



**ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES  
INSTITUTE OF AGRICULTURAL AND DEVELOPMENT STUDIES**

**IMPACT OF REMITTANCE ON POVERTY REDUCTION IN SOMALILAND: THE  
CASE OF SELECTED DISTRICTS IN HARGEISA CITY**

**BY:**

**ISMAIL ABDI MOHAMOUD**

**JUNE/2017**

**ADDIS ABABA, ETHIOPIA**

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**A Thesis Submitted to the Institute of Agriculture and Development Studies of St.  
Mary's University in Partial Fulfilment of the Requirements for the Degree of Masters  
of Arts in Development Economics**

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**APPROVED BY BOARD OF EXAMINERS**

As a member of the Board of examiners of the master thesis open defence examination, we testify that we have read and evaluated the thesis entitled: *the impact of remittance on poverty reduction in Somaliland case of selected districts in Hargeisa city*, which is prepared and submitted by Ismail Abdi Mohamoud. We recommended that this thesis should be accepted as fulfilling the thesis requirements for the degree of masters of Arts in Development Economics.

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## **ENDORSEMENT**

This thesis has been submitted to the Institute of Agriculture and Development Studies of St. Mary's University with my approval as a university advisor.

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**St. Mary's University College, Addis Ababa**

**June, 2017**

## **DECLARATION**

I, the undersigned, declare that this MA thesis is my original work, prepared under the guidance of Dr Milkesa Wakjira. All sources of materials used for this thesis have been properly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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**St. Mary's University College, Addis Ababa**

**June, 2017**

## **DEDICATION**

This manuscript is dedicated to my dear mother Hawo Ismail Ali whom I shall have indebted for her. I really love you indeed and deeply feel your sacrifices for my success. Hope you better and long life in this world and Jannah in hereafter

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## LIST OF ABBREVIATIONS

AE	Adult Equivalent
CBN	Cost of Basic Needs
FAO	Food and Agriculture Organization
EC	European Commission
FEI	Food Energy Intake
FGT	Foster, Greer and Thorbecke
GDP	Gross Domestic Product
HH	Household Head
Kcal	Kilo calorie
Kg	Kilo gram
ODO	Official Development Assistance
MDG	Millennium Development Goals
MoNP&D	Ministry of National Planning and Development
n.d	No Date
NDP	National Development Plan
UN	United Nations
UNDP	United Nations Development Program
USD	United States Dollars
UNU	United Nations University
VIF	Variance Inflation factor
WHO	World Health Organization

## ABSTRACT

*This study was designed to investigate the impact of remittance on poverty reduction in Somaliland. Particularly, this study focuses to figure out the impact of remittance on both absolute and subjective poverty along with the aim of identifying the magnitude of remittance and how often remittance is spent. However, this study collected primary data from 168 households that were drawn randomly and 13 interviewee who selected purposively. In order to distinguish the poor and non-poor of the studied population, this study used Cost of basic needs (CBN) approach. Considerably, FGT revealed that 38.2% of the population live under the poverty line with the poverty gap and severity index 0.0951 and 0.0318 respectively. This study unveiled that remittance has a considerable effect on absolute and subjective poverty. In which 26.7% of remittance recipients live under the poverty line comparing to 48.4% of non-recipients who live under the poverty. In addition 30% of the households who do not receive remittance are poor where 13% of the households that receive remittance are poor. Relatively, this study figured out the impact of remittance on subjective poverty with comparing the perception of remittance receiving households with those who do not receive remittance of the studied households. About 76% of remittance receiving households showed improvement of their financial situation compared to 55% of remittance non-receiving households. Considerably, 81% of remittance receiving households believe that they are poor compared to 66% of remittance receiving households who believe same way. So that remittance receiving households believe they are financially better off comparing non-receiving remittance households. Moreover this study also tried to estimate the size of remittance in the study area and found that most of households receive more than \$6,000 annually with an average remittance of \$3,468 annually. In addition how often remittances are allocated were identified, 88% of remittances recipient households declared that they spend on basic needs (food and non-food necessities), nearly 83% of remittance recipient households spent on education fee, 72% allocated to cover the house rent, and the rest 58% and 36% are allocated medical care and clothes respectively. This study used binary logistic regression model to figure out those variables that have significant impact on poverty. In which 6 out of 10 explanatory variables were found to be significant either at 1%, 5% or 10% level of significance. Sex and household dependence ratio were found to be positively related to poverty with an odds ratio of 0.250 and 3.976 respectively. Contrarily, household size, remittance, household property and total income of the household were found to have negatively related with the poverty with an odds ratio of 0.875, 0.347, 0.119, and 0.994 respectively.*

