RAPI BASELINE SURVEY

FINAL ASSESSMENT REPORT

ETHIOPIA

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27DECEMBER 2003

TABLE OF CONTENTS

Chapter Three
Brief Profile of Tegrai Region

Chapter Four
Survey Planning and Inception Report

Chapter Five

Application of Survey Methods
- Baseline Survey-

Chapter Six

Major Findings

Chapter Seven

Conclusions and Recommendations

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXES

ABBREVIATIONS

ADLI	-	Agriculture Development - Led Industrialization
CACC	-	Central Agricultural Census Commission
CSA	-	Central Statistical A
EEA	-	Ethiopian Economic Association
EPRI	-	Economic Policy Research Institute
EMPINVEST	-	Employment - Intensive Investment
FAO	-	Food and Agricultural Organization
FDRE	-	Federal Democratic Republic of Ethiopia
Hrs	-	Hours
ILO	-	International Labour Office
MEDC	-	Ministry of Economic Development and Cooperation
Min	-	Minutes
MDG	-	Millennium Development Goals
Kgs	-	Kilograms
Kms	-	Kilometers
SDPRP	-	Sustainable Development and Poverty Reduction Programme
SPSS	-	Statistical Packages for the Social sciences
RAPI	-	Rapid Assessment of Poverty Impact
TOR	-	Terms of Reference

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EXECUTIVE SUMMARY

The African Development Report of 2002 issued by the African Development Bank re-affirmed the following:

> Poverty is a disease that snaps people's energy, dehumanizes them and creates a sense of helplessness and loss of control.

Rural poverty in Ethiopia embrases all problems with access to food, education, primary health care, water supply, off- farm employment, ownership of assets … etc, conditions that render the population incapable of participating in societal activities. The economic and social costs of the poverty problems are generally clear; but until they are spelled out they cannot form an adequate basis for policy.

An assessment of poverty requires information on various indicators which, combined will be of considerable importance in designing and implementing rural infrastructure interventions. While work on developing appropriate indicators and thresholds for poverty studies is currently under way in various institutions, the International labour Office (ILO) has taken the lead in formulating a framework (a comprehensive methodology) for the rapid assessment of poverty impacts.

Poverty reduction is now central to development. There has been good deal of discussion and debate about the worldwide concern for growth with poverty reduction. As a result, it is now recognized that development programmes should focus on people, particularly the poor, and that quality of life rather than physical output become the ultimate objective. Unfortunately, lack of a conceptual and practical framework for the assessment of poverty impact of development projects has been a major constraint.

As a way to address the concern for lack of a methodology for the assessment of poverty impact, the EMPINVEST branch of the ILO has engaged itself in a research effort to develop procedures and methods to provide information on the evolution of

poverty situation on employment - intensive rural infrastructure development programmes / projects. The effort led to the development of the Rapid Assessment of Poverty Impacts (RAPI) method. The ILO Area Office and EAMAT (Addis Ababa) have subsequently decided to procure the services of an External Collaborator to field test the RAPI method in Tigray, as part of the rural road project under the Emergency Recovery Programme.

The objectives of RAPI are to establish base line data for monitoring the impacts of employment - intensive road works on poverty over time, and draw lessons for adjusting and refining the method. A more broader objective is to provide for inputs for designing development policies and strategies for reducing rural poverty and improving the well - being of the poor.

Baseline data has been collected for the study and control areas using set household and community questionnaires. Study and control areas were identified and selected on the basis of contextual information. Gebrekidan Tabia of Atsbi Wemberta Wereda, located in Eastern Tigray is the study area, while Hareko Tabia of Hintalo Wajirat wereda in Southern Tigray is the control area. The sample size covered a total of 400 and 135 households in the study and control areas respectively.

The use of probability sampling (random sampling in stages) allowed a sample that is as objective and unbiased as possible. A total of fourteen communities in both the study and control areas (ten in the study area and four in the control area) were selected for community - level data.

A set of indicators under basic needs, assets, livelihood, social services and subjective perception are at the core of the data collection and analysis. These indicators for poverty measurement are non - income based.

The analysis of data using SPSS - 10 has resulted in the generation of output tables (based on the dummy output tables incorporated in the RAPI method). The set of dummy tables facilitated faster turn - around of survey data. As part of data analysis, a number of statistics (means, medians, ranges, proportions and yes/ no measures) have been derived. Poverty profiles have then been constructed to show the

distribution of poverty in relation to set thresholds, defining four classes of poverty (ultra - poor, poor, modest and prosperous).

This Draft Final Assessment Report has the purpose of presenting the status of poverty situation in the study and control areas.
So much has to be carried out to explain and elucidate the many complex facets of rural poverty in the study and control areas.

The following are the key findings of the baseline study:

- In general, the different dimensions of poverty are interrelated, all substantially influenced by environmental factors and population pressure with limited scope for coping mechanisms. They have to be viewed as complimentary and reinforcing in a longer term rather than short - term perspective;

- Broadly, the aggregated measures show that the sample households in the two areas are generally below the poverty line;

- There are serious challenges that arise in the context of basic needs, assets, means of livelihood, social services and subjective perception of poverty;

- From the food poverty dimension, about 31 percent and 66 percent of the sample households in the study and control areas respectively are ultra poor. What is striking is that the proportion of households in the study and control areas is 66 percent and 35 percent respectively is prosperous, primarily due to the effect of food aid delivery.

- None of the responding households fall in the ultra poor category from the view point of time taken to collect drinking water and its quality. About 57 percent of households in both areas are classified as poor. Another 35 percent and 41 percent of the households in the study and control areas respectively are modestly endowed.

- Another way of viewing status in basic needs is in terms of shelter. A large percentage of households (57 percent in the study area and over 60 percent in the control area) are classified as poor. Another 31 percent in the study area and 33 percent in the control area are considered to be prosperous. Relatedly, in terms of sanitation facilities, there is heavy dependence on open pit latrines.

- No less important is access to energy supply (time taken). For the study area, about 56 percent, 30 percent, 12 percent and 2 percent of the responding households respectively are classified as ultra poor, poor, modest and prosperous respectively. About 55 percent and 43 percent of the households in the control area are poor and modestly endowed respectively

- The survey data casts some interesting light on non - food essentials. For the sake of illustration, the largest proportion of the sample households (over 51 percent) in the study area are classified as poor, while close to 60 percent in the control area are ultra poor. This pattern is reversed for the two areas concerning the proportion of ultra poor and poor households.

- There is a disproportionate distribution of households (about 94 percent in the study area and about 99 percent in the control area) are classified as prosperous in health status. This comes under question and has to be scrutinized.

- At the level of aggregate deprivation of assets, both the study and control areas are below the poverty line. On a more specific level, 90 percent of the sample households in the study area are ultra poor and poor (50 percent poor and 39 percent ultra poor), while the reverse is true for the control area (77 percent ultra poor and poor, of whom 42 percent are ultra poor and 36 percent poor). The general pattern of possession of livestock also reflects the weak resource base of the households in the two areas (about 43 percent and 55 percent of the households in the study and control

areas are ultra poor and poor respectively), which is linked to the prevailing high stocking density. Relatedly, nearly 30 percent and 35 percent of the responding households in the study and control areas respectively are landless. In this connection, the evidence from the survey shows that nearly one - third of the households possess between 1 to 2 tsimads.

- The aggregate measure of means of livelihood provides evidence that about 98 and 97 percent of the households in the study and control areas respectively are below the poverty line. From the farm - based income point of view, close to 100 percent of the responding households in the study and control areas are ultra poor and poor. Turning to non - farm employment/ income, about 97 to 98 percent of the respondents in the two areas combined are ultra - poor and poor. Sufficient evidence already exists on the role of employment in food for work activities. Indeed, the vulnerability of the households is also evident by the high proportion of households that are classified as ultra poor and poor in terms of dimension of coping strategy.

- Aggregate measures relating to deprivation of social services show that 100 percent of the households in the study and control areas are above the poverty line. This is some what controversial, and could be attributed to the selection of dimension and indicator, as well as the setting of the thresholds. 100 percent of the households in both areas are reportedly modest from the health services aspect. There are two conflicting findings in access to education services as the two indicators provided different patterns.

- The selected baseline asset profile shows that female headed households are relatively disadvantaged. This is clearly apparent in the possession of land holding. Additionally, the data also provides evidence that the deprivation in land holding and educational attainment are related. Once again, the gender

dimension reflects that the poverty status of female headed households is more severe.

The baseline survey of poverty impact in Tegrai has generated valuable information. The results of the survey have shown that poverty is a multi – dimensional problem. The distribution of the sample households, on the basis of the set thresholds demonstrate vividly the magnitude of the poverty problem in the study and control areas. Much of the output from the survey is not highly technical, and therefore provides clear guide for policy choice in response to prevailing conditions. The impacts relating to changes in the level of deprivation of basic services, assets, livelihood, social services and perceived quality of life among beneficiaries “with” the implementation of an employment - intensive project (a rural road project) would be assessed after follow – up survey. The real challenge would be to determine whether the changes, if any, could be imputed in part or in total to the rural road project, as distinct from other factors. Essentially, the baseline survey has established the bench mark for assessing the changes to be induced by the project.

On the basis of lessons drawn from the RAPI survey in Tegrai, it is recommended that poverty assessment should be viewed not only in the short but also in the long – term perspective, perceived quality of life be more clearly defined and elaborated, the method be enriched by expanding distribution of consumption expenditure or income and that direct observations be included as a survey instrument to more effectively check the validity of data collection.

Chapter One

Background to the Study

1.1 POVERTY IMPACT STUDIES AND METHODS

Poverty Impact Assessment of Employment - Intensive Projects is a relatively new concept. As different definitions and concepts of well – being have emerged, it has not been a straight forward task to provide a conceptual and practical framework for an effective, objective – oriented planning, designing and monitoring of development programmes and projects, with greater emphasis on benefiting the poor. After about three decades of general debate on poverty in the developing world, it is remarkable how much little work has been done on a subject so popular in the international area. There is therefore little surprise that poverty studies in Ethiopia were initiated as late as the early 1990s. As a result and despite the increasing concern about "equity" and other socio-economic objectives, progress towards the reduction of poverty remains inadequate.

The recent shift in development thinking, with greater focus on the quality of life of intended beneficiaries from infrastructure projects and programmes became the real impetus to the growing interest in the assessment of poverty impacts. Unfortunately, defining and measuring poverty is complex, particularly due to the multi-dimensional nature of the problem. Most studies rely on the income approach. The Money Metric Approach relies on determining poverty lines on the basis of which the boundaries between the poor and non-poor are demarcated. Absolute poverty, for example, emanates from the level of expenditure essential to purchase a 'basket' of goods that enable households or individuals to meet a minimally acceptable level of basic human needs. Clearly, such an approach involves identifying a 'typical' diet for the poor that is necessary for leading a healthy life. Essentially, the methodology is dependent on culture specific conditions. On the basis of World health Organization (WHO) and Food and Agriculture Organization (FAO) nutritional requirements, the generally recommended daily allowance is 2500 calorie per adult per day. Hence, a "basket" of goods supplying the required calories are priced to derive a monitory value defining a food poverty line. By adding related non – food expenditure (clothing, shelter, education, medicine, etc) it is possible to arrives at the poverty line.

Another method of poverty assessment is the headcount index which represents the proportion of the population whose measured standard of living (consumption) falls below the poverty line. There is also the poverty gap index which relates the differences between the poverty line and the mean income of the poor. In recent years, there has been an increasing

recognition that measuring poverty in terms of income only is neither appropriate nor realistic, and hence the need for employing non-income approaches.

The World Bank has introduced different and yet related dimensions of poverty; material deprivation (measured by an appropriate concept of income or consumption), low achievement in education and health (law capabilities), vulnerability (exposure to risk or low level of security) and voicelessness (World Bank 2001). Another aspect of poverty impact assessment is the measurement of poverty with a focus on gender (impact on women with reference to variables such as income, access to land , education, health status etc). World Bank studies indicate that educating females is probably the single most important factor a developing country can take in its efforts to address the poverty problem. According to research findings (King and Hill 1993) investment in female education world result in positive returns not only in terms of life expectations for both males and females and fertility levels, but also in terms of infant and maternal mortality.

There is a general understanding that any poverty measure could be expressed as depending on Mean Consumption Expenditure in society, the poverty line and on a measure of underlying inequality in the distribution of consumption, usually taken as the Gini Coefficient (Ali Abdel Gadi Ali 2001).

In contrast to the most common approach to the measurement of poverty which takes per capita consumption as the valid and relevant indicator of standard of living, the Capability Approach focuses on the deprivation of basic capabilities such as premature mortality, under – nourishment, morbidity and illiteracy. The United Nations Development Programme's Human Development Index applies such an approach.

The Participatory Approach to poverty studies relies on the promise that the poor are much more aware of their conditions, priorities and remedies. Hence, the poor are directly involved in providing non – quantitative information.

1.1.2 The International Labour Office's Initiative

The International Labour Office (ILO) is fully aware that the paradigm of capability deprivation is central to rural poverty. Its guiding principle is that there is a compelling need to deal more effectively with the problem of poverty impact assessment, which spurred the development of a new approach. The suggested framework under the Rapid Assessment of Poverty Impacts (Laura Murphy 2000) places considerable emphasis on a practical, manageable and cost – effective survey – based method for Employment. Intensive Projects primarily involving the specification of indicators, thresholds and questionnaires. The basic justification for

developing the method is that it would allow planners, officials, donors and others to assess the contributions of Employment – Intensive projects to the reduction of poverty in specific areas. The assessments are closely tied to poverty as a whole, and not just socio – economic changes. Project impacts relate to changes in poverty (living conditions) among beneficiaries, flowing from and attributable to Employment – Intensive projects. It should be emphasized that assessment rather than measurement is used in the RAPI method since the expected results are not "precise" and " absolute". It therefore involves a Modus Operandi. The comparison of project – induced changes on target groups require establishing baseline before the implementation of Employment – Intensive project, in this case a road project. The "with" and "without" project comparison are made in relation to a "control" area, with similar characteristics to the "study" area, based on contextual information to provide for accounting non – project – induced changes. The method requires that baseline surveys should be undertaken initially, and that follow – up surveys using the same set of variables should be repeated at periodic intervals.

A good deal of effort has gone into the preparation of the Rapid Assessment of Poverty Impact (RAPI) method. On the basis of field test, the method could be fostered and promoted in the context of Ethiopian conditions and circumstances. There is no doubt that the implementation of RAPI will be of considerable importance in generating information on changes in living conditions (embracing key dimensions) due to Employment – Intensive projects. Considering that the failure of the Ethiopian economy to provide enough jobs for those able and willing to work, the guiding principle of RAPI in the context of creating productive employment is a major step in the right direction.

1.2 OBJECTIVES OF THE RAPI STUDY IN TEGRAI

1.2.1 The Need for an Analytical Framework

The RAPI method provides an analytical approach for assessing the impact of employment – intensive projects/ programmes by way of assessing the quality of life of intended beneficiaries. The specific objectives of the survey are:

- To field test the Rapid Assessment of Poverty Impact (RAPI) method involving procedures in the use of simplified indicators of poverty, survey instruments (household and community questionnaires together with contextual information) to capture the required data, selection of study and control areas, collection of baseline data, sampling strategy, analysis of data by applying a statistical computer package leading to the conversion of raw data into poverty measures based on set thresholds;

- ❖ To draw lessons for refining the approach, methods and mechanisms for the assessment of poverty impact;

- ❖ To use the survey results and recommendations for the design and implementation of Employment - Intensive Programmes and Projects; and

- ❖ To use the survey results and recommendations for sharpening poverty policy and strategy in general, and to provide a much needed bridge between the broad goals and objectives of poverty reduction on the one hand and the operational guidelines for assessments on the other.

1.2.2 A broad – based Approach

The RAPI method is guided by the Capability Approach to poverty studies. The method could be justified on a theoretical basis by resorting to Professor Amartaya Sen's concepts of entitlements, capabilities and achievements (Sen A.K 1997) as well as R. Chamber's classification of poverty; the first category include material or physical dimension of deprivation, while the second category comprise social, political, psychological and subjective elements. The RAPI method defines poverty as the deprivation of " Possessions and services." It is recognized that there are obvious relationships between the Income (Money Metric Approach) and the Capability Approach. The RAPI method incorporates the most important features of capability deprivation in the rural sector.

Important aspects of the RAPI method provide a framework for assessing the extent of vulnerability of rural households to exogenous shocks – especially those emanating from drought which undermine food crop production. This is particularly relevant to the possession of assets, and access to non – farm employment. It is in this context that Employment – Intensive projects offer an opportunity to provide non – agricultural employment directly to the poor in rural Ethiopia. Viewed as a range of what tend to be reinforcing deprivations, poverty could be considered as a set of conditions that makes the rural people incapable of participating in societal activities. The RAPI method would therefore help in 'estimating' the changes to be brought about by Employment - Intensive projects, based on selected indicators and "thresholds", which provide a standard to show progress towards achieving stated objectives.

1.3 SIGNIFICANCE OF THE STUDY

1.3.1 Attributes of Poverty

There are many attributes to poverty, but for the purpose of an Employment - Intensive project, the assessment of changes in poverty status can be described in terms of five dimensions namely:

- Basic Means
- Assets
- Livelihood
- Services, and
- Perceived changes

These five dimensions capture key aspects of Poverty Reduction Programmes and broadly relate to economic opportunity, capability, security and empowerment. Basic needs are key to an examination of the degree of well – being among rural households. The most important ingredients are food, water, shelter, energy, non-food essentials and health status. Deprivation of assets covers household goods and tools, livestock and land holding. Deprivation of means of livelihood relate to farm – based income, non farm employment, income and coping strategies. Deprivation of social services cover health and education services. There are also elements pertinent to subjective perception of material deprivation.

As related to Employment – Intensive projects (in the case of the field test in Tegrai), impacts are assessed from the view point of changes in the level of deprivation in the five dimensions of well – being.

1.3.2 Ethiopia's Sustainable Development and Poverty Reduction Programme

The state of rural poverty in Ethiopia is not only widespread, but it is also deep and severe. In any of the dimensions of poverty, most Ethiopians are under extreme poverty (MEDAC 1999). In 1995/96 the proportion of the population living in absolute poverty (who could not meet the minimum calorie requirement of 2200 Kcal per day per adult) were 45.5 percent. Under five mortality rate was 160/1000 in 1984 and 173/1000 in 1994. Life expectancy had diminished from 52 years in 1984 to 50 years in 1994 and 43 years in 2000. Additionally, the 1995/96 household survey data shown that more than two - third of children were stunted and close to one in ten had signs of wasting. Only about 27 percent of the population at 10 years and above could read and write.

According to the Demographic and Household Survey (CSA 2001), sixty two percent of males and seventy seven percent of females had no education, and twenty seven percent of males and seventeen percent of females had completed primary education, and six percent of males and four percent of females had attended, but not completed secondary school. About eighty two percent of households did not have toilet facility. Fifty four percent of households had floors made of earth or sand and thirty nine percent had dung floors.

Ethiopia's Sustainable Development and poverty Reduction Programme (SDPRP) and related documents show the following basic indices of poverty:

- Per capita consumption expenditure for the year 1999/2000 was estimated at 1057 Birr in constant prices of 1995/96. The real per capita consumption expenditure of rural people was 995 Birr and that of urban people 1453 Birr. These levels of real per capita consumption expenditure were equivalent to 139, 131 and 191 US Dollars at national, rural and urban levels;
- The literacy rate in rural areas was 21.8 percent;
- According to the Welfare Monitoring Report (CSA April 2001), nearly 5 percent of rural residents need to travel five or more kilometers to fetch water;
- Again, according to the Welfare Monitoring Report more than 70 percent of rural households have reported to use fire wood for cooking;
- The proportion of people who are absolutely poor in rural areas is 45 percent;
- About 27 percent of the rural population reported to have been sick in the two months prior to the administration of the Welfare Monitoring survey questionnaire;
- More than 90 percent of rural households do not have toilet facility, and only 8 percent have pit latrine.
- More than 95 percent of rural households in Tegrai region use open field as toilet;
- Non of rural households own stove, loom, TV set, refrigerator and sewing machine.

The overall objective of SDPRP is to reduce poverty by achieving rapid economic growth, while at the same time improving service delivery. It

comprises four building blocks: Agricultural Development – led Industrialization (ADLI) and food security, governance, decentralization and empowerment; reform of the justice system and the civil service and capacity building. Its overall targets are consistent with the Millennium Development Goals (MDGs). The basic directions of rural and agricultural development comprise the following:

- ❖ Adoption of labor intensive technology;
- ❖ Proper utilization of agricultural land;
- ❖ Development path compatible with different Agro – Ecological zones; and
- ❖ A coordinated Development data.

The Country's revised Food Security Strategy is targeted mainly to the chronically food insecure moisture deficit and pastoral areas. It also focuses on environmental rehabilitation. As only about 16 percent of the population in Tegrai region is food insecure, most of the woredas in Tegrai are targeted under the Food Security Strategy. The strategy also envisages that Public Employment Generation Schemes could be initiated linked to development priorities in the construction of rural roads, small – scale irrigation, water supply and sanitation. The SDPRP states that one of the objectives of the road sector is to provide economic opportunity to the poor. As for education, one of the main targets is to achieve the goal of universal primary education by the year – 2015. Preventive health care, health service coverage (expansion and maintenance), and quality of health care are also given high priority.

One of the programme priorities in the context of the Water Sector Development Programme is to provide access to clean drinking water to the larger segments of the rural population.

1.3.3 The Millennium Development Goals

More than a decade has elapsed since the adoption of the Millennium Development Goals (MDGs). The international community expressed its commitment to poverty reduction by setting six goals specified in clear quantitative terms. A seventh goal involved strategies to ensure loss of environmental resources through implementing sustainable development programmes. The six-millennium Development Goals are the following:

Goal 1: Reduce the proportion of people living in extreme poverty by half between 1990 and 2015;

Goal 2: Enrol all children in primary school by 2015;

Goal 3: Make progress toward gender equality and empowering women by eliminating gender disparities in primary and secondary education by 2015;

Goal 4: Reduce infant and child mortality rates by two – thirds between 1990 and 2015;

Goal 5: Reduce maternal mortality ratios by there – quarters between 1990 and 2015; and

Goal 6: Provide access for all who need reproductive health services by 2015

It is very clear that the SDPRP targets are in line with the MDG goals. Both the MDG and SDPRP provide meaningful indicators and targets to the objective of Poverty Reduction. The essential feature of the RAPI method is that it presents a comprehensive approach in the sense that it sets indicators and "thresholds" for the assessment of impacts of Employment – intensive projects, within the broad framework of the MDGs and the priorities and targets of SDPRP. The method gives considerable energy in reshaping and operationalzing the assessment of poverty impacts. As the MDG and SDPRP indicators are generally covered by RAPI, it could be stated that is provides a framework for stimulating a process of continous reassessment enabling quantitative - qualitative information for the relevant and significant dimensions of poverty, and hence monitor the changing conditions of beneficiaries of Employment – Intensive projects along a broad spectrum of public concerns. The RAPI method has minimized the possibility for semantic confusion because of a wide variety of interpretation of concepts and terminology as well as "thresholds" by illustrating the procedures in clear terms.

1.4 POVERTY RELATED STUDIES / SURVEYS IN ETHIOPIA

Poverty studies in Ethiopia were initiated in the early 1990s (Desalegn Rahmeto and Aklilu kidane May 2000). Many of these studies focus on identifying the quantitative measurement and distribution of poverty. While poverty is clearly a multi – dimensional problem, quite often these studies and surveys ended up with the economic aspect only. It should, however, be noted that a major study initiated in 1994, and carried out by the Economics Department of Addis Ababa University and the Universities of Oxford (UK) and Gothenburg (Sweden) has become a major source of information for subsequent studies. While efforts are currently underway on developing more appropriate 'all – embracing' approach, the Government of Ethiopia's Welfare Monitoring System is of considerable importance in generating more relevant indicators on the status of poverty in the country.

The approach followed by the Welfare Monitoring System is to cover a wide range of socio economic indicators such as proximity to selected basic services (distance to food market, postal services, transport services, sources of drinking water, telephone, services, milling services, firewood), utilization of basic facilities/ services, modes of transportation, status of housing facilities and tenure, possession of household assets as well as selected basic necessities such as food security, clothing and financial capacity of households computed from subjective information collected from sample households.

The Ethiopian Economic Association/ Ethiopian Economic Policy Research Institute (EEA / EEPRI) has undertaken a study on Land Tenure and Agricultural Development in Ethiopia in October 2002. The Rural Household Survey of the study provides valuable data on farmer's resource base and agricultural activities, rural credit markets, off – farm employment and food aid.

The various studies contributed to the empirical knowledge of the poverty situation in Ethiopia. Although inventory of published and unpublished work might not be complete, there is no doubt that the aggregated nature of data made available limit the scope of useful conclusions. Any rigorous comparative study would require an assembly of a wide range of data for specific areas (both study and control areas) to allow sound monitoring of the poverty situation. The approach followed in the RAPI method is essentially based on collecting and analysing disaggregated data (area – based), specifically developed for use in connection with small Employment – Intensive (or labor – intensive /labor – based projects) particularly for public works such as roads, dams, water points, irrigation schemes and land terracing. In view of this, the approach followed by RAPI is conceptually and statistically different form most of the other studies carried out over the last ten years in Ethiopia. A point which is perhaps more relevant in the present context is that the data collected from the household and community questionnaires permit fairly adequate comparison of changes in poverty status over time.

1.5 TIME FRAME FOR THE STUDY

The total planned duration of the assignment was five months, beginning July 01 and ending November 2003. However, due to certain difficulties encountered in the selection of a control area and longer time required for checking data validity, the prolongation of the target date of completion by about three weeks has been unavoidable. The milestones for the completion of major tasks are shown as follows:

Data collection	-	July 31, 2003
Data entry	-	August 21, 2002
Data analysis	-	September 20,2003

Submission of Preliminary Assessment Report	October, 2003
Submission of Draft Final Report	December 20, 2003
Submission of Final Assessment Report	End December, 2003

Chapter Two

The RAPI Study Methodology

2.1 SCOPE AND COVERAGE

The survey in Tegrai was designed to field test the RAPI approach, method and mechanisms. It concentrated on using set Household and community Questionnaires in study and control areas to collect pertinent data, and then turn the raw data into poverty measures. The coverage encompassed a total of 400 and 135 households in the study and control areas respectively. Additionally, fourteen communities were selected for supplementary data. Annex I shows location map of study area and Annex II that of the control area. Annex III and IV show vicinity and sketch maps of the two areas.

2.2 CONCEPTS AND DEFINITIONS

The concepts and definitions used for the field survey are elaborated in the Rapid assessment of Poverty Impacts (SEPT. 2) document issued by the Employment – Intensive Investment branch of the ILO. Descriptions are given in the form of Annotations in Technical note # 6 for Household Questionnaire and in Technical note # 7 for community – level Questionnaire. The terms explained in the two technical notes provide guides for collection and compilation of data on poverty situation. Concepts of outputs, indicators and thresholds in the text enabled consistent data manipulation and analysis.

2.3 POVERTY INDICATORS

The poverty indicators were selected on the understanding that they fulfill the following five characteristics:

- Meaningful (relevant to the objectives of employment - intensive rural infrastructure programmes / projects);
- Measurable (simple and short);
- Manipulable;
- Useful for monitoring and distinguishing change in poverty status over - time; and
- Minimal (measuring what is important and attributable to the intervention).

The indicators are at the core of the data collection and analysis of the RAPI study, as they are intended to meaningfully signal relative poverty status.

The indicators for each of the poverty measures are based on non - income dimensions, seen as the deprivation of basic capabilities rather than merely low - level income. Indeed, the thrust of a definition of poverty for the purpose of RAPI is that:

> Poverty is the state of deprivation of possessions and services considered for a full and active life both in the short term and over the long run. (Murphy 2000)

The analysis of data by applying SPSS 10 package has resulted in the development of output tables shown in Chapter Six of this report. The indicators, which are considered to be 'markers' of change are related to the nature of the objectives and intended impact of employment - intensive projects / programmes, summarized as follows:

- Food, shelter, health status, water supply, cooking fuel (measuring basic needs status);
- Household items, tools, livestock, land owned (Vs rented) measuring asset holding status;
- Farm produce, non -farm employment and coping strategies measuring livelihood status;
- Education, government services and accessibility / mobility measuring level of service status; and
- Subjective perception.

