No. of Households	64	12	0	76
%	84.2	15.8	0	100

Stock farming is the main occupation of the population of Survey Area - B. However, there is a change in the trend. As is shown in the following table, there are 36.8 % of the household head engaged in farming. This is compared to 38.3 % of farmers of the total population within the household interviewed in the Survey Area - B. These figures are compared to that of the overall survey area, which are 50.2 % and 43.9 % respectively i.e. agricultural activity is less active in general. Instead, more than half of the salaried worker and private business owner of the overall survey area are from the Survey Area - B.

Occupation Distribution: Survey Area - B

Occupation	Household Head	Overall Population
Infant	-	68
School Children/Student	-	137
Farmer	28	175
Wage Labor	14	8
Salaried Worker	15	17
Pensioner	9	8
Private Business Owner	9	13
Jobless	1	15
No Answer	-	16
Total	76	457

Gender distribution of farmers is 46.3 % of male and 53.7 % of female. This is compared to the gender distribution of the entire interviewed population that is 236 : 221, or 51.6 % of male and 48.4 % of female. Thus there are more female farmers.

(2) Economic Characteristics of Household

(a) Income Sources

Main source of income of the Survey Area - B is not livestock rearing, except for Hlamba village, but farming. As is shown in the Table 8, sale of livestock is 19.7 % of the primary income source, which only Hlamba village is the major contributer, while crop sales, mainly cotton and maize, is accounted for 56.6 % of the primary source of income. This reflects the distribution of occupation that there are more people occupying crop farming. This is also substantiated by the fact that there are more female farmers than other village as they are allowed to work in the field than cattle rearing.

The average annual income of the Survey Area - B is Z$ 57,383. This is 4.7 % lower than the average for overall survey area. Jeffrey is particularly low while Hlamba is outstanding. As was the case of Marumbe in the Study Area - A, livestock sales cannot be ignored as major contributor. Jeffrey's low income is probably due to the soil conditions being poor for agricultural crops while livestock rearing is limited due to the lack of water point.

(b) Land Holding and Cropping

Average agricultural land holding is 5.93 ha per family in the Survey Area - B. Since majority of the population within the Survey Area - B is resettled to the present area in the early 1950s, and that they were given 5 ha of land per family for their self-reliance life style, the present land holding size is more than what they were given at the time of resettlement. There are a few number of them own more than 10 ha of land in Murandu, Magonyo and Jeffrey while Hlamba, the re-settlers, is making a large progress. It is this reason that Hlamba is making approximately Z$ 72,000 per year of income, as is shown in the following table, second better value in the overall survey area.

Comparison of Income Values in the Survey Area - B

	Primary Income	Secondary Income	Tertiary Income	Total
Murandu	42,442	14,158	7,516	64,116
Magonyo	38,275	13,090	5,190	56,555
Hlambai	51,708	18,914	1,357	71,979
Jeffrey	29,518	5,829	1,535	36,882

Hlamba is the smallest in terms of the number of household within the Survey Area - B. It is second smallest within the overall survey area. Yet it has highly educated people and the cohesiveness of the village is considered very high because of the level of knowledge and willingness to make progress in modern economic development while they are successfully maintaining their traditional cattle rearing supplemented by cropping. Thus making a good achievement of more than the average national income.

Cropping area is predominantly cotton followed by maize, groundnuts and vegetables. Jeffrey is particularly unlucky that their yield is less than half of

what Hlamba harvest. Murandu and Magonyo are also making slightly more than half of what Hlamba harvest. Hlamba is at the same time making high income selling livestock. It is their advantage that grazing area on the left bank of Nyarupakwe River is well maintained. The table below shows cotton growing area, its production and income level to other villages in the Survey Area - B.

Comparison of Income Values and Cotton Growing Area and its Yield: Survey Area - B

	Cotton Growing Area (ha)	Production (bale)	Total Income (Z$)
Murandu	1.90	10.8	64,116
Magonyo	2.06	10.2	56,555
Hlambai	3.30	29.0	71,979
Jeffrey	1.71	7.7	36,882

As is shown in this table, high income and large cotton growing area is somewhat related to each other except in the case of Murandu, Magonyo and Hlamba. Jeffrey does not make enough cotton production per unit of area. This may due to the soil fertility of the area provided that other conditions are the same as other villages.

While cotton is cash earner, 12.5 % of its harvest is consumed at home. On the other hand, maize is a staple food in the survey area. Thus, 66.3 % of the harvest is consumed at home. The same is true to ground nuts that its 80.4 % is consumed at home. Thus cotton and livestock are more important agricultural commodities in the Survey Area – B is therefore sold and never used as a means to debt payment in the Survey Area - B. Maize is also spent its 14.7 % of total harvest as debt payment only by Murandu and Magonyo.

The average expenditure of the Study Area - B is considerably good comparing to the average earning. The household in Survey Area - B is therefore considered on the healthy side of economy as far as their income and expenditure are concerned.

(3) Socio-economic Characteristics of Households

There is a relatively large number of male registered land in the Survey Area - B. This is compared to the ratio of household head. This indicates that the female household head still maintains male registered land as is shown in the following table. Survey Area - B could be generally considered as traditional male dominating community.

Gender Distribution of Land Holding Title: Survey Area - B

	Female	Male	No Answer/Other	Total
Land Holding	5	70	1	76
%	6.7	92.1	1.2	100
Household Head	15	61	0	76
%	19.7	80.3	0	100

As is shown in the Section 3 of Table XI.8, there are a number of problems that the local population of the survey area has been experiencing to date. This is compared to the contents presented in the Table 3. Local needs of water for agricultural activities including stock farming based on the public hearing and the result of household interview survey are not quite compatible each other. The demands on transportation for marketing agricultural commodities, passenger transportation, medical care are more of the problems that the local population feel that they need to be solved as soon as possible. Experiences with Agritex, veterinary services, cooperatives, NGOs and other services are considered not sufficient to meet the local demands.

The local population does not expect that the Pilot Project will be of a help to enhance local economy. They stated, as is shown in the Table 8, road, medical care, bridge construction, and transportation development might not be improved unless the government initiate such projects. However, they recognize that the Pilot Project is hoped to solve the problems on water supply for domestic use, agriculture and livestock.

While there was no question made in the questionnaire if fish supply is a major problem, the local population stated that the benefit of the dam is to keep fish in the reservoir. This reflects their demand on protein food, apart from beef as conventional food item, adding to the present eating habit. Fish could also be of an income generating item if properly maintained in the reservoir. The Pilot Project is also looked at the major water supply for their agricultural activities as they understood the purpose of the project.

The local population recognizes that the Pilot Project scheme, mainly irrigation, will not create major burden of work load as 53.9 % of them so answered. Although 46.1 % of them gave no answer to this question, this is the area with progressive community that they are willing to take an option of irrigation area development that takes place in Magonyo and Hlamba village. Thus, they are well aware of the problem if the burden of work load should increase.

For relocation, 49 out of 76, or 64.5 %, of the interviewed household showed their attitude of moving to other area for implementation of the project. In the case of the conditions of relocation, 45 out of 76, or 59.2 %, stated that the proper compensation is a minimum condition for relocation. Although 21 household stated that they are not willing to move, there was only 9 household, or 11.8 %, who did not want to state the conditions of relocation. This is an indication that very high percentage of the local population is willing to relocate for implementation of the project.