**Key Words:** *Hargeisa, Poverty, Remittance, Foster Greer Thorbecke, logistic, adult equivalent.*

# CHAPTER 1 INTRODUCTION

## 1.1 Background of the study

International migrant's remittance has been increasing since globalization and integration has eased capital mobility remittance flow. International Monetary Fund (IMF) has a broader definition and include three categories, namely: (i) worker's remittances or transfers in cash or in kind from migrants to resident households at home; (ii) compensation to employees or the wages, salaries and other remuneration, in cash or in kind, paid to individuals who work in a host country; and (iii) migrant transfers which refer to capital transfers of financial assets made by emigrants as they move from one host country to another and stay for more than one year (Akkoyunlu and Vickerman, 2000).

The importance of remittance turned the tension of the world towards its effects and causes on the capital flow, particularly developing countries those have been striving to pick up their society from viscous circle. Remittances contribute to the development in general and alleviate the burden of poverty in particular because it has a great potential to generate a positive impact on recipients' welfare.

The World Bank (2006) estimates, official remittances received by LDCs increased from US\$31.2 billion in 1990 to US\$221.3 billion in 2005, representing annual growth rate of over 13%. Remittances are now equivalent to about 35 per cent of total financial flows to developing countries and have surpassed both official development aid (ODA) and non-foreign direct investment (FDI) flows, interestingly. And also it has become a tremendous flow of income as it outpaced private capital flows and Official Development Assistance (ODA) over the last decade going from 31.2 billion USD in 1990 to 166.9 billion USD in 2005 (World Bank, 2006).

On a micro-level, remittances provide fundamental sources of income for the recipients. While they have no impact on income gap between developed and developing countries, they directly contribute to economic growth of local communities providing a much needed stability. Poverty is a great tragedy to all society over the world consequently each nation put on all efforts how to alleviate it. Basic food, shelter, medical care, and safety are generally thought necessary based on shared values of human dignity, being poor one cannot avoid to cope basic needs, so remittance is a proxy to sustain life and meet basic needs. Households mostly lead their daily life through the remittance they get from their relatives live in and work abroad. Evidence around the globe show that households that receive remittance are

financially better off across multiple dimensions relative to similar households that do not receive remittance. Remittance receiving households have higher income and levels of consumer spending and lower incidences of extreme poverty relative to similar households that do not receive remittances (Dilip, 2013) Rural households who benefit by approximately one third of total remittances reinvest almost every dollar received to serve basic needs like food, medicines and clothing (Adams, 2006 and UN News Centre, 2007).

Somalia has been experiencing protracted crisis since 1991. Furthermore the destruction of public services, as well as economic problems of droughts, restriction of livestock trade by Arab countries mainly Saudi Arabia caused many people to suffer to cope the basic needs consequently many people died from starvation and diseases and crisis have exacerbated. So what many people displaced to the world to seek better life. This brought unprecedented levels of migrants. Reportedly, 80 per cent of the country's skilled population has left since the conflict began (European Commission 2002). It is reasonable to assume that at least one million people from Somalia now live abroad (UNDP, 2001).

The UNDP Human Development report of Somalia (2001) explains the economic decline and civil war in the 1980s and protracted armed conflict in the 1990s caused poverty levels.

Maimbo reports that Somalia has long been a failed state and one of the poorest countries in the world with a population of 7.3 million in 2004, and an income per capita of US\$226.

North Somali (now known as self-declared republic of Somaliland) after the outbreak of the movement against Siyad Barre regime and government responded to eradicate the opposition, so that hundreds of thousands of people have fled the country and has generated larger scale of displacement internally and to Ethiopia and Djibouti. The Northwest proclaimed in 1991 as a republic of Somaliland claiming previous boundaries of British protectorate to restore peace and stability in their territories. Fortunately the stability has been restored and some public services has been reopened such as schools and hospitals, consequently people returned from refugee camps in Ethiopia and Djibouti and even attracted some returnee from Middle East and beyond to their country mainly to the capital city of Hargeisa. Furthermore, large number of people crossed over borders and reached Europe and North America mainly in UK seeking better life, they have not only made their selves better off but also they have helped their relatives those left behind in origin country.

