

Addis Ababa University
School of Graduate Studies

**Demographic Correlates of Poverty in Rural North Shewa:
Qualitative and Quantitative Analysis**

DOCUMENTATION CENTRE
INSTITUTE OF DEVELOPMENT RESEARCH
ADDIS ABABA, ETHIOPIA
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By:

Tsegazeab Bezabih

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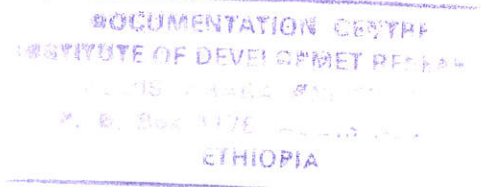
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A Thesis Presented to the School of Graduate Studies

Addis Ababa University

In Partial Fulfillment of the Requirement for the Degree of Master of Science

in Demography

June, 2003

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Acronyms

ADLI: Agriculture Development Led Industrialization

AMC: Agricultural Marketing Corporation

CBN: Cost of Basic Needs

CSA: Central Statistical Authority

DPPC: Disaster Prevention and Preparedness Commission

FAO: Food and Agricultural Organization

FEI: Food Energy Intake

FGD: Focus Group Discussion

HH: Household

HHH: Household head

HICE: Household Income, Consumption and Expenditure

IMF: International Monetary Fund

IPRSP: Interim Poverty Reduction Strategy Paper

MEDAC: Ministry of Economic Development and Cooperation

OLS: Ordinary Least Square

PRSP: Poverty Reduction Strategy Paper

SAP: Structural Adjustment Program

SDPRP: Sustainable Development and Poverty Reduction Program

UNDP: United Nations Development Program

UNICEF: United Nations Children's Fund

Abstract

Ethiopia has been plagued by pervasive poverty for centuries. Especially, the rural people are the most affected basically because of complex, multi-dimensional, and dynamic forces. Factors responsible for the persistence of rural poverty are linked to demographic, social, economic, physical, and political conditions.. However, the major objective of the study lies at exploring the causation that runs from demographic factors to poverty outcomes in rural North Shewa.

Data are obtained from two sources: the 1999/00 HICE Survey undertaken by CSA and a small qualitative assessment (Focus group discussion and in-depth interview with key informants) in one of the Wedredas of North Shewa in March, 2003.

The analysis shows that the per capita income for rural North Shewa is Birr. 1256 (US\$ 165.10), which is less than half of the international poverty line set by the World Bank, US \$370. Based on absolute poverty line of Birr 1075.03per adult equivalent, 40 per cent of the study population are identified as poor while the poor are on the average 11.3 per cent short of fulfilling the minimum expenditure.

The informants in the qualitative assessment disclosed that inequality among rural peasants is becoming invisible and all are making a swift move to the “poor” category. They further suggested that their coping strategies are exhausted, intra-family conflicts are on rise, social cohesion in the community is weakening, insecurity is pervasive and they foresee no window of hope. According to the informants, the major causes of poverty are shortage of rainfall, erratic rainfall, population pressure (shortage of land and other resources), and deterioration of the productivity of land.

The results obtained by the qualitative and quantitative analyses with regard to the correlates of poverty is nearly similar. For multivariate analysis, probit model and multiple regression procedure are used to regress poverty per se and standard of living (the depth of poverty), respectively. Generally, household characteristics that trigger entry into the poverty trap comprise: larger household size, mid-span of the age of the household head, elderly dominated composition, young-dominated composition, larger number of women, and larger number of males accompanied by disproportionately smaller number of adult females..

The pattern of the prevalence of poverty indicates that there is a threat to the effort to reduce infant and child mortality and achieve universal education. At the same time, poverty is noted to hard hit the households with labour force and wisdom which implies opportunities to come out of poverty if they are provided with capital and natural resources. The result also revealed that thee inequality among elderly is quite large. From the results, it is argued that no matter how the demographic window may be opeed, it may not be possible to abate poverty unless accompanied by large-scale employment opportunities out side the agriculture sector.

CHAPTER-ONE

INTRODUCTION

“In this day, despite knowledgeable people are numerous, wisdom that enables us escape poverty is seriously lacking”

- Peasants from Merhabete

1.1 Statement of the Problem

Ethiopia is a commonly cited example of the poorest countries in the globe almost by all dimensions of poverty. This “ugly fact” is manifested not only in low income but also in capability poverty such as: high incidence of malnutrition, abbreviated life span, high infant and child mortality, low school enrollment, poor maternal health, etc. Ranking 169th out of 173 countries in Human Development Index of UNDP in 2001(UNDP,2002), 210th out of 210 countries in terms of GNP per capita, and 208th out of 210 countries in the globe in terms of GNP per capita measured at purchasing power parity (World Bank, 2001); Ethiopia needs to exert tremendous endeavor to reduce poverty to the minimum acceptable level. Thus, reducing absolute poverty and food insecurity at acceptable environmental and economic costs is a major development challenge for Ethiopia (Sisay and Adugna, 2001:1).

Especially, the rural agricultural sector, which accommodates 85 per cent of the total population of the country, is more disadvantageous. The report based on the 1995/96 Household Income, Expenditure, and Consumption Survey pointed out that the per capita income for rural Ethiopia was US \$159 compared to US \$217 for urban Ethiopia(MEDaC, 1999). Among the agricultural population of Ethiopia, poverty is especially manifested in food insecurity (IMF and IDA, staffs, 2001:1). In this regard, it is very sad to note that among the rural population, which is the sole

producer of food in the country, 52 per cent is suffering from food poverty while the prevalence in urban Ethiopia, where no food production takes place, is only 36 per cent.(MEDaC, 1999). According to the estimation of Desalegn (2001:101), rural poverty has been growing in magnitude and severity at least over the last half a century. The low productivity in the huge agricultural sector is assumed to be mainly responsible for the current high level of absolute poverty and food insecurity in Ethiopia(Sisay and Adugna, 2001:1).

All these data consistently reveal that poverty and destitution are permanent features of the country, although the gloomy situation goes far beyond these data. In their qualitative study entitled: " Listening to the poor" undertaken for The World Development Report at 10 sites in three areas of urban and rural Ethiopia, Aklilu and Desalegn (2000:21-23) came across terminology revealing the gloomy nature of poverty situation. Terminology such as: *we live only for today, we envy the dead, waiting to die while seated, we eat when we have the means and we go to bed hungry when we do not, we are between life and death* reflect how no future, hopelessness, hunger and food insecurity prevailed.

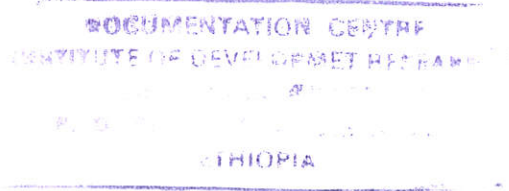
In Ethiopia, poverty studies were initiated in the early 1990s compared to other parts of the world which began poverty studies early in the early 1960s(Aklilu and Desalegn, 2000:4). Although poverty studies began late in Ethiopia, in recent times, substantial data sources on poverty have been made available. The Ethiopian Rural Household Surveys of 1989, 1994, and 1997; the Household Income, Consumption and Expenditure surveys of 1995/96, 1999/2000; Welfare Monitoring Surveys of 1996, 1997, 1998, and 2000 are the major sources of data on poverty situation. Poverty studies based on these data focus primarily on constructing poverty

line, calculating poverty indices, and to some extent the dynamics of poverty. With regard to the determinants of poverty, little has been done so far. Besides, these studies are almost exclusively based on quantitative measurement of “economic poverty” which inhibits the voices of the poor [Desalegn,2001]

The close scrutiny of the poverty situation in Ethiopia shows that it is closely linked to demographic, social, economic, physical and political conditions [Hadgu, 1995:220]. Several explanations and recommendations have been forwarded about these multiple causes and possible solutions to tackle the prevailing problems. Some of these explanations and recommendations are based on scientific investigation while some are simple speculations. Comparison of poverty across sub-groups of population is typically the first step in formulating an anti-poverty policy [Ravallion and Bidani, 1994:75]. Thus, critical examination of these multiple sources of the miserable life by classifying the population into meaningful categories and the formulation of appropriate policies seem high order priority in endeavors to alleviate poverty in the country. However, most empirical studies on poverty focus on economic dimension of poverty and forward exclusively economic prescription to cope with the prevailing poverty situation. Thus, adequate treatment has not been given to the demographic determinants of poverty and possible demographic solutions, among others. In light of this, there is an urgent need to carryout in-depth studies on the nexus of demography and poverty.

The interrelationship between demography and poverty have been a subject of debate especially since the publication of the works of Thomas Robert Malthus which considers population growth as the primary cause of “vicious circle of poverty” from which escaping is difficult. The

population-poverty nexus is commonly approached at macro level which conceals a lot of information. In fact, price and other incentives that determine the costs and benefits of demographic behaviour are set by economic forces, social organization, and cultural patterns that an individual family neither controls nor influences[McNicol,1999]. However, since poverty is ultimately a problem at individual or household level, an understanding of its nature and causes can only be properly developed at micro-economic level. Poverty affects different households to different extents due to their resources at their command, the constraints they face, and their economic behaviour. The need to comprehend precisely the nature and relative importance of these various factors calls for analysis at the individual household level [Coulombe and McKay,1994:33].Such an approach is important in formulating strategies to attack poverty at the household level.



1.2 Rationale of the Study

The International Conference on Population and Development [ICPD] held in Cairo in 1994 placed “taking steps to eradicate poverty” as one of its goals. The plan of Action of the conference highlighted population issues as integral parts of socio-economic development and urged countries to view population in the context of achieving improvement in the life of individuals. Furthermore, the delegates acknowledged that meeting individual and family needs is crucial for achieving development goals (Ashford, 1995).

In line with this shift of thoughts, there is a need to examine the link between demographic variables and poverty at micro-level. Especially, in Ethiopia, where dismal poverty is dominantly a rural phenomenon, this area seems a high order priority. Rural poverty deserves attention not

only because rural dwellers are the largest group but also they enclose the most disadvantaged occupational group, the severity of rural poverty and special characteristics of rural areas and rural dwellers [Bibangambah, 1985:26].

The rural sector in Ethiopia is characterized by the use of traditional technology, the ox- plough, heavy dependency on rain, limited use of modern inputs, fragmentation of land and low-yield per unit area [Itana, 1995:243]. In such a setting, demographic characteristics of households such as: household size, age-sex composition, size of the labour force, headship, and education. have important implications to the well being of the members of the household. Identifying the links of these variables with poverty would pinpoint where intervention must be concentrated to tackle poverty. However, the importance of such determinants of poverty seems not to be properly addressed in the Poverty Reduction Strategy Paper (PRSP) that Ethiopia has formulated to reduce poverty by half in the year 2015. Probably this may be due to scanty and unreliable evidence in this regard. In light of this, studying critically the population-poverty linkages at the micro level using qualitative and quantitative approach is a *sine- qua- non* to fill the paucity of knowledge in the subject and bring the issue into the attention of policy makers.

1.3 Objectives of the Study

It is a common knowledge that actions to attack poverty must be based on an understanding of the multiple interaction and multi-directional causation. Although it is still controversial, Neo-Malthusian argue that demographic factors are among the primary causes of poverty or in the word of Bibangambah (1985) “generating variables” of poverty. In this study, the linkages between demographic variables and poverty at the household level are examined based on data

obtained from rural parts of North Shewa. However, the study will treat only one direction of the causation that runs from demographic variables to poverty outcomes. The specific objectives of the study comprise:

- I) To assess the poverty profile of the study area;
- II) To probe into the relationship between demographic characteristics of the households/household heads and poverty, applying appropriate models;
- III) To analyze the perception of the rural poor regarding the interrelationship between demographic variables and poverty; and
- IV) To document the perception of the rural poor with regard to poverty *per se*, trends of poverty, characteristics of the poor, causes of poverty, and possible solution to poverty.

1.4 Definition of Key Terms

Household: constitutes a person or a group of persons, irrespective of whether they are related or not who normally live together in the same housing unit or group of housing units and who have common cooking arrangements.

Head of household: a person who economically supports or manages the household or for reason of age or respect, is considered as head by the household or declares himself/herself as such or by members of the household.

member of Household: comprises all persons who lived and ate with the household for at least six months including those who were not within the household at the time of the survey and were expected to be absent from the household for less than six months. House maids, guards, baby-sitters, etc. who lived with the household even for less than six months are also considered as household members.

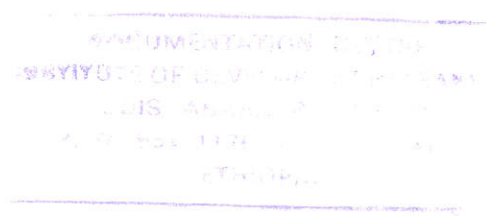
Consumption Expenditure: total expenditure incurred by the household or any of its members on items: food; beverages; cigarettes and tobacco; clothing and footwear; housing, water, electricity, gas and fuels; furnishings, household equipment and operation; health; education; transport and communication; entertainment, religious and cultural services; personal care and effects; miscellaneous goods and services.

Income : refers to domestic consumption of own crops and own livestock products, domestic consumption of goods and services purchased for resale or produced or processed in the household enterprise other than agriculture, wages and salaries, allowance, overtime, bonus, pension, commission, discounts, (i.e. concession obtained), imputed rent of free housing, (i.e. subsidized amount only), imputed rent of owner occupied housing other employee's benefit, interest received, remittance (regularly receive), value of items obtained free(i.e. water, fuel wood, etc.), rent of personal possessions, alimony (regularly received) and other types of income.

Household dependency ratio: the ratio of total number of household members in the age groups 0-14 and above 64 years to the total number of household members in the age bracket 15-64.

Labour force: comprises all household members aged ten and over and whose participation is not inhibited by disability or old age.

Adult: refers to all household members aged 18 and over.



1.5 Limitations of the Study

No matter how efforts have been made to ameliorate constraints, the study did not escape from limitations that inhibit its quality. The most prominent ones, *interalia*, comprise:

- The Household Income, Consumption, and Expenditure Survey, on which this study is relied for the quantitative analysis, did not collect important information indispensable for in-depth investigation of demographic correlates of poverty. Especially, because no data were collected pertaining to fertility, mortality, and productive assets; it is obvious that the analysis do not depict the full-horizon of issue under consideration.

- The Qualitative Survey was undertaken after the elapse of some three years from the collection of the Quantitative data..The changes that took place in the time interval might affect the analysis made by bringing the two data sources together.
- The financial and time constraint did not allow the undertaking of Focus Group Discussions and in-depth interview across all *weredas* of the zone.

CHAPTER-TWO

LITERATURE REVIEW

“The greatest sin of the modern world is refusing to acknowledge the invisible” - Julian Green

This chapter has two parts. In the first part, the concept of poverty is explored from different perspectives and issues related to the measurement of poverty are discussed. In the second section, after a brief insight into the macro-level interrelationship between population and poverty, literatures are reviewed by bringing the issue down to the micro-level (household or community level).

2.1 Conceptualizing and Measuring Poverty

2.1.1 Conceptualizing poverty

A preliminary phase in the formulation of any strategy of poverty reduction is identification of those persons/groups deemed “poor” which depends on the prior question: what is poverty? [World Bank, 2000:1.3]. Different definitions of poverty select different populations as poor which may lead policy makers to erroneous conclusions. For instance, using adjusted per capita expenditure definition, in 1985 44.3 per cent of the poor in the rural areas of Coted’Ivoire cultivate cocoa or coffee trees, compared with 65.1 per cent of the rural population as a whole. On the other hand, if we employ the per capita food expenditure definition, it overestimates coffee and cocoa cultivation among the poor since the Savannah population devotes an unusually large proportion of total expenditure on food [Glewwe and Gaag, 1990:812]. In the same way, the official estimate of poverty in the United States and Indonesia around 1990 put the population deemed to be poor at about 14 to 15 per cent –almost similar. If one doesn’t consider the different definitions used to identify the poor in the two countries, he may say that the aid from United States to Indonesia should cease [Ravallion and Bidani, 1994:77]. There are three

prominent schools of thought with regard to poverty: the Welfarist school, The Basic Needs School, and the Capability School. All of these schools of thought refer to "something" to be defined doesn't reach a level considered to be reasonable minimum [Asselin Dauphin, 2001: 21].

i) Welfarist School

The indicators employed by this school of thought usually refer to command over resources such as income, over all consumption or food consumption [Bruck, 2001: 5]. Thus, for the Welfarist "something" means economic well- being referred to as "economic welfare" or standard of living [Asselin and Dauphin, 2001: 21]. To alleviate poverty this approach therefore, recommends policies that increase productivity, employment, etc and hence, income [ibid.]. The Welfarist concept is a favorite of economists including the World Bank.

ii) The Basic Needs School

This school of thought was emerged in explicit form in the 1970's as a reaction to the anti-poverty policies of the Welfarists. Rather than income and consumption, they give emphasis to " ... human needs in terms of health, food, education, water , shelter , transport" [Streeten et al, 1981:7]. They are called "basic" because they are prerequisite for quality life as Lipton Says, you have " to be " before you can " well- be "[Asselin and Dauphin, 2001:22].

iii) The Capability School

This school of thought initiated in the 1980's by its chief advocate Amartya Sen. The "thing" lacking in this regard is human abilities, or capabilities. The approach considers a person as poor

when he has to achieve a certain subset of functioning as well nourished is being unable to adequately clothed and sheltered avoid preventable morbidity, take part in the life of the community, appear in public without shame, etc [Sen, 1983 as cited in Asselin and Dauphin, 2001:24]. Here, commodities are one of the determinants of people's capacity to function and thus not ends but means to desired activities [Lipton and Ravallion, 1995: 2566]. The UNDP has operationalized capabilities approach by developing Human Development Index in 1990's by aggregating life expectancy at birth, adult literacy rate, real GDP per capita. In 1997, UNDP has developed the Human Poverty Index, which captures three dimensions: deprivation of long and healthy life, deprivation of adult literacy, and deprivation of economic provisioning from private and public income [UNDP, 2000: 22].

On the other hand, UN (1998) has explained poverty by two models of deprivation i.e. physiological deprivation model and social deprivation model.

i)The physiological deprivation model

This model has two approaches to poverty in the developing world. The first is income/consumption approach which identifies a person to be poor in any period “ if her or his access to economic resources is insufficient ... [to] acquire enough commodities to meet basic material needs adequately.”(Lipton, 1996 as cited in UN, 1998).The second, the basic human needs approach, is interpreted in terms of “minimum specified quantities of such things as food shelter, water and sanitation that are necessary to prevent ill health, under nourishment and the like”

ii) The Social Deprivation Model:

This model challenges the representation of relevant aspects of well being in terms of equivalent income/consumption goods and services or achievements that fulfill basic needs and specification of an adequacy level. The UN(1998) has presented three approaches of social deprivation model relevant to the developing world. The first, human poverty approach, argues as poverty is not limited to the lack of necessities of material well-being, but the denial of opportunities for living a tolerable life. The aspects of poverty in this regard comprise things that make life difficult, painful, or hazardous; deprived of knowledge and self-respect. The second, the social exclusion approach, considers poverty or deprivation as “a lack of resources required to participate in activities and enjoy living standards that are customary or widely accepted in society.” Thirdly, the participatory approach argues that conceptualization of poverty and deprivation must follow an interactive process involving participatory poverty assessment facilitator and local people engaged as participants in dialogue (UN, 1998). Recent studies suggest that listening to the poor themselves and obtaining insights into their- subjective-perception of poverty and criteria for well-being constitute an important element of analyses to improve the understanding of poverty (Ravnborg and Sano, 1994:13). In a participatory study undertaken in Kenya, one poor responded as “ do not ask me what poverty is because you have met it outside. Look at the house and count the number of holes. Look at the utensils and the clothes I am wearing. Look at the everything and write what you see. What you see is poverty.” (World Bank, 2000:1.2). This explanation, which comply the school of basic needs, seems to argue that the concept of poverty is straight forward or in the words of Sen (1981) not in need of “elaborate criteria, cunning measurement, or probing analysis.”

In Ethiopia poor people said, “we are skinny,” “we are deprived and pale,” and spoke of life that “makes you older than your age” (World Bank, 2000:1.6). Such perceptions relate poverty to malnutrition and ill health. They meet the terms of Amartya Sen’s (1984:335) concept of “capability” which considers commodities not as ends, but as means to desired activities. On the other hand, the Ethiopian women contention, “we live hour to hour,” “worrying about whether it will rain” (World Bank, 2000:1.6) adds another dimension of poverty – vulnerability. This concept goes beyond deprivation and refers to the stability of the household (or person) level of well-being, or more precisely, to a household’s capacity to sustain its current level of well-being (Ravnborg and Sano, 1994:11).

To sum up, the concept of poverty is not a simple thing to be limited to few dimensions. Various literatures defined poverty in terms of low income, low education and health, vulnerability, powerlessness, voicelessness, dependence and patronage, isolation, alienation, lack of assets, malnutrition, inadequate clothing, shelter and living conditions, social exclusion, marginalization, etc. Ravnborg and Sano (1994:13) called for urgent studies that help to establish which dimensions should be included in perceptions of poverty that could be widely applied and explore their concrete manifestation.

2.1.2 Measuring Poverty

Poverty measurement is the production of numbers by which we can assess the overall degree of poverty in a given society and by which we can identify the members of these society which are to be considered as poor (Asselin and Dauphin, 2001:20). Measurement is made based on the concept of poverty we decided to follow. After the pioneering work of Sen (1976), the

measurement of poverty has attracted a large body of literature. As poverty may comprise the aforementioned dimensions, it is hard to capture all these by means of various instruments often employed by economists.

Measuring poverty has several advantages:

- Gauge the magnitude of a country's poverty problem
- Enable comparison of poverty situation by providing a statistical basis for analyzing the nature and characteristics of poverty and for systematically monitoring trends in its incidence.
- Help to identify and design poverty reducing strategies by prompting interventions to be designed so that they can improve the statistics on the particular dimension of poverty which is measured (World Bank, 1993:238;2000:1.7; Ravnborg and Sano,1994:17).