10.1.4 Analysis of the Socio-economic Environment: Survey Area - C

(1) Profile of Household

Gunde, Komboni, Mahvondo, Mateuro, Mujubeki and Mahbarani consist of the Survey Area - C. These villages form downstream area of Nyarupakwe River. Total interviewed household are 60 and their total population is 394. This represents 17.8 % of the total number of 337 households in this survey area. Size of households in the Survey Area - C in average is 6.6 members, the largest being 36 members and the smallest of two persons per household.

There are 73.3% of them as male-headed households and 26.7 % of the total interviewed households are female headed. The ratio is larger than the ratio of female headed household of the overall survey area. The age distribution of the Survey Area - C is that there are less than 20 years of age constitutes 18.3 % and more than 35 % of it is over 40years. This reflects a high dependency ratio of old generation to labour force and a relatively high life expectancy in this survey area. Average age of the Survey Area - C is 48.2 years old and this is compared to 47.9 years old of overall survey area, which is slightly higher.

Gender Distribution of Household Head: Survey Area - C

	By Gender of Household Head			
	Female Headed	Male Headed	No Answer	Total
No. of Households	16	44	0	60
Percentages	26.7	73.3	0	100

Form of Marriage: Survey Area - C

	By Marital Status			
	Monogamous	Polygamous	Single Parent	Total
No. of Households	54	6	0	60
Percentages	90	10	0	100

Stock farming is not the main occupation of the population of Survey Area - C. As is shown in the following table, there are 46 households, which is accounted for 76.7 % of the household head engaged in farming. This is compared to 56.3 % of farmers of the total population within the household interviewed in the Survey Area - C. These figures are compared to that of the overall survey area, which are 50.2 % and 43.9 % respectively i.e. agricultural activity is very active.

Occupation Distribution: Survey Area - C

Occupation	Household Head	Overall Population
Infant	-	40
School Children/Student	-	61
Farmer	46	222
Wage Labor	10	11
Salaried Worker	3	3
Pensioner	1	10
Private Business Owner	-	4
Jobless	-	43
No Answer	-	0
Total	60	394

Gender distribution of farmers is 93:129, or 41.9 % of male and 58.1 % of female. This is compared to the gender distribution of the entire interviewed population that is 236 : 221, or 51.6 % of male and 48.4 % of female. Thus there are more female farmers in this area.

(2) Economic Characteristics of Household

(a) Income Sources

Main source of income of the Survey Area - C is farming. As is shown in the Table 8, sale of livestock is 18.3 % of the secondary income source, while crop sales, mainly cotton and maize, is accounted for 20 % of the secondary income source and 95 % of the primary source of income. This reflects the distribution of occupation that there are more people occupying crop farming. This is also substantiated by the fact that there are more female farmers than other village as they are allowed to work in the field than cattle rearing.

The average annual income of the Survey Area - C is Z$ 49,526. This is 17.8 % lower than the average for overall survey area. Komboni and Mujubeki are particularly low while Mahbarani is outstanding. There are five villages that do not have secondary or tertiary income sources except for Gunde. Soil conditions appears to be better since alluvial soil in the downstream area of Nyarupakwe River could be favorable to agriculture.

(b) Land Holding and Cropping

Average agricultural land holding is 4.43 ha per family in the Survey Area - C. Since majority of the population within the Survey Area - C except for Mahbarani is resettled to the present area in the early 1950s, and that they were given 5 ha of land per family for their self-reliance life style, the present land holding size is less than what they were given at the time of resettlement. There are a very few of them own more than 10 ha of land in the Survey Area - C. Mahbarani is making Z$ 74,750 per year of income, as is shown in the following table, a far better value than any other village in the overall survey area.

Comparison of Income Values in the Survey Area - C

	Primary Income	Secondary Income	Tertiary Income	Total
Gunde	32,500	15,671	14,300	62,471
Komboni	28,744	0	0	28,744
Mahvondo	60,300	0	0	60,300
Mateuro	38,360	0	0	38,360
Mujubeki	22,930	9,600	0	32,530
Mahbarani	51,000	23,750	0	74,750

Mahbarani is the indigenous people occupying probably the most fertile land

since they occupied in the present area. Mahvondo is also showing a high potential income level. In fact, it is the highest primary income value among others. If they had secondary and tertiary income sources, such as sales of livestock, they could also achieve very high income level. Komboni and Mujubeki are the migrant squeezed into the existing village area where soil conditions is limited to agriculture and grazing area is limited for livestock rearing.

Cropping area is predominantly cotton followed by maize, groundnuts and vegetables. Mahovondo, Mateuro and Mujubeki are particularly unlucky that their yield is less than a quarter of what Mahbarani could possibly harvest. The table below shows cotton growing area, its production and income level to other villages in the Survey Area - C. As is shown, high income and large cotton growing area is somewhat related to each other.

Comparison of Income Values and Cotton Growing Area an Its Yield: Survey Area - C

	Cotton Growing Area (ha)	Production (bale)	Total Income (Z$)
Gunde	2.93	14.7	62,471
Komboni	1.71	17.5	28,744
Mahvondo	2.21	8.0	60,300
Mateuro	3.15	9.4	38,360
Mujubeki	1.15	7.8	32,530
Mahbarani	1.16	24.0	74,750

While cotton is cash earner, Mahvondo and Mateuro consumed 30 - 50 % of cotton at home. On the other hand, maize is a staple food in the survey area. Thus, 56 % of the harvest is consumed at home in all of the villages in the Survey Area - C. The same is true to ground nuts that its 66.9 % is consumed at home. Cotton and maize is also spent by Mahvondo for debt payment while Gunde use maize for debt payment. Other villages do not use their harvest for dept. The average expenditure of the Study Area - C is considerably good except for Komboni and Mateuro, which are on the debt side comparing to the average earning.

(3) Socio-economic Characteristics of Households

There is a relatively large number of female registered land in the Survey Area - C. This is compared to the ratio of household head that are compatible to each other as is shown in the following table :

Gender Distribution of Land Holding Title: Survey Area - C

	Female	Male	No Answer/Other	Total
Land Holding	14	43	3	60
%	23.3	71.7	5	100
Household Head	16	44	0	60
%	26.6	73.4	0	100

As is shown in the Section 3 of Table 8, there are a number of problems that the local population of the Survey Area - C has been experiencing to date. This is compared to the contents presented in the Table 3. Local needs of water for agricultural activities including stock farming based on the public hearing and the result of household interview survey are not quite compatible each other. The demands on transportation for marketing agricultural commodities, medical care are more of the problems that the local population feel that they need to be solved as soon as possible. Experiences with Agritex, veterinary services, cooperatives, NGOs and other services are considered not sufficient to meet the local demands.

The local population does not expect that the Pilot Project will be of a help to enhance local economy. They stated, as is shown in the Table 8, road, medical care, bridge construction, and transportation development might not be improved unless the government initiate such projects. However, they recognize that the Pilot Project is hoped to solve the problems on water supply for domestic use, agriculture and livestock.

While there was no question made in the questionnaire if fish supply is a major problem, the local population stated that the benefit of the dam is to keep fish in the reservoir. This reflect their demand on protein food, apart from beef as conventional food item, adding to the present eating habit. Fish could also be of an income generating item if properly maintained in the reservoir. The Pilot Project is also looked at the major water supply for their agricultural activities as they understood the purpose of the project.

The local population recognizes that the Pilot Project scheme, mainly irrigation, will not create major burden of work load as 75 % of them so answered.