2.4 SURVEY INSTRUMENTS

Household surveys administered to a sample of households, complemented by community survey are the primary means of collecting data for generating outputs to reflect direct measures of food, water, household possessions, land…etc so as to determine poverty status in disaggregated and aggregated terms.

The RAPI household and community questionnaires developed in the English language were translated into Tegrigna. A one - week training programme was held for enumerators (interviewers), data entry personnel and a supervisor on general interviewing techniques, field procedures and verifying data authenticity and reliability (quality). Lessons were also drawn from the pre - test.

The household questionnaire was intended to provide a set of minimal poverty indicators and profiles for rural areas. As clearly described in the

RAPI guidelines, the major elements of the household questionnaire are the household roster, dwelling characteristics, household possessions, food ownership of items / assets, non farm income source, …etc. The indicators identified as objectively verifiable measures of changes or results to be brought about with employment - intensive programmes are discussed in Section 2.9.

2.5 STUDY AND CONTROL AREAS

There are clear guidelines on the selection of study and control areas. The 'Study' area is the area expected to generate impact in the form of ultimate change in the living conditions of beneficiaries, with the implementation of an already planned employment - intensive road project. Changes in actual living conditions with the implementation of the project are expected at both the household and community levels, to be monitored over time. The study area is designated as Gebrekidan Tabia of Atsbi Wemberta Wereda of Eastern Zone of Tigray Regional State. It is generally one of the poorest, where there is a planned construction of a road from Atsbi to Dera and then to Edagahamus (95 kms). A total of five Kushets in Gebrekidan Tabia were covered by the survey for baseline data. The baseline establishes the bench mark before implementation of the road project. The study area is shown on the maps attached to this report (Annex I and III).

A control area had been selected to allow before and after comparisons with the study area. The inclusion of the control area in the survey has the purpose of accounting for non - employment intensive road project induced changes. The contextual information collected for the study area became the basis for the identification and selection of an appropriate control area. It should be noted that the control area is not under the influence of a road and will not be in the coming years. It is smaller in geographical extent and size, but similar in characteristics such as terrain, agro - climatic conditions, settlement pattern, economic and social infrastructure as well as economic status of the population to that of the study area in accordance with the RAPI guidelines.

Hareko Tabia of Hintalo Wajirat Wereda in Southern Tigray Zone was selected as control area. Three Kushets (Michael Debrehile, Maychirek and Hareko) were initially identified for the survey. However, Maychirek was dropped considering the variations in climatic zoning characteristics and associated factors, as it would create difficulties in establishing meaningful causal relationships and comparisons. It should be emphasized that the comparisons would provide an opportunity for assessing changes to be induced by the employment - intensive road project. To capture the impact of the project, follow up surveys using the same set of variables (indicators) and the same sample of households and

communities as at the baseline would be required as clearly stated in the RAPI guidelines.

The location of the control area is shown on the maps (Annex II and IV).

2.6 DEGREE OF PRECISION REQUIRED FROM SURVEY RESULTS

As the statistical data is to be obtained by partial enumeration or sampling, its adequacy in representing the population for properly drawing and interpreting the data (The Null hypothesis) is a key element of survey design. Sampling error can be calculated, and a confidence interval provided for each estimate. A summary of different sample sizes for different degrees of precision and estimates of poverty status in population is presented in Technical note # 2 (Sampling Strategy and Problems) of the RAPI document. It is stated that “a simple random sample of 96 would suffice to produce an estimate within +/ - 10% of the true value, 95% of the time.” Greater confidence on estimates requires larger sample size.

2.7 SAMPLING UNITS AND SAMPLE FRAME

In order to meet the objectives and requirements of RAPI, the sample size for each area should be large enough to produce sufficiently precise statistics and output to differentiate changes from random variation due to sampling. A two – stage sample of an area relying on a random sample of Census Enumeration Areas has been adopted.

The Tegrai Regional State is divided into zones. Each zone is divided in to weredas, which comprise ‘Tabias’. A ‘Tabia’ could have population ranging from 3,000 or less to 10,000 or more. A "Tabia" is divided into ‘Kushets’, and each ‘Kushet’ is divided into smaller communities named ‘Abo Selasas’ (on average 30 households).

2.7.1 Sampling Frame

Analysis of pre - test data presented in the initial findings of the Inception Report provided adequate experience for sampling. A two - stage sample of Census Enumeration Areas has been followed as proposed by the data and information needs and sampling strategy presented in Part II of the RAPI method document. Technical Note # 2 provided details of sampling strategy (sampling approaches, sample size calculations). In principle, the use of probability sampling (random sampling in stages) allowed a sample that is objective and unbiased and the degree of derivation (the statistical measure based on the population estimated and evaluated in terms of certain degree of precision). The results obtained could also be assessed in terms of probability.

The following procedure was adopted regarding sampling frame:

- A rapid random procedure for the selection of households at the second stage (400 households in the study area and 135 households in the control area); based on the an estimated 50 percent poverty level, consistent with the degree of precision required for sample size calculations. The RAPI method states that the calculations of sample size for a binomial variable such as "poverty status" is based on consideration of the desired degree of precision and level of confidence, along with a prior estimate of the statistic to be determined. Essentially, a figure of 50 percent is assumed;
- The Kushets (rural communities) in each Tabia were selected based on the Segment Method (involving splitting villages into segments of roughly equal number of households facilitated by maps). Accordingly, the Kushets were divided into 'Abo Selas', which are clustered smaller units;

- The clusters were randomly selected;

- Based on the above, sample sizes were determined; and

- All households in the "Abo Selas" of each of the Kushets were interviewed.

A total of fourteen communities in both the study and control areas (ten in the study and four in the control area) were selected for community - level data (using the community questionnaire as survey instrument).

The statistical measures from sample values of household and community level data combined had been evaluated, and from the view point of sampling and test significance allow making inferences or generalizations about the 'populations' in the study and control areas.

2.8 PRE – TESTING

The pre-test was carried out in three Kushets (Maekel, Abydera and Limeat) of Atsbi Womberta of Eastern Zone. * It is located about 27 Kms. from Wukro. The pre-test was carried out on June21 and 22, 2003. While a total of 98 households were to be interviewed, only 83 were covered. Interviewing of key respondents was also made.

Intensive discussions followed the collection of data questionnaires from the field, during which time clarifications were given to the supervisor and enumerators. Basic guides were issued concerning the approach to be

followed in intensive questioning to avoid vague replies, and in certain cases invalid responses. It should be stressed that the pre-test served as a starting point towards discovering the rural poverty situation, and hence in effectively using Questionnaire-based survey as a valid instrument, overcoming the shortcomings identified by researchers in the area of " rapid assessment " regarding important 'System' relationships. During the discussion, practical problems encountered in getting reposes to some of the questions were raised, which provided feed-back in re-wording or using more appropriate vocabulary.

The final translated Questionnaires are attached in Annex III. The results of the pre - test were presented as part of the Inception Report.

2.9 ANALYSES AND OUTPUT TABLES

2.9.1 Classes of Poverty Status

The ILO RAPI method categorizes respondents into groups of four depending on degree of relative well - being in terms of deprivation of basic needs, assets, means of livelihood, social services and subjective perception. Unfortunately, it has not been possible to get unambiguous responses regarding subjective perception of material deprivation. It seems being explicit has not remained without a challenge. Although the indicator is plausible, there are limitations in that it lacks 'visibility'. As a ' summary' measure of subjective perception, there are controversies surrounding its application at the field level. In any case, the realities of uncertainity shall be further verified during follow up surveys.

Four categories of poverty for each indicator, consisting of ultra - poor, poor, modest and prosperous are proposed in the RAPI guidelines. Definitions of each of these categories is given as follows:

Ultra - poor	-	" Extremely deprived and highly vulnerable."
Poor	-	"Deprived and highly vulnerable."
Modest	-	"Not deprived, still vulnerable".
Prosperous	-	"Not deprived, not vulnerable".

Each of the four definitions have further been specified matching the elements of basic needs, assets, means of livelihood, social services and subjective perception.

Poverty in the framework of the RAPI approach relates to the deprivation of basic necessities and services. Hence, the analysis is to be based primarily on the four dimensions (deprivation of basic needs, assets, means of livelihood and social services). The underlying principle of the RAPI method is that solutions to the problem of poverty is not just to raise the incomes of the

rural poor, but to address the difficulties faced in meeting the challenge of persistent " deficiency" of basic needs, assets, means of livelihood and social services. The method does not involve determining absolute poverty measures constituting minimally acceptable basic needs and for the other poverty indicators.

2.9.2 The RAPI "Output Tables"

A set of "dummy tables" have been developed to provide indications of the steps involved in producing the type of statistics for tracking comparison of change for the different dimensions /measures/ indicators of poverty over - time and across areas (study and control areas).

The broad definitions for output tables are described in the RAPI guidelines as follows:

Dummy Table V-a - Deprivation of basic needs;

" " V-b - Deprivation of assets;

" " V-c - Deprivation of means of livelihood;

" " V-d - Deprivation of social services

" " V-e - Deprivation of material (Subjective perception)

" " V-f - Suggested format for "Baseline - Asset Poverty Profile" for each Region by characteristic of household head, using Threshold measures (which could be developed for the other measures); and

" " V-g - Suggested table to represent "change in Proportion Below Poverty Line over Time by Region."

2.9.3 Basic Needs

Deprivation of basic needs is undoubtedly a significant measure of poverty status. In the context of the RAPI study, it comprises the following:

a) Food (adequacy in food types)

- the adequacy of staple food consumption (general normal diet);

- level of meat consumption (special food); and
- consumption of cooked meals.

b) Water (transport burden and quality)

- access to clean drinking water in terms of :
  - time taken to fetch water, and
  - types of source relating to quality.

c) Shelter

- involving three components:
  - type of roofing material;
  - type of wall material; and
  - sanitation (type of collection and disposal of excreta)

d) Energy

- burden in time taken for collecting

e) Non - food essentials

- frequency of purchase of household essentials

f) Health

- prevalence of illness in terms of proportion of working age group ill to total working age group population.

2.9.4 Assets

a) Ownership of types of household goods and tools;

b) Possession of livestock in relation to "value" related typologies; and

c) Ownership of land by size.

2.9.5 Means of livelihood

a) Farm - based income

- size of agricultural produce in equivalent financial terms;

b) Non - farm income

- non - farm income (number and type of source of own employment / income);
- non - farm employment income (number and type of source of income - gainful employment); and

c) Coping Strategy

- household response to insecurity /food

2.9.6 Social Services

a) Access to health services

- standard indicator of deprivation on account of health services is travel time;

b) Access to education services

- level of attendance and completion of primary school; and

c) Access to other services

- access to extension services in terms of average time taken (with the purpose that such services would provide for transfer of new agricultural technology or research findings to farming households so that they can raise their yields and production and hence income and quality of their lives).

" Thresholds" for each of the measures/ indicators of poverty are shown in Tables 1 through 9

Table 1

Thresholds for Food Poverty

A. Wheat representing staple food

Ultra Poor - Never eat once a week
Poor - Eat once a week
Modest - Eat twice a week
Prosperous - Eat more than twice a week

B. Meat

Ultra Poor - Never eat
Poor - Rarely eat meat in a week
Modest - Sometimes eat meat once a week
Prosperous - Often eat once a week

C. Cooked Meals

Ultra Poor - Never once a day
Poor - One – two a day
Modest - Twice a day
Prosperous - Three and above a day

Table 2

Thresholds for Poverty in Accessibility to Water Supply

A. Time taken

Ultra Poor - Extremely burden (>2 hrs)
Poor - Burden some (1:01hrs – 2:00 hrs)
Modest - Relatively close (0:15 min – 1:00 hr)
Prosperous - No burden (0:00 min – 15:00 min)

B. Source of drinking water

Ultra Poor - Extremely poor (unprotected well in village)
Poor - Poor water access (unprotected surface water and spring)
Modest - Protected well, or spring, or hand pump, or purchased in containers
Prosperous - House pipe connection

Table 3

Thresholds for Poverty Relating to Shelter

A. Roof

Ultra Poor - With no roof
Poor - Hay
Modest - Hidmo (Composed of wood, straw, stone and soil)
Prosperous - Corrugated iron sheet

B. Wall

Ultra Poor - Wood & Hay
Poor - Wood and mud
Modest - Wood and Bamboo
Prosperous - Cement

C. Sanitation

Ultra Poor - Open field
Poor - Open pit
Modest - Common pit latrine
Prosperous - Private pit latrine

Table 4

Thresholds for Poverty in Energy Supply

A. Time taken

Ultra Poor - Extreme burden (>360 min)
Poor - Burden some (181min – 360 min)
Modest - Low burden (61 min – 180 min)
Prosperous - No burden (<=60 min)

Table 5

Thresholds Relating to Non - food Essentials

Ultra Poor - Never or rarely purchase
Poor - Sometimes purchase
Modest - Often purchase
Prosperous - Regularly purchase

Table 6

Thresholds Relating to Health Status (illness)

Ultra Poor - 0.51 - 1.00
Poor - 0.31 - 0.50
Modest - 0.11 - 0.30
Prosperous - Prosperous ,<=0.1

* Computation based on $\frac{\text{Population ill working Age Group}}{\text{Population Working Age group}}$

* Assumptions taken in creating the thresholds:

- The highest ill proportion in the working age group affects the household income.
- Household income requires Intensive Labor which means high working age group.
- Due to Early Marriage the working group of the Household number decreases to the household head and spouse.

Table 7

Thresholds Relating to Assets

A.	Households and Tools
Ultra Poor	- Possess only a few low value household items and hand tools
Poor	- Possess most or all low value goods, some medium value household items and tools
Modest	- Possess all low value, numerous medium value items and tools
Prosperous	- Possess all low value goods, some medium value items, some of high value items
B. Livestock	
Ultra Poor	- Possess no livestock
Poor	- Possess all low value and 1 medium value
Modest	- all low value, all medium value, and one high value
Prosperous	- all high value
C. Land Ownership (in Tsimad)	
Ultra Poor	- Landless
Poor	- 0.100 - 2.00
Modest	- 2.01 - 4.00
Prosperous	- >4.01

1 hectare = __4__ Tsimads

Table 8

Thresholds Relating to Means of Livelihood

Farm based Income

Production

Ultra Poor - <=4 quintal
Poor - 4.01 - 8.00 quintal
Modest - 8.01 - 10.00 quintal
Prosperous - >10 quintal

Assumptions of Production

1. 2500 birr is an estimated value for an individual to be food secured
2. Average production per tsimad is estimated in order of 4 quintal
3. One quintal is priced 250 birr as per the study results of the survey

B. Non Farm Employment Income

Ultra Poor - households engaged in food for work (Soil and water Conservation, "Horeye" - Water harvesting)
Poor - Washing clothes, shepherds, hired labor
Modest - carpenter, mason, potter, etc
Prosperous - White collar job

C. Coping Strategy

Ultra Poor - Those who receive Food aid and receive remittance amounting <=100 Birr
Poor - Only receive remittance 101 - 500 Birr
Modest - Remittance receiving 501 - 1000 Birr
Prosperous - Regularly send aid to others

1 quintal = 100kg

Table 9

Thresholds Relating to Social Services

A. Health services (Time taken to get health services)

Ultra Poor	-	No Access
Poor	-	>4 hours travel
Modest	-	2.01 - 4.00 hours
Prosperous	-	<2 hours

B. Education

Ultra Poor	-	<70% attending regularly primary school education
Poor	-	>70% attending regularly primary school education
Modest	-	< 99 % children completed primary school
Prosperous	-	100% completed primary school

C. Access to other services (time taken to get extension service)

Ultra Poor	-	>180 minutes
Poor	-	61- 180 minutes
Modest	-	30 - 60 minutes
Prosperous	-	<30 minutes

Chapter Three

Brief Profile of Tegrai Region

3.1 LOCATION AND ADMINISTRATIVE SETTING

Tegrai is situated between 12^0 15' N and 14^0 57' latitude and 36^0 27' E and 39^0 59' E longitude. Its territorial surface extends from Afar region to the East, Eritrea to the North and North – West, Sudan to the West and the Amhara Region to the South. According to the Regional Atlas of Tegrai, its area is about 50, 078.64km^2. The region is made up of the Western zone, Eastern zone, Central zone, Southern zone and the Mekelle zone (the region's capital). The Western zone comprises over 50 percent of the area of the region. It is divided into 35 weredas. There are nine weredas in Western zone, ten in Central zone, seven in Eastern zone and nine in Southern zone. The study area is located in Atsbi Wemberta of Eastern zone and the control area in Hintalo – Wajirat wereda of Southern zone.

3.2 RELIEF AND DRAINAGE

The altitude of Tegrai region ranges between 3900 meters above sea level at Tsibet mountain in Southern zone and less than 500 meters above sea level in Eastern Erob of Eastern zone. The drainage of the region can be divided into three major basins and one valley, namely Eastern, Northern and Western Drainage Systems, and the Anghereb valley. Both the study and control areas are part of the Afar sub – basin in the Afar basin of the Eastern drainage system.

3.3 CLIMATE

The region's territory falls in three climatic zones, hot and semi arid (in the east), warm temperate climate in the central areas and tropical climate to the areas adjacent to the Ethio - Sudanese border. The study and control areas are located in the hot and semi – arid climatic zone.

Western Tegrai has highest rainfall (maximum mean annual rainfall of about 1600 mm). In the highlands of Eastern Tegrai (study area of Atsbi Wenberta wereda) rainfall is moderate (700 to 1200 mm). North and North Eastern parts of the region have mean annual rainfall of about 600 to 700mm.

3.4 SOILS AND VEGETATION

According to information in the Atlas of Tegrai, fourteen broad soil types had been identified by the FAO/UNESCO study of 1974. Eutric cambisols and eutric nitosols are most commonly encountered soil types in the study area. Vertic cambisols are most common in the control area. These soil types have generally limited agricultural value, as they occur predominantly on slopes, and are also shallow.

3.5 POPULATION

The economically active population is about 48 percent of the region's population. In July 2003, the population of Tegrai region was about 4 million. Central zone has the largest population, close to 1.2 million. Aggregate population density of the region is about 80 people per square kilometer. The population density of Atsbi Wenberta Woreda (where study area is located) is about 120/ km^2 and that of Hintalo Wajirat Woreda (where control area is located) is about 80/ $km^{2.}$ The specific study and control areas have close population densities.

3.6 AGRO – CLIMATIC ZONES

Tegrai region is conveniently divided into two agro climatic zones based on growing periods. The first zone comprised those areas that are relatively dry with single growing period which is inadequate to meet in most years the water requirements of very short – maturing crops. The second zone comprises areas with single growing period adequate to meet the full requirements of very short maturing crops. Both the study and control areas fall in the first agro – climatic zone.

The agro – ecological classification of the region are primarily determined by rainfall pattern, vegetation cover and soil fertility. The study and control areas are relatively dry with rainfall ranging from 650 to 750 mm, poor vegetation with shrubs and scanty grass cover. The degradation of the natural environment has resulted in continuing decline in resource base for agriculture. Severe moisture limitation has led to low agricultural production and chronic food insecurity. The significant loss of land productivity could eventually contribute to further impoverishment and migration of the population. This is the real impetus for the regional government's programmes of water harvesting and irrigation. A striking increase in food aid has developed in recent years.

3.7 AGRICULTURE

Agriculture is the dominant type of land use in Tegrai. It is estimated that over 90 percent of the population depends on agricultures for its livelihood. The major characteristic of the farming activities is the integration of crop and livestock production. The overall regional cultivable land is estimated to be 1.1 million hectares, of which close to 1 million hectare is being cultivated. According to information obtained from the regional administration, per capita land holding of rural farmer household is estimated to be 1.36 hectares. There are noticeable differences in land holding, ranging from 0.5 to 0.9 hectares in the highlands and 2 hectares and above in the highlands. Only about 4.7 percent of the area under cultivation is irrigated. About 35 percent of the region's production comes from the western zone.

Land productivity per hectare ranges from 15.8 quintal in full package programme to 8.5 quintal in minimum package programme. * Taking into consideration the average productivity per hectare of 7.7 quintals, the total production could only meet 50 percent of the region's demand.

The agricultural sample surveys of the Central Statistical Authority show that about 88 percent of total production comprise cereals (maize, sorghum, millet, barley, wheat and teff).

The livestock herd of the region consists of 3 million oxen, 2.4 million sheep and goats, as well as 2.3 million cockrel and poultry. The per household ownership of livestock represents 4.53 oxen, 3.58 for sheep / goat, and 3.38 for cockrel / poultry. About 16 percent of rural households do not possess any type of livestock. There is evidence that livestock production is constrained by feed shortage and poor management. In fact, high livestock herd is a threat to sustainable land use.

From the viewpoint of food security, it has been confirmed that almost all households in the moisture stressed areas are food insecure.

3.8 ROAD NETWORK

Tegrai region has a total of about 825 kms of main roads and about 500kms of rural roads.

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* 1 quintal is equivalent to 100 kgs.

3.9 RURAL WATER SUPPLY

A relatively modest proportion of the rural population of Tegrai region is served by hand dug wells, medium wells, deep wells and developed springs.

3.10 HEALTH SERVICES

There are a total of 12 hospitals, 27 health centers, about 160 clinics and many health posts. The health center population ratio is 1:144,481 and that of health post to population ratio 1: 33,059. According to information obtained from the health bureau close to 70 percent of the population has access to health facility within 10 km walking distance. Over 30 percent of the population walk more than 10 kms, about 38 percent walk within 5 kms and about 61 percent walk more than 5 km to reach the nearest health facility.

3.11 EDUCATION

There are a total of over 700 schools in Tegrai. In 2002, the gross primary enrollment rate was over 75 percent. The primary school teacher ratio was 1:69. The secondary enrollment rate has reached about 28 percent for boys and 15 percent for girls.

Chapter Four

Survey Planning and Inception Report

4.1 RECRUITMENT OF SURVEY PERSONNEL

A survey supervisor, two data entry personnel and four enumerators were recruited for the survey. The Assistant Survey Coordinator was responsible for the recruitment and selection of survey personnel. Two statisticians were also engaged for the duration of the assignment with responsibilities for sampling, data checking and converting the raw data into poverty measures. A third statistician was engaged for the initial phase of sampling and pre – testing.

4.2 TRAINING

In order to adopt the standard RAPI procedure and ensure data quality, a three – day training programme was organized for the supervisor, enumerators and data entry personnel. The following were the objectives of the training programme:

- To familiarize the field survey personnel with the nature and purpose of survey instruments, and their contribution to effective monitoring of poverty impact;
- To expose the field survey personnel to the practical aspects of Household and community – level interviewing, so that they would understand the specific requirements of data collection; and
- To introduce coding and safe guards in data entry to maximize quality.

The training covered the following elements:

- Objectives of the RAPI study;
- Population to be sampled;
- Specific data required;
- The survey instruments (the Household and Community Questionnaires);

- Introduction to respondents;
- Techniques of interviewing (systematic questioning, appreciation of values and the use of acceptable vocabularies, etc.);
- Sampling procedures and sample size;
- Pre – testing and its purpose; and
- Coding to minimize errors.

The focus of the training was on minimizing 'faulty' questioning and 'faulty' response. The Amotations for the prototype Questionnaires (Technical notes # 16 and 17) in the RAPI method provided the basic inputs for the guides given at the training sessions.

A separate orientation and discussion sessions were also held for the Assistant Survey Coordinator and the Statisticians. The Survey coordinator prepared guides in the form of "methodological Outline for Baseline Survey," covering the following:

- Background;
- Statement of Survey Objectives;
- Definition of the Population to be Sampled;
- Specifying the degree of Precision required from the Survey Results;
- Determining the method used in Obtaining Survey Results;
- Dividing the Population into Sampling Units and Setting the Units from which the Sample would be drawn;
- Sample Size;
- Pre – testing the survey and field methods;
- Establishing a good Supervisory Structure; and
- Determining the procedures for Analyzing and Summarizing data.

4.3 TRANSLATION OF QUESTIONNAIRES

The “Household” and “Community” Questionnaires were translated into Tegrigna early at the planning stage of the survey. They were subsequently adjusted after drawing heavily on the experience drawn from the pretest and suggestions by government personnel engaged in different types of survey activities. The English version of the “Household” and “Community” questionnaires are shown in Annex V, and Annex VI. Annex VII and Annex VIII present the translated questionnaires.

4.4 SUPERVISORY STRUCTURE

The assistant Survey Coordinator, one of the Statisticians and the Survey Supervisor assumed responsibility for managing the survey as a team. Yet, each had specific tasks in supervision. The Survey Supervisor was responsible for day to day follow up of data collection, retrieving and dispatching the completed forms to the office located at Mekelle. The statistician monitored the effectiveness of the supervision and checked data consistency and reliability.

The second statistician was responsible for supervising data entry under the guidance of the Assistant survey Coordinator. He also ensured that corrections of data in questionnaire were made before entry into the computer.

4.5 SELECTION OF STUDY AND CONTROL AREAS

4.5.1 Adjustment of Questionnaire

The household questionnaire is the most important survey instrument. After drawing heavily on the experiences drawn from the pre-test and to ensure expeditious execution of the survey, the translated household questionnaire has been adjusted. The emphasis was on making the questions simple, to record easily the responses.

4.5.2 Sample Frame in "Study" and "Control" Areas

The procedures established in the RAPI method have been adopted in dividing the population is to sampling units, and setting the units from which the sample is to be drawn.

- **Study Area**

  First and foremost, the 'Study' area was selected. It is located in Atsbi Womberta woreda of Eastern Zone of

Tegrai Regional State. It covers five Kushets (Hichen, Barka, Midere, Wukro and Atsgebet) of Gebre Kidan Tabia. Several factors influenced the selection of Gebrekidan Tabia as the "Study" area. One of the most important factors is the planned construction of the Atsbi - Dera -Edagahamus rural road (95kms), which is expected to be employment - intensive. The planned road traverses Gebrekidan Tabia, allowing monitoring of project-induced changes in target groups on the basis of measures of poverty levels as incorporated in RAPI, involving establishing the baseline or benchmark under the current assignment. Other factors include the general characteristics of the Tabia, availability of reliable data that provides for the use of probability sampling method (random sampling), etc …

Basically, the Deputy Coordinator, the Statisticians and the Survey Supervisor made a field trip to possible study areas. Gebrekidan was selected, as it was considered to represent the "range" of conditions, access to the project, level of community organization and potential for impact." Essentially, cluster sample, based on segment method was applied. Contextual information (census data included) from Regional bureaus, the woreda and the Tabia were collected and cross-checked. Census Enumeration Area maps allowed the location of "Abo Selas" (the units under the Kushets) within the Tabias.

- **"Control" Area**

The same sampling procedure /applied for the "Study" area was followed for the " control" area. However, there was a challenge in identifying an area that is not under the influence of a road or will not be in the coming years (say five years). Relatedly, identifying an area that is smaller in geographic extent and size, yet similar in terms of terrain, agroecology, crops grown, settlement pattern, economic and social infrastructure, and economic status of the population. As the ultimate objective of the survey is concerned with the monitoring of poverty situation, the RAPI method provided the conceptual and practical framework, which also established the guiding criteria

for identifying a control area. Numerous areas were initially identified. Unfortunately, it took about six weeks to determine which one is acceptable. The basis for the selection of a 'control' area is the contextual information collected for the "study" are shown in Table 10.

4.6 INCEPTION REPORT

An Inception Report on the Baseline Survey was submitted in July, 2003 highlighting the initial findings and schedule for field data collection, data entry, Preliminary assessment, draft and Final assessment Reports together with personnel assignment.

Chapter Five

Application of Survey Methods
- Baseline Survey-

5.1 SAMPLING APPROACH

The 1994 Census as well as the Ethiopian Agriculture sample Enumeration Areas provided the basic sample units. The two – stage approach recommended by the RAPI method relying on a random sample for the first stage was adopted. A random procedure was also used for the selection of households. This sampling strategy enabled a probability sample, as each household had a known chance of selection.