So that thousands of households escaped the tragedy of poverty due to the remittance from their relatives. In addition remittance is a crucial to the livelihood of households and the



national economics in general. So remittance is considered as the first source of income in Somaliland because it surpassed the source of the livestock (Ahmed, 2000).

## **1.2 Statement of the problem**

International remittances are important to the wellbeing of citizens of the developing world generally. In addition, remittance has been viewed by many partitions as having an important role to play in the development efforts of recipient countries. Remittances have been a significant contributor to family income and investment, with subsequent effects on poverty and inequality particularly.

In times of economic depressions and external shocks, remittances have been extremely important to the Somali economy because they tend to smooth consumption and thus create a “buffer” against shocks. Remittance inflows have risen during times of drought, the Saudi livestock ban and inter-clan warfare (Purdekova, 2006). Somalia economy is heavily dependent on aid and remittance. So the remittance is estimated at US \$1-1.5 billion per year. It is the largest contributor to national capital in flow and wealth (ADB, 2013). But there are other estimates found that remittances contribute between \$1.3 billion and \$2 billion per year. This includes money transferred to individuals, families, private investment and money for development (Laura Hammond, 2012). In addition, remittances represent about 23% of the Somalia household income (UNDP/WorldBank, 2003).

So far Somaliland remittance has provided livelihood to thousands of households those might not get a secured life without remittance. In addition remittance outpaced the livestock export as the main source of the foreign exchange earnings. According to (Ahmed, 2000) the size of the annual remittance is estimated to be roughly four times the value of the livestock export. Remittance play a significant role to the households’ income in Somaliland to cover their basic necessities such as diets, materials, medicine, rents, school fees and also paying debts. Therefore, Somaliland Diasporas play a great role for contributing to national economy in general and welfare of households in particular. Whereas remittances from Somaliland diaspora especially Europe, North America and Middle East play a major role in the economy of the country. Furthermore, the remittances sent back to home by Somaliland diaspora throughout the world is considered as the second country’s national source of income, source of wealth and means of obtaining hard currency as well (Ministry National Planning and Development, 2011). A household survey conducted in Hargeisa found that 25% of households depend on remittance or it is their source of income. They used to cover their

living expenses and pay for education and health services (Lindley 2007). Similarly, the average remittance received by households is \$4, 170 in Somaliland (Ahmed, 2000)

According to the Ministry of National Planning and Development and the World Bank national poverty is estimated to be 33.5%. Meanwhile, the proportion of the population below the poverty line stood at 38% in rural areas and 26% in urban areas (Ministry of National Planning and Development, 2012).

This study examines the contribution of remittance on poverty reduction in Somaliland the case of selected districts in Hargeisa city. The extent that the remittance contributes to the reduction of poverty dimensions has not been researched or known in Somaliland , despite there are some abstracts and thoughts of those estimate but still it is controversial. Although literature showed that the remittance has significant effect on poverty dimensions. Similarly according a study conducted in Ethiopia was found that, using poverty profiles and binary outcome models, international remittance significantly reduces the poverty incidents among the urban households in Ethiopia (Emerta Assaminew, 2010). The contribution of remittance to the livelihood of households in Somaliland is undeniable and obvious, therefore, very little is known about the remittance and its effect on welfare in Somaliland because lack of national account. So this study enlightened the extent of remittance triggers to poverty alleviation, how many households would live in poverty because lack of remittance and difference livelihood between households of those who receive remittances and those who are not.

### **1.3 Research questions**

1. What is the magnitude of remittance in Study area?
2. How remittance are allocated by the recipients in the study area?
3. What is the difference in the degree of poverty between households that receive remittances and those that do not receive remittances of the study area?
4. What is the impact of remittance on subjective poverty of the study area?

### **1.4 Objective of the study**

#### **1.4.1 General objective**

The general objective of this study is to investigate the contribution of remittance on poverty reduction.

#### **1.4.2 Specific objectives**

1. To identify magnitude and use of remittance fund of the study area.

2. To measure the difference levels of poverty between households that receive remittances and those that do not receive remittances of the study area.
3. To assess the impact of remittance on subjective poverty of the study area.