For relocation, 50 out of 60, or 83.3 %, of the interviewed household showed their attitude of moving to other area for implementation of the project. In the case of the conditions of relocation, 47 out of 60, or 78.3 %, stated that the proper compensation is a minimum condition for relocation. There was no people who did not want to state the conditions of relocation. This is an indication that very high percentage of the local population is willing to relocate for implementation of the project.

10.2 Analysis of the Socio-economic Environment - Qualitative Survey

10.2.1 Sub-grouping of the Survey Area

With respect to the development of the proposed Pilot Project and the geographic location of its components, the following definition on the sub-grouping of the survey area has been generated during the survey period for the qualitative survey.

(a) Subgroup 1

Villages in the upstream area of the proposed dam and irrigation development

that are too far away to receive benefit directly from it but a small scale silt trap dam, which is at the same time made available as cattle watering place and the district road rehabilitation within them should benefit directly. They are Marumbe and Muchina.

(b) Subgroup 2

Villages that will receive benefit directly from the proposed dam and part of the farming area is flooded by the dam. They area Makarichi, Muza and Sekema.

(c) Subgroup 3

Villages with the arable lands that are earmarked for irrigation development. They are Hlamba and Magonyo.

(d) Subgroup 4

Villages that are midstream of the proposed dam and irrigation development area and that they are relatively close to the project area for which direct and indirect benefit are expected to some extent. They are Murandu, Jeffrey, Komboni, Mahvondo and Mateuro.

(e) Subgroup 5

Villages that are downstream of the proposed dam and irrigation development area and located far away from both infrastructure to benefit directly from them. They are Gunde, Mujubeki and Mahbarani.

Socio-economic analysis of the above five subgroups that will receive benefit and that they relate differently with the project are analyzed in the following sections. Their total number of households and the size of samples subject to analysis are shown in the Table 7.

10.2.2 Analysis of Socio-economic Environment: Subgroup 1

(1) Origin of the Population

Result of the survey carried out with open-ended questionnaire for Marumbe and Makarichi is presented in this section of the report. Questionnaire used for this survey is shown in the Attachment 3. Some of the questions are supplemental to quantitative survey's questions. Although the purpose of the survey presented in this section is to illustrate as much qualitative side of the local community, some are analyzed based on quantity of responses obtained during the survey.

Origin of the population in Marumbe is in Gokwe South area although a number of households are small compared to the number of the total number of survey carried out in this village. This is known from the PRA exercises. The population in Muchina is believed to be the immigrant from Rosedale near Kwekwe during early 1950s. It is interesting to note that relatively large number of polygamous families

are common in Muchina. Although they are the migrants as the same as those living in the neighboring villages, it is Muchina that the proportion of polygamous families are very large comparing to other villages.

Origin of Population and Form of Marriage: Sub-group 1

Village	No. of Survey			Form of Marriage	
	Total	Immigrant	Local	Monogamous	Polygamous
Marumbe	18	16	2	16	2
Muchina	19	19	0	9	10
Total	37	35	2	25	12

(2) Size of Household, Land Holding and Livestock Holding

Size of household is comparative the same as the result of quantitative survey. However, the size of land holding is relatively small. Taking this into account, average size of land holding will become some 5.6 ha/family. This is the size of land given to the local population at the time of migration in the case of Muchina. This indicates that the families in this area do not overly expand their farming area. The result of quantitative survey shows that there are very few families who do not own land, or relatively small land. In the case of Marumbe, the indigenous population, there are no landless families recorded during the survey. This implies that the level of the standard of living is relatively at the same level among the local population, especially in the case of Marumbe. This is because the weather conditions is as harsh as everyone in the village, lack of water for cropping, and the social value system of the local community that every should remain "as poor as everyone else" must have been achieved to date.

Size of Household, Land Holding and Livestock Holding: Sub-group 1

Village	Average Size of Household			Land Holding	Average No. of Livestock	No. of H/H with Cattle
	Lowest	Highest	Average	ha	No.	No.
Marumbe	3	12	7	4.4	11	16
Muchina	2	12	5	3.8	9	11
Total/Avg.	-	-	6	4.1	10.0	13.5

(3) Identified Local Needs and Problems

As is shown in a set of following tables, the local population is concerned with water supply, transportation for marketing their agricultural commodities, improvement of the conditions of road and medical care. It appears to be very typical case of rural communities in Zimbabwe. In the case of Marumbe, water shortage is not severe because of spring water permanently available as it seeps out at the tow of escarpment of Mufungabusi Plateau while it is not the case in Muchina.

Identified Local Needs and Problems: Marumbe

Needs/Problems	Frequency	Rank
1. Roads	13	1
2. Transport	12	2
3. Health	10	3
4. Water	8	4
5. Grazing	4	5
6. Bridges	3	6

Identified Local Needs and Problems: Muchina

Need/Problems	Frequency	Ranking
1. Water	19	1
2. Roads	19	2
3. Medical Services	16	3
4. Paddocks	12	4
5. Transport	2	5
6. Ambulance	1	6
7. Markets	1	7

(4) Community Initiatives for Solution of the Needs and Problems

The following is the community actions taken to date in order to improve the situation.

Needs/Problem	Community Action
Roads	Community led road maintenance initiatives
Transport	Councilor took action on transportation problem to District Administration
Health	Problem of clinics put across to the councilor
Water	Borehole construction
Grazing	No action
Marketing	Councilor sent for COTTCO to negotiate for a depot
Bridges	No action

For the above, the solutions suggested by the community is that the government should provide technical support and finance for the construction of roads, wells, or dams as well as the following suggestions were considered important:

- Good roads maintenance program;
- More transport Services;
- New services center;
- COTTCO and GMB to provide marketing depots;
- Padocking/Fencing of grazing areas;
- Bridge construction; and
- Introduction of maternity and ambulance services.

The local population recognizes that the water in demand is for the purpose of drinking, washing, cooking, bathing, watering livestock and gardens they grow vegetables. Since there is no portion of the river course as sacred, use of the river for water resources development should be the viable option as they considered it very important for their livelihood for a considerable period of time.

In order to fulfill the needs or solve the problems, the local community took some actions as is shown below.

Community Action Plan: Sub-group 1

Needs/Problems	Action	Responses
Water	Borehole/Deep well construction	6
Roads	Community Work	8
Medical drugs	Non-action	19
Paddocks	Non-action	19
Transport	Non-action	19
Ambulance	Non-action	19
Markets	Non-action	19

The actions taken to fulfill their needs or to solve the problems are limited to a small scale operation because of the financial constraints. Thus the local population remains with low standard of living as it has been for considerable period of time.

10.2.3 Analysis of Socio-economic Environment: Subgroup 2

(1) Origin of the Population

Subgroup 2 consists of Makarichi, Sekema and Muza. The latter three are directly affected by the impoundment of the water in Nyarupakwe River. They are the migrant from Rosedale near Kwekwe and resettled in the present area during early 1950s. Although the origin is the same as those of Muchina, form of marriage is essentially monogamous.