2.1.2.1. Welfare Indicators: Income versus Consumption

The most common way of measuring poverty is based on income or consumption because of their relative advantage that they can be expressed in what is regarded as universally applicable terms, namely in monetary terms, which allows comparisons (Ravnborg and Sano, 1994:18). However, Converting the information on income or consumption collected in household surveys into measure of well-being requires many assumptions, such as in how to treat measurement errors and how to allow for household size and composition in converting household data into measures for individuals (World Bank, 2000:1.9). In addition to this, both household indicators typically fail to capture leisure, the use of public goods and public services, common property resources and quality of life (Datt and Jolliffe,1999:9).

The World Development Report of 1990, a publication which focus on poverty, has used household income and household expenditure interchangeably as two alternative methods of the same thing. Nevertheless, they are distinct in their nature. Household income, although it is commonly used welfare indicator, has certain shortcomings. First, the income of many people, such as agricultural cultivators, may vary from year to year. Second, measuring the income of self-employed is difficult to capture (Glewwe and Gaag, 1990:804). Third, household income may overestimate household welfare if storage losses are significant, if households are rationed in their purchase of consumption goods, or if households save a significant share of their income. Fourth, it may also underestimate household welfare if borrowing is feasible or households frequently share in consumption activities of their households (Bruck, 2001:12). Fifth, people surviving on naturally growing vegetation or on food aid are identified as very poor by income method but not by nutrition method (FAO,1986:4).

Lipton and Ravallion (1995: 2572) pointed out that current real consumption, given by a price-weighted aggregate overall marketed commodities consumed by a household from all sources (purchase, gifts and own production) is preferable over current income for two reasons. First, it is assumed that within-period utility depends directly on within-period consumption. Second, it may also be a good indicator of long-term average well-being, as it reveals information about incomes at other dates, in past and future. For instance, in agrarian economies, there are consumption smoothening opportunities available to the poor such as through saving, borrowing, and community based risk sharing. Bruck (2001:12) also contended that income measures a (potential) welfare opportunity while consumption measures a (realized) welfare achievement.

However, Current household consumption is not far from drawbacks. Lipton and Ravallion (1995:2573) mentioned circumstances that make it noisy indicator. First, people will not in general prefer constant consumption over the life cycle. Second, different households may face different constraints on their consumption smoothing. Third, even if it varies less around long-term well being than current income for a given household, it may be the best ordinal indicator of who is poor in terms of typical long-term standards. Fourth, we rarely have data on intra-household consumption as the usual practice is to measure household consumption and assume arbitrarily that it is divided equally or according to some concept of need.

Apart from household income and consumption, other often used indicators of well being comprise:

- *Food ratio:* is the fraction of household budget spent on food. It is based on the assertion of Engel (1895) that food ratio was inversely related to household income(Glewwe and Gaag, 1990: 805).
- *Anthropometric measures:* indicators such as stunting (low height for age), wasting (low weight for height) and low weight for age are commonly used to determine the adverse effect of poverty on young children.
- *Basic Needs:* rather than determining the total consumption of a household or accepting a proxy of measure, households are defined poor if their needs of food, clothing, shelter, health care, education, etc. are not met. However, this method has certain pitfalls. The absence of aggregate basic needs into a single indicator, and the subjectivity involved in determining

adequate level of health care, housing, education, etc. complicates the classification of households as poor or non-poor (Glewwe and Gaag,1990;805).

- *Human Poverty Index (HPI)*: is a new measurement of poverty applied in the Human Development Report of 1997. This index uses indicators of the most basic dimensions of deprivation: a short life, lack of basic education and lack of access to public and private resources. This index is, however, criticized for it doesn't include such dimensions like: political freedom, inability to participate in decision-making, lack of personal security, etc.

2.1.2.2_Poverty line and Indices

The concern to determine who is poor and who is not takes us to the concept of poverty line. Poverty line is the “critical income or consumption an individual or household is determined to be poor (World Bank, 2000:1.10). Most poverty lines are constructed based on income or consumption data. People are counted as poor when their measured consumption expenditure or income is below a minimum acceptable level- known as specific poverty line for that sub-group as poverty level (World Bank, 1993:14). However, some scholars do not accept applying poverty line arguing that it allows a person to become suddenly non-poor because he is richer by one extra dollar above poverty line. For them, being non-poor is a process of graduation in the ladder of income distribution [Abebe and Bereket,1996:13].

Two of the most widely used methodology of establishing a poverty line are:

- *Cost of Basic Needs (CBN) approach*: takes poverty to mean “ a lack of command over basic consumption needs,” and poverty line to be the cost of these needs. CBN can be computed by stipulating a consumption bundle considered adequate for basic consumption needs and then to estimate its cost for each of the sub-groups (Ravallion and Bidani,

1994:78; Abdulahi,1999:2). The CBN-based food poverty line is derived from a basket of food items that is assumed to be consumed by every one.

- *Food Energy Intake (FEI)*: proceeds by finding the consumption expenditure or income level at which a person's typical food energy intake is just sufficient to meet a predetermined food energy requirement. This method also aims to measure consumption poverty, rather than under nutrition (Ravallion and Bidani, 1990: 78). The FEI based food poverty line is derived from a basket of food items actually chosen by consumers.

Poverty lines can be constructed in relative or absolute terms. In MEDAC (1999:12), absolute poverty is taken to mean “lack of access to purchasing power sufficient (at least) to cover minimum basic needs.” For example, the World Bank (1990) arrived at its US\$1 a day line that is useful for producing of global aggregates of poverty. On the other hand, relative poverty is defined as “standard of living that is below a certain proportion of the national average of income in the country.” (MEDAC, 1999: 12). In the analysis of the poverty situation in Ethiopia, the relatively poor people are taken to be those people whose mean expenditure per annum falls below two- third of the national average per adult equivalent total expenditure(Ibid:21). Such definition implies relative poverty can't be eliminated by increasing the mean of income distribution -poverty reduction instead has to come through redistribution around the mean(World Bank,2000:1.11).

There is also subjective welfare estimation which usually defines the minimum income necessary for a family to make ends meet as a dependent variable. This minimum income is obtained from such questions as “what do you consider as an absolute minimum net income (per period of time

) for household such as yours?” (Mianovic and Jovanovic, 1999: 540). This method is also employed by Yohannes (1996) to estimate the urban poverty of Dire Dawa town.

We shall end up this sub-section by reviewing some of the indices of poverty. The earliest and the most common measurement of poverty is the head count ratio (P_0) which refers to the proportion of population under poverty line (World Bank, 1993:15; Abebe and Bereket, 1996:4). Later on, the poverty gap index (P_1) which is the difference between the poverty line and the mean income of the poor, was suggested (ibid). In other words this index measures the intensity of poverty by averaging the distance between the expenditure of the poor person and the poverty line (MEDAC, 1999:17). The third index (P_2) also called Foster-Greer-Thornbecke index reveals the severity of poverty by squaring the gap between the expenditure of the poor individual and poverty line (ibid: 17). These indices are calculated using the formula:

$$P_{\alpha} = \int \{Z - Y\}^{\alpha} f(y) dy$$

Where, Z = poverty line

Y = consumption (income) per adult equivalent

$\alpha = 0, 1, \text{ and } 2$ for P_0, P_1 and P_2 , respectively.

$f(y)$ = the density function of consumption (income) per adult.

2.2 Demography and Poverty

The prominent demographer, J.C. Caldwell (1991:207) described population element as “the soft under-belly” of development in the sense that until now its theoretical relationship to development have not been sustained by empirical testing. However, ever since the publication of the famous work of Thomas Robert Malthus in 1789, population- poverty has been the subject of discourse. The “population pessimists” Malthusian and Neo-Malthusian view “unchecked population” is the source of poverty. The “population optimist” like Boserup (1985) and

Simon(1981), on the other hand, believe that population growth allows countries to capture economies of scale and institutional innovation. Boserup [1965] argued that “in many cases the output from a given area of land responds far more generously to an additional input labour than assumed by Neo-Malthusian” She further asserted that, although there may be diminishing return to agricultural labour in the short-run, population pressure in the long-run induces upward shift of agricultural functions at a rate required to maintain output per capita. In contrary to these two extreme views, the “population neutralist” contend “population growth has neither a significant positive nor significant negative impact on economic growth” (Bloom and Freeman, 1986).

Some recent literatures on the subject reveal the complexity of the relationship between population growth and poverty. However, they suggest that population growth above 2 per cent per year inhibits efforts to raise incomes in poor countries with high birth rates and youthful age structure. The conclusion of this view is “ rapid population growth, although not a direct cause, it appears to exacerbate all these trends and makes solutions harder to implement.”(Ashford, 1995:30). The evidences cited by the Working Group of National Academy of Sciences on Population and Development (1986) also share this view and suggest that the conventional indicators of development such as per capita income or per cent living in poverty will improve faster when population grows slowly. The Ethiopian Population Policy of 1993 also seems to be the reflection of this view.

Apart from the impact of population growth, there are also concerns about the age structure of population. UNFPA [2002:5] revealed that a third of the annual economic growth of East Asian “tigers” has been due to demographic window, a period when a large group of working-age people is supporting relatively fewer older and younger dependents. Harmoniously, the researchers of Harvard University attributed the rapid economic growth from 1965 to 1990 in

large part to favorable characteristics of the region's population structure-not so much the overall population growth but rather the increase in its economically active segment entering the labour force. These scholars categorized changes in the East Asian population pattern into three phases:

1. Burden phase (1940-1950): is characterized by the improvement of public sanitation and dramatic falling of infant mortality (IMR). The decline in IMR meant a heavier burden for the existing work force in terms of supporting a growing number of non-workers. Thus, the very high cost of raising and feeding children served to dampen the economic development.
2. The "bonus period": is characterized by decline of birth rates and the entrance of those born in the first phase into the working force. The implementation of macro-economic policy based on the expanding work force which helped to increased saving and investment and ultimately spectacular economic growth.
3. "Aged phase": characterized by the entrance of the work force into non-productive segment that is forecasted to bring an economic decline (Hyun- Saung, 1999:80-82).

Malnberg and Sommested (2003) explained the Europeans development in general and the Swedish development in particular by what they call the "Age Transition". The age transition is composed of four distinct phases; namely, child phase, young adult phase, phase of population maturity, and finally the phase of aging. The move along these phases is a move from poverty and strong dependence on exploitation of natural resources towards more developed stage of economic growth and ultimately to economically less vigorous welfare state. The most successful period of economic growth overlaps with the phase of population maturity (Malmang and Sommestad, 2003). The contradictory results of the Malthusian and the Boserupian Schools of thought on population growth are therefore explained by considering the age groups that are involved. Population growth dominated by children will have a Malthusian effect while

population growth dominated by increasing the middle age groups, on the other hand will have favorable effects that population optimists proclaim (ibid).

According to the UNFPA (2002: 5), demographic window, a period in which large group of working population support relatively fewer younger and older dependents, is a unique opportunity for countries to invest in economic growth. The window opens once and it closes again as the old age dependency increases once more.

When we move from the macro-level analysis to the micro-level(household level), the linkages between demographic variables and poverty are touched upon hereunder.

2.2.1 Household size and Poverty

According to Becker's (1973) theory of demand for children, income plays a role in determining family size because families with higher income are more able to afford additional children. In line with this theory, Lipton (1983a:7-8) has mentioned a wide historical evidence suggesting that in now developing countries before industrialization, wealthier households were larger in size than the poor. The evidences from Tuscany in 1427, twenty-three Polish villages in 1789, Hirase-Japan around 1818, hundred English communities from 1574 to 1821, all unfailingly depict that household income rise with household wealth. In recent times, Caldwell (1976)pointed out that wealthy urban elites of Ibadan, Nigeria, continue to show little interest in family planning.

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P.O. BOX 1176, ADDIS ABABA
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However, this positive correlation doesn't seem to sustain in the contemporary empirical evidences from developing countries. The *probit* analysis made based on the Rural Cote d'Ivoire Living Standards Survey conducted from 1985 to 1988 covering a representative sample of 1600 households show that larger households are more likely to be poor, but all the coefficients are larger in 1988 than in 1985, indicating that household size by itself has become more important correlate of poverty than before (Grootaert, 1997:185).

Greer and Thornbecke used multiple regression equation explaining consumption per adult equivalent of Kenya's small holders for the First Kenyan Integrated Rural Survey household expenditure data. From the parameter estimate, household size is a highly significant explanatory variable affecting household calorie consumption. Other things being equal, household member reduces calorie consumption per adult equivalent by between 29 and 33 calories daily (Greer and Thornbecke, 1986:122). Taking also food poverty severity (P_α) as a poverty index, there is "an inverse correlation between household size and poverty". It has been found that "larger households are poorer, even when landholding per adult equivalent is held constant" (ibid:127). The regression results of Bruck (2001:123) on the determinants of rural poverty in post-war Mozambique, based on the agricultural household survey undertaken from 1994 to 1997 in Northern Mozambique pointed out that larger households have lower welfare.

In the same way as the aforementioned African countries, some studies have been undertaken in Ethiopia. For instance, Bigsten et al (2002) have made an interesting study based on panel data for 1994, 1995, and 1996 from rural and urban Ethiopia. The rural household survey was undertaken in 15 sites that spread across major socio-economic groups, agro-ecological zones,

farming systems, and regions. The *probit* results reveal that an additional household member increases the probability of being poor by around 3.2 per cent at mean values (significant at 1 % level). The study made in Arssi for both private and cooperative farming sectors also pointed out that the incidence of under nutrition was noted to be positively correlated with the number of children in the household, with an average level of under nutrition ranging from 59 per cent to 68 per cent (Hadgu, 1996:69). Dercon and Kirshman (1996:95) also confirmed that the data for 1994 reveal that poor households are characterized by larger household size, mainly due to more children up to 15 years of age.

In his qualitative study in rural areas of Welaita (Bolloso) in South Ethiopia, Desalegn (1992:6) made a statement that implicitly seem to reinforce the aforementioned quantitative findings.

“The increasing shortage of land and other physical resources means greater male and female dependency and greater household “emburdenment” ...The greater emburdenment places considerable stress on all members because it means more mouths to feed, less ability to save, and more intra-household conflict”

Similarly, he explained:

“the poor are seen to be caught in a vicious trap, often largely of their own making: population pressure means more micro-holdings, which leads to misuse of land and other resources, which in turn leads to natural degradation and impoverishment”

Such consistently positive link between household size and poverty draw us to examine the popular saying: “the rich get richer and the poor get children.” For the question “does family size determine living standard or is it the other way round?” Various answers have been forwarded to explain the link. Lipton (1983a: 15-18) has cited various evidences from Asia and Africa showing that infant and child mortality increase poverty steeply. There is some evidence

depicting that child deaths stimulate excess replacement births, especially in rural areas (Schultz, 1981:137-140). In effect, the higher mortality among the poor actually increases their household size (Lipton and Ravallion, 1995:2587). The prominent demographer, J.C Caldwell(1976), in his wealth flow theory, elucidate that so far as the net flow of resources is from children to parents, the fertility will not decline . Numerous writers advocate the idea that unlimited fertility was a rational response to conditions of poverty and insecurity endemic in the third world.

On the other side of the coin, others argue that poverty is induced as the size of the household rises. The proponents of this viewpoint contend that with addition of one household member “the number of mouths to feed, bodies to cloth, feet to shoes” increase-sharing what the household receives and sometimes by requiring child care and stopping the mother from earning.

No matter how these contrasting ideas are advancing, it appears that the link works both sides. Despite the ambiguity about causality, it seems clear that poverty induces infant mortality and hence excess replacement births and large household size (especially with much dependents) which generates demand for consumption and thus impoverishment because of lack of capacity to meet the demand adequately.

2.2.2_Labour force, age-sex composition of households and the risk of poverty

The first issue of concern in this sub- section is the relation between age composition (and hence dependency ratio) of a household and poverty. Poor households depend on labour income. Its quantum depends on their age structure, their age and sex specific participation rates (ASPR); prospects of employment (or self-employment);when they participate; and their wage rates when employed (Lipton and Ravallion, 195:2591). There are some evidences that poor households in

today's least income countries have much high proportions of very young people than the better-off households, curves flatten as we descend into extreme poverty, so that the ultra-poor and the poor feature rather similar (high) child/adult ratios (Lipton, 1983a:43).

Analysis of the relationship between age-structure and poverty from rural Indian states reveal that both child/adult ratios and dependency ratios rise sharply as poverty presses harder, with some alleviation of increasing trend in the poorest decile (Visaria, 1977 as cited in Lipton,1983a:43). However, the analysis further confirmed that the rich-poor gap in dependency ratio is greater in cities than in villages (ibid).

Since large households with high dependency ratios are associated with higher risks of poverty, demography interacts with poverty to raise such household age-specific participation rates. However, the poor are refrained from participation because of such factors as they are prone to illness and disability (Lipton,1983b:9).The age structure of poor households affects their participation rate . First, the high number of under-fives (who can not work) keeps the poor households participation rate (proportion of person-days in the work force) down. Second, the very young age-structure forces adults to care for children which reduces participation rates (ibid).

On the other extreme of the spectrum, the famous dual sector model of Arthur Lewis(1954) shows that traditional sector labour market is characterized by surplus (or excess or redundant) labour. Lewis contends that in this sector the marginal product of labour (i.e derivative of output with respect to the number of workers) is zero thus it is assumed that each production unit attains

the maximum level of output possible from its non-labour resources. If the number of working members of the household increases, each member either works fewer hours or expends less effort for the same hours. When we translate this theory to our immediate concern, poverty, it seems to imply that additional working member to a given household employed in the “traditional sector” exacerbate poverty since he/she adds only “mouth to feed and body to cloth”.

When we come to consider the sex composition, Lipton (1983a: 19) after reviewing the evidence from Asia concluded that “the increase in the incidence of household poverty is only slight with the ratio of female to male adults.”

In rural Cote d’Ivoire, the *probit* results indicated that “women in rural Cote d’Ivoire “earn their keep” i.e. when additional female joins the household, this neither increases nor decreases the likelihood for household members to become poor.” In urban areas, on the contrary, the same effect occurred for male adults. This is explained by the difference in gender roles existing in rural and urban Cote d’Ivoire. In urban areas, adult males are the main earners while in rural areas women are largely responsible for much of agricultural production, especially food (Grootaert, 1997).

2.2.3 Characteristics of household head and poverty

It is expected that the characteristics of household head have profound implication for the incidence of poverty in that particular household. With this view, their relation is reviewed hereunder.

2.2.3.1 Age of the household head and poverty

The relationship between age of the household and poverty is complex. From family cycle considerations, people tend to experience poverty during childhood; relatively less when they

grow up and start earning. On marriage, both partners often can work, and some times there are wedding-gifts to enhance living standards. They will fall back to more poverty as small children arrive, cutting per person income by sharing what the household receives, and some times prevent the mother from working for they need care. As the children reach earning ages and some times receive inheritances, the household becomes better off. Finally, it once more sinks into more poverty as children leave home (and may be fail to remit money), the couple retire and likelier to get ill (Bibangambah, 1985:46 ; Lipton, 1983a:46). Almost exactly this curve was found in a big Malsian sample (Datta and Meerman, 1980 as cited in Lipton,1983a:46).

A regression analysis of 371 households from 16 rural villages in Northern Mozambique suggests that the age of the household head has a positive effect on the household welfare in terms of both consumption and food consumption. The effect is exponentially stronger for very old heads food consumption, thus emphasizing the important role of age effect in determining food security in rural northern Mozambique (Bruck, 2001:24). In Cote d'Ivoire, the average income within rural and urban areas is no lower for the elderly, but they are worse off on a national basis because of rural concentration (Lipton and Ravallion, 1995:2590).

In Ethiopia, based on the data from household survey for 1994, 1995, and 1996 undertaken by the Department of Economics, a *probit* analysis is made by Bigsten et al (2002). The result depicts that the marginal effect on the probability of being poor first increases, reaches a maximum and falls down with age of the household head (as captured by the coefficient on its square) (Bigsten et al, 2002:13). All these data show the juvenization of poverty. However, Lipton and Ravallion(1995:2590) gave the following caution:

"Given their greater dependence on the variable and uncertain support of others, we hypothesize that the inequality among the old is greater than

among those of prime age. If so, similar average levels of living in these two groups would probably mean higher poverty among the elderly”

Some explanations have been given by Lipton (1983a: 47) regarding the relationship between age of the household head and poverty. First, peak incidence of poverty among household heads in mid span, say 35-45, probably means most concentration of damage on small children, where health and nutrition are likeliest to suffer irreversibly. Second, the concentration of greatest risk in prime working ages of the household head also makes relatively good chances of remedy. Third, much of the age-poverty pattern is due to poor people's earlier marriage and lesser access to post primary education. Finally, the sex distribution among the household heads of asset accumulation is uneven, so that male headed and female-headed households may show quite different links between poverty and household head age.

2.2.3.2 Gender and Poverty

“Is there a feminization of poverty?” is a commonly asked question in much of the literature on poverty. The World Bank (1990:25) asserts that the data on incomes are too weak to give clear answers. Rather, the available figures on health, nutrition, education, and labour force participation showed that women are often severely disadvantaged. Women outnumber men significantly not in poor households as a whole, but only in the poorest 1-5 per cent, which are poor due to high child/adult ratios (a typical of women headed households) or a high incidence of unsupported widowhood (Lipton, 1983b:48). Nine South Asian sample for 1969-75 confirmed that there is no over representation of females in the poorer group (Visaria, 1980 as cited in *ibid.*: 49).

The food poverty analysis for Kenyan rural small holders pointed out that women-headed households are on average less food poor than male-headed ones. This is explained in part by their smaller household size and higher landholding per adult equivalent (Greer and Thorbecke; 1986:127). Similarly, among private and cooperative farming sectors of Arssi region of central Ethiopia, it was found that male-headed households face relatively higher incidence of under-nutrition than their female-headed counter parts (Hadgu, 1995).

However, such empirical finding is challenged by many empirical studies. For instance, the study made in Zimbabwe showed that the majority of female-headed households were in very poor category, at 57 per cent compared to 40 per cent of the male-headed households of the total in each group. This situation is explained by limited access to control over resources such as land, education, health, skills and employment opportunities. Likewise, the study among 370 households in post-war Mozambique confirmed that female-headed households have, on average, 33 per cent less income, 43 per cent less consumption, and 51 per cent less food consumption per capita compared to male-headed households (Bruck, 2001:24).