5.2 OVERVIEW OF SURVEY DESIGN AND SAMPLE SIZE

For the Household Questionnaire, the primary sampling units are the 'Tabias' in the study area (Gebrekidan) and the control area (Hintalo Wajirat) and the households in the 'Kushets' are the secondary sampling units. After the selection of the sample households in each of the 'Kushets' (specifically cluster of thirty households designated as 'Abo Selasas'), the Household Questionnaires were administered. The survey Design sample from each 'Tabia' and thereby in each 'Kushet' was based upon the required precision level established for the estimation of poverty (Technical note # 2 of the RAPI method document). Figures 1.1 and 1.2 show the structure of the sample frame for the study and control areas respectively. Figures 1.3 and 1.4 present the details of the Kushets and Abo Selasas for the study and control areas.

Fig. 1.1

Study Area

Structure Of Sample Frame For Study Area

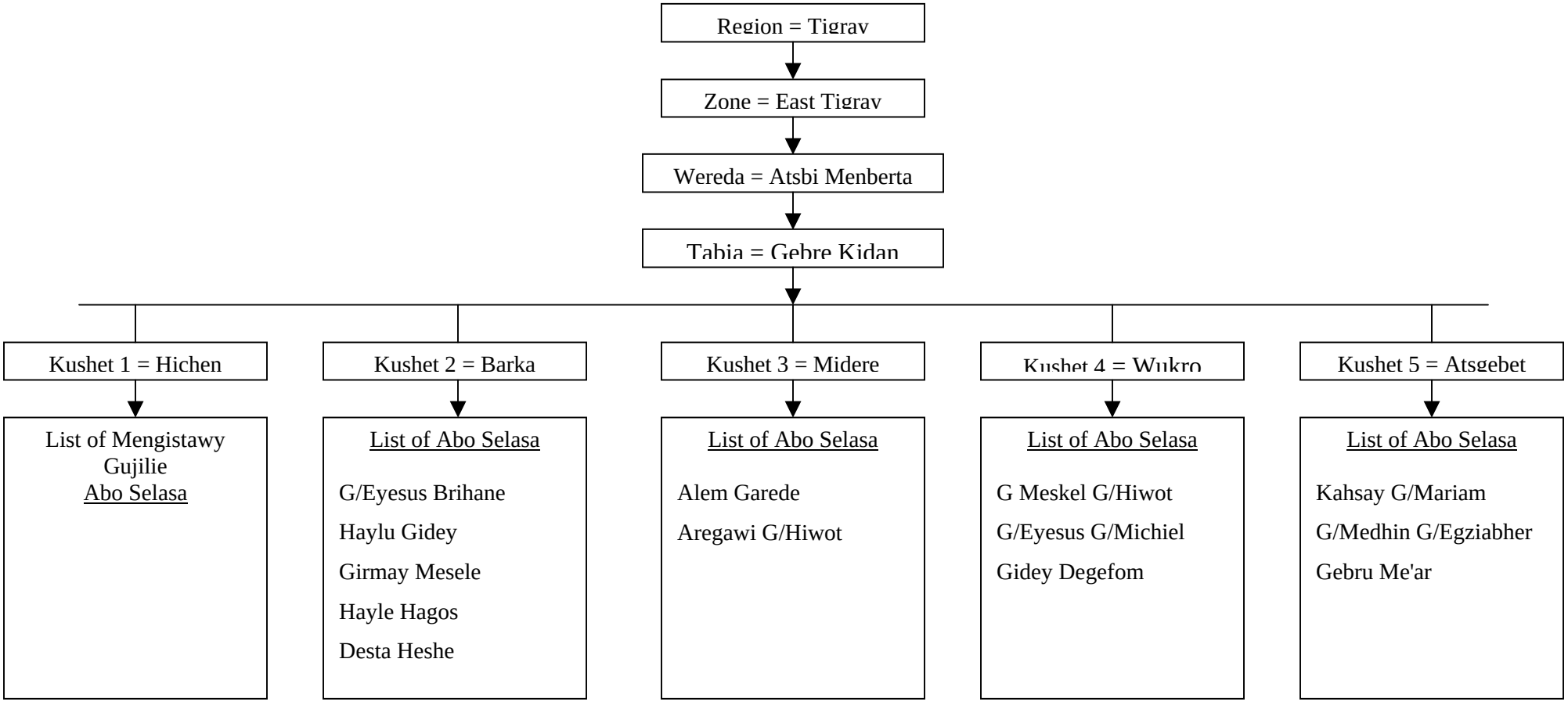


Fig. 1.2

Description Of Sample Frame For Study Area

Name Of Kushet	Name Of Abo-Selasa	Name Of Enumerator	# HH Planned	# HH Enumerated	# Community Questionnaire	Range Of Code Nos
K.1 Hichen	Kidanu Gebre	Kiros	30			K.1 01-30
	Hailu Desta	Welela	30		1	K.1 31-55
	Gebre Desta	Haftu	16			K.1 56-90
K.2 Barka	G/Eyesus Brehane	Haftu	36			K.2 77-109
	Haylu Gedey	Kiros	36		2	K.2 110-135
	Girmay Mesele	Welela	27			K.2 136-156
	Hayle Hagosa	Kiros	-			K.2 157-160
	Desta Heshe	Kiros	-			K.2 161-175
	Desta Heshe	Kiros	-			K.2 191-192
K.3 Midere	Alem Garede	Welela	26		2	
	Aregawi G/Hiwot	Haftu	25			
K.4 Wukro	G/Meskel G/Hiwot	Kiros	33			K.4 227-259
	G/Eyesus G/Michiel	Welela	33		1	K.4 260-290
	Gidey Degefom	Haftu	20			K.4 293-312
K.5 Atsgebet	Kahsay G/Mariam	Welela	30			K.5 313-342
	G/Medhin G/Egziabher	Kiros	30		1	K.5 343-372
	Gebru Me'ar	Haftu	30			K.5 373-402
* G/Kidan Tabia					1	

Fig. 1.3

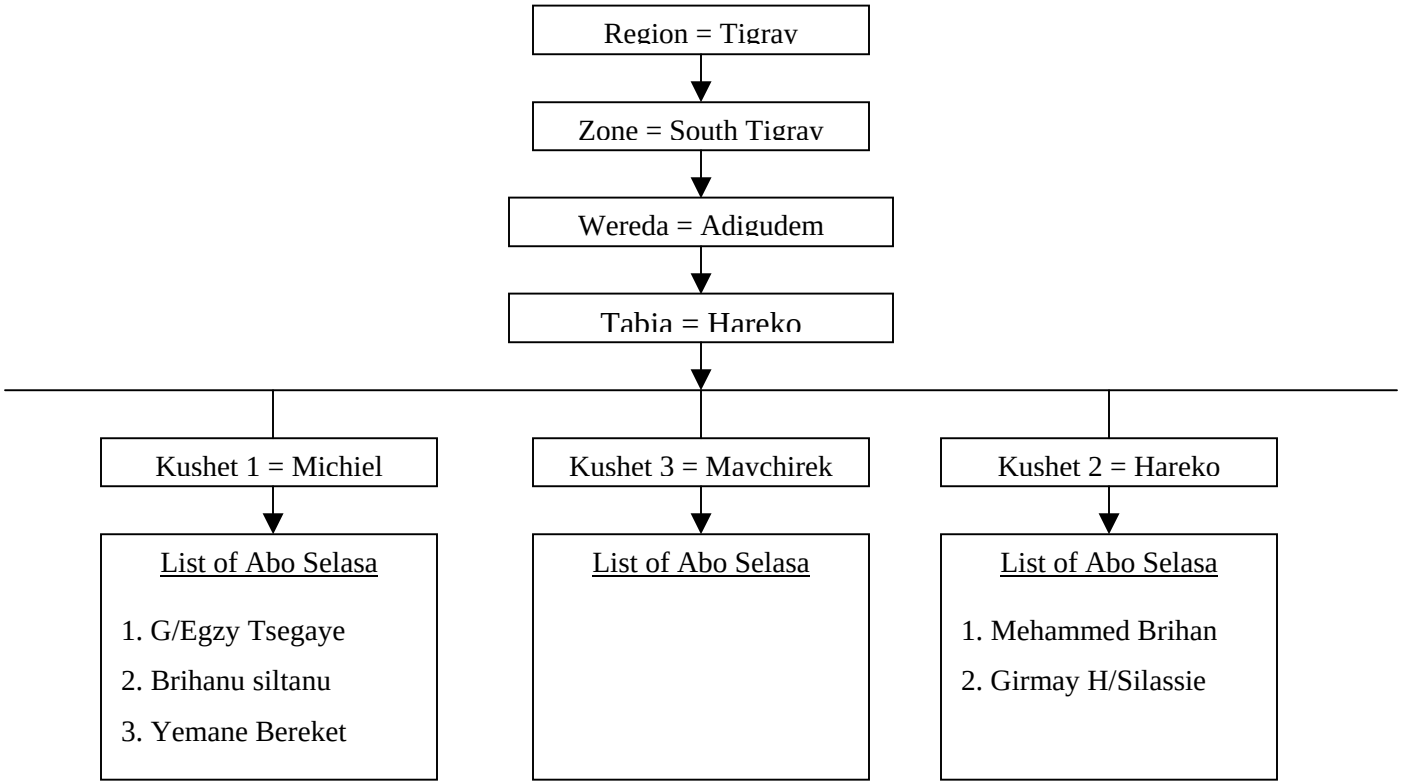
Description Of Sample Frame For Study Area

K.1 Hichen	Kidanu Gebre	Kiros	30			K.1 01-30
	Hailu Desta	Welela	30		1	K.1 31-55
	Gebre Desta	Haftu	16			K.1 56-90
K.2 Barka	G/Eyesus Brehane	Haftu	36			K.2 77-109
	Haylu Gedey	Kiros	36		2	K.2 110-135
	Girmay Mesele	Welela	27			K.2 136-156
	Hayle Hagosa	Kiros	-			K.2 157-160
	Desta Heshe	Kiros	-			K.2 161-175
	Desta Heshe	Kiros	-			K.2 191-192
K.3 Midere	Alem Garede	Welela	26		2	
	Aregawi G/Hiwot	Haftu	25			
K.4 Wukro	G/Meskel G/Hiwot	Kiros	33			K.4 227-259
	G/Eyesus G/Michiel	Welela	33		1	K.4 260-290
	Gidey Degefom	Haftu	20			K.4 293-312
K.5 Atsgebet	Kahsay G/Mariam	Welela	30			K.5 313-342
	G/Medhin G/Egziabher	Kiros	30		1	K.5 343-372
	Gebru Me'ar	Haftu	30			K.5 373-402
* G/Kidan Tabia					1	

Fig. 1.4

Control Area

Structure Of Sample Frame For Control Area



5.3 DEVELOPMENT OF DATA BASE

5.3.1 Data Entry

Two data encoders were assigned on regular basis for data entry activity. The task of data entry had been carried out using two computers made available by the ILO. Immediate checking on quality of data was made possible as data entry had been performed on a daily basis. The whole data entry process had taken close to two months, prolonged by two weeks from the initial schedule.

5.3.2 Data Checking

Data entered into the computer had to be checked for completeness, consistency and validity. As the enumerators had been visited every day to sort out any interviewee problems and go through the previous day's questionnaire, the quality of data was maximized. One of the statisticians was also engaged in data – cleaning and checking. Range checks were also made with the generation of frequency tables for each of the variables. Simple cross – tabulations of the major indicator variables using basic statistics such as means, medians and averages also enabled effective checking and verification.

5.3.3 Data Processing and Analysis

The center of data processing was the conversion of raw data into poverty measures. The classes of poverty status in RAPI are four, depending on the degree of relative well – being in terms of deprivation of basic needs assets, means of livelihood, social services and subjective perception.

5.3.4 Classes of Poverty Status

The ILO RAPI method categorizes respondents into groups of four depending on degree of relative well - being in terms of deprivation of basic needs, assets, means of livelihood, social services and subjective perception. Unfortunately, it has not been possible to get unambiguous responses regarding subjective perception of material deprivation. It seems being explicit has not remained without a challenge. Although the indicator is plausible, there are limitations in that it lacks 'visibility'. As a ' summary' measure of subjective perception, there are controversies surrounding its application at the field level. In any case, the realities of uncertainity shall be further verified during follow up surveys.

Four categories of poverty for each indicator, consisting of ultra - poor, poor, modest and prosperous are proposed in the RAPI guidelines.

Definitions of each of these categories is given as follows:

Ultra - poor	-	" Extremely deprived and highly vulnerable."
Poor	-	"Deprived and highly vulnerable."
Modest	-	"Not deprived, still vulnerable".
Prosperous	-	"Not deprived, not vulnerable".

Each of the four definitions have further been specified matching the elements of basic needs, assets, means of livelihood, social services and subjective perception.

Poverty in the framework of the RAPI approach relates to the deprivation of basic necessities and services. Hence, the analysis is to be based primarily on the four dimensions (deprivation of basic needs, assets, means of livelihood and social services). The underlying principle of the RAPI method is that solutions to the problem of poverty is not just to raise the incomes of the rural poor, but to address the difficulties faced in meeting the challenge of persistent " deficiency" of basic needs, assets, means of livelihood and social services. The method does not involve determining absolute poverty measures constituting minimally acceptable basic needs and for the other poverty indicators.

Turning raw survey data into poverty involves the generation of poverty profiles based on “dummy” or blank output tables using established “thresholds”. SPSS – Computer Data Base Management System was applied for data processing. Separate measures of poverty were generated to categorize households by status.

Chapter Six

Major findings

6.1 INTRODUCTION

The major findings of the study resulted from transforming the raw facts or observations which are subjective measurements of the attributes or the characteristics of the sample and the population at large into meaningful and useful context for end users. The first group of findings are an outcome of inferences drawn from proportions, means, median values and ranges. The findings from the mean values for a set of observations (responses) provide a single value that is representative of all the sample for each variable relating to specific indicator and area. The statistical elaboration, therefore, allowed the drawing of inferences at baseline stage and comparisons with future results of follow – up surveys. It should be noted that while community – level survey data were managed in a separate file for each community, selected statistics have been presented jointly in the basic tables of statistics for the study and control areas. There are also findings on Selected Simple Poverty Indicators, which are vital for gauging changes in poverty status.

Finally, the most vital findings are those based on the profiles constructed by adopting 'thresholds' defined earlier, influenced by the drawing of the poverty line. According to the 'thresholds' those who are poor or ultra poor are below the poverty line, while the rest (modest and prosperous are above the poverty line.

6.2 CONTEXTUAL INFORMATION

A variety of data and information were collected at an early stage. The initial data collection was particularly valuable for contextual analysis, as a survey instrument for outlining vital conditions regarding relief, climate, soils and vegetation, population and settlement pattern, land use, agro – ecology and agriculture. The contextual analysis was used in selecting the 'study' and ' control' areas. In accordance with the RAPI guidelines the selection process of the control area ended up being time consuming. The main reason for this is that the selection of an area which 'in every possible way is similar' to the actual impact area (the study area) was a real challenge. As the baseline survey is also a pilot test, it assumed some sort of ' experimental approach.' However, as data on the selected study area was gathered and analyzed at early phase of the planning stage, the difficulty encountered was minimized. Nonetheless, It was only through reconnaissance trips to about four areas that a 'control' area was selected for the baseline survey. Significant variations - area characteristics and

existing or planned road projects were major factors that prevented the selection of a control area as early as possible. Contextual information for the study and control areas are presented in Table 10

Table 10

Contextual Information (Study and Control Areas)

	Study Area (Gebrekidan Tabia)	**Control Area (Hareko Tabia)**
Number of Households	2486	1920
Number of kushets	5	3
Number of Aboselasas	53	43
Population	9000	8582
Settlement Pattern	Clustered	Clustered
Altitude (Meters above sea level)	2300	2500
Soil character	Limited depth & agri - value	Limited depth & agri - value
Climatic zone	Dega (cool highland) & bimodal	Dega (cool highland) & bimodal
Temperature	15^0 to 35^0 c.	15^0 to 35^0 c.
Annual Rainfall (mm)	700 to 800	650 to 750
Land under cultivation (% of area)	56	50
Vulnerability to desertification	High	High
Land use	About 60% intensively cultivated	About 60%
Major crops	Barley, wheat, sorghum, noug, horsebeans, beans, finger millet	Barley, wheat, sorghum, noug, horsebeans, haricot beans, finger millet
Food Status	Chronically inseure	Chronically inseure
Livestock population	About 7900	About 7000

6.3 DISTRIBUTION OF HOUSEHOLDS BY ATTRIBUTE

6.3.1 Size of Household

Maximum family size in the study area is 12 and that of the control area is 10. The minimum size of households in both areas is 1. The median is 4 in each area. The average of the means for the two areas is 4.49 (4.57 for the study area and 4.27 for the control area). There are no significant variations in the pattern of size of households by Kushet. However, the mean, mode, median and maximum for Midere in Gebre Kidan (Atsbi Wenberta woreda) is on the low side. Hareko Kushet of Hareko control area (Hintalo Wajirat woreda) has also relatively lower median and mode values compared to that of Michele Debre Haila. In terms distribution by size grouping, about 42 to 53 percent of the responding households by Kushet fall in the range of 4 to 6. With the exception of Hichen Kushet in Gebre Kidan Tabia of Atsbi Wenberta Woreda for which the distribution of households in the size group of 1 to 3 and 7 to 9 is identical, there are higher proportions in the size group of 1 to 3 (the lowest of 31 percent for Barka kushet (Gebrekidan Tabia) and the highest of 49 percent for Midere (Gebre Kidan Tabia). Of the seven Kushets, six have about 14 to 24 percent of responding households in the group of 7 to 9 members.

It should be noted that there is a correlation between family size and size of land holdings. In the study area there is relatively higher household size and comparatively lower land holding per household, and the contrary is valid for the control area. Interestingly, there is a close relationship between food aid and family size; the higher the percentage of households in the 7 to 9 member category the greater the dependency on food assistance. There is no doubt that the crowdedness of a population has implications for health and other problems. Variations in the distribution of responding households by size of members are significant by Kushet, but not by area of study. Details are shown in Tables a.1a, a.1k, a.1a2 and a.123 of Volume II.

6.3.2 Health Status – Serious illness

About 86 to 97 percent of the responding households in the study and control areas reported that no one in their families has been severely ill. Detailed derived data is given in Tables a.2a, a.2k, a.3k, and a.3a1 of volume II.

6.3.3 Household Headship Pattern by Gender

In general, male headship rates are higher than female headship in all of the Kushets. The highest percentage of male headship (83 percent) is in Hichen of the study area and the lowest (39 percent) in Midere Kushet of the study area. A striking finding is that of Midere Kushet where over 60 percent of households are headed by females. On a broader level, about 65 percent and 35 percent of the responding households in the study and control areas respectively are headed by male and female households. About 65 to 70 percent of the household heads are in the age group of 40 and above. Tables a.41k, a4.1a and a4.2k in Volume II show the pattern relating to headship of households. Tables a4.2a, a4.2a1 and a4.2k1 in Volume II present the age group of household heads by area.

6.3.4 Educational Status

Educational status of households by Kushet and area of study are presented in Tables a4.3k and a4.3a of Volume II. Survey results show that the large majority of the responding household heads in all the Kushets reported they have had no schooling at all. The proportion of household heads with no schooling is strikingly higher (93 percent) in Hareko Kushet, followed by Wukro Kushet (76 percent). The lowest percentage is for Midere (62 percent). Additionally, a very low proportion (2.4 to 13 percent) are literate. Only about 2.7 to 16.2 percent of the household heads had some primary education. The primary school completion rate is also extremely low (for instance 1.4 percent for Hareko Kushet and close to 6 percent for Midere). Only about 1.2 to 1.4 percent had some secondary schooling. Table a4.3k in Volume II shows educational status by Kushet. Table a4.3a in the same volume depicts educational status of households by area of study. The proportion of respondents who reported that they had read newspapers is far higher in the study area compared to that of the control area. Table a4.4k shows response of households regarding ability to exposure to newspapers.

6.3.5 Ethnic Composition

Tigrean is clearly the only ethnic group reported by households. Except in Hareko Kushet, where about 38 percent of households reported that they belong to the Muslim faith, all of the households in all the other Kushets of the study and control areas are orthodox Christians. Details are given in Tables a4.bak and a4.bb of volume II.

6.3.6 Distribution of Respondents on whether they have Always Lived in the Area

Over 96 percent of the respondents in the study and control areas combined stated that they have always lived in the villages covered by the survey. There are no variations in the distribution pattern between the study and control areas. However, there are spatial differences at the Kushet level. Details are shown in Table b.1 of Volume II. From Table b. 1a there is some evidence of migration from other locations to the study area over the last two years. The main reasons for migration are allocation of land (about 33 percent) and availability of employment opportunity (Table 2.b1 of volume II).

6.3.7 Housing Construction Characteristics

Material for housing construction is important in the assessment of the well being of the rural population. The respondents to the household questionnaire were asked about building materials used for floor, wall and roofing. As shown in Tables b.22k and b.22a, the most common martial for construction of floor is pack clay / dirt. A large proportion of households reported use of mud for construction of wall (Tables b21k and b21a of Volume II. Only a few use stick and straw for similar purpose. There is also a striking high percentage of households that use materials other than stick, straw and mud.

More than 85 percent of responding households in the study area reported use of mud and mood (hidmo) for roofing, and only less than 15 percent corrugated iron sheet. In the control area close to 85 percent of roofing material is mud and wood, and about 15 percent thatch/straw. None of the households in the control area reported use of corrugated iron sheet for roofing, contrary to that of the study area. Tables b22k and b.22a in Volume II provide details of use of material for housing construction. A large majority of the responding households in both areas (91 percent in the study area and 97 percent in the control area) stated that they have not made major improvements to their houses in the last year (Table b.3k of volume II). This is not surprising considering the respondent's estimated earnings.

6.3.8 Main source of drinking Water, Time Taken and Responsibility For Fetching

The types of sources of drinking water have linkages to health status. The sources of drinking water also represent different levels of service. Lower service levels are rendered by facilities such as community hand pumps and protected well or spring, which are generally considered as poverty

focused interventions. Access to drinking water should also be viewed in relation to collection time.

The evidence from the survey shows that about 43 percent, 30 percent and 16 percent of responding households in the study and control areas combined depend on community hand pump, unprotected spring and unprotected surface water respectively. There is also evidence of spatial variability in that while community hand pump is the primary source of drinking water, about 44 percent of households in the study area; and more than 52 percent of households in the control area depend on unprotected surface water. Tables b. 4a, b.4k and b.4.1k in Volume II show details of access to sources of drinking water.

The survey results indicate that about 42 percent, 23 percent and 17 percent of the responding households in the study and control areas combined spend 0.3 to 1 hour, less than .3 hours and 1.01 to 1.30 hours respectively on collecting water. The percentage of households that spend more than 2 hours in the study and control areas is 11.3 percent and 0.7 percent respectively. About 2.8 percent of the households in the study area spend more than 3 hours on collecting water. Details are given in Tables b.4.1k and b.4.1a of Volume II. The survey data indicates spatial variability in the distribution of time taken on collecting water. It should be noted that surveys conducted for the World Bank in villages suggest an average water consumption of 20 litres per capita, and that this remains constant up to trip distances of 15 to 20 minutes for water collection. As the time involved increases there is a tendency for water consumption to decline because of the cost of the additional time involved. Over 52 percent and 79 percent of the households in the study and control areas respectively collect water twice a day (Table b.4.1a of Volume II). Carrying out the analysis at the Kushet level shows significant variations.

Water collection is predominantly the responsibility of female heads (spouses of male heads); about 74 percent and 59 percent in the study and control areas respectively. Over 70 percent of all responding households reported that female heads are responsible for collecting water. Children account for about 17 percent of the responsibility for collecting water. The involvement of male heads of households in the study area is minimal, only about 5.5 percent. Surprisingly, only about 17 percent of the responsibility in the control area is that of male heads of households. From the viewpoint of spatial distribution, the highest percentage (about 86 percent of responsibility of female heads for water collection is for Midere Kushet in the study area and the lowest (about 58 percent) is that of Hareko Kushet in the control area. Details of the division of responsibility between female heads, older daughters, all children, male heads and everyone in the family are shown in Tables b. 4. 2k and b. 4.2a of volume II.

6.3.9 Sanitation Facilities

Over 90 percent of the responding households in the study area and 100 percent of the households in the control area reported use of open pit latrine type of toilet facility. The use of private latrines is limited, none in Hareko and Michele Debre Haila and Hareko Kushets in the study area and just over 1 percent in Atsgebet Kushet of the study area. A relatively higher level of individual household use of latrines was reported for Midere (over 23 percent), Hichen (over 13 percent), Barka (over 9 percent) and Wukro (over 7 percent), all Kushets in the study area.

The findings vividly indicate the widespread severity of the poverty situation in the study and control areas. Hence, determining basic level of service to protect health by providing safe disposal of excreta is a key feature of disadvantaged rural communities. Tables b. 5k and b. 5a provide details on access to sanitation facilities.

6.3.10 Main Sources of Fuel For Cooking

About 65 percent and 40 percent of the households in the study and control areas reported use of dung and fuel wood respectively as main sources of fuel. In the control area, more than 99 percent and 71 percent of the responding households reported use of fuel wood and dung respectively. While fuel wood and dung are the main sources of fuel, the pattern varies by kushet (Table b. 6k of volume II). Table b. 6a shows the response of households in the main use of fuel for cooking.

6.3.11 Time Taken To Collect Fire Wood, and or Dung For Energy

About 86 percent and 57 percent of the households in the study and control area respectively make journeys for more than 3 hours to collect fire wood. On the contrary, only less than 10 percent of the households in the study area travel for more than 3 hours to collect dung for energy. There are marked differences between Kushets – for instance more than 70 percent of households make journeys of 3.01 to 6.00 hours in Hichen and only about 33 percent in Wukro. The data reveals that the study area in particular has the worst level of accessibility to fire wood, undoubtedly due to deforestation. Deforestation is probably the most serious environmental problem in both areas. The most important factors for deforestation are land clearing and expansion for agriculture, firewood, settlement and house construction. Tables b. 6.1k and b.6.1a of volume II give details on the response of the households regarding time taken to collect fire wood and for dung for energy by Kushet and area of study respectively.

Contrary to that of responsibility for collecting water, the transport burden for fetching fuel is generally shared by all family members. About 90 percent of the households in the study area reported that male heads of households are engaged in collecting fuel wood. For the control area, only about 10 percent of the households reported that male heads participate in collecting fuel wood. The distribution of responsibility of older daughters and all children also varies by area and Kushet. As distances in collecting fire wood become substantial, the contribution of male heads in transport burden increases. Tables b.6.2k and b.6.2a provide details of responses of households on responsibility for collecting fuel by Kushet and area respectively.

6.3.12 Possession of Lower Value Household Items and Sale for Cash

The household heads were asked whether they possess lower value items (bed, blanket, clothing, baskets, pots, table, chair, clock and shoes). About 94 percent and 96 percent of the households in the study and control areas respectively reported that they do not own bed. On the contrary, about 90 percent and 80 percent of the households in the study and control areas respectively reported owning low value blankets. A striking large proportion (about 99 percent) reported that they own clothing, basket, pots, tables, chairs, clock and shoes). There are no significant variations between the Kusets in ownership status of lower value items. Tables e2.1k and e2.1a in Volume II show pssession of lower value items by Kushet and area of study. Contrary to the results of the pre – test, the findings of the survey show that none of the households had to sell any lower value item for cash (Tables c2.15k and c.21 5a in Volume II).

6.3.13 Possession of Middle Value Household Items

Middle value items for the RAPI survey include pressure lantern, radio cassette, improved stove, bicycle, school uniform, gold jewellery and eyeglasses. A large proportion of households (85 percent in the study area and 92 percent in the control area) reported that they do not possess the second category middle value items (pressure lantern, or radio cassette, or improved stove or sewing machine). All of the households in the control area and over 98 percent of the households in the study area do not possess any type of machine, bicycle, school uniform, gold jewellery and eyeglasses. Only an insignificant proportion of households (about 4.8 percent in the study area) reported sale of second category middle value items for cash. Tables c 2.2k c2.2a and c2.2a in Volume II depict details of household distribution on possession and sale of middle value items. Tables c2.22k and c2.22 a in Volume II illustrate distribution of responses in ownership and sale of middle value items by Kushet.