Origin of Population and Form of Marriage: Sub-group 2

Village	Total No. of Survey	Origin of Population		Form of Marriage	
		Immigrant	Local	Monogamous	Polygamous
Makarichi	18	18	0	18	0
Sekema	19	19	0	18	1
Muza	13	13	0	11	2
Total	50	50	0	47	3

(2) Size of Household, Land Holding and Livestock Holding

Size of household is comparatively the same as the result of quantitative survey. However, the size of land holding is approximately three times as large as that of the quantitative survey. Taking this into account, average size of land holding will become some 4.52 ha/family. This is the size of land given to the local population at the time of migration in the case of Muchina. However, there are some large area of land owners as well as a large number of small land owners in this area that are

revealed during the survey period. This indicates that the families in this area do vary in terms of the size of land holding. In the case of Muza, difference between large land owners and small owners are comparatively large. This implies that the level of the standard of living is quite different. In this area, soil condition is favorable to agriculture. Thus, depending on the weather conditions, hard working families tend to be rich owning large area of land.

As is shown in the Fig. 3 Cohesive Community in the Survey Area, these villages are particularly cohesive in terms of its cooperation to help each other. This is probably due to the fact that they moved into the present area at the same time and the same difficult natural conditions for agriculture ever since.

Size of Household, Land Holding and Livestock Holding: Sub-group 2

Village	Average Size of Household			Land Holding	Average No. of Livestock	No. of H/H with Cattle
	Lowest	Highest	Average	Acre	No.	No.
Makarichi	4	18	6	6.4	9	16
Sekema	4	21	9	6.6	19	9
Muza	5	35	4	7.4	3	19
Total/Avg.	-	-	6.3	6.8	10.3	14.6

(3) Identified Local Needs and Problems

Ranking of the local needs and problems identified during the qualitative survey in this area is essentially the same as that of the local needs identified during the public hearing meeting followed by PRA exercises. Water is the most aspired item of development needs in this area. The two villages in the Sub-group 1 and the three villages in the Survey Area - A have been working together to promote a small scale dam on Nyarupakwe River. The height of the dam is to be less than 5 m in order to impound water of the river for the purpose of live stock watering. Location of the dam is some 5 km upstream of the dam site selected by JICA Study Team.

Identified Local Needs and Problems: Makarichi

Needs/Problems	Frequency	Ranking
1. Water	18	1
2. Roads	18	2
3. Grazing	12	3
4. Buses/transport	5	4
5. Hospitals/electricity	4	5
6. Food/bridges/markets/fuelwood	1	6

Identified Local Needs and Problems: Sekema

Needs/Problems	Frequency	Ranking
1. Water	19	1
2. Roads	18	2
3. Transport	9	3
4. Grinding Mill	5	4
5. Bridges	5	5
6. Land	4	6
7. Clinic	4	7
8. Phones	3	8
9. Markets	3	9
10. Electricity	2	10
11. Accommodation	2	11
12. Dip Tanks	1	12

Identified Local Needs and Problems: Sekema

Needs/Problems	Frequency	Ranking
1. Water	15	1
2. Roads	12	2
3. Transport	9	3
4. Grinding Mill	5	4
5. Bridges	5	5
6. Land	4	6
7. Clinic	4	7
8. Phones	3	8
9. Markets	3	9
10. Electricity	2	10
11. Accommodation	2	11
12. Dip Tanks	1	12

Identified Local Needs and Problems: Muza

Needs/Problems	Frequency	Ranking
1. Water	13	1
2. Roads	10	2
3. Grazing	8	3
4. Buses/transport	5	4
5. Hospitals/electricity	4	5
6. Food/bridges/markets/fuelwood	1	6

Other items of development needs such as road, transportation for marketing and passenger, bridges, etc. are all the same as identified during the public hearing meeting.

(4) Community Initiatives for Solution of the Needs and Problems

The following is the community actions taken to date in order to improve the situation. These are essentially the same as that of identified in the Sub-group 1.

Needs/Problem	Community Action
Roads	Community led road maintenance initiatives
Transport	Councilor took action on transportation problem to District Administration
Health	Problem of clinics put across to the councilor
Water	Borehole construction
Grazing	No action
Marketing	Councilor sent for COTTCO to negotiate for a depot
Bridges	No action

The member of community attempted to address issues related environmental conservation and water supplies. The member of community contribution has been made for dam construction in terms of donating fixed amount of money per year. They also addressed that the village reorganization/restructuring to solve grazing problems including the following:

- Government and donor community should assist technically and financially for the road construction;
- Responsible authorities to lobby for increased number of bus services on the route;
- The need for effective leadership was identified;
- COTTCO and GMB to provide marketing depots;
- Padocking/Fencing of grazing areas;
- Bridge construction; and
- Introduction of maternity and ambulance services.

In order to fulfill the needs or solve the problems, the local community took some actions as is shown in the next table.

Community Action Plan: Sub-group 2

Needs/Problems	Action Plan
1. Buses	No action
2. Roads	Community labour
3. Water	Cash contributions for dam construction
4. Medical drugs	No action
5. Cattle grazing area	New paddock
6. Hospitals	No action
7. Bridges	No action
8. Electricity	No action
9. Markets	No action
10. Fuelwood	No action

10.2.4 Analysis of Socio-economic Environment: Subgroup 3

(1) Origin of the Population

The Sub-group 3 consists of Hlamba and Magonyo that are directly affected by the

irrigation area development. Those of Hlamba are the migrant from Rosedale near Kwekwe and resettled in the present area during early 1950s. The population in Magonyo is the indigenous. Historically, they parceled out their land to the present neighboring villages. Although the origin is the same as those of Muchina, form of marriage is essentially monogamous. It appears that they are slowly changing from polygamy to monogamy.

Origin of Population and Form of Marriage: Sub-group 3

Village	Total No. of Survey	Origin of Population		Form of Marriage	
		Immigrant	Local	Monogamous	Polygamous
Hlamba	18	18	0	13	5
Magonyo	20	14	6	18	2
Total	38	32	6	31	7

(2) Size of Household, Land Holding and Livestock Holding

Size of household is comparatively larger than the size of household revealed as a result of quantitative survey. Taking into account, average size of household is 7.1 persons/family. The size of land holding is 6.95 ha/ family as a result of quantitative survey. This is compared to 3.7 ha/family in this survey. There are some large land owners in Magonyo. However, average size of land owners are clustered around 5 ha. This indicates that the families in this village do not vary in terms of the size of land holding. In the case of Hlamba, difference between large land owners and small owners are comparatively large. This implies that the level of the standard of living is quite different in Hlamba whose population is highly educated, competitive and progressive. In this area, soil condition is favorable to agriculture. Thus, depending on the weather conditions, hard working families tend to become rich owning large area of farming land.

As is shown in the Fig. 3 Cohesive Community in the Survey Area, together with Murandu in the Sub-group 4, Hlamba and Magonyo form a unit of cohesive community leading the economic achievement among others within the survey area. The community is particularly knowledgeable and progressive in terms of agricultural development. No. of cattle they own is also noticeably high comparing to those of other villages.

Size of Household, Land Holding and Livestock Holding: Sub-group 3

Village	Average Size of Household			Land Holding	Average No. of Livestock	No. of H/H with Cattle
	Lowest	Highest	Average	ha	No.	No.
Hlamba	3	26	9	2.5	8	14
Magonyo	4	24	8	4.8	4	17
Total/Avg.	-	-	8.5	3.7	6	15.5

(3) Household Headed by Women

It is interesting to note that there are a large number of household headed by women

in this area. Comparing to other areas, there are a large proportion of households headed by women. When one considered that men were reported to be the head of household, they were absent most of the times and were economically engaged elsewhere. In fact, as many as half of the households were headed by women. This reflects that there would have been more woman-headed households. It is the case that if there was a husband not present, the household is automatically considered as the male-headed. In such cases women are functionally in charge of the household for all intents and purposes.