In Malawi, due to the land tenure system, labour deficient households, such as female-headed, tended to have small farms and limited access to credit. Added to this, most innovations introduced for smallholder agriculture development require labour intensity- which can't be easily met by most female-headed households. As a result, they will face low productivity and hence low income (Chipande, 1988:169).

A *probit* estimate for rural Ethiopia also suggests analogous result. Compared to male-headed households, female-headed households face an 8.9 per cent higher probability of being poor (significant at 5 % level). However, a similar analysis for urban Ethiopia produced insignificant coefficient (Bigsten et al, 2002:13). In his qualitative study in Welaita district of South Ethiopia, Desalegn (1992:11) noticed that a household headed by women will often be seriously constrained even if it has access to sufficient land. The problem faced by women-headed households is that they are handicapped in agricultural work that pushes them to rely on others to farm their land. For this to happen, an arrangement called *kota*, which involves sharing of the harvest equally with the man who works it is usually practiced (ibid.: 21). In rural Ethiopia, as female-headed households usually have shortage of labour for income generation, the proportion of female-headed households in a community could be one of the indicators of poverty (Ayana, 1995:246).

2.2.3.3) Education

The education and work experience of the household head can have a significant influence on the way the household relates to the labour market (type of jobs searched for, existence of household enterprise, etc.) (Grootaert, 1997:184). Based on the first Kenyan Integrated Rural Survey, Greer and Thorbecke (1986:134) found that " the more educated the household head, the less is the household poverty." However, they couldn't estimate the magnitude of the impact of the large increase in school availability and attendance on poverty. First, the relevance of education for farming is questioned. Second, if the children of richer and more fortunate families have better access to education, the lower likelihood of poverty among the educated may be due to inherited wealth or above average intelligence.

In the post-war Mozambique, although education was not expected to have significant impact on welfare, paternal education was observed to affect all welfare indicators (income, consumption and food consumption) positively. However, the impact of education on income occurred only in areas with better infrastructure (Bruck, 2001:26).

In rural Ethiopia, the study of Bigsten et al (2002:14) reveals that the impact of primary education attainment of the household head on the risk of poverty is not statistically significant. Nevertheless, if a wife in a typical rural household completes primary education, the risk of poverty falls by 21 per cent (significant at 10%). This finding is explained by the possible reasons as: only better-off husbands may be sending their wives to school; richer men usually marry women with some level of education; wives with some degree of education in rural areas are more likely to be more efficient in contributing towards household income.

CHAPTER-THREE

CONCEPTUAL FRAMEWORK, HYPOTHESES AND METHODOLOGY

“... elaborate criteria, cunning measurement, or probing Analysis” -Amartya Sen

3.1 Conceptual Framework of the Study

Three distinct and contradictory models explaining the impacts of population growth on poverty (population pessimist, optimist, and neutralist) have been discussed elsewhere in this paper. However, the basic consideration of the study is made by transforming the macro- level concept of “age transition” to micro-level analysis. The framework of this study is constructed based on the following equation:

Δ Demographic characteristics of HH $\longrightarrow$ Δ Income and consumption $\longrightarrow$ Δ poverty

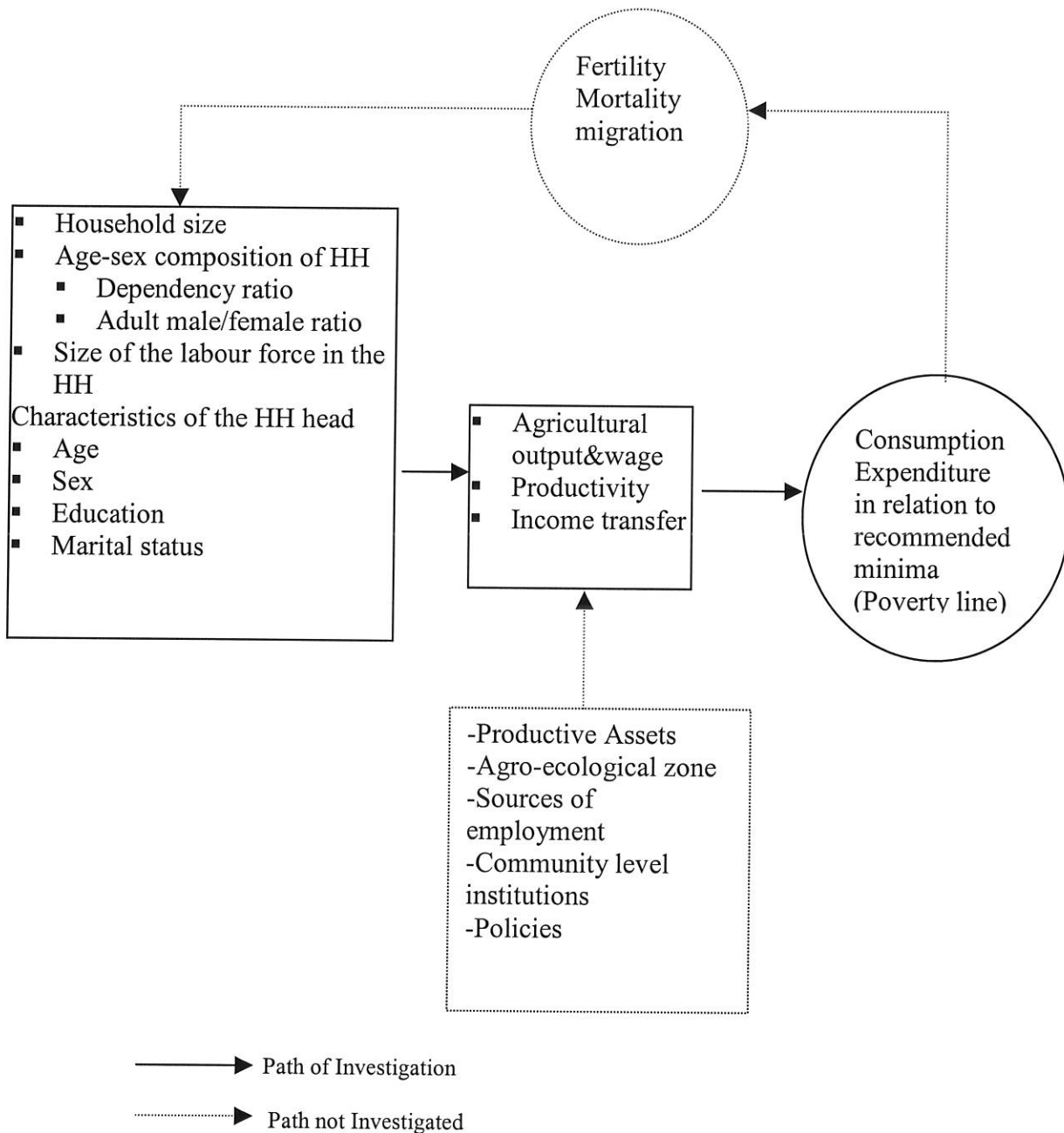
(Where the Δ signifies “change in”).

As presented in the simple model displayed hereunder the major components of the study are:

- Characteristics of the household and household head
- Intermediate variables (household income and individual/household behaviours)
- Income and consumption in relation to the recommended minima (the proxy estimators of poverty)

The empirical study is structured along the solid lines of the conceptual framework. The elements in the characteristics of the household/household head are assumed to influence the capacity to generate income from various sources and individual/household behaviours. The income elements are also assumed to individual and household behaviours that ultimately affect the proxy estimators of poverty, income and consumption in relation to the recommended minima or poverty line. However it is worthwhile to bear in mind the limitations of the conceptual framework i.e. it neither fully captures all the factors in the subject nor it shows the

relative importance of specific factor. It is developed only to depict how the variables are assumed to be interrelated in the empirical study.



Source: Developed by the Author, June,2003

Figure 3.1 Conceptual Framework of the study

3.2 Hypotheses

The major hypotheses to be tested in this study comprise:

H₁ : The risk of household poverty increases with increasing household size.

H₂ : Household dependency ratio increases the likelihood of falling into poverty.

H₃: The probability of falling into poverty increases, reaches maximum and then falls as the age of the household advances

H₄ : Female-headed households are more likely to be prone to poverty compared to their male-headed counter-parts.

H₅ :The risk of poverty decreases with increasing size of the labour force in the household, reaches a minimum and then rises

3.3 Methods of Data Collection and Analysis

3.3.1. Data Set

This study is based on the 1999/2000 Household Income, Consumption and Expenditure Survey conducted through out the country by the Central Statistical Authority and a small Qualitative Assessment conducted by the author.

i) Quantitative Data

The first round of the survey was carried out from July, 1999 to the first week of August, 1999 while the second round was undertaken from January 2000 to February 2000. A stratified two-stage sample design was used to select the sample in which the primary sampling units were enumeration areas (EAs). Sample EAs from each domain were selected using systematic sampling that is probability proportional to size based on the 1994 population Census. In the sample unit, data were collected from 12 households selected from each EA were grouped into

two, each group consisting of six households. The first six households are interviewed over a period of four weeks and the remaining six households again over a period of the next four weeks. The enumerator visited each household twice a week and for eight times during the month period in each round.

The data set selected for this study is a parcel from the big survey at the national level. The total sample size of 304 households (constituting 1308 individuals) allocated for the rural parts of North Shoa zone is utilized to the quantitative analysis made.

After obtaining the data collected by CSA, the whole data processing was carried by utilizing SPSS version 11.0

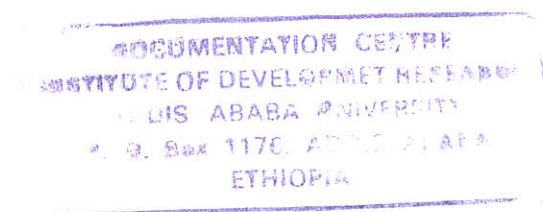
ii) Qualitative Data

To complement the secondary data and substantiate the study, Focus Group Discussions (FGD) and in-depth interview with key informants were undertaken in one of the *weredas* of North Shewa, Merhabete. Some five rural *kebeles* were selected for the qualitative assessment purposefully based on representation of different agro-ecological zones and variation in natural resources endowment. At each site, two FGDs, one for each sexes, and two to three in-depth interviews with key informants were undertaken. One FGD was also carried out with High school students from rural background.

3.3.2 Analysis

3.3.2.1 Qualitative Analysis

The qualitative analysis is that avoids measurements of poverty indicators as much as possible- there are no calculations or statistical analyses. The study simply documents the views and perceptions of the poor, individually or focus groups on the themes of the study



3.3.2.2) *Quantitative Analysis*

Quantitative analysis, unlike Qualitative analysis, involves the measurement of income and expenditure to predict the welfare of people. The level of analysis, procedures of quantifying poverty, and the model used in this study are discussed hereunder.

1) Level of Analysis

Although capabilities are something that pertain to individuals, poverty is usually talked about and measured with reference to households (Bevan, 2000:33). In theoretical work, individuals are aggregated into households assuming that they have similar preferences based on identical tastes (Deaton and Muellbauer, 1980 cited in World Bank, 1990b:38). The household is the locus of three important decisions: demographic, production and consumption (Yotopoulos, 1983:4). Its character of being a unit of decision concerning individual members' activities and their consumption (and hence their welfare) makes it a useful sample unit with an identifiable location in survey work (World Bank, 1990b:38). In view of these advantages, the analysis in this work is made mainly at the household level.

However, this does not mean that household level analysis is free from shortcomings. Consider a household which is assumed to be non-poor due to the fact that its income meets the minimum all basic needs, but spends its incomes so carelessly that members of the household suffer under-nutrition (FAO, 1986:4). Second, in most household surveys, data on intra-household distributions of resources are not collected and it is usually assumed arbitrarily that consumption is divided equally or according to some concept of need (Lipton and Ravallion, 1995:14). Third, measuring poverty based on household variables often conceals the role played by community-level institutions in overcoming or mitigating poverty (Abebe and Bereket, 1996:14).

The variation of factors such as household size and demographic composition across households pose a problem of comparison. The same total expenditure might keep one household comfortable and another poor due to such variations (Lipton and Ravallion, 1995:2574). To adjust such a draw back, normalizing procedure of adult equivalent is usually applied. To reach adult equivalent unit: first, the differences in per capita requirements due to household members age-sex composition is considered; second, variation due to the fact that the larger households need lesser cost per household member to maintain living condition (economies of scale) is also taken into account. In this study, however, adjustment is made only for age-sex composition based on a scale developed to East Africa.

II. Procedures in the Calculation of Welfare Indicators

A) Welfare Indicators

As mentioned elsewhere in this paper, consumption expenditure may be a better household welfare indicator than income. Thus, in this study consumption expenditure is used to derive welfare indicators.

B) Poverty Line

In order to set the poverty line, the minimum requirement for poverty giving 2200 Kcal per adult per day established for rural Ethiopia by Dercon and Krishnan (1996) is used. This consumption of bundle is then expressed in monetary terms based on the market price of rural North Shewa in the survey seasons as reported by Central Statistical Authority. After obtaining food poverty line based on Cost of Basic Needs (CBN) approach, the non-food component is estimated by dividing the food poverty line by the average food share for households that are unable to achieve a food consumption level equal to food poverty line. The total poverty line obtained for rural North

Shewa using this procedure is Birr 1083.22. However, because the poverty line set by this method is found to be very close to the national poverty line devised by MOFED (2002), which is Birr 1075.03, for its advantage of allowing comparison the latter is used in this study.

C) Indices of poverty

With the view to measure the prevalence (P_0), intensity (P_1), and severity of poverty (P_2) in the study the FGT- indices are calculated.

II). Model specification

The total household income per adult equivalent or consumption expenditure per adult is the function of various factors. For a given household demographic characteristics $\beta_1, \beta_2, \dots, \beta_k$; the standard of living of a household can be modeled in a reduced form of simple regression equation :

$$Y_i = \beta_0 + \beta_1 x_{ij} + \beta_2 x_{2j} + \dots + \beta_k X_{kj} + e_j$$

Where $j = 1, 2, \dots, j$ observation

β_0 = the intercept/constant term

β_k = slope parameters

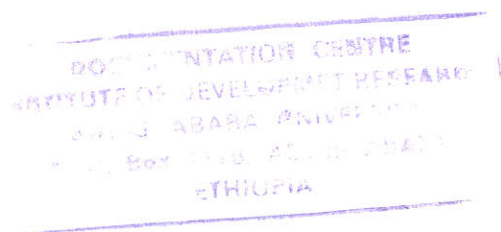
X_{kj} = the k^{th} observable explanatory variable for the j^{th} observation.

$K = 1, 2, \dots, k$ coefficients of observable explanatory

y_i = a suitable welfare indicator (eg., log of household consumption expenditure)

e_j is a normally distributed error term which is not correlated with the variables thus yielding unbiased and consistent estimate for the coefficients.

To model standard of living, multiple regression procedure is used in this study.



However, modeling standard of living of a household is not similar to modeling poverty *per se*. Thus, to come up with the determinants of poverty (not welfare), we use binary discrete variables based on predetermined poverty line:

$$P_i = 1 \text{ if } y_i < Z$$

$$P_i = 0 \text{ otherwise}$$

Where, P_i = categorical poverty indicator for household

$$i = 1 \dots N$$

$$Z = \text{Poverty line}$$

The binary specification then is:

$$\text{Prob}(P_i = 1) = F(Z - (\beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \dots \beta_k X_{kj}))$$

Where, F = Cumulative Probability Function

$$J = 1, 2, \dots, j \text{ observation}$$

$$\beta_0 = \text{the intercept/constant term}$$

$$\beta_k = \text{slope parameters}$$

$$X_{kj} = \text{the } k^{\text{th}} \text{ observable explanatory variable for the } j^{\text{th}} \text{ observation.}$$

$$K = 1, 2, \dots k \text{ coefficients of observable explanatory variables}$$

$$Z = \text{poverty line.}$$

To estimate this equation, probit model is employed in this study based on the poverty line constructed.

CHAPTER-FOUR

EVOLUTION OF THE LEVELS, DEBATES AND POLICIES ON POVERTY

“ There is a great deal of money to earn here, but for those who have some already” –Talleyrand

This chapter deals about the evolution of poverty both at the global and Ethiopian perspectives. In the first section, the progress of the debates at the global-level is presented. The evolution of poverty and poverty related policies are discussed in the second section.

4.1 The Debates on Development and Poverty: A Global Perspective

It is well documented that poverty alleviation is accepted as the most important objective of development. The rigorous question of identifying the mechanism of solving the poverty puzzle has generated many optional strategies. The third world poverty (especially that of the Asians) became a subject of debate since the 1960s. Among the recommendations forwarded in the debate industrialization, family planning, green revolution techniques, human capital investment, employment-oriented strategies, rural development, redistribution of growth, basic needs, etc. took the forefront. However, most developing countries have failed to extricate humanity from poverty and its pathological state. The elite and policy makers in these countries are aspiring to catch up with the western industrialized countries to move out of poverty. Kothari (1993:3), however, contended that the affluence of the westerners has been a phenomenon associated with the growth of poverty. He explained the effect of adopting the path of capitalist development as “grew into poverty” rather than “grow out of poverty”

In the 1950s and 1960s, there was an optimistic view that the newly decolonized states of Asia, Africa, and Latin America would achieve accelerated economic growth through state-led planning. To break the vicious circle of poverty and backwardness in these countries, the principal task was to raise the stock of physical capital by accelerated investment and mobilizing resources through the use of “surplus” labour domestically, as domestic savings. In this period, first industrialization and later agricultural intensification were taken as a primary means to reduce poverty. Such a belief that considers high economic growth alone as the most effective way of achieving development is based on the assumption that the gains from economic growth would “trickle down” through:

1. Market forces, raising demand for labour, increasing labour’s productivity, and raising wages or lowering prices;
2. Progressive taxation, social services, and other government actions (Streeten et al, 1981:9).

By the end of 1960s this approach was criticized as ineffective in raising living standards and set in motion processes leading to expropriation of resources by the powerful across and within nations. For example, in Brazil, despite the rapid growth of the economy after the mid-1960s, the poor did not automatically benefit and hence inequality accelerated. In the 1970s, the recognition of the ineffectiveness of growth and trickle down effects in reducing poverty led to the need for addressing poverty more explicitly as “redistribution with growth” strategy and the focus on provision of public services to satisfy basic human needs. The two strategies can together be called “ people centered basic needs approach” which emphasize decentralization and participation as essential elements (Bibangambah, 1985:49). The Redistribution With Growth (RWG) is a strategy that calls for the access of adequate purchasing power in the hands of the

poor. However, this is to be achieved by private market decisions and income generation processes. Exception to this is socially provided services, and groups who can't get employed and generate income, poor who rely on transfer of income(ibid:51-52).

In order that basic needs are provided to the entire population as quickly as possible, the proponents of the school of thought recommended measures listed hereunder:

1. Reducing unemployment and underemployment;
2. Raising yields per hectare and per household in peasant agriculture;
3. Subsidizing peasant households until their productivity reaches a basic needs level, for goods and services;
4. Subsidizing wages of industrial or service workers whose productivity is below the basic needs level;
5. Delivering public services(health, education ,water supply, housing , sanitation, etc) at adequate standard to the lower income groups;
6. Managing monetary, fiscal, foreign trade and foreign exchange policy so that all this can be done without harmful inflation or redistributive effects that would undermine the initiation of basic needs approaches.

The experience of some countries such as China, Srilanka, and Costa Rica revealed that basic needs had been improved in the absence of economic growth (Sen, 1994:65). All these shifts of attention from economic growth *per se* to the entitlements and needs of the poor was assumed to precipitate poverty reduction.

The financial crisis that began in 1970s persisted to the 1980s and produced economic deficits in balance of payments and government budget, staggering inflation rate and declining economic growth. To redress this trend, in 1980s, the attention of financial institutions focused on structural adjustment program (SAP) as a precondition for growth and indirectly for poverty reduction. The adjustment brought back the 1960s argument focused on laying a basis for economic growth. The basic difference the growth arguments of the two periods is that:

1. The state was no longer viewed as the primary engine of growth;
2. Growth itself was not to be based on domestic market creation, but linking up with the global economy through competitive exports based on cheap labour, which is considered as third world's "surplus resource" (World Bank, 1991)

The major areas of intervention by the reform are macro economic imbalance, market forces, and private initiatives. The proponents of the adjustment program argue that the program depends on the "showing that the present social values of the future sequence of consumptions is higher with adjustment than without" (Lipton and Ravallion, 1995:2610).

However, the impact of the program on the poor has become controversial. Although there are some countries reported to have been successful in economic growth and poverty alleviation (for example, Botswana, Chile, Zimbabwe, South Korea, Ghana, Uganda), there are handful countries that entered worse economic condition following the implementation of the program.

The program is criticized on the ground that it focuses on correcting imbalances and attaining growth and disregarding the human element (Getachew, 1995:23). Added to this, the assertion that growth will lead to poverty reduction is highly challenged by the growing literature. The

contenders argue that economic reform and growth do not necessarily spread the benefits to the poor unless suitable policy tools are designed. This is apparently manifested in countries exercising privatization and market economies in terms of rising unemployment, declining life expectancy, etc (Ndolo, 1999 as cited in Mohammed2001:52).

A study commissioned by UNICEF on the impact of SAP in ten countries came up with the following conclusions:

- The conventional SAP's have been growth retarding in many instances and protection of the vulnerable have been disregarded;
- The welfare of the poor can't be left to the spill-over effects of growth as growth *per se* can not guarantee the protection of the low income group; and
- A conscious policy intervention is needed to include the welfare of vulnerable groups in development objective (UNICEF, 1988 as cited in Getachew, 1995:28).

As SAP,s were advanced by the World bank and IMF, other development agencies like UNICEF, ILO, and UNDP paid greater emphasis to basic needs, to the importance of developing "human resources," and to the problems inherent in promoting structural and institutional changes within inequitable global and national economies. This group emphasized on the basic needs and rights of the poor arguing that strategies promoting either economic growth or ecological sustainability that run counter to the basic needs, livelihoods, or political inclusion of the less powerful are likely to be inequitable and counter-productive (Sen, 1994:66).