6.3.14 Possession of Higher Value Household Items

Higher value items comprise electric generator, refrigerator, car/truck and Tv/VCR. None of the households in both areas reported possessions of such high value items. Tables c 2.3k and c 2.3a give details of ownership status in higher value items.

6.3.15 Possession of Lower Value Production Items

Lower value production items include hand tools (category 1) and malaria nets (category 2). About 58 percent and 75 percent of the households in the study and control areas respectively reported that they own malaria nets. None of the households in the study area reported owning malaria nets. Table c 3.1.1a in Volume II shows the data on response of the households in ownership of lower value production items. None of the households reported that they have sold any of the lower value items by Kushet (Table c 3.1.15k in Volume II).

6.3.16 Possession of Middle Value Production Items

Middle value items cover wheel barrows, plough, loom and special hand tools. Ownership of wheel barrows is very low (only about 10.5 percent in the study area and II percent in the control area), a factor that shows lack of appropriate transport devices at the local level for agricultural and other activities. Only about 57 percent and 65 percent of the households in the study and control areas respectively reported that they own plough. The ownership level of loom is too low, less than 1 percent in the study area and about 15 percent in the control area. Table c 3.2 1a in Volume II shows the distribution of response of households in the ownership of middle value production items. Table c 3.2 15k shows ownership of same items by Kushet. By contrast, the most visible finding is that 75 to 100 percent of households at the Kushet level reported sale of their own plough for cash (Table c 3.2.1k). Report of sale of own special hand tools is also high (about 16 percent in Wukro of the study area and 80 percent in Michele Debre Haila of the control area).

There are marked differences in the ownership of loom and special hand tools between the study and control areas (Table c 3.2.1a of Volume II). Another striking finding of the survey is that about 96 percent and 92 percent of the households in the study and control areas respectively reported sale of plough, with implications for the sustainability of farming and rural livelihoods. The sale of own loom in the control area is also very high (about 72 percent). Table c 3.12a in Volume II shows data on the response of households in the sale of middle value production items.

6.3.17 Possession of High Value Production Items

All households reported that they do not own high value production items (tractor, chain saw, grain mill and water pump). There is a high degree of correlation between this and the findings on income and expenditure pattern. It is evident that grain mill could only be provided by business people. Tables c 3.1.3k and c 3.1.1a in Volume II depict ownership of higher value items by Kushet and the broader study and control areas respectively.

6.3.18 Spending Pattern on Small Non Food Items

Over 98 percent of households reported that they practically never spend, even on the lowest level of less than one birr for small non food items (Tables c4.1k and c4.1a in Volume II). This reflects the expected pattern of no savings of the rural households to meet basic needs. Table c4.2a also confirms this finding from the view point of response of households on amount spent on small non food items (rarely) over a month. Data is also generated on the pattern of spending on small non food items by Kushet (Table c4.2k by kushet). Additional data on spending pattern is also presented in volume II.

6.3.19 Household Food Consumption Pattern

The following are the main features of food consumption pattern of the sample households:

a) Staple Foods

Over 88 percent and about 95 percent of the sample households in the study and control areas respectively reported that they consume wheat every day (Tables cda. 1a and cda.1k). The consumption of other staple foods (barley, beans, peas, lentils and sorghum is very low (limited to rarely and for some days) as presented in Tables cdb1.1a, cdb1.1k, cd b1.2a and cdb 1.3a. It should be noted that due to the continuing decline in rural household's access to adequate food and their limited capacity to cope with this, there is heavy dependence on food aid, primarily on wheat.

Fruits

The survey data shows there is no consumption of fruits such as oranges, lemon and "zeythun" (Tables cdc1.1a, cde1.2k, cdc1.3a and cdc.3k).

Vegetables

Vegetable production is generally less practiced, and hence consumption is of cabbage and is low. As the data in Tables cdd11.1a, cdd1.2k and cdd 1.2a evidence, spinach and lettuce are rarely consumed.

Dairy Products

The consumption of dairy products is also low, predominantly consumed rarely in the study and control areas (Tables cdel. 1k and cdel.1a).

Eggs

Only a few households (only 9 in the whole study area) reported consumption of eggs rarely (Tables cde1.2a and cde1.2k) in Volume II.

Meat and Fish

The data indicates that the households members lack animal protein. Only 25 households (about 6 percent) in the study area reported consumption of meat / fish one day per week (Tables cdfa and cdfk in Volume II).

Sugar

None of the households in both areas reported consumption of sugar (Tables cda 1.2k and cda 1.3a).

Bread

All households reported that they do not consume bread at all, a somewhat misleading finding as food aid in wheat is generally consumed in bread form. It seems there was misunderstanding in questioning.

b) Number of cooked Mills in a Day

A large proportion of households (78 percent in the study area and 73 percent in the control area) reported that they consume three meals in a day (Table d.3a1). At the Kushet level, the data indicates a low of 61 percent of the households in Midere and a high of 84 percent of the households in Atsgebet and Hichen consume three cooked meals in a day.

c) Food Aid Received

The survey data shows a high degree of dependence on food aid. About 70 percent of the households in the study area reported they had received food aid between 7 and 12 times during the previous year. In contrast, about 84 percent of the households in the control area reported that they had received food aid only 1 to 3 times during the previous year. Only about 3 percent of the households in the control area had received food aid 10 to 12 times. The proportion of households that had received food aid 10 to 12 times in the study area is about 33 percent. Tables d.3a1 shows the data on food aid received by area.

d) Food Aid In Exchange For Work

The survey data shows that about 77 percent and 64 percent of the households in the study and control areas respectively reported receipt of food aid in exchange for work (Tables d.3b and d3a). Spatial disparity in receipt of food aid in exchange for work is significant, high of 86 percent in Midere Kushet to a low of 49 percent in Hareko Kushet. This variation reflects the differences in resource base for agriculture and access to employment opportunity (Table d.3 b).

e) Ownership (Operation) of Farms by Household Heads or Any other Member

Close to 70 percent and about 65 percent of the households in the study and control areas respectively reported owning or operating farms, the remaining being landless. There is significant disparity in ownership (operation) of farms by household heads or any other member by Kushet; from a low of about 30 percent in Hichen. In general, household land possession is highly skewed at the Kushet level.

f) Mean, Mode, Median, Minimum and Maximum Land Holding

Mean Values

The mean value of total Tsimad in the study area is 1.5, and in the control area 3.46 hectares. The variation in mean total land holding by Kushet is quite substantial, ranging from 0.93 Tsimads in Midere to 3.74 Tsimads in Michele Debre Haila.

Mode values

As the mode value is the value which occurs most frequently in the set of observations regarding land holding, it is unaffected by the extreme observations. According to the frequency distribution the mode values are 2 Tsimads and 4 Tsimads in the study and control areas respectively. The mode values vary from a high of 4 Tsimaks in Hareko and Michele Debre haila Kushets to a low of 1 Tsimad in Midere Kushet.

Median Values

The Median land holding in the study area is 1.5 Tsimads. It is 4 Tsimads in the control area. At the Kushet level, it ranges from 1 Tsimad in Midere to Tsimads in Michele Debre Haila.

Maximum and Minimum Values

There is a wide spatial disparity in maximum and minimum land holding. The maximum for the study and control areas are 4 and 11 Tsimads respectively. At the Kushet level, the Maximum is II Tsimads (in Hareko). The minimum at the area and Kushedt level is 0.

g) Irrigated Area

Irrigated farming is negligible. It is limited to low level of development in Michele Debre Haila kushet. The mean and maximum land under rain – fed farming are .13 Tsimad and 1 Tsimad respectively

Tables e2-1 in Volume II presents the distributions of the households in land holding pattern.

h) Mean, Mode, Median, Minimum and Maximum Values of Rented Land

The Mean and Maximum values for rented land range from 0 to 0.2 Tsimads. The Maximum values is 0 for all observations. Table e 2.2 in Volume II presents the values.

i) Mean, Mode, Median, Minimum and Maximum Values for Share Cropped Land Holding

The mean value for the study and control areas for share cropped land holding are .16 Tsimad and .6 Tsimad respectively. The Maximum values are 2 Tsimads for the study area and 5 Tsimads for the control area. At the Kushet level, relative high values were reported for Michele Debre Haila (mean of .74 Tsimad, maximum of 5 Tsimads and median of 1 Tsimad). Details are given in Table e 2.3. Table e 2.5 shows that mean, maximum, mode and median values for total land holding in Tsimad are higher in the control area. At the level of Kushet, the values for Michele Debre Haila are comparatively higher.

j) Type of Tenure of Land Holding and quality of Land

An important feature of rural livelihood is the type of land tenure. The survey results indicate that about 97 percent and 100 percent of the sample households reported private land holding (Table e 2.1a). The picture regarding quality of land in relation to average in the area is interesting, with over 25 percent of the quality of land in both areas rated as poor (Table e 3a1)

k) Main Types of Crops

According to the survey data, the overwhelming majority (about 84 percent of the sample households in both the study and control areas) reported that barley is their main crop. It is followed by beans (30 to 34 percent of households), wheat (25 percent of households in the study area and close to 80 percent in the control area). Maize and teff are also important. About 60 percent of the households in the control area consider teff as one of the main crops, but only about 1 percent in the study area. Table e.4 presents the derived data from the household questionnaire.

l) Yield levels of main crops

The RAPI survey in Tegrai provides data on yield estimates for first and second crop seasons. The survey results indicate relative high yield values for barley (mean values of 141.1 kgs for the study area and 208 kgs for the control area) in the first season (Table e 32. The mean, mode, minimum and maximum values for most of the crops are

extremely low. For instance, the maximum values in the first season for beans, peas, wheat and soya bean in the study area are 400 kgs, 200 kgs, 300 kgs and 25 kgs respectively. The maximum yield for teff in the study and control areas are 5 kgs and 350 kgs respectively. For sorghum and lentils the yield in the study area for the first season are 50 kgs and 100 kgs respectively; while no production was reported for the control area. Table e 32 thru e 317 present yield for both the first and second production seasons.

m) Sale of farm Produce

In general, the quantity of crop marketed by the rural households is very low. There are also variations in the characteristics of crop marketing. The responses show a wide gap between the study areas regarding sale of farm produce. While about 76 percent of the households in the study area reported sale of some barley, only 22 percent stated sale of some quantity of the same product in the control area. For the other products (bean, peas, wheat and soya beans), quantity of sale in the study area is negligible (ranging from 2 to 8 percent of households reporting sale of some of the products). None of the households in the control area reported sale of these products. Details are shown in Tables e 360, e 361, e 362, e363, e364, e365 and e366. Summaries of the responses of households on the sale of most or all of the main crops are presented in Tables e 370 thru e374. The data provides evidence that the sale of agricultural produce is limited.

n) Use of hired Labour

One reason for the apparently insignificant role of hired farm labour in the production of main crops is land fragmentation and the lack of development of exchange economy due to the subsistence farming that is dominant. Interestingly, only less than 1 percent and about 2.2 percent of the households in the study and control areas respectively reported use of hired farm labour any time in the production of main crops. Lower use of labour has also been reported for the production of peas and wheat. No hired labour has been used for the production of the other main crops. Details are given in Tables e 382 thru e387.

o) Possession of Livestock

About 78 percent and 64 percents of the households in the study and control areas respectively reported that they possess livestock (Table e 5a). The variation in possession of low value animals (poultry primarily), middle value, high value and separately for oxen is evident from Table e 5a. The proportion of households possessing livestock in the study area is in the range of 73 to 98 percent. The proportion in the control area is extremely low (less than 2 percent for sheep and a high of 27 percent for oxen).

p) Off – farm Employment and Working on Other Farms

The survey data shows that about 97 percent and 44 percent of the households in the study and control areas respectively reported that they had access to off – farm employment and income (Table f1ka). At the Kushet level (Table f1k) off – farm employment and income is more important in Midere (100 percent of households reporting that they had access). Only about 42 percent of the households in Michele Debre Haila reporting that they had access to off – farm employment and earnings, explained by relatively higher land holding for farming. As evidenced in Table f1k1 the most important activities in off – farm employment are trade related (carpentry, masonry and poetry) followed by washing clothes as well as undefined activities. There is relationship between the size of farm holding and interest for off – farm employment.

Perhaps a more interesting implication of the distribution of households relating to response on off – farm employment and income is that the agricultural resource base has shown a decline over the years. Unfortunately, the data does not permit the relative income status of the average rural household from off – farm employment. Another way of viewing the dimension of employment is to assess the proportion of households in hired labour of other farms. As shown in Tables f1a. 2a, f1a.4k, f1a6k and f2k, the number of households working as hired labour on other farms as source of income is negligible showing that the role of family labour in a predominantly below subsistence economy.

q) Response on Road Construction Project

The data indicates that only 2 out of 534 households showed interest in employment at a road construction project, and no reason could be given for the response (Tables f2aa, f3k, f3a, f3b.1k and f3b,1a.

r) Starting a New Enterprise

As illustrated in Tables f4k and f4a only about 5 percent of the households in both areas of study (primarily in Midere) responded that they had started new enterprises.

s) Plans to Start Business in Next Twelve Months

Over 20 percent of households, primarily in Midere, Barka, Wukro, Atsgebet and Hichen responded that they have plans to start business in the next 12 months (Tables f5k and f5a).

t) Gift Received and Sent

A total of 24 households in both areas (about 4 percent of the sample) reported that they had received gift from others living elsewhere (Tables f6k and f6a). The total amount of gift was estimated to be about 29, 000 birr (Tables f6a.1k, f6a.1a, f6a. 2k, f6a.2a, and f6.2k). The minimum gift was in the range of 30 to 600 birr, while the maximum was 200 to 6000 birr.

As shown in Table f7k, f7a, faa.1k, f7a,1a and f7a.2k, the gift sent by households was limited, only about 1630 birr.

u) Income Received From Other sources by

Type Sources of income not specifically identified represent about 73 percent of income received from other sources. Pension or retirement income account for only about 3 percent, and renting out houses just less than 2 present. Tables f9k and f9a present details.

v) Most Important Sources of Income

Once again unspecified sources of income are most important (about 43 percent), followed by sale of livestock about 41 percent of households and then food aid (over 19 percent) and remittance (about 19 percent). Tables f10.k and f10.a provide details of the data derived from the household questionnaire.

6.4 COMMUNITY CHARACTERISTICS BY SELECTED ATTRIBUTES

A total of about 90 tables have been produced from the raw dates in the community questionnaires (Volume II). The main findings from these tables are summarized as follows:*

6.4.1 Breakdown of Geographical Area by Land use

A large proportion of land is devoted to agricultural and 'private land'. It is evident that deforestation for settlement and crop cultivation has taken place in the areas over centuries (Tables 1, 2 and 3).

6.4.2 Population in the Study and Control Areas

Population in the Study is estimated at 13, 300, and that of the control at 6610. The sizes of households of the study and control areas are 3163 and 1321 units respectively. Close to 4490 households and 19900 people were covered by the survey (Table 5 in Volume II). There are wide variation in population size from one village to the other. Of the fourteen study villages (kushets), Wukro has the highest population of about 5070 with 302 households. The lowest population is that of Barka, which is "unrealistically" low. Tables 4 and 5 provide data on population sizes by Kushet and area of study respectively.

6.4.3 Migration of People

As shown in Table 9, it seems that the proportion of people arriving at the study and control areas is higher in comparison with those who leave.

6.4.4 Proportion of Boys age 12 Attending Primary School

The distribution of school attendance shows that the proportion is lower in Barka and Midere Kushets. It should be noted however, that the use of incomplete data could be misleading as evidenced in Table 10. a similar pattern is illustrated in Table 12 for the proportion of girls age 12 in the community who regularly attend primary school. Further, Tables 13 and 14 illustrate high proportion of boys and girls in the communities that completed primary school.

6.4.5 Most common form of Land Tenure

All of the communities (seven in the study area and two in the control area) reported that the most common form of land tenure is free holding (Table II).

* Tables refered herein are in Volume II.

6.4.6 Vaccination

There are noticeable differences in the proportion of vaccination of children under ages by Kushet. Vaccination against DPT, measles and polio is higher in Barka Hichen, Wukro and Hareko. The survey data also shows that vaccination against polio is only reported for Hichen, Wukro and Hareko. As illustrated in Table 15 the number of respondents of communities on the proportion of vaccinated children under age 5 is very low. An understanding of the reasons for this could not be determined.

6.4.7 Condition and **Passability** *of Road or Track*

Table 16 shows that all eight communities reported that current condition of primary roads is rated as extremely poor. Most of the road sections are not passable during the months of July to august, and some from July to September. The typical vehicle that could pass along the primary roads are pick – ups and four – wheel drive vehicles. Only one community reported use of animal means of transport.

6.4.8 Condition of secondary Road

There are no secondary rods in the study and control areas (Table 17).

6.4.9 Availability of Public Transport on Regular Basis

Its only in Midere Kushet that 50 percent reported availability of public transport (Table 18). As presented in Table 19, there is no information on the frequency and cost of public transport.

6.4.10 Time Taken To Reach common Mode of Transport

Data on time taken to reach common mode of transport were also collected to provide information on magnitude of transport burden on rural households. About 57 percent of the communities in the study area stated that it takes about 3 hours to get the common mode of transport. About 14 percent of the communities in the same area reported that it takes 4 hours to get to the common mode of transport. About 50 percent of the households in the control area reported that it takes 5 hours to reach to common mode of transport. As shown in Table 20 of volume II, about 29 percent and 50 percent of the households in the study and control areas respectively reported that they do not know the actual times it takes to reach the common mode of transport.

6.4.11 Dominant Mode of Transport

For most communities walking is the dominant mode of transport (Table 21). About 43 percent and 50 percent of households in the study and control areas reported that there has not been any change in mode of time of travel in the past twelve months. One of the key features of 'internal' transport of rural communities is the heavy dependence on walking (Table 22) for household tasks such as reaching extension agent (in Hichen, Barka, Midere, Atsgebet and Hareko), to go to church /mosque (Barka, Wukro, Atsgebet and Hareko), to reach primary school (Atsgebet, Hareko and Michele Debre Haile), to reach clinic (Wukro and Hareko) and to reach trained TBA/ midwife (Hichen, Atsgebet and Hareko).

6.4.12 Availability and Time Taken to Reach Facility or Service

Tables 23 and 24 in Volume II detail responses of households regarding the availability of government office, extension agent, bank, seed supply, grain mill, agricultural cooperative, primary and high school, clinic, pharmacy etc by area of study. It is illustrated by the responses that the study area has better access to government office, bank / credit facility, grain mill, clinic and trained TBA/ mid wife. The reverse is true in the case of access to primary school. The magnitude of transport burder to reach these facilities is evident from Tables 25 and 26 of Volume II.

6.4.13 Usual Purchase of Items

The distribution of households in relation to cost of staple food (in birr) shows the wide variations for barley and wheat. The distribution also reflects the price differential for wheat, fish, oil and sugar as shown in Table 25. This is also apparent for livestock.

6.4.14 Largest land Holdings

About 57 percent and 100 percent of the responding communities reported possessing holding units of 0.5 hectares (Table 30 in Volume II). In all of the Kushets, no reports were made for three largest private holdings.

6.4.15 Proportion of Households Owning / Having Access to Farm land

One of the most striking findings of the survey is that 50 percent of the households in Hichen, Wukro, Atsgebet, Hareko and Michele Debre Haila do not own or have access to farm land.

The proportion of households owning or having access to farm land of less than 0.25 hectares per household falls between Barka (1 percent) to 10

percent in Hichen, Hareko and Michele Debre Haile, and a high of 30 percent in Atsgebet. About 97 percent of households in Barka own or have access to farmland of size between 0.25 to 0.5 hectares per household, while a low of 20 percent is reported for Atsgebet. As illustrated in Table 32 of Volume II there are no households owning or having access to farmland higher than 0.5 hectares per household, while a low of 20 percent is reported for Atsgebet. As illustrated in Table 32 of Volume II, there are no households owning or having access to farmland higher than 0.5 hectares per household. Tables 33, 34 and 35 present data on responses of households on the proportion of households owning or having access to farmland by area and Kushet. It is shown that about 38 percent and 50 percent of the households in the study and control areas respectively do not own or have access to any land at all.

6.4.16 Quality of Most Land in Communities

As shown in Table 37 in Volume II the communities in Hichen, Wukro, Atsgebet and Hareko reported that the quality of land is rated as poor. The two communities in Midere and another one in Michele Debre Haila reported that the quality of land is generally average. In Barka, about 50 percent each of the communities reported that land quality is average and poor. The land quality on area basis shows that most land in he study area is poor, while that of the control area 50 percent poor and 50 percent average quality.

6.4.17 Overall condition of Local Farmland

All of the communities in Hichen, Wukro, Atsgebet, Hareko and Michele Debre Haila reported that the overall condition of the local farms got worse compared to three years ago (Table 39 in Volume II). As shown in Table 40, about 57 percent and 100 percent of the communities in the study and control areas respectively reported that the overall condition of the local farm land got worse compared to three years ago.

6.4.18 Major constraints to Higher Yield

About 78 percent of the responding communities reported that lack of irrigation is the major constraint to higher yield on farms. While 100 percent of the communities regard lack of irrigation as the major constraint to higher yield in the control area, the proportion is comparatively lower in the study area (over 70 percent). Tables 41 and 42 in Volume II illustrate the distribution of communities in terms of response on major constraint to higher yield by Kushet and area of study respectively.

6.4.19 Proportion of Households Working on Road Project

As shown in Table 47, only in Midere very few households reported working on road project. Table 48 presents response of communities by area of study.

6.4.20 Wealth Status

There is no response on wealth status (Tables 49 and 56 of Volume II).

6.4.21 Search for Work to Earn Money

All communities except those in Barka reported that households go away to search for work to earn money (Tables 51 and 52). Tables 53 and 54 show responses of communities on the change of household members in finding work to earn money elsewhere. Tables 55 and 56 provide additional data on the proportion of households that go away to work elsewhere.

6.4.22 Amount Earned Per Day by Typical male and Female Worker

The rate per day per worker for different types of work is higher in the study area than in the control area, 7 birr for the former and 5 birr for the latter (Table 58). Details are given in Table 57. The rates are generally lower for female worker in the control area (as low as 3 birr) as shown in Tables 59 and 60 of Volume II.

6.4.23 Ability to Find Work as Wage Earner

There is evidence from the survey data (Tables 61 and 62 of Volume II) that it is generally harder for females to find work as wage earner. It is, however, easier for both male and female to have access to find work as wage earner in Hareko and Michele Debre Haila, explained by factors related to size of land holding.

6.4.24 Problems in Perceiving Quality of Life

All respondents stated that they are encountered by all the problems listed down in Table 65. A similar pattern is illustrated by area of study (Table 66). Almost all of the problems are considered as very serious (Tables 67 and 68). The problems not regarded as very serious are flooding, lack of wildlife to hunt, as well as religious and ethnic conflict.

6.4.25 Natural Disaster Affecting People

The responses evidenced from the survey data show that 86 percent of people in the study area and 100 percent of those in the control area are affected by major natural disaster (Table 70). Drought is the single most significant cause of disaster and damage (Tables 71 and 72).

6.4.26 Comparison of living conditions Over Time

All of the communities (except one of the two in Barka) reported that current living conditions of people compared to 12 months ago has got worse (Tables 73 and 74 of Volume II).

6.4.27 Cost of Usually Purchased Types of Items

Table 75 illustrates the wide disparity in cost of staple foods and other items based on responses of the communities.

6.4.28 Main Source of Water

In the study area, unprotected well or spring is the main source of drinking water (71 percent of responses), followed by river – pond (close to 30 percent). In the control area, the main source of water is protected well or spring (Table 76). Table 77 illustrates that in all the communities shortage of water during the dry season is critical.

6.4.29 Wages of Women and men

Data on wage levels of women is not available for Midere, Wukro, Atsgebet and partly for Barka. In Hareko and Michele Debre Haila, the wage rate is 5 birr per day (Tables 78 and 79) the wage rate for men are 5 and 7 birr per day (Tables 82 and 83). Additional data is also given in Table 84).

6.4.30 Time Taken To Collect Drinking Water

There is scattered distribution of time taken to collect drinking water by Kushet (Mean values range between 30 minutes to 90 minutes during non shortage months). The differences in mean values for the study and control areas, are however, reduced to 51.4 to 60 minutes. In water shortage months the mean values at the Kushet level fall between 60 to 120 minutes. Details are given in Tables 76 and 77.

6.5 CLASSIFICATION OF POVERTY STATUS

6.5.1 Deprivation of Basic Needs

- **Food**

  On the basis of the set threshold, the proportion of households classified as ultra poor in the study and control areas is 31 percent and 65 percent respectively, indicating that the difference in incidence is statistically significant. When the data is further analyzed, the distribution shows that the proportion of poor and modest households is insignificant, while the percentage of prosperous households in the study and control areas is 66 percent and 35 percent respectively. It should be stated that households face food shortages because they fail to produce adequate grain to cover consumption requirements and that their level of meat consumption is insufficient. The principal explanation for the striking high percentage of prosperous households, particularly in the study area is the bulk of food aid delivered and distributed in response to emergency needs as well as the contribution of petty trading to rural livelihoods.

  As wheat generally accounts for over 80 percent of food aid commodities distributed, it was selected for assessing the adequacy of consumption in the two areas. Relatedly, Atsbi Wemberta (where study area is located) and Hintalowajirat Wereda (where control area is located) are two of the sixteen drought prone Weredas included in the Integrated Food Security Program developed by the government of the Tigray Regional State.

  The association of levels of food poverty with food aid complicated the assessment of poverty status. In any case, the linkage between farm size, food insecurity and food aid is important, which will have influence on monitoring poverty status.

- **Water**

  A generally daunting dimension of deprivation of basic needs in Ethiopia is the inaccessibility to safe water, which is also highly correlated with incidence of water borne diseases. However, an important feature is that none of the responding households in the study area are categorized as ultra poor, while only less than 2 percent of those in the control area are ultra poor. On the contrary, about 57 percent of the responding households in both areas are classified as poor. It also appears that about 35 percent and 41 percent of the households in the study and control areas respectively are considered to be modestly endowed. What also emerges from the survey data, from the view point of the set threshold for time taken for collecting water and quality of source is that only about 6 percent and less than 1 percent of the households in the study and control

areas respectively are classified as prosperous. There is evidence that the major factor for the low percentage of households classified as ultra poor is attributable to relatively large number of beneficiaries from hand dug and medium wells.

In general, a substantial amount of time is taken to search for water, and the majority of households utilize unprotected surface water, As such, sources are not protected with top cover to prevent contamination. The transport burden for collecting water per trip for majority of households is between 1 and 2 hours, which has implications for time available for increased agricultural output and per capita water consumption.

- **Shelter**

The distribution of poverty status, from the view point of shelter is different compared to that of food and water. The data on quality of dwelling units (construction material of roofing, wall together with type of sanitation facility) shows that a large percentage of responding households (57 percent in the study area and over 60 percent in the control area) are classified as poor. About 3 percent and 33 percent of the responding households in the study and control areas respectively are considered prosperous. Only about 4.6 percent of the households in the study area are classified as ultra poor. Among the four types of construction material for roofing, the most predominant is hay. In the case of distribution of households by construction material for wall, the most common is a combination of wood and hay. As to sanitation status, there is heavy dependence on open pit latrines. The relative high proportion of households with private latrines (classified as prosperous) in both the study and control areas could be taken as a fairly reliable indication of representativeness of the sampling frame.

- **Energy**

There are striking variations in transport burden (time taken) between the study and control areas in collecting "energy". For the study area, about 56 percent, 30 percent, 12 percent, and 2 percent of the responding households are classified as ultra poor, poor, modest and prosperous respectively. For the control area, about 55 percent and 43 percent of the households are poor and modest respectively. The cause of divergent burden in the two areas could be explained partly by differences in the endowment of wood lands. The extremely low proportion of prosperous households (2 percent in the study area and less than 1 percent in the control area) is similar in pattern to that of deprivation of water (about 5.8 percent and 0.7 percent of the households classified as prosperous).