Household Headed by Women: Sub-group 3

Village	As Recorded		As in Function (de facto)	
	Female	Male	Female	Male
Hlamba	2	16	10	9
Magonyo	5	15	9	10
Total	7	31	19	19

(4) Identified Local Needs and Problems

Ranking of the local needs and problems identified during the qualitative survey in this area is essentially the same as that of the local needs identified during the public hearing meeting followed by PRA exercises. Water is the most aspired item of development needs in this area. The two villages in the Sub-group 3 and Murandu in the Sub-group 4 have been working together to construct a small scale dam on the tributary of Nyarupakwe River. The height of the dam is to be less than 5 m in order to impound water of the river for the purpose of live stock watering. It was this effort that these villages became better-off, as is shown in the Section 4.2, than other villages within the survey area. Transportation for marketing is in the top ranking because of their aspiration of marketing agricultural commodities to large marketing centers for commercial purposes.

Identified Local Needs and Problems: Hlamba

Needs/Problems	Frequency	Ranking
1. Transportation	11	1
2. Water	7	2
3. Medical Supply	7	3
4. Markets	6	4
5. School	3	5
6. Grazing land	3	6
7. Dips and bridges	2	7
8. Electricity	2	9
9. Deforestation	1	9

Identified Local Needs and Problems: Magonyo

Needs/Problems	Frequency	Ranking
1. Water	13	1
2. Land for Agriculture	12	2
3. Roads	12	3
4. Transportation	11	4
5. Paddocks	7	5
6. Grinding Mill	6	6
7. Dip Tank	5	7
8. Township	2	8
9. Books at School	1	9
10. Clinics	1	10

Other items of development needs such as road, transportation for marketing and passenger, bridges, etc. are all the same as identified during the public hearing meeting with the same reasons.

(5) Community Initiatives for Solution of the Needs and Problems

The following is the community actions taken to date in order to improve the situation. These are essentially the same as that of identified in the Sub-group 1 and 2.

Needs/Problem	Community Action
Water	Borehole construction
Grazing	No action
Bridges	No action

The member of community attempted to address issues related environmental conservation and water supplies. The member of community contribution has been made for dam construction in terms of donating fixed amount of money per year. They also addressed that the village reorganization/ restructuring to solve grazing problems including the following:

- Government and donor community should assist technically and financially for the road and bridge construction;
- The need for effective leadership was identified;
- Padocking/Fencing of grazing areas;
- More investments into social infrastructure; and
- Good effective leadership.

In order to fulfill the needs or solve the problems, the local community took some actions as is shown in the table below.

Community Action Plan: Sub-group 3

Problem	Action Plan
1. Water	Deep well/borehole Construction
2. Land	Non-action
3. Transport	Non-action
4. Grinding mill	Non-action
5. Bridges	Non-action
6. Books at school	Non-action
7. Clinics	Fund Raising for Medical Supply
8. Townships	Non-action
9. Paddocks	Non-action
10. Dip tanks	Non-action

10.2.5 Analysis of Socio-economic Environment: Subgroup 4

(1) Origin of the Population

The Sub-group 4 consists of Murandu, Jeffrey, Komboni, Mahvondo and Mateuro that are not directly affected by the Pilot Project. Those of Murandu are the indigenous and the majority of Mahvondo and Mateuro are the migrant as well as Jeffrey and Komboni. They are from Rosedale near Kwekwe as well as other areas of the country and resettled in the present area during early 1950s. Historically, the residents in Murandu parceled out their land to the present neighboring villages. Those of local people in Mateuro are considered as indigenous of Murandu. Those of local in Mahvondo are indigenous of Mabharani. Form of marriage is essentially polygamous except for Komboni, which was exposed to Christianity before they resettled in the present area. It appears that they are very slowly changing from polygamy to monogamy.

Origin of Population and Form of Marriage: Sub-group 4

Village	Total No. of Survey	Origin of Population		Form of Marriage	
		Immigrant	Local	Monogamous	Polygamous
Murandu	19	14	5	15	4
Jeffrey	18	18	0	13	5
Komboni	10	10	0	10	0
Mahvondo	10	7	3	5	5
Mateuro	10	7	3	3	7
Total	67	56	11	46	21

(2) Size of Household, Land Holding and Livestock Holding

Size of household is slightly larger than the size of household revealed as a result of quantitative survey. Taking into account, average size of household is 7.2 persons/family. The size of land holding is 5.81 ha/ family as a result of quantitative survey. This is compared to 4.1 ha/family in this survey. There are not many large scale land owners in this area. Average size of land owners are clustered around 5 ha. This indicates that the families in this village do not vary in terms of the size of land holding i.e. economic development might not have been on the competitive basis.

Average number of cattle per household is also small compared to those in Hlamba and Magonyo. This is another indicator that the area has limited natural resources as well as the social practice of which "everyone has to achieve the same level of standard of living".

Size of Household, Land Holding and Livestock Holding: Sub-group 4

Village	Average Size of Household			Land Holding	Average No. of Livestock	No. of H/H with Cattle
	Lowest	Highest	Average	ha	No.	No.
Murandu	6	10	8.2	6.0	5	2
Jeffrey	3	26	8.9	2.5	7	12
Komboni	4	8	7.4	3.3	2	8
Mahvondo	3	23	8.7	4.1	5	6
Mateuro	1	14	7.1	4.5	2	5
Total/Avg.	-	-	8.1	4.1	4.2	6.6

(3) Household Headed by Women

It is interesting to note that there are a large number of household headed by women in this area as the same as the Sub-group 3. Comparing to other areas, there are a large proportion of households headed by women. When one considered that men were reported to be the head of household, they were absent most of the times and were economically engaged elsewhere. In fact, as many as half of the households were headed by women. This reflects that there would have been more woman-headed households. It is the case that if there was a husband not present, the household is automatically considered as the male-headed. In such cases women are functionally in charge of the household for all intents and purposes.

Household Headed by Women: Sub-group 4

Village	As Recorded		As in Function (de facto)	
	Female	Male	Female	Male
Murandu	2	17	6	13
Jeffrey	2	16	10	8
Komboni	5	5	5	5
Mahvondo	3	7	5	5
Mateuro	3	7	6	4
Total	15	52	32	35

(4) Identified Local Needs and Problems

For Komboni, Mahvondo, and Mateuro, there was no PRA exercise carried out as they were considered as remote area from which the benefit of the Pilot Project is reaching or adversely affected. However, the ranking of the local needs and problems identified during the qualitative survey in this area is essentially the same as that of the local needs identified during the public hearing meeting followed by PRA exercises carried out for the Sub-group 1, 2, 3 and a part of 4.

Water is not the most aspired item of development needs in this area. As is shown, there is no unanimously listed item of economic development scheme. Local needs and problems are diversified from one village to the other. Jeffrey is the only village

unanimously listed "Business Center" as the needed development for the village.

Among the top three items medical care appears to be in the high priority followed by water supply and road improvement. It is in this area that the community effort for participation is made to repair road during the rainy season as labor is provided by the villagers.