Lipton and Maxwell (1992 as cited in Ravnborg and Sano, 1994:240) in an overview of what they call “the new poverty agenda” suggested that poverty reduction will overtake the dominant development program of the 1990s. In line with this suggestion, the poverty alleviation agenda had been given much weight in the decade in relation the “lost decades” of the 1980s. At the entry of the decade, in 1990, the World Bank published the World Development Report 1990, which exclusively focuses on poverty. The strategies envisaged to reduce poverty in the document comprise:

- Promoting the most abundant asset of the poor, namely, labour, through policies that harness market incentives, social and political institutions, infrastructure, and technology; and
- Providing basic social services such as health care, family planning, nutrition, and primary education to the poor.

In addition to these the report pointed out the need for well-targeted transfers and safety nets for those poor who are sick, old, live in resource poor areas, suffer due to seasonal variations in income, unable to use their resources productively or benefit adequately from the provision of basic social services (World Bank, 1990a:3). The attention given to attacking poverty was also manifested in setting targets to be achieved by the year 2015 in relative to 1990. The International Development goals set by the Organization of Economic Cooperation and Development (OECD) and endorsed by various UN agencies comprise:

- Reducing extreme poverty by half ;
- Reducing infant and child mortality by two-thirds;
- Achieving universal enrolment in primary education; and
- Eliminating gender disparity by the year 2005.

The World Bank (2000c:7) reported that Africa, which experienced almost increasing trend of poverty since 1960s, seems to benefit from the better economic management in terms of rising income and exports and, in some cases, decreases in severe poverty since the mid 1990's. The world Bank recommended some key ingredients of poverty reduction strategies for African countries:

1. Macro economic and structural policies that encourage growth and employment which is assumed to enhance consumption potential of the population, improving food consumption, improving nutritional levels, reducing the number of poor people, generate resources to be spent on basic needs. To achieve the aforementioned development goals for 2015, more than 7 per cent annual growth is required. Other wise, to prevent the number of poor from rising, more than 5 per cent seems needed;
2. Inclusive polices that address inequality (since growth *per se* is not enough for poverty reduction);
3. Improving human capital which is assumed to reduce income poverty and directly improve people's lives. The efforts to boost human capital cover addressing problems of high fertility and mortality (achieving demographic transition), low education, high dependency ratios, low savings, fighting HIV/AIDS;
4. Adjusting deliver systems more public resources where the need is greatest, to increase transparency and accountability to beneficiaries, and to build the capacity of poor communities to help themselves; and
5. Supplementing the coping mechanisms used by the poor (World Bank, 2000b:101-102).

In response to the failure of past national poverty reduction strategies, the World Bank and IMF determined that some 46 developing countries should develop their own Poverty Reduction Strategy Paper (PRSP) as a basis for their programs. Consequently, the countries will use the resources from the Highly Indebted Poor countries (HIPC) debt relief for the poverty alleviation effort. In the development of the PRSP, participation of various stakeholders, including the poor, is encouraged. Despite the relative advantage when compared with earlier policy prescriptions, PRSP didn't escape from criticisms. For example, it has been considered as a means to continue the implementation of the harsh policy and structural reform measures (The Business Review, 2001 as cited in Mohammed, 2001:56). The time frame of the PRSP, which involves a three years-cycle, is not complying with five year, long-term plan, etc of some countries (Mohammed, 2001:56).

4.2 Rural poverty and Poverty Policies in Ethiopia: Looking at the Evolution

This section has two parts. The first part deals with the trends of poverty and to some extent its causes. In the second part, the policies of the various governments and their respective impacts are touched upon.

4.2.1 Rural poverty in Ethiopia

Rural Ethiopia has been plagued by chronic poverty from long time ago. This has been attributed to many factors such as recurrent drought, ecological degradation, rapid population growth, recurrent conflicts, bad policies, lack of employment opportunities, low level of technology, etc. If one closely examines the situations in the last half a century, most of these factors have remained substantially unchanged. The most critical problem in analyzing the trends of poverty

in Ethiopia is the paucity of reliable data. As the data presented in table 3.1 are compiled from various sources; which are based on different criteria of setting poverty line, different sampling techniques, different data quality, etc.; comparability across the data poses a problem.

According to Hadgu (1995), based on 500 gram per day consumption poverty line, the population of rural Ethiopia living below poverty line has increased from 52.9 per cent in 1982 to 65.5 per cent in 1992. The other study made by Bigsten et al (2002), based on the survey made by Economics Department of Addis Ababa University, consumption based poverty (Po) in rural Ethiopia had been progressively declining as 41.9 per cent, 37.6 per cent, and 35.5 per cent for the years 1994, 1995, 1997 respectively. These data are well below the results of the study by the government itself. The results of the 1995/6 and 1999/2000 household income, consumption and expenditure survey undertaken by CSA reveal that consumption poverty (Po) has declined from 47 per cent to 45 per cent, respectively. However, this slightly declining trend in the 1990s is contradictory to the findings of Desalegn (2001:101), that has come up as rural poverty has been growing in magnitude at least over the last half a century.

Table 3.1 Poverty in Ethiopia, 1981-2000

Year	Type of poverty and data source	Country(%)	Rural (%)	Urban(%)
1981-2	Population below \$2 a day, Berhanu no reference	90		
1982	Population below 1\$ a day, World Bank data base	46		
1982	Population below 500 gram per day consumption, Hadgu,1995		52.9	
1989	Consumption Exp.- based poverty(po), Dercon and Krishnan, 1996			
1992	World Bank poverty Mission		50	64
1992	Population below 500 gram per day consumption, Hadgu,1995		65.5	
1994	Consumption exp. based poverty (Po), Bigsten et al, 2002	41.2	41.9	37.5
1995	“ “ “ “	37.8	37.6	38.7
1995	Population below1\$ a day, WDR,2001	31.3		
1995/6	Consumption exp. based poverty(Po) MEDaC,1999	45.5	47	33.3
1997	“ “ “ Bigsten et al,2002	35.5	35.5	35.5
1999/00	“ “ “ MOFED,2002	44.2	45	37

Source: Compiled from various sources

As regard to capability poverty, the United Nations (1999) world population prospects revised in 1998 reveals that infant mortality and life expectancy have been consistently Improving from early 1950s to the early 1990s. For example, the life expectancy that was reported to be 32.9 years at 1950-55 has rose to 45.2 years at 1990-1995. However, there are some indications from other sources that the rising trend of life expectancy has been reversed in the 1990s. On the other hand, the World bank Africa data base indicates that stunting (low height for age), Which reflects long term nutritional deprivation or chronic malnutrition, has rose from 59.8 per cent in 1983 to 64.2 per cent in 1992 and 68 per cent in 1995/96. The Demographic and Health Survey (DHS) undertaken in 2000 reveal that 51.5 per cent of the children in Ethiopia are stunted while the figure for rural Ethiopia is 52.6 per cent. If we are to believe both data sources, stunting has declined by more than 16 per cent over a period of mere five years. However, Desalegn (2002:7) suggested that despite some periodic dips in the figures due to fortuitous circumstances, long-term nutritional vulnerability has worsened by all aspects.

Food security is the other issue that is directly related to poverty since chronic food insecurity is caused by the inability of the household to produce, purchase or to have access to food (Sen, 1981 as cited in Sisay, 1995:38). The list of basic needs include such things as food, clothing, shelter, primary education, health care, sanitation, etc., but more than the others, food is essential for day-to day survival. In rural Ethiopia, poverty is essentially manifested in food insecurity. Since agriculture is the main source of livelihood and more than 85 per cent are agricultural, food production has substantial importance for the well being of the people.

Close scrutiny of the data from CSA and FAO shows the trends of Per capita production in Ethiopia since 1960 is generally declining. More precisely, after remaining relatively at constant level in 1960's, the fast downward movement pursued until the early 1990s, despite the presence of some fortuitous years in the interval. The erratic improvements in the second half of 1990's, which are in part attributable to conducive climatic changes and the massive application of agricultural technologies are not as such substantial that, on the average, it didn't go beyond the level in the second half of the 1980's. As the access to food (and hence well-being) depends on one's entitlement and purchasing power, it is well known that production *per se* is not exclusively an indicator of poverty. However, as mentioned earlier, because the country is dominated by subsistence agrarian economy which aims at self- provisioning of the household, the aforementioned alarming decline can roughly serve as a proxy estimator of the worsening situations in rural Ethiopia. Harmoniously, there are some patchy evidence suggesting the decline of consumption. For example, Watt [1988 as cited in Desalegn, 2002:5] pointed out that the mean rural consumption per capita was 138kg in 1966/67, 110 in 1976/77, 127in 1979/80, and 95 in 1982/83. The finding of Hadgu [1995:221] revealed that the population below 500 gram cereal per day consumption has increased from 52.9 percent in 1982 to 65.5 percent in 1992.

Among the major factors that have exacerbated the problem of food production, distribution and access are natural hazards, conflict, and population growth [UN, 2000:5-9]. As to the natural hazards, the recurrent drought and other climatic factors are among the major causes engendering food insecurity. It is well documented that drought, which causes widespread periodic famine, is becoming more frequent and climatic instability is increasing in Ethiopia. Consequently, it

appears that mass starvation has been more recurrent in this century than in previous ones. Here, it is worth noting the argument of Desalegn (2002:5) that asserts famine must be ranked as the most important factor for the transition from poverty to destitution in rural Ethiopia.

Added to the natural hazards, the continuous conflicts in which the country is plagued by for a long time have undoubtedly contributed their own part for the present gloomy situation of the country. The impact is many-fold. First, it removes able-bodied men from agricultural production. Second, it diverts resources from more productive and socially beneficial uses. Third, it pushes donors to draw their assistance. Fourth, creates a large refugee and internally displaced population (UN, 2000: 7).

The effect of the rising number of population dependent on agriculture is clearly reflected, *inter alia*, on the consistently declining per capita land holding. The study made by Markos (1997:166) suggested that the per capita land holding which was 0.28 hectares in 1960/1 had decreased by almost two-third and reached 0.10 hectares in 1986/7. This clearly shows how the growing problem of land fragmentation is spreading among the rural households. The depletion of basic farm assets such as land from time to time has brought what Desalegn (2002:10) calls as a “structural shift from small holder agriculture to micro-agriculture” which accompanies the growth of poverty and stagnation of the rural economy.

The recently undertaken study on famine in Africa pointed out that poverty, hunger and population pressures have reinforcing detrimental linkages, which calls for complementary and mutually dependent measures. For example, as population pressure grows in an area of limited

land, households' marketable food surplus may shrink, leading to increased reliance on risky, low yielding, subsistence food production which leads to increased exploitation of natural resources (resulting in erosion of productive resource base), and also to more intense competition over factors of production (Von Braun *et al*, 1998:54). On the other extreme of the spectrum, the scarcity of land and high population pressure in Gamo highlands of South west Ethiopia was found to be a stimulus to the development of greater environmental sensitivity and higher conservation skills among the peasantry (Hallpike, 1970; Jackson, 1970; Jackson, Jackson *et al*, 1969 as cited in Desalegn, 1992:6). However, in this study, I argue that population pressure in rural Ethiopia engenders food insecurity and poverty because it is not accompanied by compatible technological changes.

4.2.2 Government Policies and Rural Poverty in Ethiopia: 1941-2002

In the pre-Revolutionary Ethiopia, small and subsistence farmers were prey to the feudal extraction. Bahru [1991:191] explained the period from 1941 to 1974 as a period of "acceleration of the process of privatization of land"- especially in the Southern half of the country. Absolute private ownership right to land facilitated the selling of land that precipitated concentration of land in the hands of the few. As large land holdings were dominating in the south, the problem in the north were litigation over land-use rights and fragmentation of holdings, as the initial plot was divided among the growing population [ibid:192]. The result of growing private tenure system is the spread of tenancy. Absentee land lords extended their hand to extract the poor tenants by improving share cropping agreements known as one- third (*siso*), a quarter (*erbo*), or half (*ekul arash*). On the other hand, the absence of long-term contractual arrangements between the land lord and the tenant discouraged investments on the land

[Desalegn, 1995:183]. The expansion of commercial farming had contradicting role on the well being of the poor. It created considerable off-season jobs to peasants, but evicted a large number of peasants from their fields and threatened small operators in other areas [ibid:184].

In the first (1957-61) and second (1963-67) development plans of the Imperial government, in line with the development theories prevailed then, the focus was made on the industrial sector. In regard to the agriculture sector, emphasis was placed on large commercial farms with the aim of generating foreign earnings. Thus, the well being of the peasant sector remained neglected. Even the package approach initiated (for example Chilalo, Agricultural Development Unit – CADU) to provide high quality seeds and fertilizers to poor peasants ended up by enriching the rich land lords, who could fulfill the prerequisite of eligibility for the extension facilities. Added to this, it accelerated the mechanization process of agriculture and hence the eviction of tenants [Bahru, 1992:194-195].

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Desalegn [2001:93-94] described that the three plans of the Imperial regime had no reference to poverty (especially to the rural poverty) and no poverty approach to speak of. Policy makers were concerned about designing strategies for overcoming economic backwardness and catching up with the advanced countries while caring for the poor was set aside for the charities and religious institution.

The ensuing *Derg* government issued a proclamation that provided universal access of land to the tillers in March 1975. The preamble of the proclamation states: “rather than permit the exploitation of the many by the few, it is essential to lay the basis upon which through work by

cooperation the development of one becomes the development of all". The government mentions as it is a friend of the poor on everyday basis. However, Mesfin (1991:182) contends that the proclamation had not been successful in making the peasants economically beneficial, if not socially and politically. The Ten Years Plan admitted that a majority of Ethiopian population lives at the margin of subsistence and is frequently prone to draught and starvation. Apart from the land reform measures taken with an implication to rural poverty comprise:

- Resettlement of the peasants in a drought- prone areas of the north to areas like: Gambella, Metekel, Assossa. In response to the 1984/85 disaster, between November 1984 and August 1985 alone, three-quarters of a million peasants and their families were resettled;
- Peasants that came under cooperatives were entitled to the best land, tax incentives and generous subsidies;
- Price freezing of basic commodities and essential services, and rent control; and
- The provision of chemical fertilizers to peasants at subsidized prices during the 1980's.

However, most of the measures meant to benefit the poor ended up in failure to do so or turned to be harmful to target population [Desalegn, 2001:95-96]. On the other hand of the coin, the government also had followed strategies against the rural poor. For instance, compulsory delivery of grain to Agricultural Marketing Cooperation (AMC) through the quota system was initiated in 1978/79 required a minimum of 100-150 quintal from each peasant Association and 30-50 percent of their purchase from wholesale trades at prices set well below the market [Gezahegn, 1995:159]. In effects, this policy enabled the government

to favour the urban poor at the expense of rural poor. The deterioration of the well being of the rural poor during this era is partly explained by this “urban-biased” policy.

After the present government came to power by overthrowing the *Derg* government in 1991, it announced the replacement of the command economy by market economy. Subsequently, the government introduced the IMF/World Bank’s structural Adjustment Program (SAP) which involves: agricultural liberalization, market liberalization, a large devaluation, tax reforms, and some steps towards international trade liberalization. A study made by the World Bank [2001:51] on the impacts of SAP on Ethiopia revealed that it is premature to judge their sustainability. Dercon [2000:14] reported that these policies have had largely positive effects on prices faced by farmers in both surplus and deficit areas and in some areas contributed to rapid recovery from the crisis in 1980’s. However, the study made by Bigsten *et al* [2002:25-26] pointed out that in the period between 1994 and 1997, inequality worsened in both rural and urban areas as well as at national level.

As Ethiopia is a poor, highly indebted country undertaking structural programs, it has prepared the full Poverty Reduction Strategy Paper (PRSP) and submitted to the World Bank and IMF. Before the preparation of the full PRSP, the country was supposed to prepare the Interim Poverty Reduction Strategy Paper (I-PRSP) which was presented to WB/IMF for comment and to the public for discussion:. The I-PRSP document describes the poverty situation in the country, the main elements of poverty Reduction Strategy, a three years macro-economic framework (2000/01 - 2002/03) and a three year policy matrix (2000/01-2002/03). According to the I-PRSP document, the Poverty reduction effort consists of four

building blocks, namely, Agriculture Development Led Industrialization (ADLI), Judicially and Civil Services Reform, decentralization and empowerment, and capacity building in public and private sectors.

By ADLI, agriculture is meant to be a “vehicle for industrialization”. The activities/strategies envisaged to be undertaken to achieve the objectives comprise:

- The small holder farming families will be a focus of economic development with a massive agricultural expansion of primary education, primarily health care rural water supply and rural roads.
- Voluntary resettlement of people from the densely populated high lands to the lowlands under irrigation schemes.
- Tackling food insecurity at the household level which is assumed to be the most effective and direct way of poverty reduction
- Continuing various activities of environmental protection such as soil and water conservation, terracing and afforestation
- Progressing in terms of commercialization, with more intensive farming, increased proportion of marketable output and correspondingly decreasing ratio of production for consumption. To this end, emphasis will be made on favourable leasing of land, transition from micro-finance institutions to rural banks(I-PRSP, 2000).

The assessment made by the staffs of IDA and IMF (201:6) pointed out that areas other than agriculture have not received adequate attention. This is assumed to hinder the movement to stimulate development of urban-based, formal private sector and exports. The criticisms made at

Forum for Social Studies (FSS) public consultations include: the document ignored urban poverty, doesn't address the specific problems of women; landlessness, land shortage and tenure insecurity are not effectively addressed; employment creation targeted to the poor are not sufficiently dealt with; attention is not paid to the crisis brought by environmental degradation in the country; the document ignored the role of the private sector for poverty reduction. [Medrek, 2002 vol.4 no2]. The assertion of Aklilu [2002], on the other hand is, one of the causes of poverty, rapid population growth is omitted from the document.

The final document (the full PRSP) entitled **Sustainable Development and Poverty reduction Program (SDPRP)** submitted to the World Bank and IMF is a comprehensive document that provides a detailed discussion on the issues raised in the I-PRSP and added some components as the role of the private sector, cross cutting issues (environment and development , and population and development). The consultation processes and the outcomes of the consultation at *wereda* and regional levels, federal level, and the perspectives of NGO's is also attached to the document. The three years cycle time frame of the poverty reduction policy matrix presented in the SDPRP extends from 2002/03 to 2004/05, which makes an overlap with the I-PRSP for the year 2002/03.

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The joint staff assessment of IDA/IMF suggested that a number of important issues have not been adequately covered, such as uneven implementation capacity, the degree of specificity to some aspects of the reform in agriculture, and the private sector development. Added to this, the attainability of the economic growth target is uncertain

CHAPTER FIVE

THE SETTING OF THE STUDY AREA AND CHARACTERISTICS OF THE STUDY POPULATION

“ The poor are not simply the rich with less money” ---Can Africa Claim the 21st Century

“The living space of each country is the whole world” –Paul Reynaud.

This chapter has two sections. The first section describes the physico-climatic situations of the study area, how it fits to agriculture, and its population and socio-economic situations. The second section depicts some characteristics of the sample population. This chapter lays the basis for subsequent analyses made in the forthcoming chapters.

5.1 The Setting of the Study Area

5.1.1 Physico-Climatic Situations and the State of Agriculture in North Shewa

The study area is located in the central highlands of Ethiopia. Administratively, it is one of the eleven zones of Amhara Regional State. Currently, the zone is divided into twenty administrative weredas, including the zonal capital, Debre Berhan. Extending between 8° 38' N – 10° 42' N and 38° 40' E – 40° 03' E, it covers an area of 16,070.4 km² or 1,697,138.3 hectare. The projected mid-year population of the zone in 2000 being 1,890,815; the crude population density was 111.41 person per km², which is nearly the two-fold of the population density at the national level. The hammer-shaped North Shewa shares boundaries with Afar Regional State in the East, East Shewa (Oromia) in the South, North Shewa (Oromia) in the West, and South Wello (Amhara) in the North.

The Western edge of the Rift Valley system escarpment of central Ethiopia divides North Shewa into two along about 39° 45' E. The escarpment forms a watershed between the Awash drainage to the East and Blue Nile drainage system to the West [Daniel, 1990:5]. Plain, mountain, gorge, and undulating relief make 35.9 per cent, 25.97 per cent, 11.7 per cent, and 26.11 per cent of the total land surface of the zone, respectively. The remaining small proportion is covered with water and swampy lands. In North Shewa, there are valley *weredas* that are characterized by rigged and valley formation that gives them corrugated topography. Geological erosion has created considerable vertical differences that in some place reach 1000 meter or more [Mesfin, 1991: 24]. The altitude of the zone ranges from 1050 meter above sea level in its Eastern part to 4000 meter above sea level at Abuye Meda Mountain, Giske *wereda*. In Western part of the zone, the gorge of Jema, the lowest part in the west, is not much below 1500 meter above sea level. This relatively wide altitudinal range has furnished the zone with all types of agro-ecological zones ranging from *Wurch* to *Kolla*. The *Kolla*, a *Weina-dega*, and *Dega* agro-ecological zones share almost in an equitable manner, covering 33.71 percent, 35 percent, and 30.65 percent, respectively while the share of *Wurch* is only 0.64 percent.