- **Non - food Essentials**

  The largest proportion of the sample households (over 51 percent) in the study area are classified as poor, while about 58 percent are ultra poor. Over 11 percent and 4 percent of the responding households in the study and control areas respectively are classified as modest. Only about 5.8 percent of the households in the study area are prosperous. There are no households falling in prosperous category in the control area.

  The indicator of non - food essentials is measured in terms of small purchases made (soap, matches, medicine …etc). The evidence from the survey illustrates that the overwhelming majority of the households (over 80 percent in the study area and over 95 percent in the control area) classified as ultra poor have no or limited cash to purchase small items. The Research Report on Land Tenure and Agricultural Development in Ethiopia of October 2002 states that income of farming populations closely follows the pattern observed in land size holdings. The rather low level of land holding and income has implication on the capability of households in purchasing non - food essentials. Although the RAPI study focuses on non - monetary indicators of poverty, further analysis of income deficiency could provide explanations for the inability of households to purchase non - food essentials. In this connection, the percentage distribution of expenditure by item as shown in the Report on the 1999/ 2000 Household Income, Consumption and Expenditure Survey (CSA Feb. 2001) evidences that only small percentage is spent on such items as non - food essentials. According to the report, about 65 percent of household income of rural households in Tigray is spent on food.

- **Health**

  A completely different picture emerges regarding health status of the responding households. The data from the survey in both the study and control areas indicate that the indicator (as measured by the reported population of working age group that were ill as a ratio of working age population) does not seem to provide a firm and useful finding. Probably, faulty responses might have had distorting influence on the output. This is reflected in the disproportionate distribution of households (About 94 percent and 99 percent of households in the study and control areas respectively are classified as prosperous). Hence, questions could be raised about the validity of the data. Of course, to confine measurement of ill health status to the ratio may represent a misleading picture. There is no doubt that it would be difficult to assess impact as it might be distorted or misleading, owing to the use of partial or incomplete information, and may be due to interpretation. A more illuminating indicator might have to be identified.

  Table 11 shows the output table for deprivation of basic needs.

- **Aggregated Poverty - Basic Needs**

  The aggregated poverty status measurement is that ultra poor and poor households combined are considered to be below poverty line, while modest and prosperous households are above the poverty line. As both study and control areas are classified to be below poverty line in water, shelter, energy and non - food essentials, it is determined that they fall below the poverty line in basic needs, although in terms of threshold for food, the proportion of households in the study and control areas are 65 percent and 67 percent respectively are above and below the poverty line. As a whole, from food deprivation dimension, about 72 percent and 68 percent of the responding households in the study and control areas respectively are below the poverty line. The findings reinforce the notion that non - food indicators measure important dimensions of poverty, which highlight the reasoning that conventional development thinking and strategies should be reoriented.

  Table 12 shows the aggregated out put for basic needs.

  Figures 2.1 to 2.6 present graphically the distribution of poverty among households in terms of food, water, shelter energy, non - food essentials and health (illness).

Table 11
Deprivation of Basic Needs - Out put Table

Deprivation of (in %)	*Area*	Ultra Poor	*Poor*	*Modest*	*Prosperous*
Food	Study	31.00	2.00	1.00	66.00
	Control	65.00	0.00	0.00	35.00
Water	Study	0.00	57.00	35.38	5.75
	Control	1.48	57.78	40.74	0.74
Shelter	Study	4.63	57.06	7.30	31.01
	Control	0.00	61.48	5.19	33.33
Energy	Study	55.70	30.20	12.08	2.01
	Control	2.24	54.48	42.54	0.75
Non-food essentials	Study	31.31	51.52	11.36	5.81
	Control	57.63	38.14	4.24	0.00
Health	Study	0.75	4.00	1.50	93.75
	Control	0.00	0.74	0.00	99.26
Expected changes after "project"	Study				
	Control				
Basic Needs Poverty Status					

Table 12
Aggregated Measure of Deprivation of Basic Needs Output Table

Deprivation of	*Area*	*% Of Below Poverty line*	*% of Above Poverty line*
Food	Study		67
	Control	65	
Water	Study	57	
	Control	59.26	
Shelter	Study	61.69	
	Control	61.48	
Energy	Study	85.90	
	Control	56.72	
Non-food essentials	Study	82.83	
	Control	95.77	
Health	Study		95.25
	Control		99.26
Basic Needs Poverty Status	Study	72.00 % Below poverty line	
	Control	68.63 % Below poverty line	

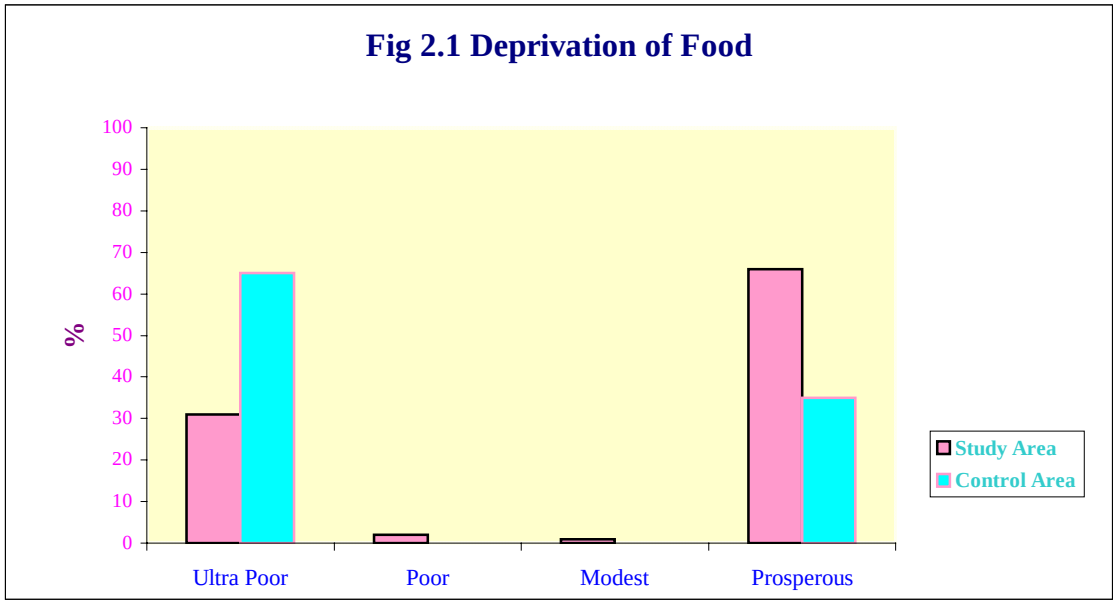


Fig 2.1 Deprivation of Food
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

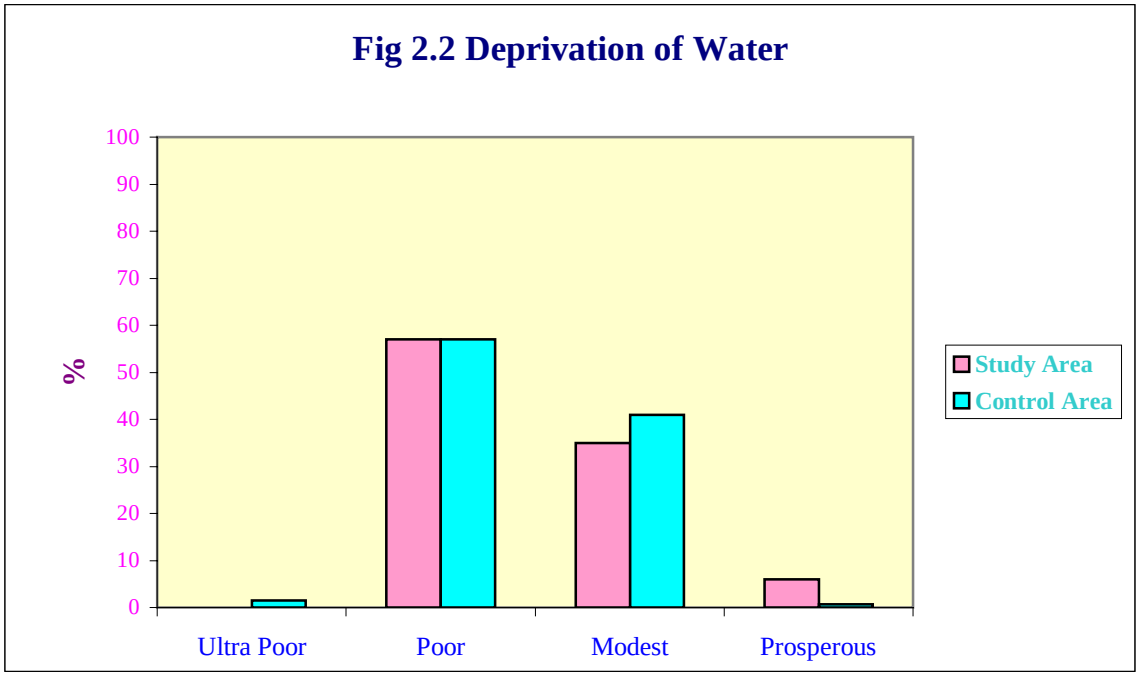


Fig 2.2 Deprivation of Water
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

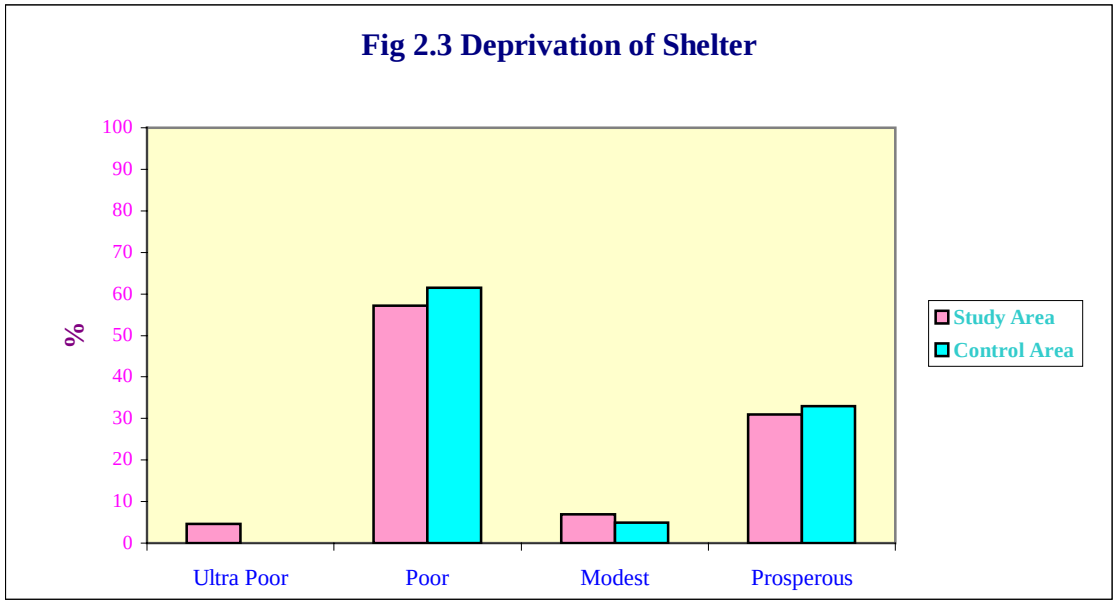


Fig 2.3 Deprivation of Shelter
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

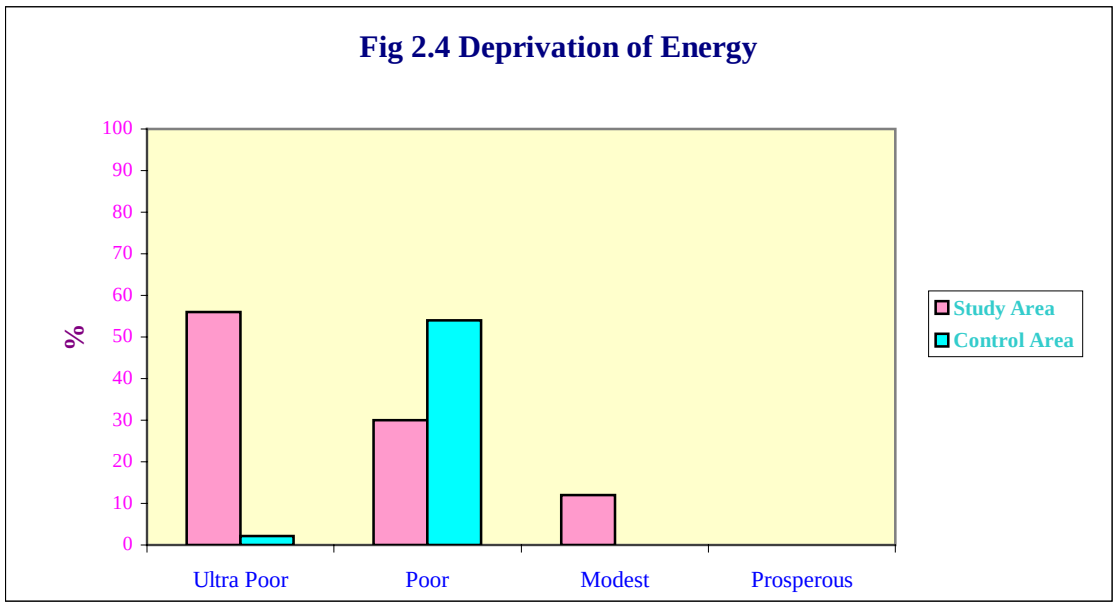


Fig 2.4 Deprivation of Energy
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

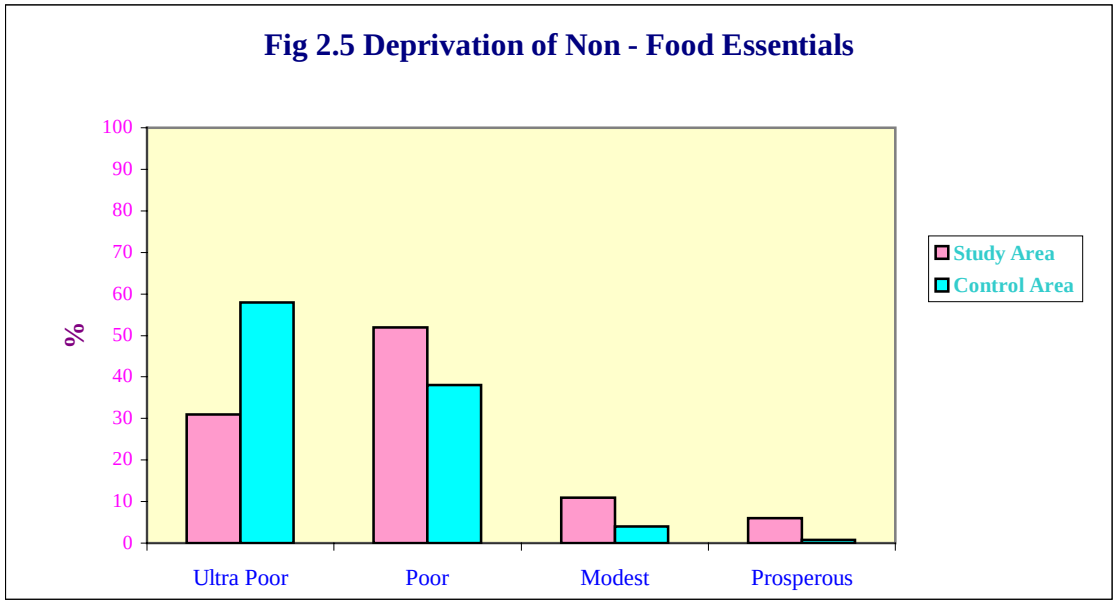


Fig 2.5 Deprivation of Non - Food Essentials
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

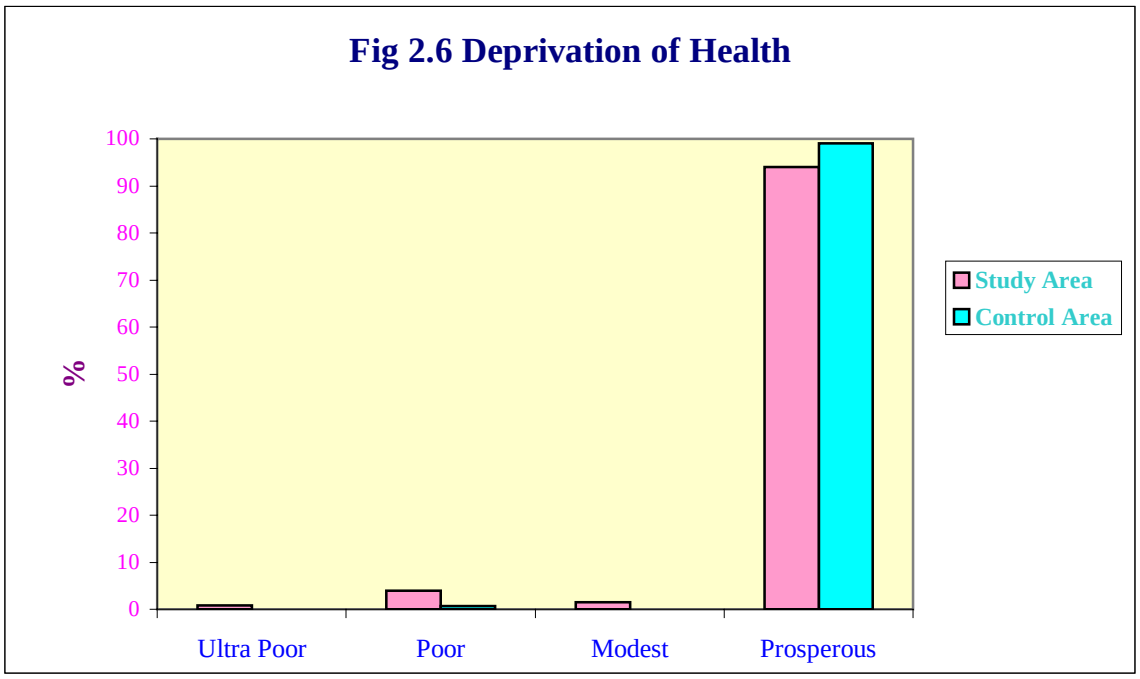


Fig 2.6 Deprivation of Health
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

6.5.2 Deprivation of Assets

- **Household Goods and Tools**

  Household goods and tools include tools, livestock and land owned (vs rented). Responding households are categorized into four classes, depending on their possession of types of goods and tools relating to value (Table 7). Possession of assets contributes to the production of food and income through direct use or sale, in accordance with the RAPI approach.

  The output table indicates that close to 90 percent of the major responding households in the study area are classified as ultra poor and poor (50 percent poor and 39 percent ultra poor). The reverse is true for the control area; about 78 percent ultra poor and poor (42 percent ultra poor and 36 percent poor). The proportion of households above the poverty threshold (modest and prosperous households) in the study and control areas is 10.8 percent and 22.8 percent respectively.

  The evidence from the survey results indicate that the severity of poverty is critical and that a significant proportion of sample households are vulnerable in the face of external shocks. This is an important finding as it provides evidence on the diminishing opportunities for improved coping mechanisms.

- **Livestock**

  Poverty in livestock holding is related to value of class of livestock possessed. Low value class include poultry and goats, middle value include donkey, sheep, beehive, etc… High value livestock include oxen, house, other cattle, camel etc. More precise definition is given in Table7.

  The general pattern of livestock possession status in the study and control areas is similar. The output table (Table 13) shows that about 43 percent and 55 percent of the households in the study and control areas respectively are ultra poor and poor. The proportion of households that reported no possession of livestock (those classified as ultra poor) in the study area is 23 percent, while in the control it is 36 percent. About 18 percent of households in both the study and control areas are classified as prosperous.

  The incidence and severity of poverty from the dimension of livestock possession is related to issues of land use management. The present land holding sizes cannot allow for the grazing of pasture. A fact of overriding importance in the context of poverty assessment is that low possession of livestock due to high stocking density and deficient rangeland management have resulted in overgrazing with long term implications on

capacity for draught power for grain producers, manure for fuel and as fertilizer, production of livestock, staple food and supplementary food, inadequacy of cash income as well as coping mechanisms which are fundamental aspects of poverty assessment in the study and control areas. At a broader level, the interrelationships between land use pattern, management of the environment, population pressure and the availability of sufficient land to support an increasing livestock population is significant in assessing poverty status. An appraisal of these interrelationships provide explanation regarding poverty in the possession of livestock.

- **Land Ownership**

  There is an assertion that rural poverty in Ethiopia has its roots in sub - economic holdings, landlessness, low productivity, erratic weather, etc.

  Nearly 30 percent and 35 percent of the responding households in the study and control areas respectively are landless. Nearly one - third of the households in both the study and control areas possess between 1 to 2 tsimads (between 0.25 to 0.5 hectares). The proportion of households possessing over 4 tsimads (over 1 hectare) in the study areas is low (only 12 percent). On the contrary, more than half of the households in the control area possess over 4 tsimads. The proportion of households that possess between 2 and 4 tsimads in the study area is about 30 percent. Those who own between 2 and 4 tsimads in the control area is low. Interestingly, according to the Research Report on Land Tenure and Agricultural Development in Ethiopia (EEE/EEPRI October 2002), in Tigray Region when farm sizes increases from 0.5 hectares to over 2 hectares, the share of sample farmers which preferred public ownership has declined from 73 percent to 40 percent, while those who preferred private ownership increased from 27 percent to 60 percent.

  The high proportion of ultra poor and poor households has to be evaluated in relation to opportunities for non - farm employment. It is striking that about 97 to 98 percent of the responding households in the study and control areas are classified as ultra poor and poor respectively. As non - farm activities could not provide employment opportunities, reduced access to land and declining land ownership highlight the complexity of rural poverty in the study and control areas. Improving the quality of life of the rural poor through productive and remunerative employment from the view point of inter - sectoral linkages is a crucial aspect of the evolution of the new poverty reduction paradigm in rural Ethiopia.

  Table 13 shows the output for Deprivation of Assets. Figures3-1 to 3-3 show graphically the status of deprivation of households in assets.

- **Aggregated Poverty Status - Deprivation of Assets**

  The threshold level (poverty line) separates ultra - poor and poor households from modest and prosperous households. According to the results shown in the Output Table (Table 14), the study and control areas are generally below the poverty line for assets (for the study area due to the influence of status in household goods and tools, as well as in landownership). The control area is also classified as being below the poverty line, due to the low possession of household goods and tools as well as livestock resources.

  The most significant implication of poverty status in assets is weak resource base for improved production and productivity as well as coping mechanisms. For any attempt to improve efficiency in agriculture, possession of assets is of major importance.

Table 13
Deprivation of Assets - Out put Table

Deprivation of (in %)	*Area*	Ultra Poor	*Poor*	*Modest*	*Prosperous*
Household Foods & Tools	Study	39.09	50.09	8.20	2.62
	Control	41.54	35.64	16.41	6.41
Livestock	Study	22.50	20.90	38.9	17.70
	Control	36.20	18.40	28.00	17.50
Land (Ownership)	Study	31.00	27.00	29.75	12.25
	Control	34.07	5.93	7.41	52.59
Possible Changes Since Last Year	Study				
	Control				
Asset Poverty Status					

Table 14
Aggregate Measure of Deprivation of Assets Output Table

Deprivation of	*Area*	*% of Below Poverty line*	*% of Above Poverty line*
Household goods & Tools	Study	89.18	
	Control	77.18	
Livestock	Study		56.60
	Control	54.60	
Land ownership	Study	58.00	
	Control		60.00
Assets Poverty Status	Study	73.60 % Below poverty line	
	Control	65.90 % Below poverty line	

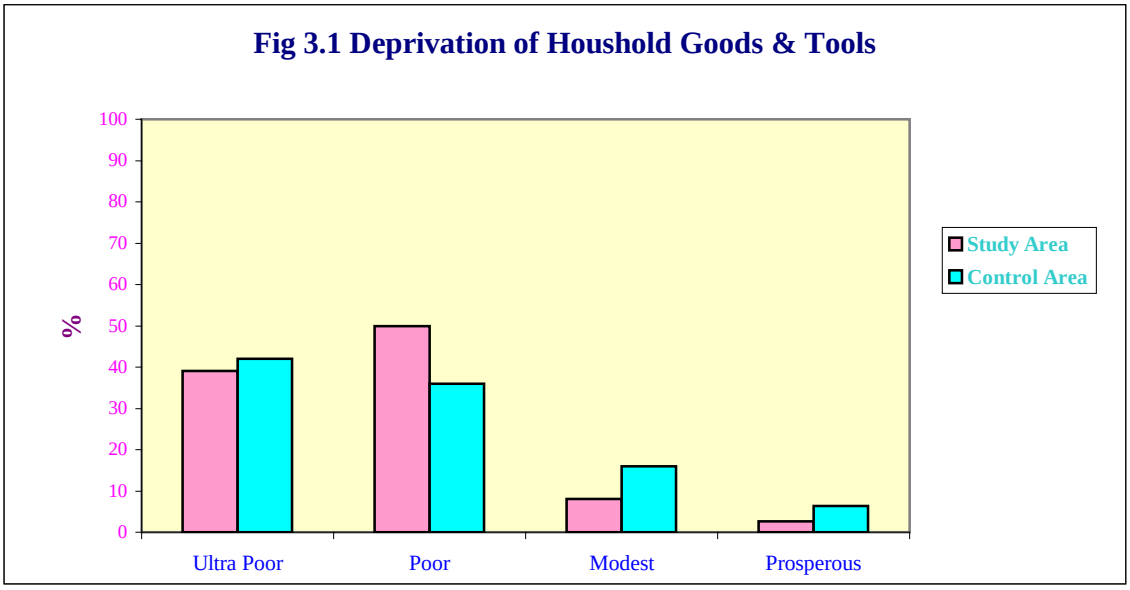


Fig 3.1 Deprivation of Houshold Goods & Tools
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

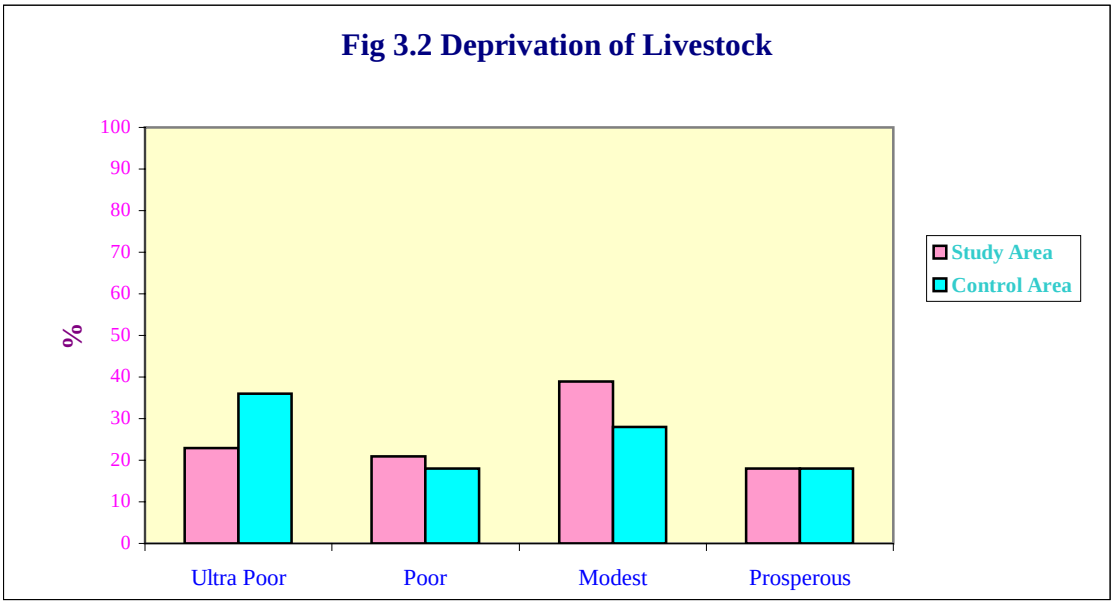


Fig 3.2 Deprivation of Livestock
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

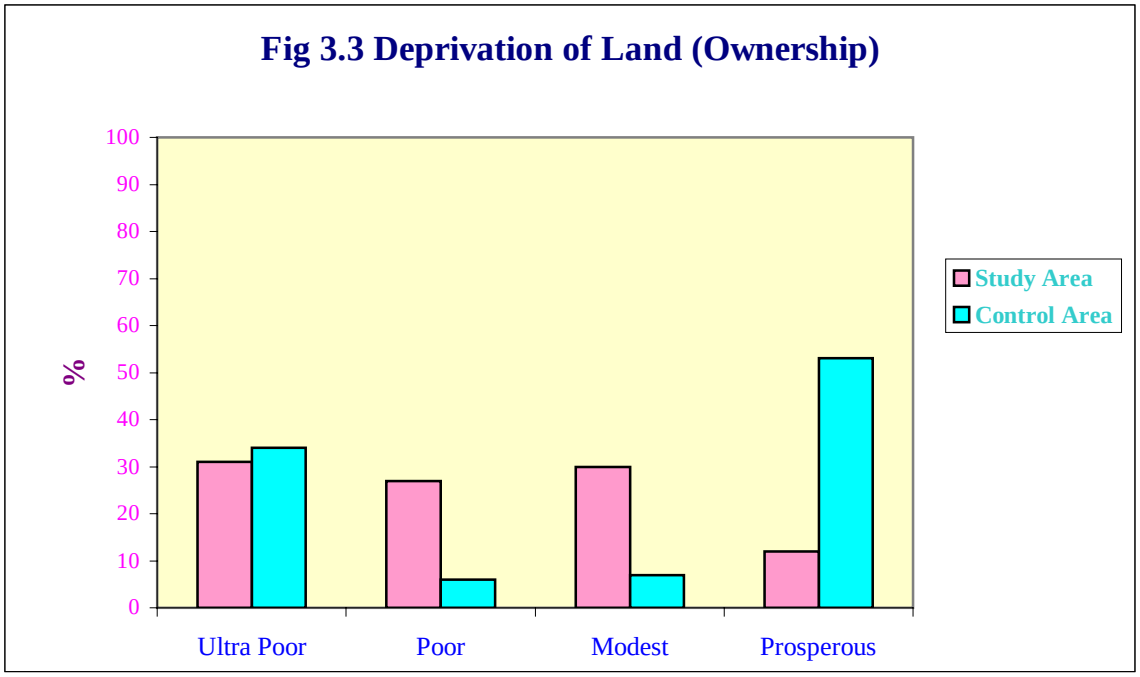


Fig 3.3 Deprivation of Land (Ownership)
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

6.5.3 Deprivation of Means of Livelihood

- **Farm - Based Income**

  In order to make the indicator of farm - based income as 'directly' measurable and as 'relevant' as possible so as to allow meaningful monitoring of quality of life, an estimate of production level of staple food crops varying by poverty status (thresholds relating to output of staple food crops as shown in Table 8) has been derived. This is based on results of field survey (questions on land holding, crops and yields). The size of production in relative terms, is therefore considered to be an important indicator of poverty status.