Identified Local Needs and Problems: Murandu

Needs/Problems	Frequency	Ranking
1. Clinics	12	1
2. Roads	10	2
3. Grazing	6	3
4. Transport	5	4
5. Land	3	5
6. Dips	2	6
7. Electricity	2	7
8. Schools	2	8
9. Water	2	9
10. Banks	2	10
11. Business center/erosion	2	11
12. No projects	1	12
13. Deforestation	1	13

Identified Local Needs and Problems: Jeffrey

Needs/Problems	Frequency	Ranking
1. Secondary school	9	1
2. Water	5	2
3. Grinding Mill	2	3
4. Roads	2	4
5. Grazing	1	5
6. Toilet	1	6
7. Transport	1	7

Identified Local Needs and Problems: Mahvondo

Needs/Problems	Frequency	Ranking
1. Bridge	8	1
2. Clinic	7	2
3. Water	5	3
4. Road	4	4
5. Electricity	1	5
6. Service Center	1	5
7. Grinding mill	1	5

Identified Local Needs and Problems: Komboni

Needs/Problems	Frequency	Ranking
1. Business Center	10	1
2. Roads	9	2
3. Clinics	5	3
4. Pastures	5	4
5. Schools	4	5
6. Bridges	4	6
7. Grinding Mill	2	2

Identified Local Needs and Problems: Mateuro

Needs/Problems	Frequency	Ranking
1. Water	9	1
2. Medical Supply	7	2
3. Roads	7	3
4. Employment	6	4
5. Food	5	5
6. Cattle Dip	5	6
7. Electricity	5	7
8. Grinding Mill	4	8

(5) Community Initiatives for Solution of the Needs and Problems

Since those villages within the Sub-group 4 listed diversified needs and problems, their past and present effort taking actions in order to improve situation is different from one village to the other.

(a) Murandu

The following is the community actions taken to date in order to improve the situation in Murandu.

Needs/Problem	Community Action
Water Supply	Cash contribution for dam construction
Medical Care	Clinic building constructed by the village as well as with the neighboring villages

The villagers attempted to address issues related to health and water supplies. Donor support for community development project technical assistance from relevant government department for the issues are also suggested. They further suggested that strong representative and effective leadership are most needed.

(b) Jeffrey

The following is the community actions taken to date in order to improve the situation in Jeffrey.

Needs/Problem	Community Action
Secondary School	Contributed bricks & labour
Water	Raised money for dam

The nearest school is more tan 10km away and this was considered to be a matter of serious concern in the village. The problem of clean and accessible water ranked second. The available Grinding mill was reported as being far

away and unreliable. The community lamented the poor state of roads, sanitation and transport services in the community. They therefore contributed bricks for construction of road and sanitation facilities when required. They also contributed building expertise and labour. They suggested that the donor and the government should provide the technical and financial support for infrastructure project.

(c) Komboni

The following is the community actions taken to date in order to improve the situation in Komboni.

Needs/Problem	Community Action
Grazing Area Management	Paddock system introduced

There was a strong feeling among community members that a new business center was needed nearby since most residents had to travel over 20 km to the nearest business center. This can not be done by the community effort at all. On a second note, the residents lamented the poor state of roads. The third problem as perceived by the community was pastures followed by schools, and then brides and lastly grinding mill. They took pasture improvement system as viable option for the villagers.

The community did not suggest any solutions for the above unsolved problems save for roads and bride construction. The community suggested that an alliance/partnership should be forged with donors and relevant government departments for the construction of roads and brides.

(d) Mahvondo

The following is the community actions taken to date in order to improve the situation in Mahvondo.

Needs/Problem	Community Action
Water Supply	Cash contribution for dam construction
Medical Care	Clinic building constructed by the village as well as with the neighboring villages

The villagers suggested that the youth employment through investment projects should solve unemployment problem. Donor support for community development project is absolutely necessary. They further suggested that the technical assistance from relevant government department for water supply system and road construction is needed coupled with strong representative and effective leadership.

(e) Materuro

The following is the community actions taken to date in order to improve the situation in Mateuro.

Needs/Problem	Community Action
Water Supply	Cash contribution for dam construction

The villagers attempted to address issues related environmental conservation and provision of medical services as well as water supply system and veterinary services. They also suggested that the government and donors should provide technical and material support for provision of social and physical infrastructure.

10.2.6 Analysis of Socio-economic Environment: Subgroup 5

(1) Origin of the Population

The Sub-group 5 consists of Gunde, Mahbarani and Mujubeki that are not directly affected by the Pilot Project and further away from the project area then those in the Sub-group 4. Those of Mahbarani and Gunde are the indigenous while majority of Mujubeki are the migrant. Those of local in Mujubeki are originally the residents of Mahbarani before the people migrated to Mujubeki during the early 1950s.

Historically, the residents in Mahbarani parceled out their land to the present neighboring villages. Those of local people in Mateuro are considered as indigenous of Murandu. Those of local in Gunde are indigenous of Mahbarani. Form of marriage is polygamous for Gunde. It appears that they are very slowly changing from polygamy to monogamy while Mahbarani and Mujubeki did not practice polygamy in the past.

Origin of Population and Form of Marriage: Sub -group 5

Village	Total No. of Survey	Origin of Population		Form of Marriage	
		Immigrant	Local	Monogamous	Polygamous
Gunde	10	7	3	5	5
Mabharani	10	8	2	10	0
Mujubeki	10	9	1	10	0
Total	30	24	6	25	5

(2) Size of Household, Land Holding and Livestock Holding

Size of household is slightly larger than the size of household revealed as a result of quantitative survey. Taking into account, average size of household is 6.6 persons/family. The size of land holding is 3.65 ha/ family as a result of quantitative survey. This is compared to 3.0 ha/family in this survey. There are not many large scale land owners in this area. Average size of land owners are clustered around 3-5 ha. This indicates that the families in this village do not vary in terms of the size of

land holding i.e. economic development might not have been taking place on the competitive basis.

Average number of cattle per household is very large in the case of Gunde and very small in the case of Mahbarani and Mujubeki. This is another indicator that the area has limited natural resources as well as the social practice of which "everyone has to achieve the same level of standard of living".

Size of Household, Land Holding and Livestock Holding: Sub-group 5

Village	Average Size of Household			Land Holding	Average No. of Livestock	No. of H/H with Cattle
	Lowest	Highest	Average	Ha	No.	No.
Gunde	3	23	9	4.1	5	16
Mahbarani	3	12	9	3.3	2	3
Mujubeki	1	6	4	1.7	7	2
Total/Avg.	-	-	7.3	3.0	4.6	7.0

(3) Identified Local Needs and Problems

For Gunde, Mahbarani and Mujubeki, there was no PRA exercise carried out as they were considered as remote area from which the benefit of the Pilot Project is reaching or adversely affected. However, the ranking of the local needs and problems identified during the qualitative survey in this area is essentially the same as that of the local needs identified during the public hearing meeting followed by PRA exercises carried out for the Sub-group 1, 2, 3 and a part of 4.

Water is not the most aspired item of development needs in this area. As is shown, there is no unanimously listed item of economic development scheme. Local needs and problems are diversified from one village to the other.

Among the top three items that the local population consider their needs or problems needs to be solved are anything related to road including bridges and transportation followed by medical care. It is in this area that the community effort for participation is made to repair road during the rainy season as labor is provided by the villagers.