As to the climate of the zone, the data collected by Ethiopian Meteorological agency at four sites (Debre Berhan, Mehal Meda, Alem Ketema, and Robit) for ten consecutive years (1985-1994) reveal that the mean annual temperature ranges between 12° C–24° C. The data indicate that the highest temperature of the year prevails between March to May and the lowest in November and December. The data collected from eight stations suggest that the mean annual rainfall varies from 688.2 mm to 2001.7 mm. However, the variation across years is relatively considerable, while this variation is coming to be more apparent in recent years. The big rain or *Kiremt*, as in

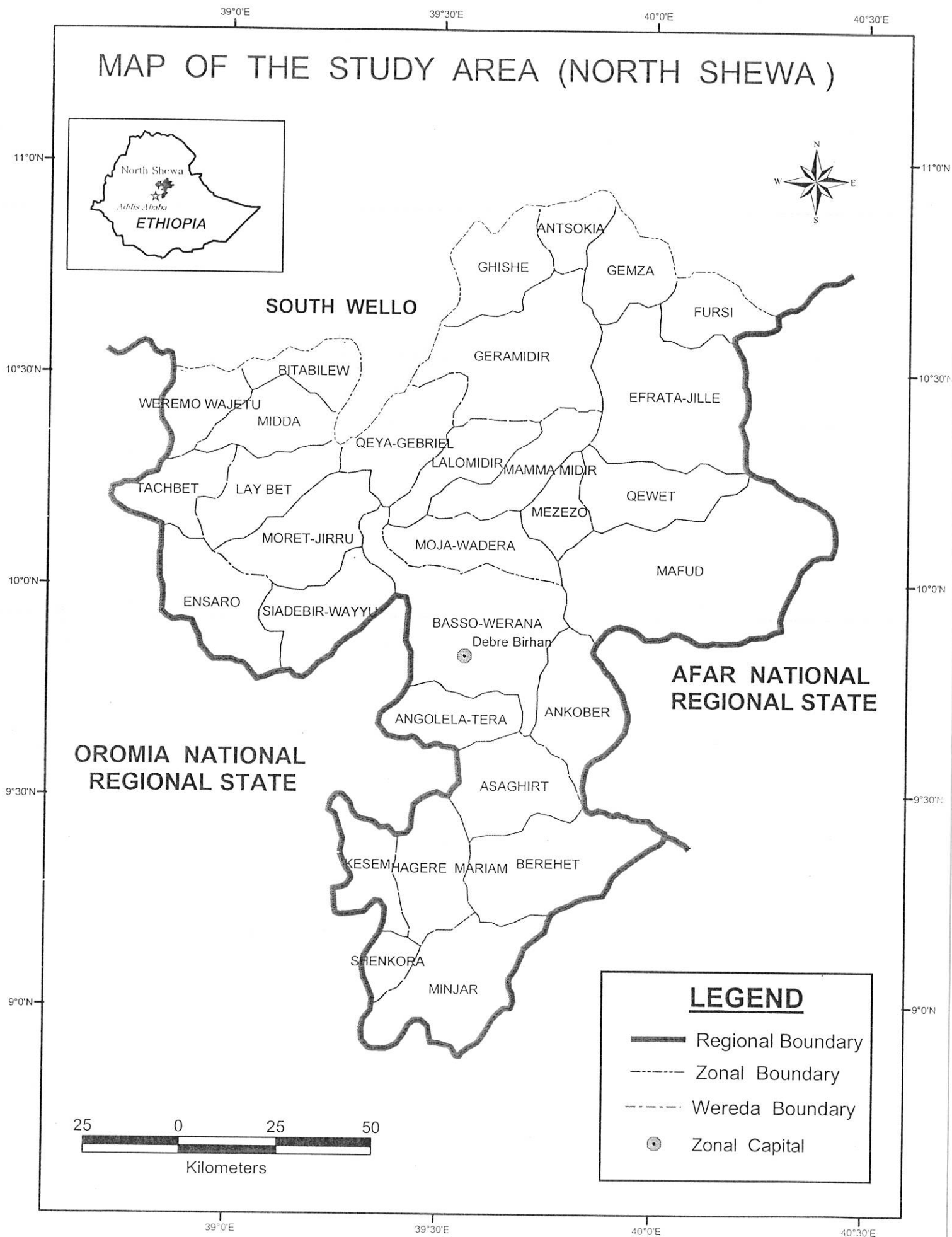


Figure 5.1 The Map of North Shewa

most parts of Ethiopian highlands, occurs from June to September. The second highest rain or *Belg* (Spring) stretches between March and May. In summer, South Westerly monsoon winds lift over the escarpment to give the big rain that makes about 68-70 percent of the mean annual rainfall. In spring, easterly and south easterly prevail and give 20-27 percent of the mean annual rainfall [Daniel, 1996:17].

Inherently fertile volcanic soils dominate North Shewa zone. The most common ones used for agriculture are cambisols, vertisols, phaeozems, and fluvisols. Cambisols and phaeozems, despite their high natural fertility and substantial importance for grain production in highlands, are shallow (only about 20-50 cm) and stony, often with extensive outcrops. The problems associated with vertisols, the other important but relatively deep (50-75 cm) soil in the zone, are water logging during growing period and impervious sub-soil. The Lithosols, very stony and shallow soils (less than 25 cm deep), prevailed in most of the escarpment region of Menz and Giske above 3200m, are of no importance for agriculture, except for grazing [Daniel, 1990:10]. The shallow and stony nature of the soil is an important indicator of the extensive soil erosion and soil over-use over centuries.

The data obtained from the Amhara Regional Planning and Economic Development Bureau (2000) reveal that 29 per cent of the land of the zone is devoted to agriculture while grazing land, and forest and bush land cover 16.6 per cent and 12.8 per cent, respectively. 13.4 per cent and 0.52 per cent of the land is designated as unused and others, respectively.

According to the Ethiopian Agricultural Sample Enumeration of 2001/02, the total cultivated land was 354,434 hectare (20.89 per cent of the total land of the zone). Of the total cultivated land, cereals take the lion's share proportion, 77.09 per cent. The proportion devoted to pulses, oil seeds, vegetables, and root crops covers 20.5 per cent, 1.80 per cent, 0.21 per cent, and 0.40 per cent, respectively. In congruence with the proportion of land devoted, cereals and pulses provide 75.34 per cent and 18.39 per cent of the crop production of the zone. The root crops, despite their small land coverage, due to their very high productivity, contribute 4.77 per cent of the production. This has an important implication that root crops have a potential to mitigate food insecurity prevailed in the zone if they are paid with proper attention. Among the cereals, sorghum, wheat, *teff*, and barley take the leading position in terms of production in their order of decreasing importance.

Table 5.1 Selected Crops by Percentage of Land Use and Production, and Productivity, Rural North Shewa 2001/02

Crop	% Area	%Production	Productivity (Q/ha)
Cereals	77.09	75.34	
teff	22.2	9.26	8.01
Barley	9.69	18.58	10.72
wheat	17.68	18.58	11.79
Maize	2.20	1.97	10.05
Sorghum	25.20	29.58	13.16
Pulses	20.50	18.39	
Horse beans	8.70	9.7	12.57
Field peas	2.79	1.67	6.70
Chick peas	4.53	3.84	9.51
Lentils	2.44	1.30	5.99
Oil seeds	1.80	0.73	
Vegetables	0.21	0.78	
Root crops	0.40	4.77	
Potatoes	0.03	0.28	104.16
Sweet potatoes	0.01	0.12	99.99

Source: Agricultural Sample Enumeration 2001/02

Generally, the growing period in North Shewa can be classified into two. Most of the Western slopes and the southern plateau west of about 39° 30' east longitudes have a single growing period, during the *Meher* (big rain) season. In most of the remaining parts of the zone, there are

two growing periods, *Meher* (big rain) and *Belg* (small rain). In the latter, farmers either use both seasons or sacrifice the use of the unreliable growing period to optimize the use of the better growing period [Daniel, 1990:23].

Rivers like: Benesa, Chacha, Jema, Wenchit, Zima, Kesem, and Jara provide an ample potential opportunity for irrigation that is needed to supplement the meager spring rainfall or produce crops and fodders during Autumn and Winter. In 1999/2000, 12,522 hectare and 469 hectare of land is reported to be cultivated using permanent irrigation schemes and small irrigations, respectively (ARPED, 2000). The very rough topography of the zone is one of the constraints that reduce potentially irrigable land.

North Shewa has been one of the longest settled agricultural regions of Ethiopia. Added to this, from 13th to 16th century, and in late 19th century, North Shewa has enjoyed the chance of being a seat for the highland kingdom. It is obvious that such factors have led agricultural/natural resources of the zone to the extensive use and degradation. The extensive rock out-crops and the very negligible proportion of forest cover can be cited as an evidence attesting the aforementioned assertion.

Unlike Tigray and Wello of the Northern Ethiopia, which have been famine-prone areas since the turn of the twenty century, North Shewa has become critically famine-prone only in the past two decades, the most devastating famine occurred only in 1984/85 [Daniel, 1990]. The data obtained from early warning system of Disaster Prevention and Preparedness Commission point out that the population needing food assistance in the last thirteen years rise and fall. Substantial

increment of the needy population was reported in 1992, 1994, 1999, 2000, and 2003. These years comply with the incidence of crop production failure in the whole country. Smaller number of needy population was observed in the three consecutive years of 1995, 1996, and 1997, by which good weather and relatively stable security situation accompanied with the massive agricultural inputs supply recorded. The situation since 1998 seems to be worse off. Despite substantial effort made to implement the Agriculture Development Led Industrialization (ADLI) strategy by providing modern agricultural inputs, population seeking food aid has culminated in this period. The event might be exacerbated by the coincidence of the war with Eritrea and drought situation, but the grand implication of this fact is that agriculture in North Shewa, like the other parts of the country, is still at the mercy of the vagaries of nature.

Table 5.2 The Population Needing Food Aid and the Required Food in North Shewa Zone, 1990 – 2003.

Year	Population Needing Food Assistance	Food Requirement (Metric ton)
1990	122,420	24,572
1991	52,210	7,101
1992	339,800	50,135
1993	1,500	203
1994	299,000	38,138
1995	53,000	8,152
1996	48,000	2,218
1997	36,430	2,771
1998	196,200	22,115
1999	288,210	35,518
2000	525,136	65,759
2001	175,000	20,190
2002	81,200	-
2003*	278,000	-

Source: DPPC, Early Warning System.

Note * Data obtained from the North Shewa Rural Development Department.

The Ethiopian Agricultural sample enumeration undertaken in 2001/02 points out that the productivity of the land is about 10.96 quintal per hectare for cereals (taking the whole items together) and 10.06 quintal per hectare for pulses (taking the whole items together). After

deducting the 15 percent post harvest losses and the 6 percent reserve for seed, the net production available for consumption becomes 8.66 quintal per hectare for cereals and 7.94 quintal per hectare for pulses. Given the average household size of rural North Shewa reported in 1994 census is 4.7 persons [CSA, 1996] and assuming that 0.44 kg of grain per person per day supplemented by about 0.11 kg of pulses per person per day is barely sufficient [Mesfin, 1991:103], there is a need of about 7.55 quintal of grain and 1.89 quintal of pulses per household per annum. As the average land holding per household is reported to be about one hectare, there is no much difference between the whole production and the amount required for the domestic consumption of the peasant household. However, to generate the badly needed money for such items like: clothing, school fee, salt and spices, household equipment, social responsibilities, etc. substantial proportion of their production should go to the market at the expense of the family food and seed requirement. This is a clear implication of how the life of the peasants in the study area is sandwiched between life and death. Indeed, most peasants are desperate because the amount they produce is not usually enough to keep the family apart from starvation until the next harvesting season.

5.1.2 Population and Socio-Economic Situations

According to the 1994 census, the population of North Shewa numbers 1,560,916, which makes 11.3 percent of the Amhara region population. Of all the population, 90.58 percent are reported to be residents of rural areas. Taking the whole reported rural population, females constitute 49.4 percent. The relative out weigh of male population seems quiet anomalous since the rural male population has been continuously absorbed by the wars in which the country has been plagued

for decades. This is more realistic explanation because the census was undertaken just after some three years of the country's emergence from continuous wars.

As to the age composition, the census result reveals that 42.91 percent of the total population is clustered at the young ages below 14 years. In the so-called working age group (15-64), slightly more than half of the population (51.98 percent) is represented. The population in the old age group (above age 64) constitutes only 5.11 percent of the total population. Conceptually, this is to mean 100 working people are supposed to support 92.38 dependents. This is a typical feature of the age composition of developing countries.

Ethnically, the Amhara takes the lion's share proportion of the population of North Shewa, 93.68 percent. The Oromo and Argoba constitute 4.29 percent and 1.72 percent, respectively. The remaining negligible proportion goes to other minorities in the zone. The nearly homogenous nature of ethnic composition is also harmoniously reflected in religious composition of the zone. Being one of the areas of early introduction of Christianity, it is not surprising to note that 94.6 percent of the zonal population is the follower of Orthodox Christianity. The other ancient religion, Islam, constitutes 5.3 percent of the total population.

As far as health institutions are concerned, in 1999/2000 it is reported that there are two hospitals (one zonal and one district), nine health centers, and thirty health posts. This means one hospital for about 913,000 people, one health center for about 203,000 people. This ratio is very high by any standard. The medical personnel ratio is one physician for 70,000 people and one nurse for 31,500 people. Compared to the World Health Organization standard of one physician to 10,000

people and one nurse to 5000 people, and the reported one physician to 49,000 people and one nurse to 9,000 people for the whole Ethiopia in the year 2000 [MOH, 2000:14), North Shewa is at very low level. However, thanks to the proximity of the zone to Addis Ababa, substantial proportion of the population benefit from the medical institutions in the metropolis.

As one may expect, the infrastructure for transport services are very poor. In 1999/2000, the road length in the zone was 1085 km which makes a road density of 61.3 km per km² or 0.59 km per 1000 inhabitant

5.2 Characteristics of the Study Population

The Household Income, Consumption, and Expenditure Survey undertaken in 1999/2000, on which this study relies for quantitative analysis, comprise information on the detail of quantity and value of weekly consumption of food and drinks, all transactions, household expenditure on selected items, and cash income and receipts received by the household. However, with respect to the socio-economic and demographic characteristics of the households, data were collected only on relationship to the head, sex, age, educational status, marital status, and economic/employment status. This limited database hardly allows the detailed analysis of the determinants of poverty.

In the 304 households covered by the survey from rural areas of North Shewa, 1,308 household members are included. This gives a mean household size of 4.3, which is significantly lower than the mean household size reported by the 1994 census for rural North Shewa, 4.7 person per household. In poverty analysis, with the view to adjust variation of factors as household size and

demographic composition, normalizing procedure of adult equivalent is usually applied. The mean adult equivalent for the surveyed 304 households is 3.56, which is lower than the household size by 0.74 units.

Of the total 1308 individuals included in the survey 51.4 per cent are females while 48.6 percent are males. The relative preponderance of females might be explained by the possible out-migration of males in large number than females in search of job in towns or better land in other parts of the country. The other possible reason is the continuous wars prevailed in the country including the recent Ethio-Eritrean war, have diverted substantial number of young males.

As to the age structure of the study population, the younger age group of 0-14 years comprises 41.5 percent of the total population. In the age group usually called “working ages” which ranges from 15 to 64, 53.1 per cent of the total population is concentrated. On the other hand, the contribution of old ages of more than 64 years is not more than 5.4 percent of the total surveyed people. An interesting finding observed from the age structure data portrayed in figure5.2 is the shrinking of the lowest age group (0-4). The proportion in this lowest age group is lower than the next two age groups, 5-9 and 10-14, and not much larger than the age group 15-19. This might be a reflection of the fertility decline in response to the prevailing pervasive food insecurity/poverty situation.

Table 5.2 presented hereunder depicts the educational characteristics of the study population. Among age six and above population, the ones with no formal education comprise 62.4 percent. The primary, and junior and above level of education makes 23.8 percent and 13.9 percent of the

total aged 6 and above. With regard to marital status, among the population aged ten years and above, only 43.1 per cent fall in the never married category. The married makes up some 41.6 percent while the widowed, divorced, and separated constitute 5.8, 7.0 and 1.0 per cent, respectively.

Table 5.3 Characteristics of the Study Population, Rural North Shewa, 1999/2000.

	Frequency		Percent	Cum.%
Sex	Male	636	48.62	48.62
	Female	672	51.38	100
	Total	1308	100	
Level Education	NoFormal Education	696	62.37	62.37
	Primary	266	23.74	86.11
	Junior & above	155	13.89	100
	Total	1117	100	
Marital Status	Never Married	407	43.1	43.1
	Married	405	42.9	86.1
	Widowed	55	5.8	91.9
	Divorced	66	7.0	98.9
	Separated	10	1.0	100
	Total	943	100	

Source: HICE Survey, own calculation

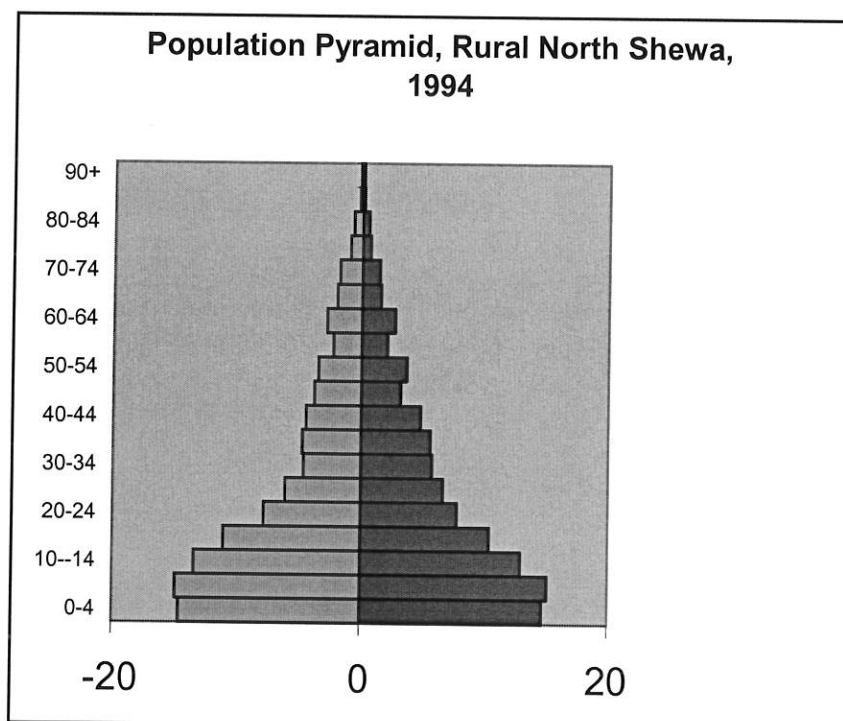


Figure 5.2 Population Pyramid of Rural North Shewa, 1994

Fig 5.3 Population Pyramid, Rural
North Shewa, 1999/2000

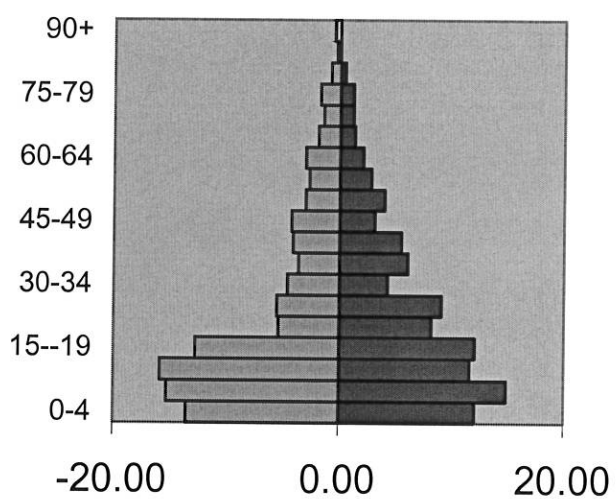


Figure 5.3: Population Pyramid, Rural North Shewa, 1999/2000

CHPATER SIX

THE POVERTY PROFILE OR RURAL NORTH SHEWA:

QUANTITATIVE AND QUALITATIVE ANALYSIS

*“Had a poor not enjoyed the taste of butter by his dream, he would have remained pale”
- Ethiopian saying*

This chapter presents the poverty situation in rural areas of North Shewa based on the 1999/2000 household income, consumption and expenditure (HICE) data collected by CSA and a small qualitative data collected by the author in one of the *weredas* of North Shewa zone, Merhabete, in March 2003.

6.1 QUANTITATIVE ANALYSIS

Per capita income has often been used as parameter predicting the living standard of people. The HICE survey result puts the per capita income of rural North Shewa to be 888.10 Birr per annum. However, employing income, which is usually under reported, over estimates poverty. For example, among the surveyed 304 households, 86.5 percent reported that their consumption expenditure exceeds their income. Hence, we assume household income is equal to consumption expenditure and take expenditure to estimate standard of living.

The computed annual per capita income (expenditure in rural North Shewa in the year 1999/2000 is 1256.40 Birr or about US\$ 165.10*¹. Compared to the annual per capita income/expenditure for rural Amhara, 1261 Birr, and rural parts of the country at national level, 1317.23 Birr, the residents of rural North Shewa have lower standard of living, as measured by

income/expenditure per capita. This is also by far below the poverty line recommended by the World Bank, annual per capita income of US\$ 370.

On the other hand, if we change the denominator to be adult equivalent rather than taking per capita, the annual income/consumption expenditure per adult equivalent for rural North Shewa rises to 1499.55 Birr or US\$ 197.05.

To probe into the distribution of expenditure per adult equivalent, it is categorized into three, namely; 0 – 999 Birr, 1000-1999 Birr, and 2000 Birr and above. The first and the second lowest categories make up 30.9 percent and 45 percent of the households, respectively. Thus, about 76 percent of the households fall in annual expenditure per adult equivalent below 2000 Birr. The households expending more than 2000 Birr per adult equivalent annually constitute the remaining 24 percent.

When we turn to poverty *per se*, Dercon (1997) has devised some three poverty lines for Ethiopia, namely; absolute poverty line, moderate poverty line, and extreme poverty line. Absolute poverty line is based on the minimum calorie requirement (2200 kcal). Moderate poverty indices are based on food poverty line of 2750 kcal (which is 125 percent of the minimum requirement) while extreme poverty indices are based on food poverty line of 1650 kcal. The computed alternative poverty lines are *Birr* 1075.03, *Birr* 1343.78 and 806.27 per adult equivalent, respectively. Employing these three poverty lines to the HICE data, the computed P_0 , P_1 , and P_2 results are presented in the table hereunder.

Table 6.1 Indices of Moderate, Absolute, and Extreme Poverty; Rural Ethiopia, Rural Amhara, and Rural North Shewa, 1999/2000.