  Overall, the extreme relative severity of poverty is evidenced by the high proportion of responding households (about 96 percent) classified as ultra poor. In fact, close to 100 percent of the households in the study area are ultra poor and poor. On the contrary, a relatively lower proportion of households (about 60 percent) in the control area are classified as ultra poor. However, combining households classified as ultra poor and poor yields that those below the poverty line constitute over 95 percent of the total number of responding households in the study and control areas. Again, as farm sizes have already fallen below the critical threshold, and taking into account low yields in grain production, there is no doubt that the agricultural sector has failed to provide opportunities of the rural population to earn adequate farm - based income.

- **Non - Farm Employment / Income**

  In areas where there is in - sufficient income, the role of non - farm employment / income as a vehicle for rural poverty reduction is critical. In a situation where the proportion of landless and low land holding households dominate the rural farm economy, non - farm employment offers great prospects for improving livelihoods. Unfortunately, the rural non - farm economy has not become a viable and sustainable alternative source of employment and income.

  The evidence from the survey shows that 98 percent and 55 percent of the households in the study and control areas are classified as ultra poor in non - farm employment / income respectevily. An additional 44 percent of the households in the control area are poor. The high proportion of households classified as ultra poor relates to employment in food for work (soil and water conservation schemes). It should be noted that the Tigray regional government has adopted an Integrated Microwatershed Development (IWD) approach focusing on linking conservation to production over a longer term planning horizon. According to information obtained from the region, households who are landless (small holding of less than half hectare), without ownership of access to oxen, access to additional off - farm activities, and those who are female headed are included in the program.

- **Coping Strategy**

  The threshold relating to coping strategy is specified in Table 8. As the rural households are highly vulnerable due to natural factors (primarily drought, demographic pressure and illness of earning members) as well as lack of assets, coping methods to reduce effects of shocks receive great attention. The category of ultra poor in the study and control area represent about 93 and 97 percent respectively of the sample households. Ultra poor households are those that face chronic food insecurity and therefore depend on food aid and limited remittance (less than 100 Birr / year) for survival. Without pursuing this further, there is a strong empirical evidence of a relationship between food deficit, weak asset base, insufficient farm - based income, lack of non - farm employment / income and coping strategy. For analytical purposes, the distinction between the coping typologies is valuable. In this connection, it should be stressed that the proportion of households that are categorized as poor, modest and prosperous is insignificant. Obviously, much more analysis might be required. Yet, it is important to emphasize that excessive dependence on food aid in the face of weak asset base and lack of non - farm employment characterize the core of poverty status assessment with far reaching implications. Table 15 shows the output for Deprivation of Means of Livelihood. Figures 4.1 thru 4.3 present graphically the distribution of poverty status among the households in the study and control area.

- **Aggregated Poverty Measure - Means of Livelihood**

  For all of the variables (indicators) of deprivation of means of livelihood, over 94 percent of the sample households in the study and control areas are below the set poverty line (Table 16). In terms of aggregated measure, about 98 percent and 97 percent of the households in the study and control areas respectively fall below the poverty line.

  Means of livelihood, as longer term indicators of households capacity to sustain, provide evidence for separating cause from effect, and therefore facilitate clarifying the objectives of rural poverty reduction interventions.

Table 15

Deprivation of Means of Livelihood - Output Table

Deprivation of (in %)	***Area***	***Ultra poor***	***Poor***	Modest	***Prosperous***
Farm-based Income	Study	96.00	3.13	0.63	0.25
	Control	60.04	35.08	4.51	0.37
Non-farm employment/income	Study	98.00	1.00	1.00	0.00
	Control	54.90	43.50	1.60	0.00
Coping strategy	Study	93.08	1.44	2.98	2.50
	Control	97.08	0.69	1.43	0.80
Expected changes after "Project"	Study				
	Control				
Poverty status of Livelihood					

Table 16

Aggregate Measure of Deprivation of Means of Livelihood

Deprivation of	*Area*	*% Of Below Poverty line*	*% of Above Poverty line*
Farm Based Income	Study	99.13	
	Control	95.12	
Non-farm employment/income	Study	99.00	
	Control	98.40	
Coping strategy	Study	94.52	
	Control	97.77	
Livelihood Poverty Status	Study	97.55 % Below poverty line	
	Control	97.10 % Below poverty line	

Fig 4.1 Deprivation of Farm - Based Income

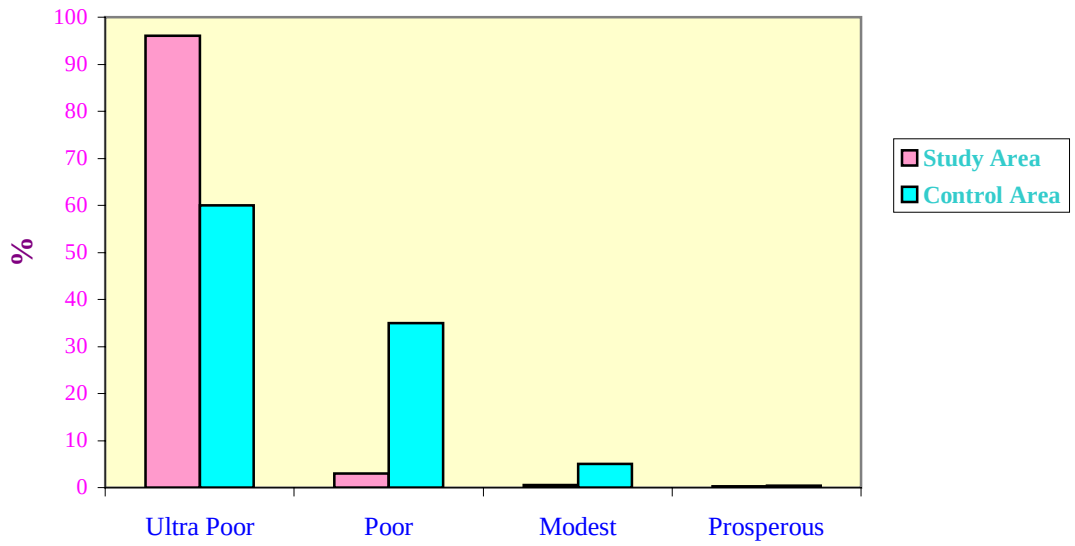
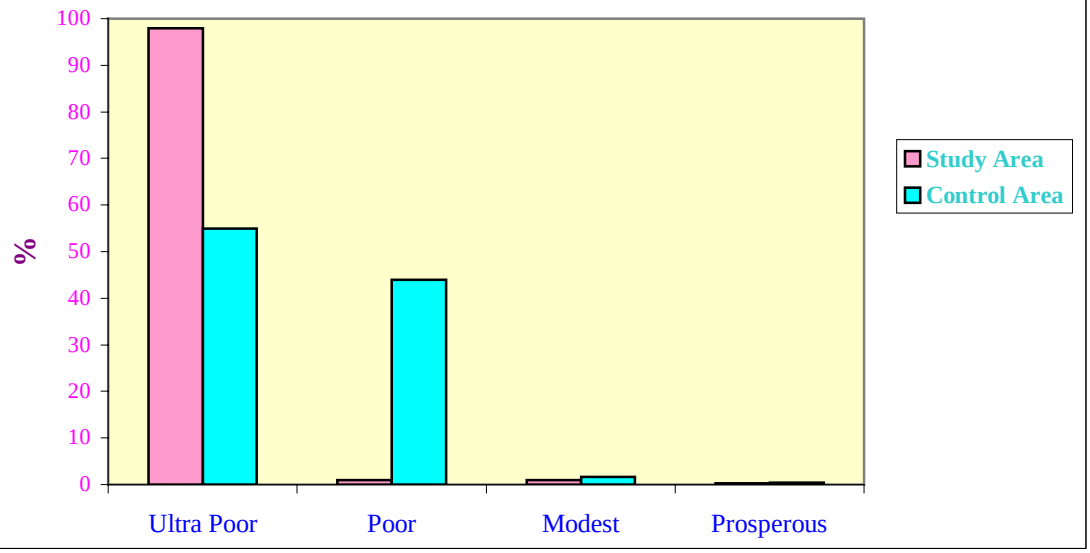


Fig 4.2 Deprivation of Non - Farm Employment / Income



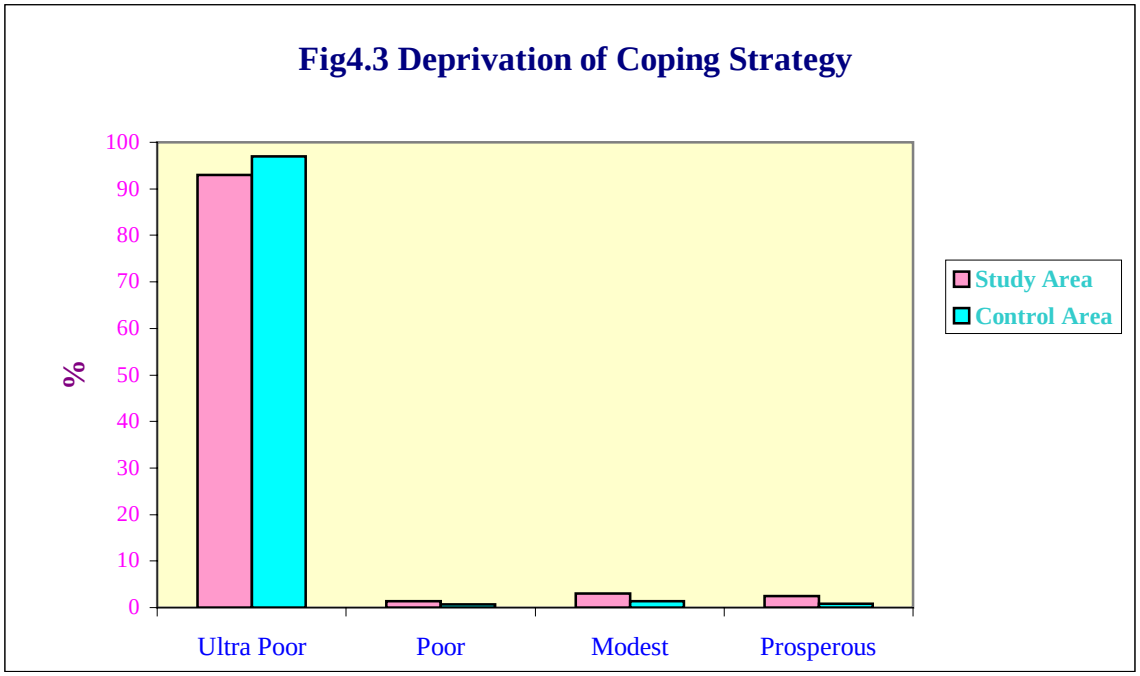


Fig4.3 Deprivation of Coping Strategy
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

6.5.4 Deprivation of Social Services

- **Health Services**

  Ill health is both a cause and consequence of poverty. Poor health is partly caused by lack of access to adequate health services. In the context of the RAPI study in Tigray, thresholds are related to the time it takes to obtain access to heath services. Hence, ultra poor communities do not have any access, while it takes more than 4 hours to travel to heath services. The degree of difficulty in time for gaining access for modest and prosperous is comparatively lower / 2 to 4 hours for modest and less than 2 hours for these classified as prosperous. Table 17 shows the output regarding Deprivation of health services.

- **Education Services**

  The level of capability deprivation of education services is reflected in proportion of pupils attending and completing primary school, the former applicable to ultra poor and poor communities, and the latter to modest and prosperous. The differentiation of the threshold is shown in Table 9.

  Interestingly, 100 percent of households fall in ultra poor and modest categories. This is attributable to the specification drawn for each of the thresholds. Although the specifications are fairly straight forward, the resulting outputs have been less sharply drawn. As less than 70 percent and 99 percent of children have attended and completed primary school respectively, the generated output table evidenced 100 percent deprivation for both ultra poor and poor categories. From the disaggregated educational data that is available, the output table provides measures that might have to be further scrutinized or a better indicator of access to educational services identified It also seems that the relative typologies specified in Table 14 require further thought.

- **Access to other Services (Extension Services)**

  Agricultural extension services introduce improved technology and research findings so that it would be possible to raise yields and production. This in turn is expected to contribute to an increase in rural household income, and hence reduce the incidence and severity of poverty.

  The indicator that is used to help measure changes regarding extension services is access related (average time taken to get the services). It is assumed that continued and progressive adoption of extension services would be influenced by time of travel. This could be considered a proxy indicator to the actual delivery of extension services. As the purpose of

extension services is not to just provide access to rural households, it would probably make much more sense to focus on results rather than on process such as level of accessibility.

Table 18 shows output for Social services. Figures 5.1 thru 5.3 present poverty status in social services graphically.

- **Aggregated Poverty Measure - Social Services**

On the basis of the output table (Table 18) and from the view point of the established aggregated deprivation of social services, 100 percent of the responding households in the study and control areas are above the poverty line. Education and health service benefits are extremely illusive from the view point of poverty reduction, at least in the shortrun. There is now a general understanding among rural households that education produces unemployed elementary and high school completes. Several explanations could be given to this phenomenon. However, in the context of the RAPI study, it is recognized that access to education services opens up better career opportunities to children of ultra poor and poor origins.

Table 17

Deprivation of Social Services - Output Table

Deprivation of (in %)	*Area*	*Ultra poor*	*Poor*	*Modest*	*Prosperous*
Health services	Study	0.00	0.00	100.00	0.00
	Control	0.00	0.00	100.00	0.00
Education services	Study	100.00		100.00	
	Control	100.00		100.00	
Access to other services (extension)	Study	25.00	50.00	0.00	25.00
	Control	0.00	0.00	100.00	0.00
Expected changes after "Project"	Study				
	Control				
Poverty status of Services					

Table 18

Aggregate Measure of Deprivation of Social Services

Deprivation of	***Area***	***% Of Below Poverty line***	***% of Above Poverty line***
Health services	Study		100
	Control		100
Education services	Study	100*	100**
	Control	100*	100**
Access to other services (extension)	Study	75	
	Control		100
Social services Poverty Status	Study	100 % above poverty line	
	Control	100 % above poverty line	

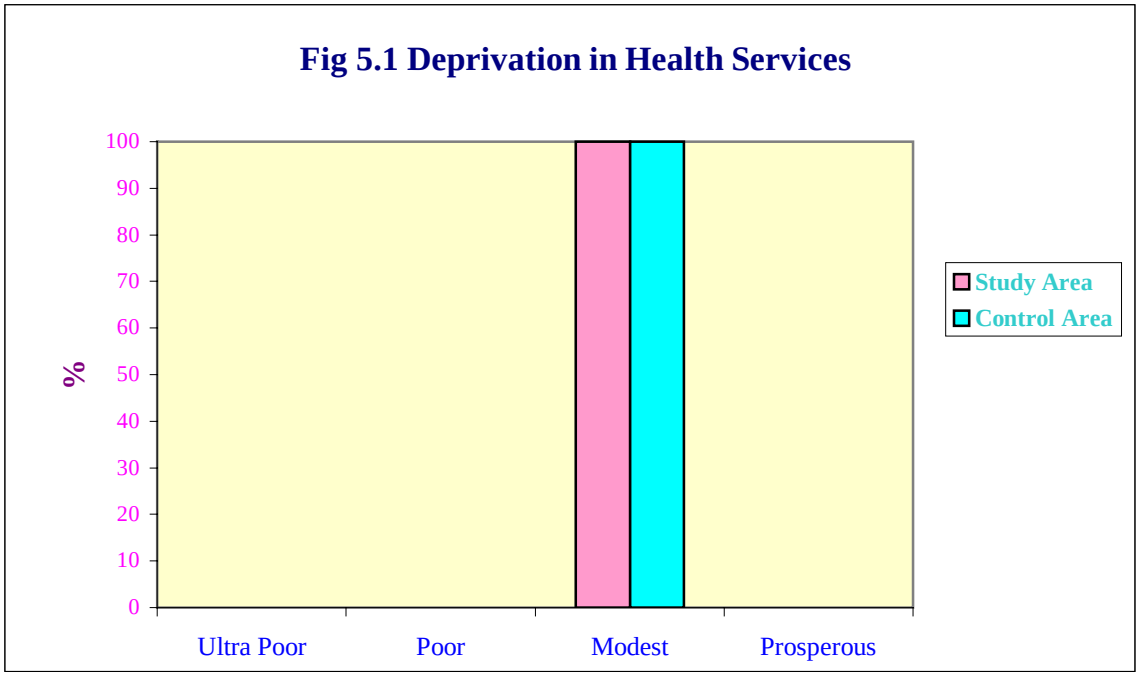


Fig 5.1 Deprivation in Health Services
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

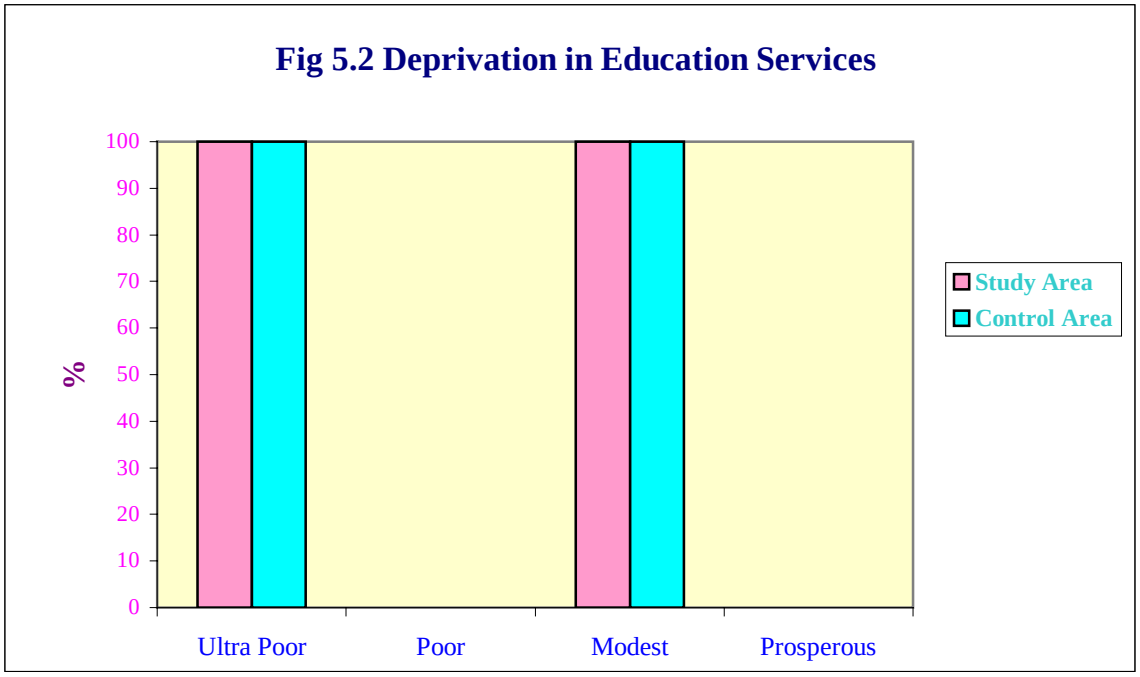


Fig 5.2 Deprivation in Education Services
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

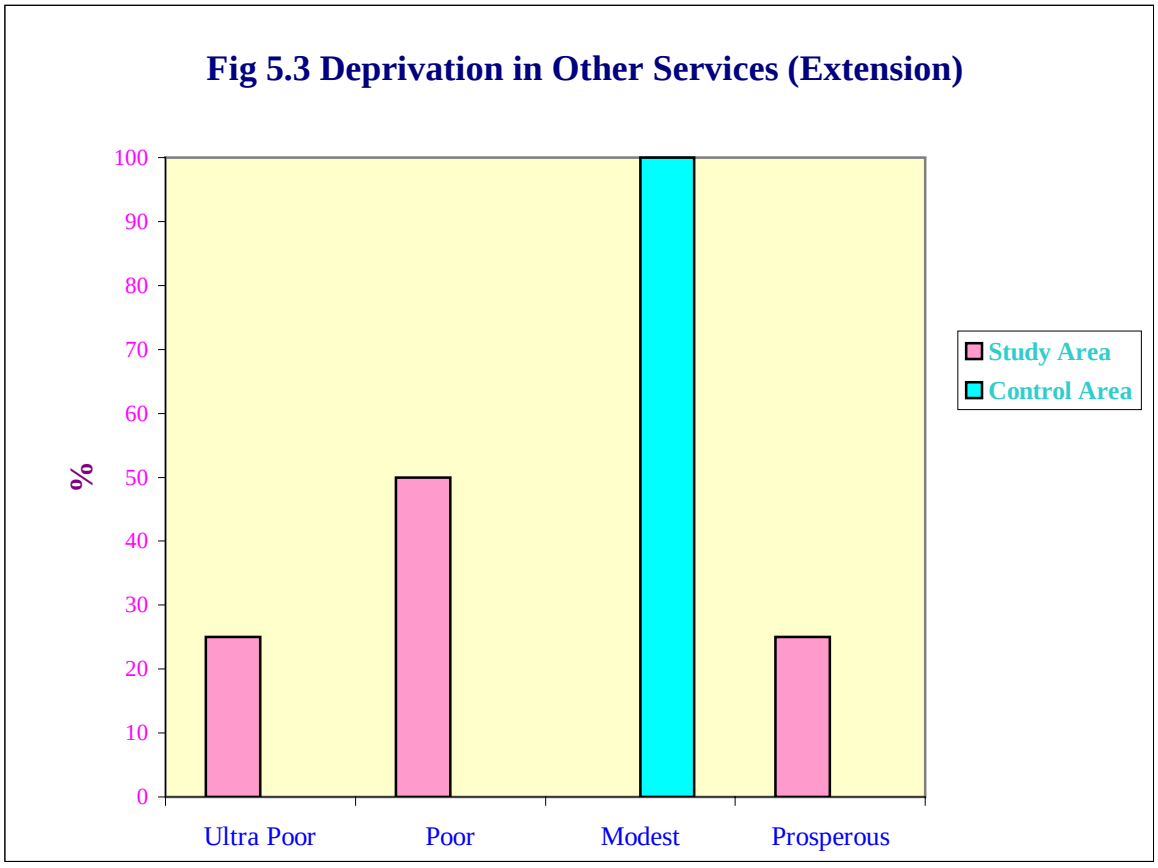


Fig 5.3 Deprivation in Other Services (Extension)
100
90
80
70
60
50
40
30
20
10
0
%
Ultra Poor
Poor
Modest
Prosperous
Study Area
Control Area

6.5.5 Selected Baseline Asset Profile

- **Gender Dimension of landholding Status**

  According to the survey results, out of the total responding household heads who are classified as ultra poor in the study area, 66 percent are female and about 34 percent are male. Of those classified as poor, about 70 percent are male and the remaining 30 percent female. There is significant difference in the proportion of household heads that are classified as modest; about 87 percent male and only 13 percent female. There is a similar pattern for household heads considered prosperous; 88 percent male and 12 percent female.

  The proportion of female household heads classified as ultra poor in the control area is also significant, about 80 percent. All of the household heads categorized as poor are male. The proportion of male household heads classified as modest and prosperous in the control area is about 90 and 94 percent respectively.

  The findings shown in Table 19 clearly illustrate that from landholding status point of view, the incidence of poverty in the study and control areas is more critical for female headed households. This in turn has unfavorable effects on food availability and nutritional status.

  The constraints imposed on female headed households by deprivation of land holding (access to land as a critical productive asset or resource) have implications for farm based income levels and differential, expenditure and savings differential.

- **Landholding by Educational Status**

  Of the total responding households in the study and control areas in all poverty classes, about 72 percent have no formal education. The data clearly provides evidence that educational attainment and poverty status are related. About 78 percent of the responding households in the study area classified as ultra poor have never attended school. Less than 5 percent of the households categorized as ultra poor in the study area are illiterate, while less than 3 percent have some primary school. None have any form of secondary education, whereas less than 2 percent have religious education. Also, about 60 to 64 percent of the responding households classified as poor, modest and prosperous in the study area are illiterate. Some 13 to 16 percent in the same class have some primary education.

The households in the control area have lower levels of educational attainment. About 76 percent of the responding households classified as prosperous have never attended school. Additionally, about 90 percent of the households classified as modest have never attended school.

Table 20 shows the educational level of the households by land holding status.

- **Landholding Status of Households by Educational Status / by Gender.**

Male heads of households have attained better educational status than female heads. The gender dimension of ultra poor household heads in the study area (Table 21) shows that about 16 percent and 63 percent are male and female respectively who have not attended school. There is also lower literacy level among female headed households. For the same poverty class, about 3 percent and 1.5 percent of the household heads are literate male and female respectively. Educational attainment at the primary and secondary school levels also indicates that female heads are disadvantaged. For instance, while about 11 percent of male heads have some primary schooling, only about 2 percent of female heads have attained same level.

The pattern of educational attainment by gender for poor, modest and prosperous households provides evidence on gender disparity. All of the household heads in the poor category who are male are literate. Of those household heads classified as prosperous and without schooling, about 40 percent were male and only 13 percent female. This indicates not only the low level educational achievement of female heads, but also that the proportion of male heads for prosperous land holding category is far more significant.