Identified Local Needs and Problems: Gunde

Needs/Problems	Frequency	Ranking
1. Bridge	8	1
2. Medical Care	7	2
3. Water	5	3
4. Road	4	4
5. Electricity	1	5
6. Service Center	1	5
7. Grinding mill	1	5

Identified Local Needs and Problems: Mahbarani

Needs/Problems	Frequency	Ranking
1. Medical Care	5	1
2. Roads	5	2
3. Water	5	3
4. Transport	5	4

Identified Local Needs and Problems: Mujubeki

Needs/Problems	Frequency	Ranking
1. Transport	6	1
2. Medical Care	6	2
3. Road	5	3
4. Communication	2	4

(4) Community Initiatives for Solution of the Needs and Problems

Since those villages within the Sub-group 5 have listed diversified needs and problems, their past and present effort taking actions in order to improve situation has been different from one village to the other.

(a) Gunde

The following is the community actions taken to date in order to improve the situation in Gunde.

Needs/Problem	Community Action
Bridge	Community provided materials
Water	Contribution of money to dig bore hole

In Gunde, majority of the respondents (56%) did not envisage any problems in the village. However, the most noteworthy need was a bridge. A good number of respondents (38%); converged on the answer that the clinic was the next most important problem. The problem of water supplies ranked third (28%) and poor state of roads (22%) fourth. The rest of the problems seemed insignificant. There were grinding mill (5%), electricity (5%), and these all ranked fifth.

There is a convergence of conclusion among the few respondents on the above subject matter that addressing these problems would need to start from communities taking participatory approaches by mobilizing a few material resources they endow and then call for external technical assistance whether from government or donors at another level.

(b) Mahbarani

The following is the community actions taken to date in order to improve the situation in Mahbarani.

Needs/Problem	Community Action
Road	No action has been taken
Medical Care	Cash/labour contributions
Water Supply	Dig more wells

The villagers suggested that financial/technical assistance from donors and relevant government departments are the most welcome.

(c) Mujubeki

Needs/Problem	Community Action
Transportation	Approached bus company
Medical Care	Cash/labour Contributions
Road Maintenance	Provided labour under community road works program

There has been suggestions that the donors and government have to provide the technical and financial support for physical and social infrastructure. The community also suggested that they could offer cash and labour contributions along with the government action.

11. Gender Issues

11.1 Female Access to Resource and its Ownership and Control

Less than 15% of the households in the survey area are headed by women. However about 30 % of men are reported to be engaging with gainfully employed outside the village. They are therefore not present to make crucial decisions that relate to the day to day running of their families. Provided these absentee household heads control resources and asset, 45 % of women control over the resources and asset of the household within the survey area.

Land is generally issued under male member of the household except for which in situations where a woman is widowed. Women do not own but accessible to land and therefore have traditional user rights through a male member of the family.

Within the survey area, 93% of the land and 78.2 % of the agricultural equipment is owned and controlled by men but these men are not involved in the seasonal and daily agricultural activities. This implies that the agricultural activities are being claimed by men that women can not carry out.

In terms of ownership, control and decision making of the use agricultural equipment/implements, there is concern over what was referred to as family's

common property. This understated a lot of power dynamics which pursued further only to be confirmed that such property is actually male owned and controlled and that final decisions are always made by male members of the family. In this connection, women have less decision making powers with regards to ownership and control of agricultural equipment, input and output, let alone disposal of livestock including chickens in some cases that are traditionally accounted for as asset of the family.

11.2 Gender Roles and Activities

The result of PRA exercises and individual household survey, especially the survey carried out with qualitative questionnaire are indicative that women are the most active in both productive and domestic activities at all levels, namely household, group and community level. With the proposed irrigation scheme, it is crystal clear that they are going to be imposed on the additional workload for irrigation agriculture.

Domestic activities in the survey area are still prescribed according to the traditional value system. Women expected to carry out most of the routine household works which used to of an importance before the advent of colonialism but are not recognized at the moment as important task to support male members of the family. Probably it is because there is no monetary value attached to them. Generally men spoke of planning the entire family's destination and supervising the implementation of the planned tasks by women and children. Men out-rightly state that the important economic activities are the work they initiate and carry out, not the domestic activities.

As examined, off-farming season provides sort of a reprieve for women. However, with the introduction of the pilot project, for which irrigation has to be done 24 hours a day for 365 days a year in terms of water use, women will be further marginalized, disempowered and exploited depending on whether land has been issued to families via head of household.

Usually men unless one is widowed or has always been single, their chance of title to land in this scheme may not be achieved. The intensity of the woman's day in comparison to the man's day are continuously widened unless there is clearly reflected women's mobility and needs are critically examined. Thereby the constraint of women's work load is reduced.

Unless general sensitization is achieved within the survey area, particularly for those related to the irrigation development scheme, at all levels such as institutions, traditional leadership, women themselves, overburden of female shoulder may not be reduced. In terms of achieving the balancing workload between man and woman, decision making and the control of resources and economic benefits accruing to the family should be achieved through the proposed pilot project by redressing the anomalies and imbalances inherent in this survey area.

For enhanced productivity, confidence and morale boosting on the part of women, there is a need for both sexes to enter the pilot project as equal partners with equal opportunities in accessing and owning plots in their own right. This will lead to determination of what is to be grown at what time, and controlling what and using the what kind economic benefits accrued to who as a result of the implementation of the pilot project.

11.3 Socio-historical Perspective of Gender Issue in Zimbabwe

Central to the women's issue is their inferior status, real or imagined, as a result of covert and/or overt discrimination against them, resulting in unequal opportunities for them in relation to men. Societal values, norms, beliefs and practices, mostly developed and propagated by men, have discriminated against women throughout the various stages of development and evolution of the modes of production, from primitive communalism, through slavery, feudalism to capitalism.

Very few writings in Zimbabwe address the women question and where those writings exist, they have been written mostly by foreign missionaries who lacked deep insight into African traditional life. Oral history, the alternative to early missionary writings has been distorted, inconsistent and unreliable. However, it is generally agreed that in both the pre-colonial and colonial periods very little value was placed on female participation outside the home.

Women's contribution to Zimbabwe's economic development can not be separated from their role and position in their traditional society even before colonialism. This should be measured against the ever-changing position of women brought about by their contact with a more complex, more sophisticated, technically advanced society that became of Zimbabwe after coming into contact with other civilizations. The traditional African women were revered and respected by society for being providers of offspring, food and being repertoire of traditional customs. The survival and continuity of society was measured by the level of women's reproductivity.

Through marriage (never mind the type) the woman ensured the continuity of both her own and her husband's group and through involvement in agriculture the women provided food to sustain that life. Women became not merely an aspect of society, but its very core; the raison d'etre for society's existence. African wealth rested on female fertility and was measured in the number of descendants a woman reproduced. A woman who provided few offspring earned little respect for both herself and her husband. With motherhood and numerous children, a woman acquired prestige and social influence with her husband's group and when she became a grandmother, she was regarded as an authority on matters of custom and became a core participant in the ritual offerings that formed the nerve center of all traditional purity and religious society.

Although women's roles were determined by men, women were not regarded as

inferior. Gender roles were more complementary than causing conflicts. Men succeeded on the basis of the amount of social support they received from their wives, who in the times of war and natural disasters became society's shock absorbers by providing more offspring to replenish the lost population. Women were agriculturists (this has survived the test of history) while men were pastoralists and hunters. Women exercised considerable domestic power while men exercised more formalized political authority.

With colonialism came the formal partitioning and allocation of pieces of land to individual families. This eroded women's access to land in their own right. The woman acquired such access through her husband; but once she was shown her husband's piece of land she had autonomy and exclusive use of that land. She had sole control over the family's food stuffs which inter alia included the collection, preparation and distribution of food at meal times. Food distribution sometimes extended beyond the immediate nuclear family to kinsmen who assisted in agricultural tasks, to feast and community celebrations and the success or fame of a family largely depended on the industriousness of the woman.