	Rural Ethiopia*1			Rural Amhara*2			Rural North Shewa*3		
	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂	P ₀	P ₁	P ₂
Moderate poverty	0.65	0.21	0.09	0.63	0.20	0.08	0.60	0.19	0.08
Absolute poverty	0.45	0.12	0.046	0.43	0.11	0.04	0.40	0.11	0.04
Extreme poverty	0.23	0.04	0.015	0.20	0.04	0.01	0.22	0.07	0.01

Source:* 1 and*2 MOFED, 2002

*3 HICE Survey, own calculation

The head-count ratio P_0 , implies the proportion of population falling below the poverty line. As can be noted from table 6.1, the incidence of absolute, moderate, and extreme poverty in rural North Shewa is 40 percent, 60.0 per cent, and 22 per cent, respectively. As compared to the incidence among the rural parts of the country and rural Amhara, the head-count ratio, based on the three poverty lines, is generally slightly lower in rural North Shewa.

As the head-count ratio gives no information about the depth of poverty, poverty gap (P_1) is also computed to measure the average share of the minimum standard of living which the poor are lacking or the transfers needed to bring the poor to a minimum level of consumption. As it is presented in table 6.1, the poor in rural North Shewa are on the overage 11.3 per cent, 19.5 per cent, and 6.9 per cent, as identified by absolute, moderate, and extreme poverty line respectively, short of fulfilling the minimum expenditure. When the results for rural North Shewa are compared to the rural areas at the national level, the intensity of poverty by averaging the

distance between expenditure of the poor person and the poverty line of moderate and absolute poverty, is slightly lower. This lower expenditure less than poverty line implies much input is not needed in rural North Shewa compared to the other rural parts of the country to bring a poor person out of poverty.

The index that shows the severity of poverty (P2) in table 6.1 is obtained by squaring the gap between the expenditure of the poor individual and poverty line, giving more weight to the poverty of the poorest. The inequality among the poor in rural North Shewa is lower than the rural parts of the country at national level, implying that transferring lesser income to the poorest from the better-off to the poor is needed to lower the poverty index.

6.2 The Poverty Situation: Perception of the Poor

The measurement of poverty generally requires one to quantify income or consumption, which is a very difficult task especially in developing countries like that of ours. Hence, to overcome the shortcomings of quantitative analysis, qualitative analysis is usually employed. Although it is not possible to measure quantities using this method, qualitative indicators may be valuable especially for rapid appraisal methods that attempt to assess poverty status on the basis of few simple questions. The results of the Focus Group Discussion (FGD) and in depth interview with key informants undertaken in Merhabete *wereda*, a *wereda* in North Shewa zone, are included with the view to benefit from the advantages of qualitative indicators.

Indeed, the participatory approach involving the poor themselves out speaks how poverty has made life difficult, painful, and hazardous. The participants expressed their life as: “we are living

on bare ground”, “the poverty that infested us is complete darkness from which moving to light is impossible”, “we are caught tightly by shackles”, “our life of this day is, as the life of monkey which is not detachable from cliff”. These terminologies are indicators of how the life of the peasants is miserable and with no bright hope.

When they expressed who the poor are terminologies like “one that works for wage on one’s land”, “one that sells fuelwood and dung cake to survive”, “one that is handicapped and suffers from eye or limb disability or lack of land or oxen”, “one that has many children” were forwarded.

One of the points upon which all participants have reached unanimous agreement is that inequality among the rural peasants is becoming invisible and all are moving fast to merge under the umbrella of “poor”. Hence, the once “well-to-do”, who were lenders in times of harvest failure, are now heading towards the rank of the “poor”. The main reasons for the invisibility of inequality as mentioned by the participants are: the scarcity of land and droughts are common problems for both labour-surplus and labour-deficient households.

In most of the focus groups, it was pointed out that:

“In earlier times, an industrious guy could escape poverty by cultivating vast virgin land or by actively involving in trade activities. But now, all these opportunities are remote possibilities. Added to this, all households are equally affected since rain failure is an incident common for all. Thus, the lazy and hardworking have become equal”.

No matter how Ester Boserup (1965) argues as population pressure gives rise to labour intensification and technological progress, this doesn’t seem to be true in the study area. The

peasants are desperate because population pressure is triggering impoverishment. In one of the focus groups it was illustrated as:

“Our land is over populated. We are struggling to protect the soil by constructing terraces along our plots. However, it has become impossible to win the struggle. It is beyond our capacity. ...One can't hope bright future because there is no land to work on and no trade activities. There is no way out. The only panacea that enables us come out this hazardous life is when we die and buried”.

The peasants feel that their life will not improve, unless they move out to some virgin land, no matter how much aid the government may pump to the area. This sense of hopelessness is emanating from what is going on around them. The landholding size is shrinking, the land is being unproductive from year to year, the coping strategies that were in use in earlier times are exhausted, etc.

The other aspect that reflects the depressed picture of the life peasants is intra family conflicts and loosening of social cohesion in the community. A sense of hostility is increasingly emerging between father and son, among brothers, between mother and son/daughter due to the scarcity of land. Such conflicts are alleged to dominate social courts. The sons and daughters claim the best land to be given to them on the ground *“it is not with my consent that you borne me”* The intra family hostility culminates as young member of the household marries and starts to lead independent life. One elderly bitterly alleged that, “my sons quarreled over one *timad* land and hit each other. One was severely wounded and a surgeon pulled out twelve pieces of bones form his head”.

Conflicts over commonly held properties like forest and grazing land is also rampant. Such conflicts also have cooled the social cohesion in the community.

The other aspect one may consider is that the options for means of subsistence are getting narrowed. The coping mechanisms that were being employed in hard time comprise:

- Becoming wage labourer with well-to-do relatives;
- Borrowing from the better-off households and plant vegetables using irrigation,
- Migrating to some where and work there,

These options are not readily available now since the well-to-do households are shrinking and there is no ideal destination to work. The lack of optional coping mechanisms forced the poor peasants to exploit the environment. As the participants recall, “driven by hunger, all the forest has been cleared and sold for fuel wood”.

One of the focus groups asserted:

“We sold all the grass and bush by pulling out from its roots, we sold the dung cake, but the poverty situation is unabated. It is pressing hard from time to time”.

There was unanimous agreement among all focus groups and key informants that the incidence and severity of poverty is increasing from time to time. To compare the situation in earlier times, most of the focus groups and key informants use the phrases “in the old good days”. This generally refers to the time from one to some four decades ago, depending on the age of the informant. Younger peasants tend to tell the situation before a decade or so while the elderly participants go back even to beyond half a century. The most common explanation about the trend of poverty is:

“From time to time, the severity of poverty is increasing, stretching its authority over us, and tying up our hands tightly”.

The indicators used to explain the worsening trend of poverty comprise:

- 1) Children are malnourished and stunted. One elderly explained why this happened as: “In our times, we were brought up with milk and butter. But children of this day don’t know even the colour of milk”.
- 2) In earlier times clothes were purchased for almost all members of the family every year. However, in these days, most of the peasants need to wait some two years to do so.
- 3) The peasants used to augment their income by planting vegetables, coffee, *gesho* (a plant used to flavour local beer like hop), orange, etc. But now they no longer benefit significantly from such sources as the activities are constrained by lack of water and land. In one of the study *kebeles* the irrigated land was completely overtaken by river Jema while in another *kebele* some of the streams are dried and some are diverted to the nearby town through pipe. One respondent expressed the challenges posed on his household as a result of the reduction of such optional sources as:

“Since then, we are always worrying if we will face harvest failure, if we are able to cover expenses of necessities like salt, pepper, clothes, etc; if the next rain will come timely”.

- 4) Resources like grass, firewood, grazing land, etc are not easily available, contrary to the “old good days”. According to one informant “one can’t claim as he exists after a pair of oxen are forced to wait in barn the whole day because of lack of grazing land”.

Other indicators cited by the participants as they are heading down the path of poverty include: decline in what they eat and drink, abbreviated life span, lack of resistance to diseases, etc.

CHAPTER SEVEN

CORRELATES OF STANDARD OF LIVING AND POVERTY

“Poverty is not vice” -Ethiopian saying

“If life consisted in thinking about life, it would not be worth living” -Anon

It is well known that peasants in Ethiopia rely on their farm production or animal husbandry to feed themselves and cover all other necessities. Thus, substantial proportion of rural households' income is generated from grain and domestic animals sales. Other non-agricultural income sources indicated in the conceptual framework of this study are usually limited in amount in much of Ethiopia [Yearswerk, 1983:30]. As in other parts of the country, we have every reason to believe that this is also true in rural North Shewa. Thus, the availability of land, oxen (draft power), cattle, goats, sheep, water, labour, etc are important determinants of income of the rural households.

This chapter attempts to probe into the correlates of standard of living and poverty in rural North Shewa. The analysis comprises both qualitative and quantitative approaches.

7.1 The Correlates of Standard of Living and Poverty: Perception of the Poor

The well-being of a household is determined by both economy-wide factors and factors related to households /individuals. This is to mean that other than household/ individual factors; factors related to the community institutions, government policies, agro-ecological locations, etc make a difference on the well-being of an individual. In this section, factors perceived to affect poverty at household level and community level are discussed as presented by the poor themselves. Although our immediate concern is in regard to demographic factors, singling out of these

factors may undermine other important factors and therefore all relevant issues are discussed here.

The most important problems cited by the participant of the focus groups and key informants as triggering failure in agricultural production comprise: shortage of rainfall, erratic rainfall, shortage of land, the deterioration of the productivity of land, soil degradation and out cropping of stone. These factors related to nature are expanding from time to time and making the endeavor to win the hard life difficult as noted by the participants. The primary problem noted to exacerbate the worsening situation is population pressure. All the participants bitterly described that the impacts of population pressure are many fold:

- 1) In earlier times, grain production was complemented by income from selling goats, sheep, cattle, etc. However, grazing lands (including marginal lands) are now brought under cultivation in response to the rising population pressure. This has narrowed the optional income sources assisting the peasants to come out of impoverished life and destroyed the whole environment.
- 2) The other income sources of earlier times were planting vegetables like onion, carrot, cabbage, tomato, and perennials like: coffee, orange, banana, etc. Now planting such income sources is hardly possible since the water is scarce for the competing and rising population. The problem is compounded by the apparent drying up of wells, streams, and rivers from time to time. The coming out of these two sectors of economic activities from the scene has forced the peasants to resort to the meager crop production to cover expenses of basic necessities.
- 3) To come – up with the pace of rising demand of fuelwood and construction wood, the fast growing eucalyptus tree, which destroys the productivity of the land and drains the

water, over takes substantial amount of land. Added to this, indigenous trees are being wiped out even from inaccessible areas due to the rising need of the growing population.

Many rural households are facing pressing problems due to the large household size they have. The land was distributed in accordance with family size in 1975 and in some *kebeles* 1989. The increment in family size since then becomes difficult to accommodate with the limited holding, as the land size does not increase accordingly with the pace of the increase in family size.

One peasant stressed,

“Whatever care may be made to a land given to two members of the household, it does not feed ten household members”.

All informants unanimously asserted that large household size has deleterious effect on the welfare of the household. In response to this, aversion for having more children (irrespective of sex) is the dominant view among all focus groups and key informants. The disregard towards sex preference is due to the fact that both male and female children claim for land. One elderly exclaimed the difficulty of dealing with the problems associated with large household size as:

“As it is a natural phenomenon, marriage and giving birth are inevitable. How can we deal with this problems?”

There are two aspects of large household size identified by the participants. One aspect of large households is that many small children dominate the household as a result of un-spaced births. All these children contribute mouths to feed and bodies to cloth. On the other hand, if there are some five to six industrious youths in a household, because they are constrained by shortage of land, such household could also be identified as dominated by dependents. Thus, possessing large labour force is not rewarding, as pointed out by the peasants. Apart from their marginal

contribution to the household, they claim for land when they marry and establish independent life.

Some parents give a positive response to such claims and provide their children with small plot by cutting off from their possession. On the other hand, there are some parents who refuse to give any land to their children complaining that their responsibility is only to bringing-up until marriage. All the focus groups pointed out that most pervasive poverty is prevailed among the youngsters (new entrants to marriage) as they have no ground to stand and fight poverty.

Households headed by elderly are identified as well off, compared to the youth, thanks to their possession of some properties like goats, cattle, sheep, garden, land, etc. they maintained for years.

The most controversial issue by different focus groups and key informants is the feminization of poverty. Some participants argued that women headed households are in a better position for some two reasons. First, they have their own land that they give out for *ekul arash* (share cropping). Second, they augment their income by selling local drinks like *tella* and *areke*. This line of argument was held dominantly by male focus groups. On the other extreme of the spectrum, there are some participants who put women-headed households in a disadvantageous position in the following ways:

- 1) Their land given out for *Ekul arash* is not well treated. Given the unreliable nature of the rainfall, their land is not properly and timely tilled, no terracing is constructed over their land, the weed over their land is not properly and timely removed which finally lower the production they obtain from their land.

- 2) Most female-headed households make their living from such activities as selling *areke*, *tella*, fuel wood, and
- 3) dung cake; and working as daily labourers for others – all of which are tiresome and non-rewarding.
- 4) They usually do not have assistant in the course of their life.
- 5) Some irresponsible and idle (in the words of the focus groups) women engage themselves as sex workers which finally throw them into poverty and sexually transmitted diseases (STD's).

In regard to education, the participants perceived it to be one means to come out of poverty for it reduces the number of claimants for land and provide remittance. However, they bitterly complained that the government's policy to cease secondary education at grade ten has refrained them from teaching for the obvious reason that they can't afford to send their children to Debre Berhan, the zonal capital, for preparatory or technical education. One peasant stressed that, "our hope to benefit from educating our children has been blocked by the government".

The policy of the government encourages the peasants to be educated at least to the primary level for poverty to be reduced. But, in contrary to the expectation of the peasants with regard to the role of education in poverty reduction, the government advocates that at least 70 per cent of peasants that have attended formal education should resort to the agriculture sector [MOI, 1994 E.C:41]. The peasants that have attended formal education and resort to farming are noted to be better off in terms of using agricultural inputs appropriately and keeping their health and sanitation. In terms of economic status, however, the educated farmers do not significantly outpace the uneducated. Let alone the ones resorted to farming after attending some level of

education there is a perception that the intellectuals of the country at large are not in a position to mitigate their suffering. It was with embarrassment that I heard the focus groups blaming the elite as:

“In this day, despite knowledgeable people are numerous, wisdom that enables us escape poverty is seriously lacking”.

The other important issue related to government policies cited by the participants is the drastic rise of the price of fertilizer. Initially, when fertilizer was introduced by the *Derg* government, half a quintal of fertilizer was 12 *Birr*. Today, it has skyrocketed to 100-140 *Birr*, which is beyond means of most peasants to afford. The soaring of the price of chemical fertilizer is the result of the phasing out of the subsidies. As noted by the participants, the problem is compounded by such factors as:

- Once a land adapts to fertilizer, it no longer fits without fertilizer.
- If rain failure accompanies the application of fertilizer, the land absorbs the cost with no return that finally leads the peasants to indebtedness.

The participants complained that the government takes harsh measures to force peasants pay their debt. If one fails to pay back the debt for the fertilizer he used, no matter whether there is harvest or not, his oxen will be sold on market. This measure is alleged to throw many peasants into irreversible trench of poverty or in their own words “running to deep trench while our eyes are open”.

7.2 Quantitative Results

7.2.1 Descriptive Statistics

In this sub-section, the descriptive analysis of both standard of living and poverty *per se* has been presented. The objective of doing so is to lay ground for the analysis to be made using the econometric models (OLS and probit,) in the forthcoming sub section.

7.2.1.1 Demographic and Educational Characteristics Versus Standard of Living

It is well known that standard of living is explained in terms of income, consumption, life expectancy, educational status, health status, etc. As mentioned elsewhere, UNDP has developed a composite index called Human Development Index (HDI) and quite recently Human Poverty Index (HPI). In this sub-section, standard of living is approached from consumption expenditure point of view. More specifically, the mean and median of consumption expenditure of the household per adult equivalent are taken as dependent variables.

A close look into the data on household size in relation to the annual consumption per adult equivalent is more instructive to examine the link. As can be noted from table 7.1, both the mean and median of expenditure per adult equivalent consistently decline as the household size rises. For instance, the highest mean expenditure per adult equivalent for households with only one member is more than three-fold of their counter part with six and above household size. However, the expenditure per adult equivalent shows much variation among smaller households than among the bigger ones, as indicated by the standard deviation values. The result is generally suggesting the inhibiting effect of additional children to a household.

Dependency ratio of the household, which is defined as the total of household members with age less than 15 years and above 64 years divided by the number of household members in the age bracket 15 to 64, is another demographic variable assumed to affect standard of living. However, excepting to the households in the lowest dependency category that have generally the best standard of living as expected, no systematically discernible relation is observed between dependency ratio and expenditure per adult equivalent. This anomaly might be attributable to the

fact that the ones assumed to be dependents by this definition are not practically dependents, which tend to mitigate the differences triggered by the strict sense of “dependency ratio”.

The data presented in table 7.1 seem to suggest that female-headed households enjoy better living standard, measured in terms of mean consumption expenditure per adult equivalent, when compared to the male-headed households. This finding appears to reinforce the suggestion made by World Bank (1990:25) as income or consumption expenditure usually does not clearly display women’s disadvantage.

Labour force is one of the critically needed means of production for rural households. In this study the labour force of a household comprise all household members aged ten years and over and whose participation is not inhibited by disability or old age. As can be noted from table 7.1, the increment in size of the labour force in a household is associated with worsening living standard. An exception to this is the category characterized by five and more size of labour force which is observed to show some increase in mean and median expenditure per adult equivalent compared to labour force size category that precedes it. The blending of households with zero and one labour force size into the same category, due to the smallness of number of household with no labour force (only three), does not allow us to pinpoint the threshold beyond which the inhibiting effect of additional labour force induces. However, as most of the households in rural Ethiopia generate most of their income from their agricultural activities, one can safely suggest that the general fall of standard of living with increase in labour force is an implication of the very low productivity of labour and the readily unavailability of other means of production like land in the study area.

In the same way as the effect of labour force, the addition of adult women and men, defined as men and women aged 18 and over, to a household induces worsening living standard. The standard of living is observed to be in its highest when there is no either adult women or adult men in the household. For instance, households with no adult women expend more than two-fold per adult equivalent compared to households with two and above adult women. To make this variables more meaningful, the number of adult men to the number of adult women ratio in the household in relation to mean and median of expenditure per adult equivalent is presented in table 7.1. The result suggests that both mean and median of expenditure per adult equivalent decrease as adult men to adult women ratio increases.

In so far as the relation between marital status of the household head and standard of living is concerned, it appears that the never married ones tend to be in the higher welfare category followed by the divorced and separated. Standard of living is observed to be the least for households headed by those in married status. AS presented in table 7.1, the mean expenditure per adult equivalent of never married households is more than two-fold of the married ones. This difference can be explained by the relatively larger household size among the married ones, which puts heavier burden on the effort to win better standard of living.

Clear picture of association emerge between the level of education of the household head and the welfare of the household implying that education can be one of the variables explaining the difference in standard of living. As the data presented in table 7.1 reveal, standard of living increases monotonically as the level of education increases. Compared to the households headed

by persons who achieved junior secondary and above, illiterate headed households expenditure per adult equivalent is about half.

The link between age of the household head and standard of living is a complex one. As expected, the link appears to be non-linear, it first falls reaches a minimum and finally rises as the age of the household head advances. However, because the age of the household head is classified into somewhat broad categories, pinpointing the threshold is difficult. Had the sample size of the study been so large that allows further classification of categories, it could have helped to capture the full cycle of standard of living across ages.

To discern the possible life cycle effects on standard of living, mean age of the household is also employed. It seems that households with lower mean ages are dominated by younger household members while larger mean age implies the dominance of older household members. The result displayed in table 7.1 shows no clear-cut link between mean household age and standard of living, as measured by mean or median of annual expenditure per adult equivalent.

Table 7.1 Mean and Median of Expenditure per Adult Equivalent by Demographic and Educational Characteristics of the Household/Household head, Rural North Shewa, 1999-2000.

Characteristics	Frequency	Expenditure Per Adult Equivalent (Birr)		St. Deviation
		Mean	Median	
Household Size				
1	29	4266.009	3582.375	2905.253
2	40	1947.23	1668.975	1220.196
3	47	1642.017	1407.246	897.170
4 – 5	98	1388.767	1191.498	884.786
6+	90	1370.816	1109.855	936.591
Dependency ratio of HH				
0.00 – 0.39	74	2433.91	1702.311	2121.58
0.40 – 0.79	61	1411.476	1163.316	766.921
0.80 – 1.19	66	1626.843	1336.968	1128.406
1.20 – 1.59	38	1308.923	1067.761	845.480
1.60 & above	53	1391.049	1248.859	875.280
Sex of the hhh				
Male	209	1647.667	1197.712	1357.883
Female	95	2040.940	1431.587	1785.664

Size of labour force in the hh				
0 – 1	56	3078.625	2376.785	2518.053
2	93	1566.020	1289.964	1035.106
3	68	1481.159	1162.341	957.121
4	47	1293.556	1081.216	838.720
5+	40	1467.298	1149.421	959.403
Number of adult women per hh				
0 –	26	3204.807	2577.958	2473.162
1	211	1664.470	1245.588	1425.101
2+	67	1548.10	1200.307	938.545
Number of male adult per hh				
0	65	2304.596	1513.069	2052.293
1	186	1685.109	1252.226	1385.194
2+	53	1415.506	1108.250	936.503
Adult men and women ratio in hh				
0 – 0.99	102	2003.725	1365.494	1763.881
1 – 1.99	142	1449.651	1165.898	924.134
2+	34	1314.574	1093.340	928.096
Marital status of the hhh				
Never married	15	3592.526	3204.174	2186.203
Married	199	1456.616	1154.914	984.073
Widowed	45	2088.090	1524.314	2188.186
Divorced & Separated	45	2234.052	1513.069	1807.624
Level of education of hhh				
No formal education	194	1519.710	1163.996	1309.492
primary	66	1711.541	1307.706	1509.746
Junior sec. & above	44	2965.124	2702.857	1819.686
Age of the hhh				
14 – 29	47	1879.015	1298.434	1591.478
30 – 44	96	1730.610	1275.829	1689.565
45 – 59	86	1672.430	1156.400	1241.667
60+	75	1866.264	1480.931	1541.098
Mean age of the household				
9 – 16.99	70	1701.546	1269.412	1275.514
17 – 24.99	89	1520.939	1193.476	1168.119
25 – 32.99	63	2103.307	1378.341	2021.118
33 – 40.99	34	1561.00	1191.388	1073.993
40+	48	2045.2	1427.503	1816.565

Source: HICE Survey, 1999-2000, own calculations.