In the control area, the proportion of female household heads in the ultra poor land holding category (Table 21) that have not attended school is much more higher than that of male headed households - 75 percent for the former and 13 percent for the latter. The gender distribution for literacy, some primary school attendance and some primary school completion indicates that male heads have better access to education. Generally, the incidence of low educational achievement of female heads of households is apparent for modest and prosperous land holding categories. As there are nearly twelve times male heads that are prosperous in the control area, the proportion in terms of no schooling (70 percent male and about 6 percent female heads) does not invalidate the significant disparity in educational attainment. There is little doubt that there is a link between land holding, educational attainment and gender disparity.

- **Livestock holding by Educational Status / Gender**

  There are much larger number of male headed households who reported that they possess livestock or farm animals for purpose of traction, food, wool, or for sale in both the study and control areas (about 75 percent for the former and 84 percent for the latter), as shown in Table 22. It is apparent that gender disparity is reflected in landholding and educational status.

  In the study area, out of the total number of sample reporting households who possess livestock or farm animals, about 7 percent are literate, of whom only .3 percent are female headed. Much more striking is that out of 53 household heads that have some primary education, 52 (over 98 percent) are male. Additionally, only male heads reported completion of primary school, attainment of some secondary school level and religious education. Turning to households without livestock or farm animals (ultra poor), about 83 percent are illiterate (by gender 69 percent female and only 14 percent male).

  In the control area, out of the total number of responding sample households, about 64 percent reported no possession of livestock or farm animals. The remaining 36 percent are ultra poor in livestock holding. From the view point of educational status by gender, of those who possess livestock or farm animals, about 78 percent are illiterate (composed of 63 percent male and only 15 percent female heads). On the contrary, for the ultra poor house holds, about 65 percent are female and only 22 percent are male heads. The evidence clearly shows that there is relatively more severe deprivation of female headed households.

  Table 22 shows livestock holding by educational status / gender.

Table 19 Landholding Status of Households by Sex

				Sex of Household head				Table Total	
				Male		Female			
				Num	Percent	Num	Percent	Num	Percent
Area of Study	Study Area	Total land owned	Ultra poor	46	33.8	90	66.2	136	100.0
			Poor	67	69.8	29	30.2	96	100.0
			Modest	103	86.6	16	13.4	119	100.0
			Prosperous	43	87.8	6	12.2	49	100.0
	Control Area	Total land owned	Ultra poor	11	20.8	42	79.2	53	100.0
			Poor	1	100.0			1	100.0
			Modest	9	90.0	1	10.0	10	100.0
			Prosperous	67	94.4	4	5.6	71	100.0
Table Total				347	64.9	188	35.1	535	100.0

Source: ILO Rapid Assessment of Povert Impact, 2003

Table 20 Landholding Status of Households by Educational status

				Educational Status of Household head										Table Total	
				No school		Literacy Campaign		Some Primary		Completed Primary		some Senior Secondary		Religious Education			
				Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Area of Study	Study Area	Total land owned	Ultra poor	107	78.7	6	4.4	17	12.5	4	2.9			2	1.5	136	100.0
			Poor	60	62.5	9	9.4	13	13.5	1	1.0	3	3.1	10	10.4	96	100.0
			Modest	76	63.9	8	6.7	19	16.0	1	.8			15	12.6	119	100.0
			Prosperous	30	61.2	1	2.0	8	16.3	1	2.0			9	18.4	49	100.0
	Control Area	Total land owned	Ultra poor	47	88.7	1	1.9	1	1.9					4	7.5	53	100.0
			Poor											1	100.0	1	100.0
			Modest	9	90.0									1	10.0	10	100.0
			Prosperous	54	76.1	7	9.9	2	2.8	1	1.4	1	1.4	6	8.5	71	100.0
Table Total				383	71.6	32	6.0	60	11.2	8	1.5	4	.7	48	9.0	535	100.0

Source: ILO Rapid Assessment of Povert Impact, 2003

Table 21 Landholding Status of Households by Educational status and Gender

				Area of Study																Table Total	
				Study Area								Control Area									
				Land ownership of poverty status by land ownership								Land ownership of poverty status by land ownership									
				Ultra poor		Poor		Modest		Prosperous		Ultra poor		Poor		Modest		Prosperous			
				Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Educatio Status of Househol head	No school (Illiterat	Sex of Household head	Male	22	16.2	31	32.3	60	50.4	24	49.0	7	13.2			8	80.0	50	70.4	202	37.8
			Female	85	62.5	29	30.2	16	13.4	6	12.2	40	75.5			1	10.0	4	5.6	181	33.8
	Literacy Campaign	Sex of Household head	Male	4	2.9	9	9.4	8	6.7	1	2.0							7	9.9	29	5.4
			Female	2	1.5							1	1.9							3	.6
	Some Primary	Sex of Household head	Male	14	10.3	13	13.5	19	16.0	8	16.3							2	2.8	56	10.5
			Female	3	2.2							1	1.9							4	.7
	Completed Primary	Sex of Household	Male	4	2.9	1	1.0	1	.8	1	2.0							1	1.4	8	1.5
	some Senior Secon	Sex of Household	Male			3	3.1											1	1.4	4	.7
	Religious Educatio	Sex of Household	Male	2	1.5	10	10.4	15	12.6	9	18.4	4	7.5	1	100.0	1	10.0	6	8.5	48	9.0
Table Total				136	100.0	96	100.0	119	100.0	49	100.0	53	100.0	1	100.0	10	100.0	71	100.0	535	100.0

Source: ILO Rapid Assessment of Povert Impact, 2003

Table 22 Livestock Status of Households by Educational status, sex

				Area of Study								Table Total	
				Study Area				Control Area					
				Livestock or farm animals kept for traction, food, wool, or to sell				Livestock or farm animals kept for traction, food, wool, or to sell					
				Yes		None (Ultra Poor)		Yes		None (ultrapoor)			
				Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Educational Status of Household head	No school (Illiterate)	Sex of Household head	Male	124	40.0	13	14.4	54	62.8	11	22.4	202	37.8
			Female	74	23.9	62	68.9	13	15.1	32	65.3	181	33.8
	Literacy Campaign	Sex of Household head	Male	21	6.8	1	1.1	7	8.1			29	5.4
			Female	1	.3	1	1.1			1	2.0	3	.6
	Some Primary	Sex of Household head	Male	52	16.8	2	2.2	2	2.3			56	10.5
			Female	1	.3	2	2.2	1	1.2			4	.7
	Completed Primary	Sex of Household head	Male	3	1.0	4	4.4	1	1.2			8	1.5
	some Senior Secondary	Sex of Household head	Male	2	.6	1	1.1	1	1.2			4	.7
	Religious Education	Sex of Household head	Male	32	10.3	4	4.4	7	8.1	5	10.2	48	9.0
Table Total				310	100.0	90	100.0	86	100.0	49	100.0	535	100.0

Source: ILO Rapid Assessment of Povert Impact, 2003

6.6 LIMITATIONS OF THE STUDY

The RAPI study in Tegrai in general and the findings from the survey data in particular will provide valuable information for the assessment of the poverty – reduction effects of employment – intensive projects. Assessments relating to the key indicators involving five multiple dimensions (basic needs, assets, livelihood, government services and perceived quality of life) are provided for the study and control areas. The RAPI method is clearly based on a multi-dimensional study approach. Indeed, the thrust of the method is to assess the deprivation of rural households on a broader perspective rather than be limited to distribution of consumption expenditure or income. It concentrates on the specification of indicators, thresholds and questionnaires. There is no doubt that it gives results more quickly, easily and reasonably accurately on poverty status in a rural environment. The three basic concepts of systems perspective, triangulation of data collection and analysis of 'qualitative' approach have provided the foundation for the relatively rigorous approach.

On the other hand, there are some limitations to the RAPI method and its implementation. One of the limitations is that poverty assessment is viewed in the short-term. The interrelationships of the various elements and complexity of multi-dimensional nature of the poverty problem require a long-term perspective. The selection of a control area comparable to the study area to account for the differences in project induced changes is very critical. Yet, various factors make the selection process challenging and time consuming.

The RAPI method includes subjective perception of quality of life as one indicator. There might be a compelling need to deal with subjective perception. However, it seems that this aspect is oversimplified, resulting in difficulties of gathering data from reliable responses. It also seems that the income/ expenditure aspects do not receive sufficient emphasis. This leads directly into a discussion of where the root cause of poverty lies, the economic system or otherwise.

As far as survey instruments are concerned it should be stated that there is no provision for adequate direct observation for validating data collection in-advance. Relatedly, the duration of the assignment does not allow sufficient time for interaction and for returning to the field to collect additional information.

Chapter Seven

Conclusions and Recommendations

7.1 CONCLUSIONS

The baseline survey of poverty impact has provided valuable information, primarily on the five multiple dimensions relating to basic needs, assets, livelihood and government services. The dummy tables illustrate the definition of poverty in more precise terms. Each of the five multiple dimensions of poverty are expressed in variables that measure poverty status for assessing changes over time. The findings from the survey indicate the following.

- In terms of basic needs, the deprivation of food is more apparent in the control area. There are similarities in the pattern of deprivation of water and shelter. From the viewpoint of deprivation of energy, the study area is more disadvantaged. There are no significant spatial disparities in the deprivation of health, while the proportion of ultra-poor households in non-food essentials is higher in the control area.

- Deprivation of assets is the second category of output measure. Both the study and control areas are characterized by high proportion of ultra poor and poor households in goods and food. The distribution of livestock resources evidences that the control area has higher proportion of ultra poor households. On the contrary, there are similarities in the percentages of households classified as ultra poor. However, the proportion of households considered as poor is higher in the study area. There is also a striking disparity in the proportion of households in the deprivation of land ownership.

- The study area is in a less deprived state compared to the control area from the perspective of farm- based and non-farm based income. Both areas are more or less closely classified as ultra poor in terms of coping ability.

- Looking at the deprivation of social services, there is relative similarity between the study and control areas in poverty status of health and education services. In contrast, the study area has a large proportion of households classified as ultra-poor and poor, while all the households in the control area are considered as modestly endowed.

- According to selected baseline asset profile, the proportion of households in the study area who are headed by females in the ultra-poor category is higher than for male headed (66 percent for female and close to 35 percent for male). This is also evident in the control area. Data on land holding by educational status indicates that of the total number of responding households in the study and control areas, over 70 percent have no formal education. Additionally, the data evidences that male heads of households have attained better educational status than female heads. Further, there are much larger number of male headed households who reported that they possess livestock or farm animals for purpose of traction, food, wool or sale in both the study and control areas.

7.2 RECOMMENDATIONS

The following recommendations are made regarding specific issues related to adopting the field survey:

a) Poverty assessment should be viewed not only in a short-term, but also in a long-term perspective, considering the realities of uncertaining and change. It should be emphasized that there are many challenges for responses to rural infrastructure interventions to take shape. The key requirement for relative good performance in poverty reduction is that a number of interventions must be achieved concurrently, even though they are not all complementary and reinforcing;

b) Assessment of perceived quality of life be further developed to meet the role of analytical information to overcome a wide variety of interpretations of the 'term' and the semantic confusion that has arisen;

c) The method be further enriched by defining more concretely an indicator and 'threshold' for distribution of consumption expenditure or income in order to ascertain whether future levels reflect a condition of poverty with signs of decline or improvement. There is no doubt that the definition and assessment of poverty would require additional empirical content in terms of real income as deficiencies of goods and services are to a large extent related to it; and

d) Direct observation be included as a survey instrument to check the validity of data collection in-advance more comprehensively.

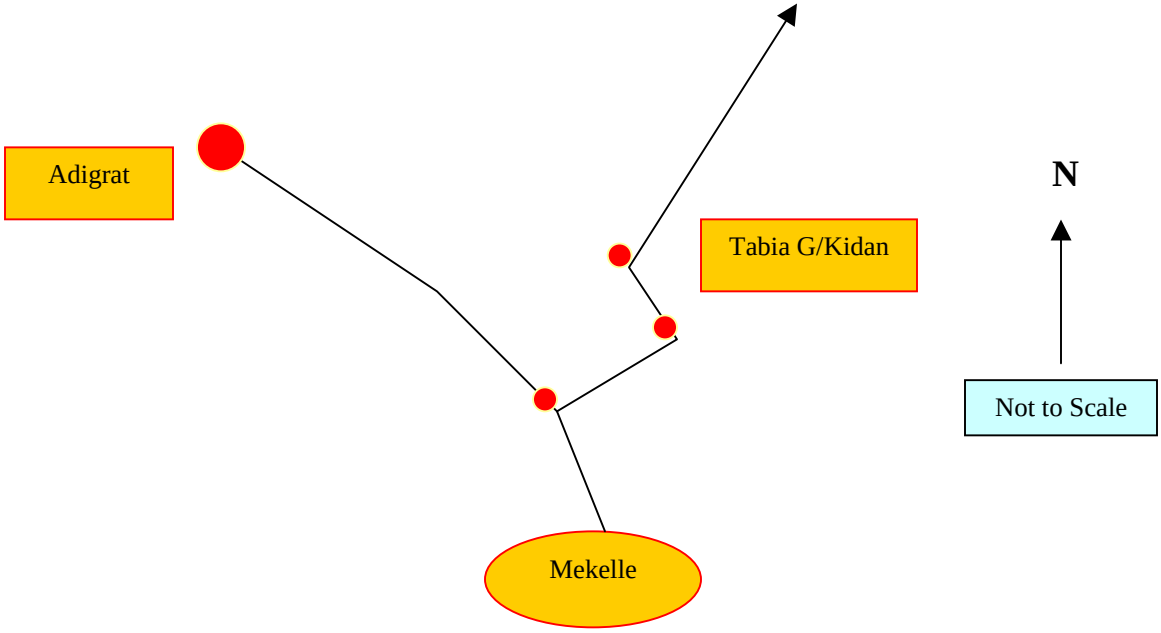
Annex I

Annex II

Annex III

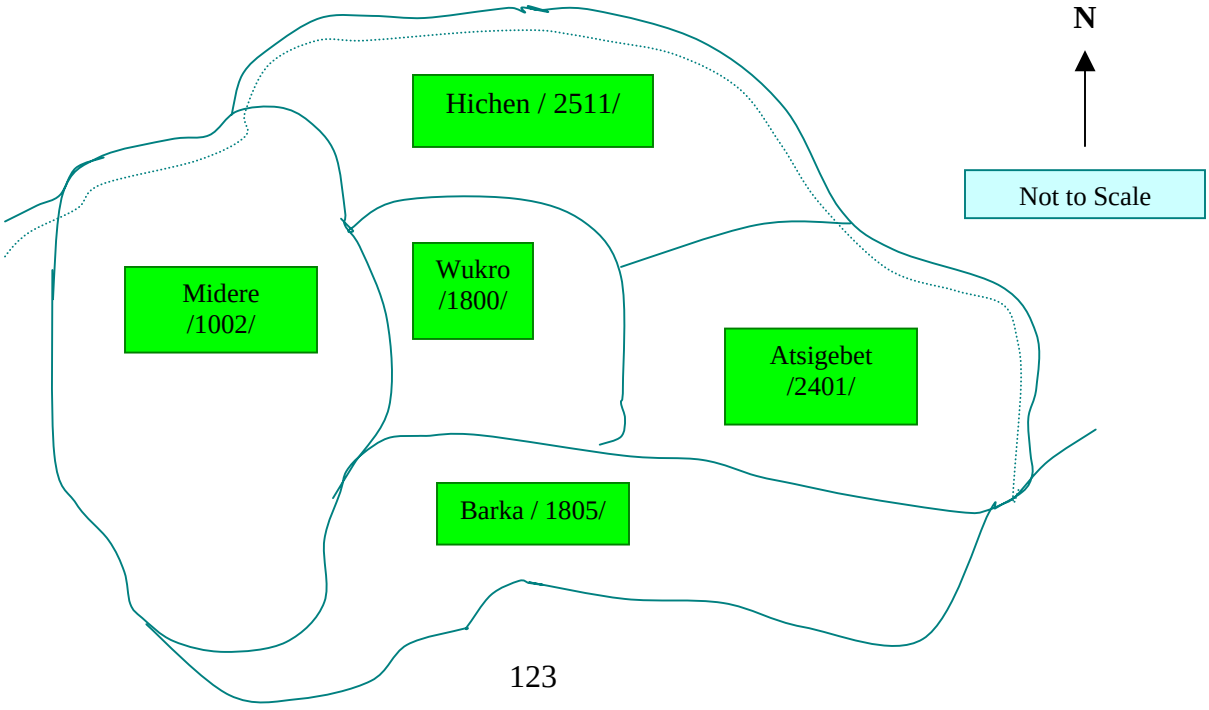
Vicinity Map Of "Study" Area

G/Kidan Tabia



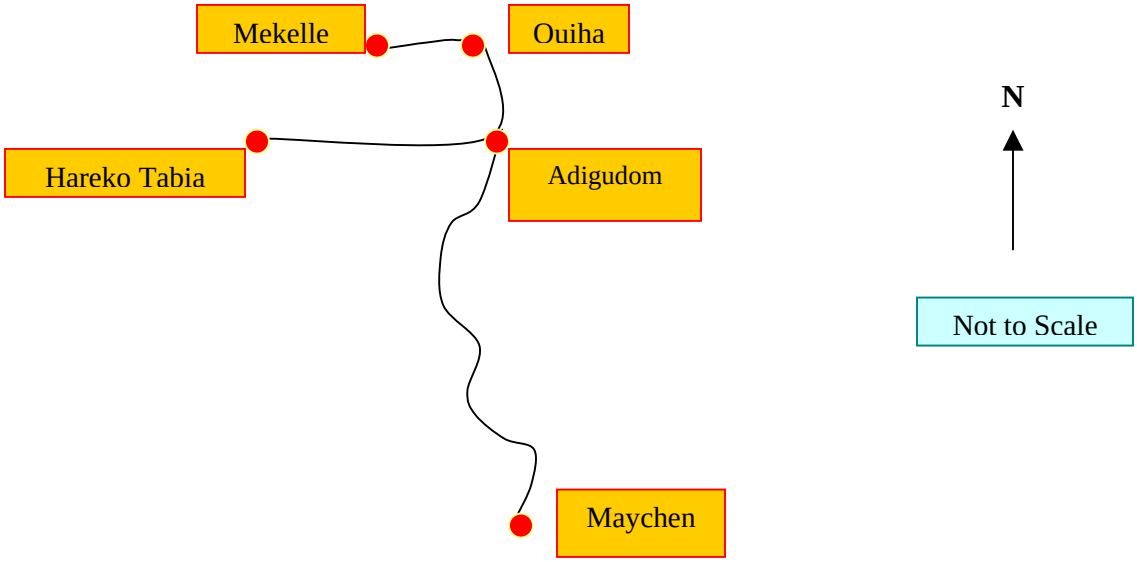
Sketch Map of "Study" Area

G/Kidan Tabia

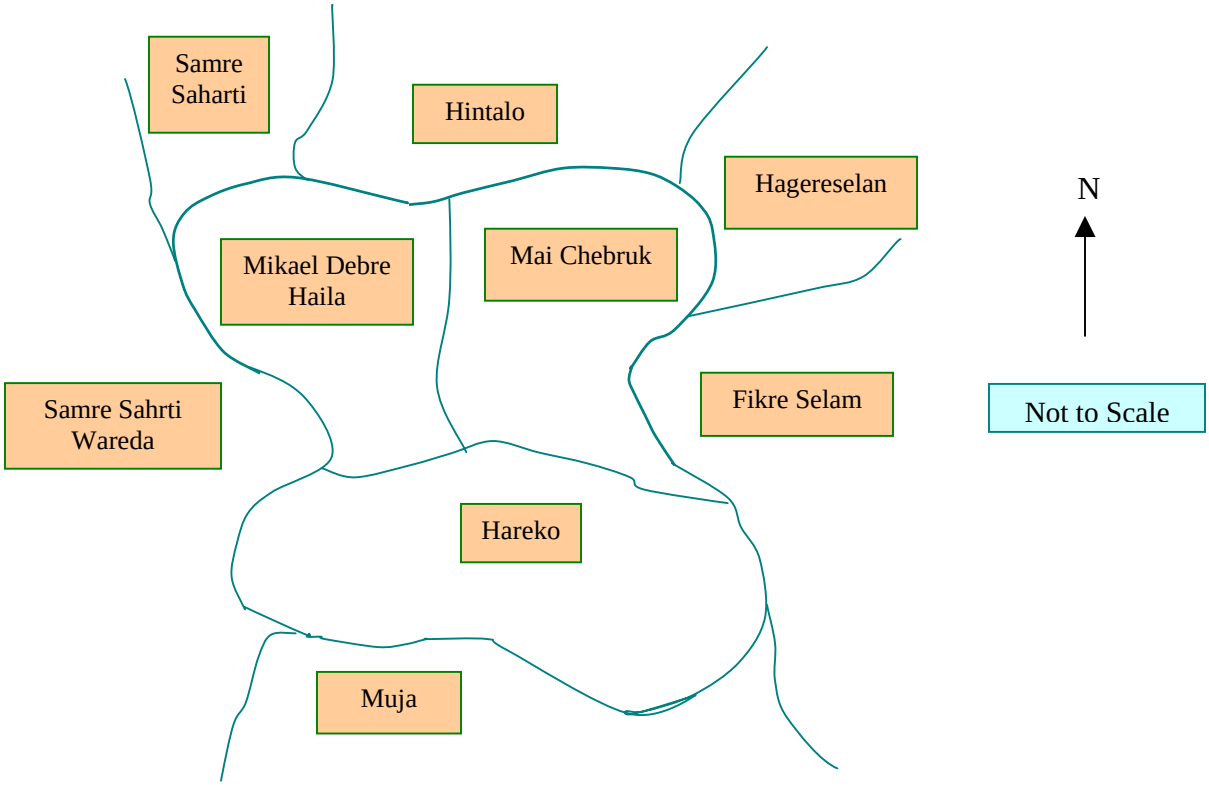


Annex IV

Vicinity Map of "Control" Area
Hareko Tabia



Sketch Map of "Control" Area
Hareko Tabia



Annex V

RURAL EMPLOYMENT INTENSIVE PROGRAMS
POVERTY IMPACT ASSESSMENT
PROTOTYPE HOUSEHOLD QUESTIONNAIRE

CONFIDENTIAL

Information for research purpose only.

IDENTIFICATION

Province: _____ District: _____

Sub-district: _____ Village or community name: _____

Cluster number: _____ Household number: _____

Name of respondent: _____

Interviewer visits:	1	2*	# Result codes: 1. Completed satisfactorily 2. Incomplete 3. Desired respondent not available 4. Refused 5. Other (specify _____)
Date			
Result #			

NOTE: ADMINISTER HOUSEHOLD SCHEDULE BELOW ONLY TO HEAD OF HOUSEHOLD OR SPOUSE. IF NOT AVAILABLE IN FIRST VISIT, AND SECOND VISITS ARE POSSIBLE*, THEN MARK CODE 3 ABOVE FOR VISIT 1. ASCERTAIN WHEN EXPECTED TO BE AVAILABLE, AND RECORD HERE:

(Expected time available for interview) date: _____ Hour: _____

A. HOUSEHOLD CHARACTERISTICS

I would like to begin by asking you some questions abut the people who live here.

A1. How many people are members of the household, that is, how many persons normally sleep and eat here?
(ENTER INFORMATION IN TABLE 1, BELOW, BY AGE GROUP AND SEX)

A1a How many (girls and boys) are under age 5 (at their last birthday)?
A1b How many are between 5 and 14?
A1c How many women are there over age 15?
A1d How many men over age 15?

A2. Have any of these persons been seriously ill or injured in the past 30 days? In other words, has anyone been confined to be, temporarily disabled/ injured and unable to work or help out on the farm as usual?

1 Yes - 2 No

A3. (If Yes to As) How many of the ill persons were adults? How many children? Note by age group the number of persons ill/ injured in the table, particularly adults.

Table 1. Minimal Roster of Household

Age group	Number of persons in each age group by Sex		Total number of persons in each age group	Number of persons seriously ill in past 30 days by age group
	Male	Female		
0 - 5 years 6 - 14 (15)* years 15 (16)* and older				
Total				

*Note *actual thresholds to be used will depend on local determination, i.e., using country designation of child labor.*

A4. Who is the head of the household? Name_____
(Do not code)

A4a. How many (girls and boys) are under age 5 (at their last birthday)? 1 Male 2 Female

A4b. What was the head's age (at last birthday)? _____ years

A4c. What was the highest level of education the head has received? _____(years or level)

no school
some primary
literacy training
some high school
completed high school
some college/vocational
completed higher degree

(If no or some primary)

A4d Can the head of household read a newspaper? 1 Yes 2 No 3 With difficulty

A4e Is the head of household permanently crippled (disabled) or blind?

1 yes 2 no

A4f What is your ethnic group (and / or religion)? (TO BE CODED FOR PROJECT APPLICATION)

B. DWELLING CHARACTERISTICS

Now I would like to ask you a few questions about how long you have lived here, your house and sources of water and fuel.

B1. Have you always lived in this village (sub-location, community...)?

YES 1 (SKIP TO B2)
NO 2 B1a. Were you living here two years ago?
1Y (skip to) 2N

B1b. Why did you move here, to this village/location?

employment opportunities offered by project (specifically)
work available in area in general
just bought (or rented, or allocated) land here
marriage
retired to ancestral home/live near family
other reason

(NOTE; CHOOSE 1-2 OF QUESTIONS ON HOUSING MATERIALS, DEPENDING ON SITE)

B2. What is the FLOOR of your home made of?

CEMENT, BRICK	1
TILE, LINOLEUM, WOOD	2
STONES	3
STRAW, CANE	4
PACKED CLAY/DIRT	5
OTHER (SPECIFY _____)	6
HAVE NO DWELLING	8

[Optional/exchange with above...

B2. What are the WALLS made of ?

CEMENT	1
WOOD, BAMBOO	2
STICKS, STRAW	3
MUD	4
CARDBOARD, MAKESHIFT	5
NONE, OPEN	6
OTHERS (SPECIFY _____)	7

B2. What ROOF made of?

tile	1
corrugated iron/tin	2
thatch/straw/reed	3
cardboard	4
other]	

B3 Did you make any major improvements in your house in the last year, such as adding a room, replacing the roof, etc?

1 Yes 2 No

B4 What is your usual source of drinking water?

PIPED, IN HOUSE	1	)
PRIVATE WELL/TAP IN HOUSE OR YARD	2	) (SKIP TO B5)
PRIVATE E RAINWATER CATCHMENT SYSTEM	3	)
PROTECTED WELL or SPRING or TAP IN VILLAGE	4	
UNPROTECTED WELL IN VILLAGE	5	
UNPROTECTED SURFACE WATER (POND)	6	
UNPROTECTED SPRING	7	
PERMANENT RIVER	8	
PURCHASED IN CONTAINERS	8	
PURCHASED IN CONTAINERS	9	
OTHER (SPECIFY source, protected or unprotected _____)	10	

*B4a (if not piped to house) About how long does it take to fetch water each day, most of the time?

_____minutes per day, each way

*B4b Who usually collects water each day?

(recode responses for each application, these are suggested)

female head/spouse of male head
older daughters
all the children
male head of household
everyone in the household
other

*B5 What kind of toilet facilities do members of the household use, most of the time?

FLUSH (PRIVATE)	1
PRIVATE LATRINE FOR DWELLING	2
PUBLIC LATRINE, TOILET OR OTHER FACILITY	3
OPEN PIT	4
NONE (OPEN FIELDS, ETC)	5
OTHER (*SPECIFY* _____)	6

*B6 What is the usual source of fuel for cooking food most of the time?

charcoal (purchased)	1
kerosene, propane	2
fuel wood (gathered)	3
dung	4
crop residues	5
other source, purchased	6

*B6a (IF GATHER) about how many minutes or hours is spent each day gathering fuel wood /dung ,most of the time?

_____ (minutes or hours each way, on average, every day)

*B6b Who usually collects fuel wood/dung each day?