It was the woman's success in agriculture that formed the foundation for Zimbabwe's agricultural success even after colonization. The first white settlers fed on the surplus grown by women and by 1901 it was accepted that the indigenous people of Zimbabwe were economically independent, and as agriculture was the base of their economy, women as the primary source of this economic wealth, must have enjoyed considerable influence and high status at the time.

Women's status began to chip away during the colonial rule. The settlers, the missionaries government officials, miners and farmers who came from Britain were of a middle class Victorian background and believed that men should dominate public as well as private social, economic and political life. Soon the erosion of women's importance began.

The settlers negotiated all political deals with men and in time convinced the native (black men) that women were domestic rather than political and should not be involved in matters of the state. Colonial legislation limited the amount of acreage each family was to till (3.4 ha). Women no longer cultivated as much land as they needed but as much land as was made available by the Colonial native District Commissioner(today's District Administrator). Nomadic pastoralism and hunting was reduced and soon banned. This drove men into agriculture in direct competition with their wives, the latter losing in the process.

With Colonialism also came the money(cash) economy. Faced with exhausted and reduced agricultural productivity, as a result of continued tillage of the same small piece of land, large numbers of men left their homes to look for work in the mines and white commercial farms as migrant labors. This temporarily left the women to regain their lost agricultural control. Those men who did not go for formal

employment began to grow crops for sale. No more was food grown primarily for family consumption and public ceremonies. The new love for cash deprived communities of nutrition as men sought to earn prestige by the tonnage of grain they sold and the amount of cash they realized from such sale. Women, however, largely continued to farm for home consumption. Where the husband and wife farmed side by side, they in effect farmed as separated individuals, using different methods, pursuing different ends and achieving as a result wide variations in production figures.

The sadness of the woman's situation is best summed up by Diana Auret (1990) who observed that "The decreasing fertility of the land, and the declining production of the woman resulted in enormous hardships for the woman, and ultimately led to a loss of prestige and standing within her marital extended family. Her workload however, continued to increase as she battled to feed her family, hampered by lack of knowledge of modern farming methods, lack of ownership of implements and lack of access to credit for agricultural inputs, lack of literacy to engage in business transactions". Nevertheless, the money economy benefited a number of women. The extensive use of money instead of cattle for bride price (lobola) made some fathers to see in their daughters monetary value.

Parents began to send girls to school knowing very well that educated daughters were more likely to attract large sums of bride price money than uneducated ones. As more and more men left for urban employment, women not kin groups took over responsibility for running nuclear family affairs. Such women participated on their husbands' behalf in public meetings called by the District Administrators and as the woman more and more carried out the transactions between domestic and public spheres, and as she became his representative in the community, he became socially dependent on her goodwill. (Hence the Shona adage Musah Mukadzi - the woman makes the homes). Archival records retrieved in Zimbabwe in 1977 shows that out of 765 000 peasant holdings in the rural areas, 235 000 were run entirely by women, and numbers are on the increase in post independent Zimbabwe. The role of women in development cannot therefore be ignored or underplayed. This is why at Independence a new direction was sought to redress the existing gender inequalities with a view to bring women back to the forefront of any development program.

This cannot come about without a whole change of societal attitudes, cultural norms and values. Equality between sexes must be accepted both mentally and in practice. Women need rights to land, access to credit, education and skills training related to all areas of social economic and political activity. There is therefore need for furtherance of ongoing debate to recognize the actual and potential role of women in development, the need for legislation to empower women in our society.

11.4 Recommendations on the Gender Issues

The following recommendations are given in light of the fact that women in this survey area are not essentially a homogenous group and that the women have

different life experiences. They fall into a number of categories by marital status, ethnicity (most of them are migrants to this area), and class too. However, they also share many of the same concerns derived from both their sex and relations with men in the community. The recommendations can therefore provide as a way forward and a basis upon which more specific issues can be dealt with as the pilot project is implemented.

(1) Land Allocation

Land allocation especially to cater for women in polygamous relations. Where an individual's right to resources is submerged and the male in the household owns property, there will be no disposal income available to women while women's labour tend to increase. Measures have to be taken to ensure that land is equally allocated for irrigation purposes to women in general (whether in polygamous or monogamous relationships). It is only then that women can own productive resources such as cattle through ownership and control of their output.

(2) Educational Program on Gender Issues

Gender sensitization program will benefit the pilot project if implemented. By offering sound explanations on the disadvantages of the existing gender relations in this survey area, an educational propaganda will gradually improve the gender issues. The proposal however is to have gender sensitization at three levels as follows:

- Implement initial program to understand gender issues of two separate groups, men and women, so as to help reveal the existing customs and value systems;
- Program on the implications on both sexes' welfare and integrity;
- Exercise gender sensitization program, which would be for both men and women as separate group.

With the implementation of the above program, there is a chance to compare and share the understanding of fundamental gender issues such as the division of labour, ownership and control of productive resources. Such program may help the community to review the existing social rules and customs governing the allocation of land and other essential resources. Furthermore, a critical look at customary law with regards to the provisions governing land and general resource distribution would give insights into how the issue of resource ownership can be best reorganized in a manner that is acceptable to this survey area.

Changes at this level require confronting the cultural ground upon which the whole system of the gender allocation of resources rests. Transformation should be much easier to guide if women themselves clearly understand their social and legal rights and what possible change can be offered to them. Suffice it to mention that no changes can be effected at the substantive or structural levels without strategic educational inputs. This may need not be at a formal level but through non-formal education or learning aimed at empowering women e.g. awareness raising workshops.

Another level of intervention on gender issue program will be at the institutional level. Institutions such COTCO, AFC and even local government that are manned by persons who are interested in gender issues may be of a help. Institutions are made up of individuals with ideological standpoints, which do not easily shift and can lead to administrative inertia. These individuals can bring right thoughts into organizational policy, their norms and values and even biases related to gender issues. In this regard gender sensitization program should also be targeted at such institutions and also at traditional leadership as an institution that implements decision and policy making.

(3) Intervention by Religious Organization

Since most of the women's groups are organized along religious lines it would be possible to tap on this initiative for the introduction of any new interventions. Using these organizations it can cover a lot of ground, and gender sensitization programs. There are also men's religious organization that could offer a platform for such gender sensitization program. The process would be much effective if it was conducted in a more positive social construction process.

(4) Credit Institutions for Woman

To further improve on women's organizational capacity with respect to credit institutions a lot of work and initiative will need to be provided by institutions such as COTCO, COTPRO and AFC/Agribank. Suffice to mention that these organizations are already operational in this survey area offering credit along group and individual lines, but it appears there is no special window or line offering the same credit facilities specifically made available to women.

It would be more operational therefore to have credit schemes organized along gender lines so that women will also benefit. Because some women are in polygamous relationships they fail to see the benefit of obtaining credit. Therefore having liability when in the final analysis the benefits do not accrue directly to them. But once the issue of land allocation is sorted out then women can participate effectively in any of the institutions for monetary credit. Further research could also be carried out to establish appropriate finance packages or funds that can be established to achieve the goal.

As above, by ensuring women's interest through possible benefits the project will at least be guaranteed of success. If women own land it would be feasible to witness an increase of crop production and efficiency in water and time utilization since women form the greater part of the labour force in agriculture.