7.2.1.2 Demographic and Educational Characteristics versus Poverty

Much has been said as poverty is the result of complex interaction of various socio-economic, cultural, demographic, and political factors. At the household level, socio-economic and demographic characteristics of the household/household head affect their poverty status. In order to examine the possible association between in the demographic and educational characteristics

and poverty, chi square test is employed. This is assumed to facilitate the transfer to the analysis made in the next section using econometric models.

As mentioned in the previous chapter, the poverty line in the study area is set on annual expenditure per adult equivalent of *Birr* 1075.03. Thus, households that expend less than this sum per adult equivalent per annum are taken to be “poor” while those expending above this line are designated as “non-poor”.

As one can note from table 7.2, the poor seem to be over represented among larger households. The prevalence of poverty rises from 23.2 percent among households with one to three members to some 42.8 percent among households with a size four to five. However, slight decline of the incidence of poverty is observed among the largest household size category (six and over), compared to it's the category that precedes it. The chi square test result also confirms that the difference in poverty status among the household size categories is statistically significant at less than one percent level.

As to the dependency ratio of households, it is observed that no clear-cut association has emerged with poverty. The chi-square test also shows that there is no significant association between the two variables. In fact, all persons in the so-called working ages do not actually participate in economic activities and all persons outside these ages are not also dependent. Hence the obtained result might not be surprising since the definition is not refined in such a way that it includes children and elderly that effectively earn their living. The other possible explanation is that household members in the so-called working ages seek higher consumption

that inflates their adequate equivalent while their contributions might not significantly outweigh the contributions of “dependent” household members. Generally, the lack of clear-cut differences in terms of poverty status across dependency ratio categories seems to comply with the assertion of Lipton and Revallion [1995:2591] as “the rich-poor gap in dependency ratio is greater in cities than in villages, and in more than in less developed counties and regions”.

A related variable to household dependency ratio is size of the labour force of the household. This variable, despite its underestimation of the contribution of children under age ten, it appears to be refined in terms of its inclusion of household members contributing to the production and its exclusion of household members whose contribution is not as such significant. As it is presented in table 7.2, the incidence of poverty consistently increases with an increase in size of the labour force in the household, except for households possessing five and over labour size whose poverty incidence is lower than its three predecessor labour size categories. For instance, the incidence of poverty among households possessing four economically active members is more than three times the incidence among households with zero to one labour force size. The difference is significant at less than one percent level. The result, as has been pointed out in the previous sub-section, appears to suggest the very low productivity of labour.

The other way of considering human capital of households is from number of adult women and adult men perspective. As indicated in table 7.2, generally, the prevalence of poverty in household rises as both the number of adult women and adult men increases, although the chi-square test shows the result is insignificant. To be more precise, these variables are expressed as

adult men to adult women ratio, which also shows a tendency of increasing of incidence of poverty with its rise, although statistically insignificant.

In the data presented, the link between education of the household head and poverty is surprising and instructive to further examination. As one may observe, households headed by illiterates dominate the poor category, more than 40 percent of such households are identified as “poor”. Surprisingly, among households whose heads have junior secondary and above educational level, it is only nine percent that fall into the trap of poverty. This very large difference in terms of the incidence of poverty among educational categories is significant by the Pearson’s chi-square test at less than one percent level.

As far as the sex of the household head is concerned, 38.3 percent of male-headed households are identified as poor while the figure for women headed ones is only 28.4 percent. Thus, poverty, measured in terms of consumption expenditure per adult equivalent, is more prevalent among male-headed households when compared to their female-headed counter-parts. Women households tend to have lower risk to poverty possibly for such reasons as: they usually have smaller household size, lower child/adult ratios, and greater household head age.

The inverse pattern between the age of the household head and standard of living detected earlier appears to be maintained in the age of the household head – poverty linkage. The low level of poverty incidence emerges among households whose head age is between 14 and 29, 34 percent, culminates in ages 45 to 59, 43 percent, and finally falls to 28 percent among households headed

by elderly of 60 years and above. However, the association between the two variables is not statistically significant.

Another way of probing the life cycle of poverty is approaching using mean age of the household head as predictor variable. However, no systematic pattern of link emerged between mean age of the household and poverty. The observed increases-decreases-increases-decrease pattern of poverty along the age groups is not somewhat in line with expectation. The observed lowest incidence of poverty among households whose mean age is 40 and above, only 29.2 percent, deserve attention as it has an implication that households dominated by older members have lower risk to fall into poverty compared to others. This result appears to go hand in hand with the aforementioned finding that households headed by elderly have a better probability of escaping poverty. Despite the differences are not statistically significant this variable will be further tested using econometric models in the forth-coming section since it has theoretical basis and at the same time substantial importance for the present study.

In so far as the link between marital status and poverty is concerned, the incidence of poverty is more pervasive among the married ones, 42 per cent. None of the households headed by never married persons falls in to the poor category. As can be noted from table 7.2, the incidence of poverty among widowed, and divorced and separated is 28.9 per cent and 22 per cent, respectively. The tendency of over representation of married among poor might be attributed to relatively large household size they have.

Table 7.2 Poverty Status of Households by Demographic and educational characteristics of households /household heads, Rural north Shewa, 1999 – 2000

			Poverty Status		Total	X ²	P-value
			Poor	Non-poor			
Household size	1-3	N	27	89	116	11.696	0.003
		E	40.83	75.17			
		%	23.27	76.72	100		
	4-5	N	42	56	98		
		E	34.49	63.51			
		%	42.86	57.14	100		
6 & above	N	38	52	90			
	E	31.68	58.32				
	%	42.22	57.78	100			
Total			107	197	304		
			35.2	64.8	100		
Marital Status	Never married	N	0	15	15	16.564	0.001
		E	5.28	9.72			
		%	0	100	100		
	Married	N	84	115	199		
		E	70.04	128.96			
		%	42.21	57.79	100		
	Widowed	N	13	32	45		
		E	15.84	29.16			
%		28.89	71.11	100			
Divorced & separated	N	10	35	45			
	E	15.84	29.16				
	%	22.22	77.78	100			
Total		N	107	197	304		
		%	35.2	64.8	100		
Dependency ratio of the HH	0.00-0.39	N	20	54	74	6.713	0.152
		E	26.86	47.14			
		%	27.03	72.97	100		
	0.40-0.79	N	25	36	61		
		E	22.14	38.86			
		%	40.98	59.02	100		
	0.80-1.19	N	22	44	66		
		E	23.96	42.04			
		%	33.33	66.67	100		
	1.20-1.59	N	19	19	38		
E		13.79	24.21				
%		50	50	100			
1.60 & above	N	20	33	53			
	E	19.24	33.76				
	%	37.74	62.26	100			
Total		N	106	186	292		
		%	36.3	63.7	100		
Age of the household head	14-29	N	16	31	47	4.069	0.254
		E	16.54	30.46			
		%	34.04	65.96	100		
	30-44	N	33	63	96		
		E	33.79	62.21			
		%	34.375	65.625	100		
	45-59	N	37	49	86		
		E	30.27	55.73			
		%	43.02	56.97	100		
	60 & above	N	21	54	75		
		E	26.4	48.6			
		%	28	72	100		
			95				

Total		N	107	197	304		
		%	35.20	64.80	100		
Mean age of the household	9-16.99	N	26	44	70	2.385	0.665
		E	24.64	45.36	70		
		%	37.14	62.86	100		
	17-24.99	N	35	54	89		
		E	31.33	57.67	89		
		%	39.33	60.67	100		
	25-32.99	N	19	44	63		
		E	22.17	40.83	63		
		%	30.16	69.84	100		
	33-39..99	N	13	21	34		
E		11.97	22.03	34			
%		38.24	61.76	100			
40 & above	N	14	34	48			
	E	16.89	31.11	48			
	%	29.17	70.83	100			
Total		N	107	197	304		
		%	35.2	64.8	100		
Adult women per HH	0		3	23	26	6.978	0.030
			9.15	16.85	26		
			11.54	88.46	100		
	1		79	132	211		
			74.27	136.73	211		
			37.44	62.56	100		
2 & above		25	42	67			
		23.58	43.42	67			
		37.31	62.69	100			
Total			107	197	304		
			107	197	304		
			35.2	64.8	100		
Size of Labor force	0-1	N	8	48	56	15.768	0.003
		E	19.71	36.29	56		
		%	14.29	85.71	100		
	2	N	34	59	93		
		E	32.73	60.27	93		
		%	36.56	63.44	100		
	3	N	28	40	68		
		E	23.93	44.07	68		
		%	41.18	58.82	100		
	4	N	23	24	47		
E		16.54	30.46	47			
%		48.94	51.06	100			
5 & above	N	14	26	40			
	E	14.08	25.92	40			
	%	35	65	100			
Total		N	107	197	304		
		%	35.2	64.8	100		
Educational level of the HHH	No formal education	N	79	115	194	15.783	0.000
		E	68.28	125.72	194		
		%	40.72	59.23	100		
	primary	N	24	42	66		
		E	23.23	42.77	66		
		%	36.36	63.64	100		
Junior and above	N	4	40	44			
	E	15.49	28.51	44			
	%	9.09	90.91	100			
Total		N	107	197	304		
		%	35.20	64.8	100		

Sex of the HHH	Male	N	80	129	209	2.782	0.095
		E	73.56	135.44	209		
		%	38.28	61.72	100		
	Female	N	27	68	95		
		E	33.44	61.56	95		
		%	28.42	71.58	100		
Total		N	107	197	304		
		%	35.2	64.8	100		
Number of male adult per hh	0	N	15	50	65	5.597	0.61
		E	22.88	42.12	65		
		%	23.08	76.92	100		
	1	N	70	116	186		
		E	65.47	120.53	186		
		%	37.63	62.37	100		
2 & above	N	22	31	53			
	E	18.65	34.35	53			
	%	41.51	58.49	100			
Total		N	107	197	304		
		%	35.2	64.8	100		
Adult men per adult women Ra	0-99	N	31	71	102	3.95	0.139
		E	38.16	63.84	102		
		%	30.39	69.61	100		
	1-1.99	N	57	85	142		
		E	53.12	88.88	142		
		%	40.14	59.86	100		
2 & above	N	16	18	34			
	E	12.72	21.28	34			
	%	47.06	52.94	100			
Total		N	104	174	278		
		%	37.41	62.59	100		

Source: HICE data 1999/00

7.2.2 Multivariate Analysis

The 1990/2000 Household Income, Consumption, and Expenditure Survey for Rural North Shewa is used to model the determinants of the incidence of poverty and standard of living (depth of poverty). To this end, regression procedure is applied. For the incidence of poverty, a discrete model, in which the dependent variable is binary variable assuming two values, 0 and 1 is chosen. This is because the dependent variable is whether a household is poor or not poor. *Probit* model is selected for its advantages over the other discrete models. It guarantees that the estimated probabilities lie in [0,1] range and that they are non-linearly related to the explanatory variables [Lelissa and Mulat, 2002]. As the dependent variable takes the value of unity if the household is poor and zero if it is not, the predicted value of regression is therefore the estimated

probability that a household of given characteristics is poor. Given *probit* estimation is inherently non-linear, the marginal effect of each explanatory variable on the probability that the household is poor is not constant but depends on the position within the distribution [Coulombe and McKay, 1993:47]. However, for any household the magnitude of the coefficient of the estimated model gives the factors that more likely make households poor. [Abbi, 2000:11]. The larger the coefficient, the greater is the effect of explanatory variable on the probability that the household has annual expenditure per adult equivalent below the defined poverty line (1075.03 Birr).

Therefore, the probability of falling into poverty can be expressed as:

$$\text{Prob}(y = 1) = F(Z - (\beta_0 + \beta_1 X_{1j} + \beta_2 X_{2j} + \dots + \beta_k X_{kj}))$$

Where, F = Cumulative Probability Function

$J = 1, 2, \dots, j$ observation

β_0 = the intercept/constant term

β_k = slope parameters

X_{kj} = the k^{th} observable explanatory variable for the j^{th} observation.

$K = 1, 2, \dots, k$ coefficients of observable explanatory variables

Z = poverty line.

For the standard of living that shows the depth of poverty, logarithm of annual consumption expenditure per adult equivalent is used as dependent variable. The transformation to logarithm is applied for two reasons. One to control heteroskedasticity and two to acknowledge that the

marginal utility of income is assumed to be non-linear [Maxim, 1992:189]. Given the dependent variable is continuous, OLS estimation is applied and given that it is expressed in logarithmic form, the coefficients give the proportionate effect of each explanatory variable on the living standard [Coulombe and Mc kay, 1993:47]. This can be expressed as:

$$\text{Log}(Y_i) = \beta_0 + \beta_1 x_{ij} + \beta_2 x_{2j} + \dots + \beta_k X_{kj} + e_j$$

Where Y_i = annual household expenditure per adult equivalent

$j = 1, 2, \dots, j$ observation

β_0 = the intercept/constant term

β_k = slope parameters

X_{kj} = the k^{th} observable explanatory variable for the j^{th} observation.

$K = 1, 2, \dots k$ coefficients of observable explanatory variables

e_j = normally distributed error term

To avoid repetition of almost similar issues, the discussion of both regression results is made simultaneously.

Econometric Results

The results obtained by regressing poverty status and logarithm of annual household expenditure per adult equivalent on selected demographic and educational variables are presented in table 6.3 and 6.4, respectively. The regressors included in both models are: household size (HHSIZE), age of the household head and its square (HHHAGE and HHHAGE2), household dependency ratio

(DEPRATIO), size of the labour force in the household and its square (LABORF and LFSQUARE), number of male and female adults in the household (MALEADU and NUMWOMEN), male adults to female adults ratio in the household [MWADRATI], mean age of the household and its square [MEANAGHH and MEANAGSQ], a dummy for married household heads [MARRIED], a dummy for household heads attended informal or primary education [PRIMARY], a dummy for household heads attended secondary education [SECONDAR]. However, for the OLS estimation, spouse literacy (SPLITERA) is added.

Except LABORF, all the results of the *probit* estimate are significant at 1 per cent level while most of the OLS results are statistically insignificant. Thus, in the course of discussion, emphasis is given to the correlates of the incidence of poverty rather than the depth of poverty.

Household size is hypothesized to affect poverty status of a household positively because, *ceteris paribus*, larger households need a large total income than smaller to maintain the same standard of living. The *probit* estimate further confirms this hypothesis that addition of household member increases the probability of a household to be poor, significant at 1 per cent level.

As expected, the HHHAGE2 suggests that the probability of being poor rises, reaches a maximum, and then falls as the age of the household head advances, significant at 1 percent level. Thus, household headed by elderly and youngsters are better off as compared to those headed by persons in the middle ages. This finding reinforces the family cycle explanation which attributes the better position of the youngsters, *inter alia*, to the wedding gifts, small number of children, and their zealous working habit with lesser obstacles reducing their participation rates.

The situation among the elderly is explained by their receiving of inheritances, small number of dependents, receiving remittances from their children, their ability to negotiate the control and distribution of resources for all its members with the rest of the community [Lipton, 1983a:46; Bruck, 2001]. However, from policy perspective, one should not neglect the elderly assuming that they are less likely to be poor as they are, most often, more likely to suffer from diseases and shortage of labour. The more probability of being poor among household headed by the ones in the middle ages (actively working ages) also suggests that it would not be as such difficult to extricate the most affected from poverty on the condition that conducive environment is created.

For a given household size, the likelihood of poverty is expected to increase with dependency ratio. However, the *probit* estimate implies that dependency ratio decreases the probability of being poor, at 1 per cent significance level. This finding is in sharp contradiction with the study of Bigsten et al (2002), which identified dependency ratio as the extremely important factor inducing poverty. As explained elsewhere in this paper, the deviation of the result from expectation might be due to the inappropriate definition given to “dependency” that disregards the fact that rural people start working in very early ages and stop in late ages.

In pursuit of the famous dual sector model of Arthur Lewis (1954), it is hypothesized that, poverty have a curvilinear patter of relation, which lowers, reaches a minimum, and then rises; to the size of household labour force. The LABORF variable is not statistically significant, explaining little, if any, variation in incidence of poverty. However, the LFSQUARE variable significantly implies the aforementioned U-shaped pattern of poverty with increase in household labour force size. The OLS coefficient for LABORF indicates that possessing larger labour force

decreases the living standard of the household. These results suggest the presence of surplus labour in rural North Shewa in relation to capital and natural resources (especially land) so that the marginal productivity of labour in labour abundant households is negligible or less than their consumption.

The number of male adults [MALEADU] is noted to decrease poverty while the number of adult women increased the risk of poverty in the household. The adult males to adult women ratio (MWADRATI) is also observed to increase poverty. These results seem to suggest the importance of male adults for much of agricultural production in rural North Shewa. On the other hand, excessive male adults over adult women have deleterious effect possibly because the agricultural activities of males will not be effective unless complemented by the role of women. Given that women are largely responsible for much of reproductive, social, and advisory roles as well as participate in the productive role; it seems realistic to expect that increment of adult male to adult female ratio would incapacitate the productivity of households by creating gap in these important roles. Thus, what is beneficial is not a mere number of adult men but if it is accompanied by the appropriate number of adult women who have much role in reproductive and other indispensable activities.

As mean age of the household is also assumed to depict the life cycle of poverty at household level, mean age of the household [MEANAGHH] and its square [MEANAGSQ] are taken as explanatory variables. As pointed out by the coefficient of MEANAGSQ, the probability of falling into poverty is higher among households with lower and higher mean ages. This result signifies that the risk of poverty is very high among households dominated either by the very

young or the very old. Although households headed by elderly are observed to have better welfare (as indicated by HHHAGE2), they have higher probability of being poor if they don't possess young labour force (as implied by MEANAGSQ]. The higher risk of being poor among households dominated by the very young suggests that small children undergo the agony of poverty – which is likely to precipitate unhealthy, uneducated, and undernourished young population. This situation poses irreversible danger on the future endeavor of poverty reduction.

The various education variables were not expected to determine the risk of poverty significantly mainly because the relevance of formal education for rural agricultural activities is highly questioned. However, the *probit* coefficients for the dummy variables of education (PRIMARY and SECONDAR) suggest that the educational level of the household head has significant impact of reducing poverty. The variables are also noted to increase standard of living significantly, as the OLS result shows. This is in line with the findings of many studies in rural areas (see, Bruck, 2001, Bigsten et al, 2002:14; Greer and Thorbecke, 1986:134). But caution should be taken before predicting the likely benefits of expanding education into rural areas on poverty reduction. This is to mean that education might be endogenous variable since children of well-to-do are more likely to have a chance of tapping formal education as well as receiving more wealth from their families when they marry and establish an “independent” life. It is also expected that the OLS result of the dummy for spouse literacy (SPLITERA) is due to endogeneity of the factor since females with some educational level are more likely to marry well-off husbands. To justify this assertion, several studies show that education is expected to increase productivity in situations where innovations are introduced, while this does not seem to be the case when only traditional methods are used (Bigsten *et al*, 2002:18). In rural North Shewa,

where little agricultural innovations has occurred, it is expected that the net effect of education in productivity and hence on welfare is not significant.

The dummy for the sex of the household head [TSOTA], in contrary to the hypothesis that female headed households are more likely to be prone to poverty compared to their male-headed households, indicates that women – headed households have lower probability of falling into poverty. Many studies in Asia and Africa have also found a similar result (see Visaria, 1980; Lipton, 1980; Greer and Thorbecke, 1997). However, this does not lead to the conclusion that women-headed households have better welfare because data on income/ expenditure is too weak to give clear answer while they are usually more likely to suffer from special disadvantages due to pregnancy and child birth, health, nutrition, education, lack of access to jobs, etc. [World Bank, 1990:25; Lipton, 1983a:48-53].

The dummy for the married household head [MARRIED) suggests that households of the married, when compared to the households headed by the ones not in marital life, have higher risk of falling into poverty.

Table 7.3 Probit Estimates of the Probability of being poor, Rural North Shewa, 1999/2000

Goodness of fit chi2 = 31989.27

P = 0.000

	Coef	Std.Err	T-ratio
SIZE	.02586	.00509	5.07870
HHHAGE	.01223	.00167	7.33273
DEPRAIO	-.03426	.00556	-6.16261
HHHAGE2	-.02005	.00001	-3.54990
LABORF	.01129	.01029	-1.09763
LFSQUARE	.00546	.00104	5.26760
MALEDU	-.14391	.01948	-7.38594
MARRIED	.07416	.01209	-6.13385
MEANAGHH	-.01762	.00187	-9.40813
MEANAGSQ	.01022	.0002	11.11078
MWADRATI	.12939	.02109	6.13614
NUMWOMEN	.03216	.01131	2.84321
PRIMARY	-.06915	.00938	-7.36823
SECONDAR	-.03951	.00981	-4.02866
TSOTA	.09392	.01246	7.53829
Intercept	-1.83577	.03770	048.69931

Source: HICE survey, own calculation

Table 7.4. OLS results standard of living Analysis for Rural North Shewa, 1999-2000

	Coef	Std.Err
SIZE	-.027332***	.002097
HHHAGE	.004491	.008240
DEPRAIO	.034159	.029748
HHHAGE2	-.0004	.00007
LABORF	-.085742***	.005292
LFSQUARE	.012854**	.005804
MALEDU	-.070925	.104677
MARRIED	.047984	.070685
MEANAGHH	.00866	.008770
MEANAGSQ	-.000108	.000098
MWADRATI	.076291	.111265
NUMWOMEN	.021886	.061429
PRIMARY	.026719***	.004265
SECONDAR	.286712***	.053385
TSOTA	.092444***	.006829
SPLITERA	.094193***	.042125
Constant	2.951574	.201345

Source: HICE Survey, own calculation

*** Significant at 1 percent level

** Significant at 5 per cent level

CHAPTER-EIGHT

SYNTHESIS OF THE MAIN ISSUES AND CONCLUSION

“Idleness, yet full strength- -” –Valery

*“The rich man counts his money; the poor man counts the days”
--Ethiopian saying*

In this study, attempts have been made to analyze poverty situations and its correlates in rural Ethiopia in general and in rural North Shewa in particular. Using primary qualitative data and secondary data from various sources, some imperative issues have been explored, and analyzed to explain poverty in broader framework. The issues addressed gravitate around: the evolution of poverty debates at the global level; the evolution of poverty and policies related to poverty in Ethiopia; the perception of rural poor regarding poverty, trends of poverty, characteristics of the poor, and causes of poverty; the poverty profile; and correlates of the incidence and depth of poverty in rural North Shewa, among others.