(precode responses for each application, these are suggested)

female head/spouse of male head
older daughters
all the children
male head of household
everyone in the household
other

C. HOUSEHOLD POSSESSIONS

C1. Do you or anyone in your household have any of the following household items now, in working order?

(Note: LIST OF ITEMS NEEDS TO BE SELECTED FOR EACH SITE)

C2. Did you or anyone in the household sell any items in the last year to raise cash for everyday expenses such as food?

(NOTE IN LAST COLUMN)

Table 2. Household Possessions (Mark X in appropriate column)

Value group	ITEM *(NOTE, USE ONLY 3 IN EACH GROUP)*	Does anyone in this household own this item now, in working condition?		Did you own any of these types of items 12 months ago, but sell it to raise cash? (Mark if yes; identify items sold)	
		YES	NO	YES	NO
(1) Low value	*Bed,* *Blanket,* *Utensils* *(also might include clothing, baskets, pots and pans, table, chair/bench, flashlight, clock, watch, shoes (adults), etc.)*				
(2) middle value	*Pressure lantern* *Radio/cassette* *Improved cook stove* *Also sewing machine, bicycle, school* *Uniforms, gold jewelry, eyeglasses)*				
(3) high value	*Electricity generator* *Refrigerator (kerosene/electric)* *Motor vehicle (car or truck)* *(also, TV/VCR, *electric fan, iron, if house is wired for electricity, etc.*				

C3. Do you or anyone in your household have any of the following tools in working order?
(LIST OF ITEMS NEEDS TO BE SELECTED FOR EACH SITE)

(Mark X in appropriate column in Table 3)

C3a. Did you or anyone in the household sell any tools or equipment last year to raise cash for food or other expenses?

Table 3. Household/Farm Tools

Value class of tools	ITEM *(NOTE, USE ONLY 2-3 IN EACH GROUP)*	Does anyone in this household own this item now, in working condition? YES	NO	Did you own any of these types of items last year, but sell it to raise cash or meet expenses? (Mark if yes; identify items sold) YES	ITEM
(1) Low value	*Hand tools (hoe, axe, adz, etc.)*				
(2) Middle value	*Wheelbarrow/cart* *Plough* *Loom* *(special hand tools, etc)*				
(3) High value	*Tractor* *Chainsaw* *Rice/ posho mill* *water pump*				

*C4. I would like to ask about purchases. How often do you or any member of the household spend at least $* on small NONFOOD items, such as soap, candles, batteries, medicines, needles, etc.? In other words, would you say you make a purchase of "$" frequently (every day), often (1-2 times a week), occasionally (2-4 times/ month), rarely (once a month) or practically never (1/year)/ (This does not include items such as fuel, transport, repairs, or major purchases on durable goods.)

* [PRECODE a small sum, say about 1/4-1/2 the daily wage, based on local conditions)

practically never	1
rarely (1/month)	2
occasionally (2-4/month)	3
fairly often (about 1/week)	4
frequently (every day)	5
don't know/not sure	6

D. HOUSEHOLD CONSUMPTION

D1. I would like to ask you a few short questions about food consumption in your household. Please tell me if people in this household consumed the following types of food in the past week, and how often.
(Note; mark X in appropriate column in Table 4 below, and leave blank other columns)

Table 4. Food consumption

If the household consumed some, then note the amount in then appropriate column	*None (0 days last week)*	*Rarely (1 day)*	*Some days (2-4 days)*	*Most days (5-6 days)*	*Every day (7 days)*
(a) Grains (NOTE; substitute names of 1-2 major staples, i.e., rice, maize, teff sorghum, etc.)					
(b) legumes /pulses (specify 2-3 for site)					
(c) Fruits (specify 2-3 for site)					
(d) Vegetables (specify 2-3 for site)					
(e) Milk/dairy products/eggs (specify 2-3 for site)					
(f) Meat/fish (specify 2-3 for site)					
(g) Any processed foods/ "luxury" items (i.e., sugar, biscuits, bread)					

D1a. Was last week a more-or-less typical week in terms of food consumed by the household members?

YES	1	*(SKIP TO D2)*
NO	2	*(INTERVIEWER: REDO D1)*

D2. Each day, how many coked meals, i.e., major meals, are eaten in this household by most of the members, most of the time?
(circle number of cooked meals/day on average) 0 1 2 3 4

*D3. Did your family rely on any official food aid during the past year? 1 Yes 2 No

*D3a. For about how long did you receive food aid?

Few days/ 1 week	1
Weeks-month	2
2-3 months	3
most of the year	4
don't know/not sure	5

*D3b. Was this food aid received in exchange for work of any type? 1 Yes 2 No

E. FARMING

E1. Do you (or any member of your household) own or operate a farm?

YES	1	
NO	2	(skip to E5)

E2. How much land do you farm right now?

Table 5. Land - holdings

Type of tenure/holding	Total# Hectares*	#hectares rained*	# hectares* irrigated	*Overall quality relative to average in area 1=good, 2=fair, 3=poor
Own (mortgage)				
Rent (tenant)				
Sharecrop				
Other				
Total all units/parcels				

Note: Use appropriate units of land. Use major types of tenure arrangements that are found in region

(NOTE RESPONSES IN TABLE 5 ABOVE)

*E2a. What is the type of tenure for the land-holding? (MULTIPLE RESPONSES ARE POSSIBLE)

*E2b. How much is irrigated, and how much is rainfed only?

*E2c. How would you rate the overall quality of land, relative to other farms around here?

E3. In the last 12 month period, what were the main crops that you grew each season?
[IF ONLY ONE SEASON, COMPLETE COLUMN (1) ONLY AND WRITE NONE FOR COLUMN (2)]

Table 6. Crops and Yields

Major Crops Grown	**1st Season** Enter Yields (/ha) Code amount sold YIELD SOLD		***2nd Season** YIELD SOLD		Modern Inputs Used? 1=yes 2=no	Hired labor used? 1=yes 2=no
Main crop: _____						
Second major crop: _____						
*Third major crop: _____						

*The need for columns for additional seasons depends on the study site (i.e., the climate, whether reliant on rains or use of irrigation, soil). Use local units for the crops (to match prices for crops from community – level questionnaire).

Codes for amount sold are: 1= Sold None, 2= Sold some, 3= Sold most, 4= Sold all

E3a. What were typical yields for this crop?[FILL IN COLUMNS IN TABLE]

*E3b. Did you sell none, some, most, or all of this crop?

*E3c. Did you use any purchased, modern inputs, such as fertilize or pesticides?

*E3d. Did you at any time used hired farm labor?

E4. Did you make any changes in crops grown or amount since the road project began? For example, cultivating more land, using fertilizer or other inputs, or switching to new cash crops?

(Circle one) 1 Yes 2 No (Go to)

*E4a. What did you change? _____
(precode for follow –up survey based on pre-test results)

E5. do you or anyone in the household tend to keep any livestock or farm animals, whether for traction, food, wool, or to sell?

YES 1
NO 2 (SKIP TO F)

E5a. What types of animals do you have? How many of each type do you have right now?
(FOR EACH TYPE, COMPLETE TABLE BELOW)

E5a. What types of animals do you have? How many of each type do you have right now?

(NOTE, MAY HAVE NONE AT PRESENT)

Table 7. Livestock

* value class of livestock	Type of animal (NEED TO SPECIFY 1-2 FOR PROJECT SITE)	Number owned now	Number compared to Last year
LOW VALUE (owned by almost everyone)	Poultry** (goats…)		
MIDDLE – VALUE	Donkey (Swine, sheep, fish ponds, beehives…)		
HIGH VALUE (expensive, owned by better off)	Oxen (buffalo, cattle, house, camel, etc.)		

*Type of livestock to enquire abut in each category will be determined prior to actual survey and pre – tested.
**Give range for small – stock, if exact number not known (i.e., 1-2, 3-6, 7-12,13+)

E6. (additional questions for coastal or lakeside fishing communities, to be elaborated as needed)

F. NON-FARM INCOME SOURCES AND EMPLOYMENT

Now I would like to ask you some questions about types of employment and income other than from farming. I am interested in the activities of all members of the household during the past 12 months (NOTE: RECALL PERIOD COULD BE 6 MONTHS).

F1. In the past 12 months, did you or anyone else in the household work for someone else for a wage or salary, or sell or trade items or some service for cash? For example, did anyone sell things made at home, work for wages on other peoples' farms, run a shop, or earn money from a job?

YES	1	
NO	2	(SKIP TO F3)

F1a. what were these other sources of income, other than from our own farm, in the past 12 months? Please mention as many sources of income or work that you or other household member are involved in.

(CHECK AS MANY AS APPROPRIATE)

		Regular	Occasional	Irregular
*work n road project (fill in table 5)				
work as hired labor on other farms	1			
sale of food products, clothes, items made at home	2			
services (washing clothes, cutting hair, owning a restaurant)	3			
trade (carpenter, mason, potter, etc.)	4			
white-collar job (accountant, civil servant, teacher…)	5			
other source of non-farm income (specify, i.e., pension…)	6			

F1b. Would you say that these other sources of income were quite regular (some income every month), occasional (i.e., seasonal, somewhat predictable but not full-time), or irregular (sporadic)?

(Mark X next to items above)

(Interviewer: If respondent did not mention the road project under F1, then ask question F2, otherwise skip to F2a)

*F2. do you know about the road construction * project?
(*identify specific roads(s) or other project by local name)

*F2a. Have you or anyone else in the household ever worked on the road construction project at any time?

1 Yes 2 No (skip to F3)

(RECORD ALL RESPONSES IN TABLE 5)

Please tell me who in your household who worked on the project at some time, for any length of time, during the past 12 months. [INTERVIEWER: NOTE NAMES IN COLUMN (i) of Table 8]

For each of these persons, please tell me the following information:

*F2b. About how many months (days/weeks) did _____(name the person) work in the past 12 months?
*F2c. during which months (or which season) did this person work on the project? (pre – code responses for the location)

*F2d. How much did this person earn (each day/week/month)?
*F2e. What job did this person perform when he worked on the project?
*F2f. Did he/she want to work longer on the project, but was unable to for some reason?

Table 8. Participation and Employment in Project (Note: only for follow –up surveys)

Household member (1)			Time worked on project last 12 months (II)	Season (III)	Wage for this person (average) (IV)	Total earnings past 12 mo. (v)	*What job did this person perform? (VI)	Did this person want more work on the project? 1 Yes 2 No (VII)
Person (name & position in household) #1 #2 etc. list each household member who worked on project in past 12 months			Age*	Sex*				
Total number of persons in household who worked on project:	*Mean & median age of workers :* _____	*# male:* _____ *# female;* _____	*Total time on project* _____ *(/HH)*		*Mean wage for household:* _____	*Total Earnings From Project:*		

NOTE: specify units used for local area, whether number of months, weeks, days or hours. This should match units used for wage; the wage information is needed if wages are expected to vary by the person (age/sex) hired.
Estimated earnings can be asked of respondent, or computed by the interviewer as column (II) multiplied by column (II).
**Age and sex of the worker are optional details needed for gender analysis of employment and project impacts.*
**Details of "job performed" are needed only if different types of work are available eon the project.*

F3. Did you or any other household member want to be employed on the road but were unable to do so. For nay reason?

1 Yes 2 No (Skip to F4)

F3a. If Yes, Why? (CHECK ALL THAT APPLY)
(will need to precode and pretest responses for the location; these are some possibilities)

refused a job by project foreman
could not leave household/children
could not leave farm
too much other work to do
could not reach site/lacked transport
timing inconvenient
other _____

*F4. Did anyone in the household start a NEW enterprise, such as a shop, in the past 12 months?
1 Yes 2 No

*F5. Do you or anyone else in the HH have plans to start a business within the next 12 months?
1 Yes 2 No

*F5a. What kind of business is planned? _____

F6. In the past 12 months, did you or anyone else in the household RECEIVE any money, food or goods sent to you from others living elsewhere (such as family members, relatives or friends)? (Please do not include small ordinary gifts like birthday presents for children.)

YES 1
NO 2 *(SKIP TO F6)*

F6a. About how much would you say was received in the past 12 months?

____ $ in money _____ $ in kind (CONVERT TO $ VALUE)

F6b. Do you receive money or these other items on a regular basis, such as every month?

1. Regular 2. irregular

F7. did you or any household member living here send cash, or food, or goods to others not living in the HH in the past 12 months?

YES 1
NO 2 *(SKIP TO F8)*

F7a. How much would you say you sent in the past 12 months?

_____ $ in cash _____ $ in kind
(INTERVIEWER: CONVERT TO $ VALUE)

F7b. Do you send money or other items on a regular basis?

1. Regular 2. irregular

F8. On the whole, would you say you sent more than you received in gifts and aid, or received more than you sent, in the past 12 months? Or are the amounts about the same?

Received more than sent	1
Sent more than received	2
About the same	3
Don't know	4

F9. I would like to ask about other sources of income to the household. Please let me know if you or anyone in your household received any income from ANY of these sources in the past 12 months. I am not going to bother you asking about the amount of income you received from any of these sources.

Did you (or anyone else in the household) receive any income from:

(a)	renting out a house or room,	1 Yes	2 No
(b)	rental of farm equipment, machinery, animals, vehicles, et	1 Yes	2 No
(c)	personal loan to meet food and other expenses	1 Yes	2 No
(d)	interest, such as from a savings deposit or a bank	1 Yes	2 No
(e)	pension or retirement income	1 Yes	2 No

(f) any other source 1 Yes 2 No

(Specify _____)

F10. During this interview, you have mentioned several different sources of food any income for this household. These include _____, _____and _____. (INTERVIEWER: REVIEW ABOVE RESPONSES AND SUMMARIZE HERE)
Is that right? (IF NOT, CLARIFY)

Of these, which would you say has been the MOST important source supporting the household in the past 12 months
(CIRCLE ONE).

#1. Wages from the road project
2. Wage from working on other farms
3. Petty trade, small business
4. Other non-farm income (rentals, etc.)
5. ALL NON-FARMS
6. Firm (cash) income from crops (fishes) sold
7. Farm income from animals sold
8. Food grown for own consumption
9. ALL FARM INCOME/GOODS
10. Remittances/transfers from others
11. Loan for food, expenses
12. Food aid
13 Distress sale of assets/livestock
14. Other (specify _____)

G. PERCEPTION OF QOL

To conclude, I would like to ask for your general impressions about the quality of your life here in _____(name of village/location)

G1. How would you rate your overall quality of life right now? For example, considering your housing, food, water, land, availability of work, would you say that the overall quality of life is adequate for your household, less than adequate, or more than adequate, right how?

Less than adequate, overall adequate more than adequate

G2. All in all, compared to your situation last year, do you feel that you and your family are better off now, about the same,

	Compared to <u>one year ago</u>
Better off	1
Same	2
Worse off	3
Don't know/not sure	4

G2a. What would you say was the major reason for the change for better (worse) for your family?
(precode and pretest for site, list will likely include some of these)
road is getting worse
no transport/expensive transport
easier to travel (after project)
more jobs "
worked with the project – earned income "
can get to markets to sell produce "
have more money now
can't get workaround here
everything is more expensive
household is larger now
household is smaller now

*G3. How would you rate your quality of life compared to that of your neighbors here in _____ (village or community). Would you say that your quality of life is the abut the same as, worse than , or better than that of your neighbors around here?

Worse than neighbors same as neighbors better than neighbors

END: THANK YOU

Annex VI

PROTOTYPE COMMUNITY – LEVEL QUESTIONNAIRE

IDENTIFICATION

Village _____

district _____ Sub-district _____

Location Description _____

Roads taken to reach location _____

Names and types of respondents

Name	Type of respondent
_____	_____
_____	_____
_____	_____
_____	_____

CODES

1. Elected leader
2. Government official (excluding teacher or health worker)
3. Teacher
4. Heath worker
5. Religious leader
6. Head of
7. Cooperative/Farmer Association
8. Other (Specify_____)

Date _____

Name of interviewer _____ Interview's ID number _____

A. POPULATION SIZE AND COMMUNITY SETTING

A2. What is the geographic area of this community? _____sq Km

(SKETCH BOUNDARIES HERE. NOTE MAJOR FEATURES OF BOUNDARIES AND LANDMARKS. INCLUDE NAMES OF NEIGHBORING COMMUNITIES. IDENTIFY LOCATIONS OF HOUSEHOLDS WITHIN COMMUNITY BOUNDARIES)

(LEAVE THIS PAGE BLANK FOR MA)

A2a. How does this geographic area break down into the following broad types of land use? (GET ESTIMATE)

Agricultural land (in use or fallow, including private pasture land) Total
_____

Privately held
_____

Common land
_____

Built-up land, not farmland (roads, paths, dwellings and lots, public space)
_____

Land not used for economic purposes:
Protected areas and parks _____
Steep slopes, mountains,
Deserts/wasteland _____

Swamp, wetlands _____

Bodies of water _____

A3. Latest population estimate according to census/administrative records(COMPLETE BEFORE BEGINNING FIELD WORK IF POSSIBLE):

Population: _____ Households _____ [Reference used: Surce and year _____]

A3a. Current population according to respondents:

Population _____ Households _____

[Source (type of record or estimate, i.e., village roster) _____]

(INTERVIEWER; IF POPULATION OR NUMBER OF HOUSEHOLDS INDICATED BY RESPONDENT DIFFERS GREATLY FROM ADMINISTRATIVE ESTIMATE, RESOLVE DIFFERENCE. ENSURE THAT YOU AND RESPONDENTS ARE TALKING ABOUT SAME COMMUNITY AREA AND BOUNDARIES AND SAME REFERENCE YEAR.)

A4. Has there been a tendency in the past two years for new people to come to live in this community?

0 None 1 Few 2 Many

A4a. Has there been a tendency in the past two years for persons to leave this place to live elsewhere?

1 None 2 Few 3 Many

A4b. Which is the greater tendency?

1 More people arriving 2 More people leaving 3 Neither, abut the same

*A5. What are the main religious, ethnic/tribal, or caste-related groups represented in this community? What are their approximate proportions (i.e., how many out of 10 on average are in each group)?

[RECORD MAXIMUM OF THREE, FROM LARGEST TO THIRD LARGEST; USE CODES BELOW IF NECESSARY]

_____ group _____%
_____ group _____%
_____ group _____%

CODES:

1. none
2. very few (<1 in 10)
3. some (1 in 10 to 3 in 10)
4. abut half (4 in 10 to 6 in 10)
5. most, many (7 in 10 to 8 in 10)
6. almost all (9 in 10)
7. all

A6. What proportion of the boys and girls age 12 in this community regularly attend primary school?

(use CODES) from A5 if necessary)

Boys _____% or CODE = _____ (0-7)

Girls _____% or CODE = _____ (0-7)

A7. What proportion of the boys and girls in this community finish primary school (receive a diploma)?

(use CODES) from A5 if necessary)

Boys _____% or CODE = _____ (0-7)

Girls _____% or CODE = _____ (0-7)

A8. Among children who live here, what proportion of those under age 5 would you estimate are vaccinated against the following? (use CODES from A5 if necessary.)

Against DPT _____% Against Measles _____% Against Polio _____%

Comments:

_____

B. FACILITIES WITHIN THE COMMUNITY

B1. What is the condition of roads traveled to reach this community from _____ (name the largest market town)?

[INTERVIEWER: FILL IN TABLE BELOW FOR EACH SEGMENT OF ROAD OR TRACK THAT WAS TRAVELED TO REACH THE COMMUNITY}

Road/Track name	Distance along (km)	Current Condition	In what months is this road impassable?	Type of vehicle which can pass	What was its condition 12 months ago?
Primary road/highway: (name _____)					
Secondary road (name _____)					
Teriary road (name _____)					

Codes for this table:
"Current condition": mote whether: good, fair, poor, extremely poor
"Months passable": None (i.e., Year – round); or specify months or season when road is impassable due to weather
"Type of vehicle". note whether 4WD only, pick-up, sedan, or horse/mule/foot travel only
"Condition 12 months ago": note whether same, worse, or better

B2. Is there regular public transport to this community from _____? 1 Yes 2 No

B2a. Frequency of bus _____ per day or _____per week (# trips or visits)

B2b. Cost _____ per person _____per unit of cargo

B3. Does this community have any of the following facilities or services right here (even if only some of the time)?

(OBSERVE AS MUCH AS POSSIBLE, BUT ALSO CHECK WITH RESPONDENTS. BE SURE TO ASK SEPARATELY ABOUT EACH FACILITY.

IF NOT PRESENT IN COMMUNITY, ASK WITH RESPECT TO THE NEAREST ONE:

B3a. About how long does it take people to get to the facility using the most common mode of transport?

B3b. What mode of transport is used by most people to get to _____?

Codes:
1 walking
2 bicycle
3 bus
4 train
5 boat
6 private car, truck, motorized vehicle
7 other (specify _____)

B3c. Has the mode or time of travel changed in the past 12 months [since project began]*?
(*for follow-up surveys)

Type of facility	Facility or Service	Available here? 1=Y, 2=N	Typical time to reach facility (minutes)	Usual mode of transport (codes above)	Change in transport mode/time**
Official	government office(s) (specify:_____)				
	Extension agent/vet				
	post office				
	development project (_____)				
	other (_____)				
Commercial	bank/credit				
	feed/seed supply				
	bar/"restaurant"				
	grain mill, warehouse				
	sop selling foodstuffs				
Community/ recreational	church, mosque				
	Farmer's cooperative				
	community building				
	athletic field				
Education	primary school (incomplete)				
	primary (complete)				
	high school				
	Technical/agricultural				
Health	Clinic/post				
	pharmacy				
	Hospital				
	Trained TBA/midwife				
OTHER	[NOTE HERE]				

** suggested reference period is 12 months ago, or "since before project" for follow-up

B4. Please provide an estimate of what it might cost to replace the following items if you were to buy it today.

Item (match HH survey)	Price in nearest market		
	Respondent # 1	Respondent # 2	Enumerator
bed blanket simple table (etc.)			
radio bicycle clock/watch			
TV refrigerator car/motorcycle			

B5. How much does it cost now to purchase each of the following items here, wherever people usually buy them?

Staple (most important) food _____$ per _____(unit)
Second most important food _____$ per _____(unit)
meat/fish
Oil/sugar other essentials noted in household Q

Farm input #1 (i.e.,) fertilizer, herbicide, seed)* _____$ per _____(unit)
Farm input #2 _____$ per _____(unit)
Livestock (head of _____) _____$ per _____(unit)

*select two commonly used local inputs and a typical livestock purchase.

*INCLUDE THE FOLLOWING WATER QUESTIONS IF NOT USED IN HH QUESTIONNAIRE
*B6. What is the main source of water for most people here during the year?

Protected well or spring	1
rainwater catchment	2
unprotected well or spring	3
river, pond	4
purchase in containers	5
other	6

*B7. Are there ever shortages of water during the year, say during a dry season? 1 YES
2 NO

*B8. For most people, how much time does it take each day to collect drinking water?
(RECORD IN MINUTES)
During usual / non-shortage months _____
During shortage months _____

B9. Have there been any development projects conducted in this area during the last five years? (PROBE)

1 YES 2 NO

Describe briefly _____

C. FARMING/AGRICULTURE

I would like to Enquirer about farming and land – holdings here.

C1. How large are the three largest (private) landholdings in this community, in ha?
(ONLY ASK IF NOT ALREADY KNOWN FROM MAP)

1. _____ hectares
2. _____ hectares
3. _____hectares

C2. How is other farmland distributed here? In other works, about what proportion of households own or have access to:

(USE APPROPRIATE LOCAL UNITS AND SCALE CLASSES TO SITE, KEEP DETAIL AT LOWER END)

No land	_____	.75-1.0 ha/HH
_____		
<.25 ha/HH	_____	1-2 ha/HH
_____		
.25-.50 ha/HH	_____	2-5 ha
_____		
.50-.75 ha/HH	_____	>5 ha
_____		

C2a What is the most common form of land tenure here?

1. freehold/own outright
2. rent
3. sharecrop
4. communal property allocated among households /families
5. other

C3. Is most of the land in this community considered to be of good, average or poor quality?_____

1. Good 2. Average 3. Poor

C4. How does the overall condition of the local farm land compare to three years ago?

1. worse 2. better 3. same as before

C5. What are major constraints to higher yields on farms here?

1. lack of /poor land 2. Lack irrigation 3. Lack $ for inputs 4.Cost to transport/sell 5.Other (specify _____)

*C6. [Optional module here on crops grown, average yields, use of inputs, labor, etc. if not used at household level.
Use same format as in household questionnaire, i.e., a table to note each crop/ season and typical harvests]

D. ECONOMIC ACTIVITIES AND NON-FARM LIVELIHOODS

I would like to ask about employment and other economic activities here other than farming.

D1. What proportion of HH have someone running a regular small enterprise or earning regular income from any non-farm occupation? (Example: a vendor, shop, blacksmith, weaver, carpenter) _____(CODES FROM A5)

D1a. How has this changed since last year? 1. Less 2. Same 3. More

#D2. What proportion of households in this community has someone working on the road project last year? _____

(CODES FROM A5)

#D2a. Would you say that most of these participants were from the poorest households, households about average, or the relatively well-off households in this village?_____

1. relatively poor 2. about average 3. better off 4. don't know

D3. Do households sometimes have a member go away to work elsewhere to earn money? 1 YES 2 NO

D3a. (If Yes) About what proportion of households do so? _____

D3b. (If Yes) How has this changed since 2 years ago? 1. Fewer go 2. No change 3. More go

D4. About how much does a typical male worker earn per day for different types of work here? How much does a typical female worker earn?

D4a. Would you say that, in general, wages are increasing, decreasing or about the some compared to 12 months ago?

type of work	Estimated Current Wage (in"$/day")			Changes in overall wages since 12 months ago?
	Men	Women	Both	(1=increase; 2= decrease; 3= same)
farm laborer				
other unskilled work				
skilled laborer				
school teacher				
work on road project*				

* this category can by differentiated further as necessary

D5. In the past year, for men living in this community, has it become easier or harder, or is there no change in the ability to find work as wage earners, whether in this community or nearby?

D5a. And how about for women who work?

Men _____ 1. Easier 2. No change 3. Harder
Women _____ 1. Easier 2. No change 3. Harder

D5b. Why? _____

D6. Are there some months or seasons in the year when people from this community often find it difficult to get wage employment? _____ 1. Yes 2. No

D6a. During which months or which season?_____

E. PERCEIVED QUALITY OF LIFE

E1. Does this community have any of the following problems? _____ 1. Yes 2. No

(IF YES)

E1a. How serious do you think each problem* is?

a. Contaminated /polluted water	1. Very serious	2. Not very serious
b. Flooding	1. Very serious	2. Not very serious
c. Drought (periodic)	1. Very serious	2. Not very serious
d. Long dry season	1. Very serious	2. Not very serious
e. Soil erosion	1. Very serious	2. Not very serious
f. Poor quality land	1. Very serious	2. Not very serious
g. Shortage of fuel wood/less forested land	1. Very serious	2. Not very serious
h. Less wildlife to hunt	1. Very serious	2. Not very serious
i. Lack grazing land	1. Very serious	2. Not very serious
j. Religious/ethnic conflict	1. Very serious	2. Not very serious
k. Other _____	1. Very serious	2. Not very serious

Comments: _____

(*this list of items is suggestive; include only those relevant to the location; add or delete as necessary)

E2. Has this community had any major natural disaster in the past two years that affected large numbers of persons who live here (including earthquake, flood, drought, or disease)? 1 Yes 2 No

(MULTIPLE RESPONSES ALLOWED)
Describe the disaster, the type of damage and its extent

1. _____
2. _____
3. _____

E3. Compared to this time 12 months ago, do you think that overall, people here are worse off, about the same, or better off,

1. Worse 2. About the same 3. Better 4. Don't know

E3a. What do you think has caused this change? _____

(PRECODE BASED ON PRETEST RESPONSES, WHICH MIGHT INCLUDE: MORE WORK AVAILABLE; STABLE GOVERNMENT; GOOD RAINS; PRICES GOOD THIS YEAR; # HEARD OF THE PROJECT; # THE PROJECTS HAS HELPED, ETC.)

THANK YOU FOR PARTICIPATING

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