In this final chapter, the main issues interacting with poverty are revisited, synthesized, and concluded. In the first section, the poverty situations in rural North Shewa are re-examined in relation and with in the context of policy issues. In the second section, the findings from the correlates of poverty are reconsidered. Finally, after concluding the issues, possible solutions to address rural poverty in Ethiopia in general and in rural North Shewa in particular are forwarded.

8.1 Looking at the Poverty Situation and Policy: Synthesis

It is well known that agriculture is the main stay of the Ethiopian economy, from which 85 per cent of the population earns its livelihood. However, its contribution of only about 46 per cent of

the GDP implies the very low productivity of the sector. In connection to this, it is sad to note that Ethiopia is a net importer of food and the most vulnerable to food deficit are the food producers, the rural people. The current government persists with the ADLI strategy, which heavily relies on the agricultural sector to carry the rest of social and economic sectors in the path to growth. The Rural Development Policy endorses that the resources generated from the agriculture could lay the foundation of heavy industries. ADLI Strategy is presented as the channel for the country to come out of poverty and achieve accelerated growth (IPRSP,2000:6).

This study, which has made its base at rural North Shewa has some important findings. No matter how ADLI Strategy has been pursued since the early 1990's, the rural peasants are still under the mercy of nature and reliant on their shrinking and degrading farmland for their production and are not in a position to feed themselves. The extension program, which is envisaged to raise the productivity, is constrained by such factors as: rising price of inputs and erratic rainfall after applying the inputs (which brings only debt to the peasants with no return). Although almost all technologies used in other countries to boost agricultural productivity are currently in use in the program, the situation does not seem to be promising. The lifestyle of the people is noted to involve hazards that threaten their livelihood. Aspects identified as reflecting their day-to-day / year-to-year insecurity comprise: harvest failure, shortage of land, rain failure, inability to feed their family members, etc. One is identified as well to do if he/she is able to barely feed his/her household members throughout the year. This signifies how the rural people have become subsistence-minded. Under such fragile agricultural production processes, poverty reduction in rural areas will remain precarious, and agriculture may not be able to serve as a

vehicle for industrialization. The peasants perceive as the incidence and depth of poverty is growing from time to time and they foresee no bright future, if not worse.

One of the premises for pursuing ADLI strategy in Ethiopia is mentioned as the country has enough land and abundant hard working rural labour force(MOI, 1994 E.C:6). However, the land is fragile, ecologically marginal, and areas such as steep slopes are now increasingly brought under cultivation due to acute shortage. Population pressure has reached at its critical stage compounded by alarming environmental degradation, and backward agricultural technologies. Population pressure is inducing Hardin's "tragedy of commons" on communal properties like forestlands, grazing land, marginal lands, water, etc. As a result, increased intra-family conflicts and loosening of social cohesion in the community are noticed. From this it would be wise to expect further environmental degradation, which pushes down productivity. Thus, the poor are observed to be both the agents and victims of environmental degradation. In such a situation, we have every reason to assert that peasants work for sheer survival and are not in a position to build asset or reserves.

Although the income per capita is lower; the poverty head-count ratio, poverty gap, and severity of poverty are noted to be slightly lower in rural parts of North Shewa than rural parts of the country at large. As implied by the P2 indices, inequality among the rural poor of North Shewa is lower than the rural poor at national level. Because land is almost equally distributed, it is valid to assume that inequality among the peasants mostly emanate from geographic differences in quality of land, in climatic conditions, in possession of assets, and access to market and remittances from relatives. Thus, inequalities among the residents of the same geographic area

appear to be negligible. The heading down of the once well-off to the lower ladder of life has also induced some consequences on the well-being of the poor. In response to the declining inequality, the “trickle down” effect from the well-off to the very poor in terms of providing on-farm employment, loans in critical harvest short-falls, feasts, etc. is declining. For instance, the poor face the opportunity to taste meat only in some special occasions like wedding, *mahiber*, *tezkar*, holidays, etc. that the well-off prepare. Complementary income sources are increasingly becoming remote possibilities and the coping mechanisms such as borrowing, employing in non-farm activities, planting vegetables, etc. that were in use are now being no more effective. By harvesting about ten or eleven quintals of cereals or pulses from a hectare households often fail to obtain food for subsistence, let alone improve economic status.

Although North Shewa became critically famine-prone in the last two decades, the frequency and magnitude of famine is increasing from time to time. Living at the brink of survival under the situation that non-farm employment, and saving or asset building are hardly possible; it is beyond doubt that a simple harvest failure makes many automatically susceptible to famine. It is my contention that the cumulative result of these entire situations corroborates what Mesfin WeldeMariam (1991:187) called “meandering downhill movement”

8.2 Correlates of Rural poverty: Rethinking the Issues

The main theme of this paper in part relates to the demographic correlates of poverty. However, taking demography as determinant force in making a difference in well being is not emanated from the narrow view that only demography matters. I submit that demography is only part of the equation. Obviously, household is the unit of labour, production, and consumption; the

analysis in this study is made mainly at the household level. Close scrutiny of the results from both qualitative and quantitative data have brought into light interesting results with regard to the correlates of poverty in rural North Shewa which do imply the causes of poverty and/or the disadvantaged segment of the society.

Given land is the ultimate source of almost all income in most parts of rural Ethiopia, progressive shortage and degradation seem to invalidate the age-old argument that considers large household size (or large number of children) as asset for households in rural Ethiopia. Indeed, such activities like tilling land, weeding, collecting firewood, fetching water, transporting and selling agricultural products, claiming marginal lands, etc. are labour-intensive. The dominance of large household size among the poor probably suggests that there is larger number of potential households to fall into poverty trap. This is primarily because these larger numbers of household members from poor households are less likely to establish households with adequate asset-base to escape the trap. If this problem is not abated by creating wide alternative livelihoods, it is valid to assume that the depth and severity of poverty are more likely to increase exponentially. However, because the demand that large household poses preponderates the reward it brings, smaller households are noted to be in a better position of escaping poverty.

The aversion towards having more children reflected in the focus groups and the substantial shrinking of the proportion of the study population at the age group 0-4 probably imply that both behavioural change and practical response towards fertility reduction are taking place as the poverty situation presses harder. Lipton (1989) and Markos (1997) also have found a similar

response of rural people to increasing problem of land scarcity and ecological depression. It is obvious that such poverty-driven fertility reduction is a rational response of the peasant understanding the demand that additional child generates. In a nutshell, the direction of Caldwell's net "wealth flows" from children to parents is being reversed.

On the basis of observing the fact that a third of the annual economic growth of East Asian "tigers" has been a result of the demographic window, a test has been made by transforming the macro-level concept to micro-level, the household. The result pointed out that household dependency ratio does not increase poverty. Given the fact that both rural children after about five or six years of age and elderly people effectively earn their living, the obtained result might not be surprising. The result might be compounded by the very low productivity of the ones in the working age bracket (15-64) due to lack or inadequacy of productive assets. This result may suggest that the rural poor may not benefit from "demographic window" if the possible fertility decline is not accompanied by large-scale productive employment opportunities for the potential entrants into the labour force. If that happens, unlike East Asian Countries, reaching demographic window may mean transferring from "Child burden phase" to what I may call "Adult burden phase"

Although it is supplemented by different forms of labour exchange (eg. *debo*), household labour is the single most important source of labour in rural North Shewa. All the results in this study point towards the conclusion that possessing large labour force is not an advantage since its full use is constrained by acute shortage of capital and natural resources. This is not to deny the fact that substantial labour is needed during agricultural peak seasons. Indeed, Mccann (1987), in his

study in Wello, noticed that population pressure intensifies the labour demand to cultivate lands of difficult terrain. However, the question is whether such marginal lands are rewarding. In such a situation of impoverished land resources, it is obvious that the new hands which accompany the mouths do not usually produce as much as they demand. Labour-deficient households usually facilitate their labour problem by using community labour, hired labour, modern inputs, etc. with relatively lower costs. For instance, because the manual performance of weeding, which seeks abundant labour, is increasingly being replaced by weed-killer chemicals; the hiring of wage labourers for this activity is noted to decline significantly. From the result of this study, I am more convinced than ever that the emphasis given to labour intensive growth in the ADLI strategy should also look into increasing the return of labour.

The government media are heard blaming the presence of many holidays for the persistence of poverty in rural Ethiopia. The rural Development Policy also seems to subscribe to this view (MOI, 1994 E.C: 39). However, this seems a speculation without deeply having a close look at what is happening in the real life of the peasants. I argue that the problem is not incapability of using the available labour exhaustively but the involvement of exogenous variables constraining its productivity. This argument should have been raised in earlier days when there was excessive land, forest, grazing land, etc. to have a realistic base. When it is raised today, it emanates from a failure to identify and address the root causes of the rural miserable life. In addition to that, holidays among the peasants of North Shewa are not spent in an idle manner. No matter how holidays account for a considerable portion of the year, these days are working days allocated for such activities as: marketing, constructing houses and fences, piling-up and gathering already harvested crops, mowing grass for animals, executing social responsibilities, etc. In general, it

would be beneficial to divert attention towards looking for mechanisms reducing disguised unemployment rather than sticking at an outdated argument.

The incidence of poverty reaches its peak in the mid-span of the age of the household head while it is lower for the elderly and the very young household heads. This inverted-U pattern of incidence of poverty with the age of the household head has various policy implications in the course of grappling with poverty. As pointed out by the focus groups, the lower incidence of poverty among the new entrants into marriage (the youngster heads) seems untenable. They appear to be well-off because their insecurity is disguised by their smaller household size, their participation with almost no obstacles like children, and wedding gifts. However, as they usually possess meager resource base that may allow them to have a mere subsistence when children arrive, they are on the verge of losing the ground to sink into dismal poverty fueled by desperateness.

The higher incidence in the mid-span of the household head seems to suggest that children are highly exposed to the hazards of malnutrition, poor health, and illiteracy, etc. To buttress the insecure livelihood of the household, children are more likely to employ themselves in hazardous non-farm activities like selling of firewood, grass, dung cake, etc. In fact, Yared (1999), in his study in Wegda-North Shewa, argued that even poor peasants make sure as far as possible that children are protected. But there is no doubt that they will shoulder the outcomes of crunching poverty to a significant extent. This is a threat for the realization of the commitment of the government to halve infant and child mortality, and achieve universal enrolment in primary education by the year 2015 as compared to the situation in 1990. Concentration of the greater

risk of poverty in the prime working ages may also mean that poverty hard hits possibly the ones with wisdom and labour force. Thus, if concerted action is taken by providing capital and natural resources like land, the effort to bring them out of poverty is likely to bear fruits.

The lesser risk of poverty among the elderly household heads might be due to lesser number of dependents, receiving inheritances from their forefathers, receiving remittances, their ability to negotiate the control and distribution of resources for all its members with the rest of the community, etc. However, it is also found that they are more likely to suffer from the agony of poverty if their household is consisted of solely elderly (if they do not possess labour). Thus, there is larger inequality among the elderly headed households. The other reason that makes the elderly the focus of attention of poverty reducing policies is that they are more likely to be prone to diseases.

The consumption-based poverty line put female-headed households in a better status as compared to the male-headed households. In addition to their possession of land on their own right, women-headed households usually generate income from the sale of local brews (*areke* and *tella*), firewood, dung cake, grass, etc. Although income from these diversified sources enable their usually small household members barely subsist, the fragility of the activities put always at the risk of vulnerability. The *ekul arash* (share cropping) system that they usually use to cultivate their land is also noted to throw them into disadvantageous position since their land is not usually well treated; poorly cultivated; and conserved. Apart from the material well-being, female household heads and their children usually face social exclusion from the community.

On the other hand, increment of adult males and adult females to the household is noted to decrease and increase the risk of poverty, respectively. However, unless accompanied by appropriate number of adult females in the household, a mere increment of adult males increases the risk of poverty. This may possibly lead us to suggest that the decisive role of adult males in agricultural production should be supported by the reproductive, social, and advisory roles of adult women in if the welfare of the household is to be improved.

The importance of education in increasing agricultural productivity is tested to check the reliability of the supposition of the Rural Development Policy which emphasizes formal education. The quantitative result depicts that the educated households have lower probability of falling into the risk of poverty. However, this might be due to the endogeneity of the education variable. In fact, from the focus groups, it was possible to note that educated peasants are better in terms of using the agricultural inputs appropriately, and keeping their health and sanitation, if not in terms of economic well being. The Rural Development policy document mentions that the spreading of formal education to the rural areas is not to allow them employed in the urban-based non-agricultural sectors. Rather, it is envisaged to create “educated peasant” that is ready to apply new agricultural technologies and perform his/her agricultural activities scientifically by making references to written documents (MOI, 1994E.C:40-41).

There are certain pitfalls for the realization of this objective. First, the peasants allow their children attend formal education for the very reasons that they want their children come out of the hazardous rural life, to decrease the number of claimants of land, and to receive remittance from their salaried children- all of which are in sharp contradiction with the intention of the policy. Second, those who resort to the rural life after attending formal education up to a certain

level are usually desperate and unsatisfied to pursuing agricultural activities. Third, the productivity of the peasants is constrained mainly by lack of agricultural assets like land, which is less likely to be affected by education. Thus, if the purpose of spreading formal education is to boost the productivity of the agricultural sector by making use of the reading and writing skills of the peasants and their open behaviour to accept agricultural technologies, I contend that rural-based basic education accompanied by short-term trainings is a better option in terms of practicality and cost effectiveness without losing the intended objectives. My contention precipitates in the following observations. First, it accommodates peasants from wider age groups. Second, it is possible to arrange schedules in accordance with slack agricultural seasons. Third, it reduces the cost of both the peasants and the government. Fourth, it allows the delivery of focused curriculum relevant to the rural life.

8.3 Conclusions

Poverty Analysis has three tasks: to define and describe “poverty”, to understand its causes, and to inform policy. So far, attempt has been made to deal with the first two tasks. When we move to the third task, the rigorous question posed is whether it is possible to extricate the rural people from poverty and its pathological state.

The analysis made based on the 1999/2000 HICE Survey for rural North Shewa and the qualitative assessment in one of the *weredas* in March 2003 gravitates around: the situation of poverty, the causes of poverty, and the characteristics of the poor. The rural peasants mentioned that their alternative sources of income are out of their reach, their coping strategies are exhausted, they see no window of hope, they feel insecurity of what will happen the next

day/year, their land is over-populated and rapidly resorting to unproductive state, environmental degradation is at its critical stage, and inequality is narrowing and all are heading down the path of poverty. Their desperateness is to the extent that they feel as they will not come out of poverty no matter how huge aid may be pumped to the area. They foresee only two ways out: either moving massively to an ideal virgin land or accepting the final outcome of such a crunching poverty.

In this study, emphasis is made mainly on how the demographic characteristics of human beings/households (such as age-sex composition, household size, labour force size, marital status, educational status,) play roles as agents of change in well being. The present study proved the hypotheses that there exists: (a) negative correlation between household size and the risk of poverty; (b) inverted U-shaped pattern of the risk of poverty with increasing age of the household head; (c) U-shaped pattern of pattern of the probability of falling into poverty with increasing size of the labour force. On the other hand, the remaining two hypotheses (a) negative correlation of household dependency ratio versus the risk of poverty and (b) the more likely hood of female headed households to fall into poverty are rejected though with some precautions. Although the regression results suggested that education helps the rural people escape poverty, its effect is suspected of being endogenous. In a nutshell, household characteristics that trigger to fall into poverty comprise: larger household size, larger labour, mid-span ages of the household head, elderly dominated composition; larger number of women, larger number of adult males accompanied by disproportionately smaller number of adult females.

As far as this study is concerned, it can be hypothesized that the major factors responsible for the persistence of rural poverty in the study area can be summarized as: population pressure due to rapid population growth, deteriorating fertility of the soil, and backward technology; very low productivity of labour (the prevalence of disguised unemployment); absence of employment outside agriculture; subsistence mentality of the peasant accompanied with extreme desperateness; and drought. At this juncture, let me bring back the rigorous question posed at the beginning of this section: is it possible to extricate the rural people of Ethiopia from poverty and its pathological state? Given the complexity of the problem and the kind of efforts and resources required, it is clear that the answer is not as simple as “yes” and “no”. But we have every reason to believe that escaping from the vicious circle of poverty is extremely difficult, if not impossible, so far as the aforementioned factors perpetuate in an intricate manner.

However, this is not to subscribe for the pessimistic view that the country will be doomed by its poverty. In the 1960s and early 1970s many prominent economists considered Asian countries, with their vast, poverty-stricken population and limited resource, to be caught in a low-level development trap. Their inconceivably rapid success as time passes pointed out that this assumption was wrong (World Bank, 2001:12). Thus, it would be unwise to suggest that reversing the “downhill movement” is not possible. Given that the situations of poverty, and opportunities available vary across countries; there is no universal path or magic formula of poverty reduction. Thus, if the country is to abate rural poverty, reaching the bottom of the “generating variables” and debilitating them from the scene is imperative. Although I submit that this study is not conclusive, it has shed some light on the potential forces involved in the process of rural impoverishment and possible way outs.

8.4.Recommendations

- It is important to recognize that generating employment is not enough for agriculture to meliorate the pervasive poverty. Rather, emphasis should be given to the increment of the return to labour. To this effect, reallocation of household labour away from agriculture to manufacturing or sales and services by creating large-scale employment opportunities should be the prioritized in the course of grappling with poverty.
- The analysis indicated that North Shewa appears to have lower potential for agriculture. However, to achieve food-security, introduction of improved technologies and irrigation schemes over its relatively plentiful water sources whenever viable are important. In connection to this, effort should also be made on the introduction and expansion of highly productive crops (such as root crops) and changing the food habit of the population accordingly. This will enable us to have at least adequately fed and labouring population.
- The PRSP presented ADLI strategy as means to come out of poverty and achieve accelerated growth. This refers to much encompassing category of small farmers. Thus, targeting should be made towards the rural poor rather than referring to wide range of population. For example, from the life cycle of the incidence of poverty, it is implied that dangerous situations are concentrated on children. In addition to that, households constituting solely of elderly are at high risk of poverty.
- The policy of the present government is towards fertility reduction. For the effective implementation of the policy, concerted action and close monitoring are necessary. Although it is clear that the impacts need relatively longer period of time to be seen, the resulting demographic window is assumed to be beneficial for the next generation if it is accompanied by massive job creation.

- Any development policy of the country should always take into account the age structure of the population.

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APPENDIX-I

Variable Specification

SIZE:	household size in number
DEPRATIO:	dependency ratio of a household
LABOURF:	labour force size of a household
LFSQUARE:	the square of labour force size of a household
HHHAGE:	Age of the household head in years
HHHAGE2:	the square of the age of the household head.
MEANAGHH:	mean age the household in years
MEANAGSQ:	the square of mean age of the household
MALEADU:	number of male adults in the household
NUMWOMEN:	number of women in a household
MWADRATI:	adult males to adult women ratio of a household
MARRIED:	= 1, if the head of the household is married =0, otherwise
PRIMARY:	=1, if the head of the household achieve informal or primary education =0, otherwise
SECONDAR:	= 1, if the head of the household achieved junior secondary or above =0, otherwise
TSOTA:	=1, if the head of the household is male =0, otherwise
SPLITERA:	=1, if the spouse is literate =0, otherwise

Aappendix II
Adult Equivalent Scales

Male		Female	
Age	Adult Equivalent	Age	Adult Equivalent
0-24 months	0.40	0-24 months	0.40
25-48 months	0.48	25-48 months	0.48
49-59months	0.56	49-59months	0.56
5-6 years	0.56	5-6 years	0.56
7-8 years	0.64	7-8 years	0.64
9-10 years	0.76	9-10 years	0.76
11-12 years	0.80	11-12 years	0.88
13-14 years	1.00	13-14 years	1.00
15-18 years	1.20	15-18 years	1.00
19-59 years	1.00	19-59 years	0.88
60-98 years	0.88	60-98 years	0.72
No Specified	1.00	No Specified	1.00

APPENDIX-III

Glossary of the Amharic Words

- Areke*: Local liquor distilled from fermented wheat.
- Belg*: the short rain s occurring anywhere from January to May that allows additional cropping season.
- Dega*: commonly used term for altitude between 2300 and 3200meter.
- Derg*: the military government that reigned in Ethiopia from 1974 to 1991.
- Ekul- arash* : a share cropping system that allows one half of the total produce for each partner.
- Gesho*: a plant used to flavour local beer like hops.
- Kebele*: he local administrative unit of government.
- Kiremt*:the long rain season occurring in the period from June to September
- Kolla*: agro-ecological zone prevailed in lowlands ranging from 500 to 1500 meter
- Meher*: the main cropping season. occuring from June to September
- Teff*: a kind of cereal crop grown in Ethiopia for the staple food.
- Tella*: a locar beer made from barley that fermented with *gesho*.
- Timad*: a local measurement unit for land that amounts to the size of land that can be ploughed by a pair of oxen in a single day. It is often assumed to amount a quarter of a hectare.
- Weina-daga*: a commonly used term for altitudes between 1500 and 2300 meters.
- Wereda*: district-level government administration.
- Wurch*: agro ecological zone prevailed above 32000 meter.