### **1.5 Significant of the study**

Poverty reduction is a considerable issue in Somaliland. Analysing the role of remittance and its contribution to poverty reduction is a vital issue to the government departments and concerned stakeholders to device appropriate plan improvement of the national economy besides a getting clue or knowledge about the contribution of remittance on poverty alleviation. In addition to this it may become a step stone to further research in terms of its role of remittance in poverty reduction and its positive impact on its contribution in national development.

### **1.6 Scope & limitation of the study**

This study covered the capital city of Somaliland-Hargeisa. Due to the time and resource constraint, this study was included three selected districts from the five districts in Hargeisa city. And also unit of analysis of this study is households. The study took a snapshot of a particular time based on a cross-sectional data. Conceptually, this study tries to explain the impact of remittance on poverty reduction and some other variables which have an impact on poverty like remittance, education, sex, marital status, wealth, relationship, size of household, employment and etc.

### **1.7 Organisation of the research report**

This research organized into five main chapters and each chapter comprises related sub sections. Nonetheless, chapter one covers general introduction of the study comprising background of the study, problem statement, research questions, objective of the study, significant of the study and the scope & limitation of the study. Chapter two deals with the relevant literature of the study both theoretical and empirical literatures. Chapter three covers the methods that the study adopted, such as research design, sample and sampling techniques, source and tools/instruments of data collection, procedures of data collection and methods of data analysis. Chapter four presented the results of the study along with the necessary discussion. And finally chapter five drives conclusion from the study and suggests the policy measures.

## **CHAPTER 2 REVIEW OF THE LITERATURE**

### **2.1 Concept of remittance**

Remittance is a transfer or flow of money by a foreign worker to an individual or families in his or her home country, and it's one of the largest financial inflows to developing countries. International Monetary Fund (IMF) has a broader definition and includes three categories, namely: (i) worker's remittances or transfers in cash or in kind from migrants to resident households at home; (ii) compensation to employees or the wages, salaries and other remuneration, in cash or in kind, paid to individuals who work in a host country; and (iii) migrant transfers which refer to capital transfers of financial assets made by emigrants as they move from one host country to another and stay for more than one year (Akkoyunlu, 2000). World Development Report (2006) defines that remittance is the money sent by migrants working abroad to their home countries and considered as the development tool. It has been considered that remittance contributes to a huge international capital flow. Remittance has now become a commonly used term, which is however rarely defined. Analytical studies define remittance as the sum of selected balance of payment flows. In most of the literature remittances are defined in terms of cash or financial transfers sent by migrants who left their home country excluding those sent in kind. The term is also confined to migrant worker cash transfers transmitted to their families and their communities back home excluding transfers from refugees and other migrants who do not benefit from legal status of migrant workers (Van Door, 2001).

#### **2.1.1 Magnitude of remittance**

When global integration became popular, unprecedented migration has been started from less or traditional agriculture countries to industrial countries at the time of industrial revolution. Most of these emigrants left behind families that expected sending back money. Therefore remittance is countercyclical financial flows, meaning that the flow of money increases when financial markets decline, they behave very differently than private capital flow. Historically remittance has tended to rise in times of economic downturns, political and civil crisis and natural disasters because immigrants living abroad send more money to help their families in response to their increased need (Dilip, 2013).

Remittance provided a significant contribution in developing countries, it is difficult to overcome the size and importance of remittance flows to developing countries. The World Bank estimated that migrants remitted US \$401 billion in 2012 and projects that in 2015 the

figure could grow by another \$114 billion to put the known volume into perspective, in 2011 migrants sent approximately three times more to developing countries than these countries receiving in official development assistance and they sent an amount equal to about half of foreign direct investment FDI (Dilip, 2013)

According to UNCTAD report with regard to the LDCs, remittance receipts climbed from \$3.5 billion in 1990 to \$6.3 billion in 2000, subsequently accelerating further to touch nearly \$27 billion in 2011. A number of concurring factors explain such a rapid surge, especially when the notorious limitations of remittance data are taken into consideration (see box 2). The boom in LDC remittances partly reflects the steady increase in the stock of emigrants originating from LDCs, from 16 million people in 1990 to 19 million in 2000, and as many as 27 million in 2010 (i.e. a 42 per cent increase in the stock of LDC emigrants during the last decade). Particularly in Africa, remittances have become a highly debated topic in recent years. For example the remittance that the Africans working abroad sent for the period 2000-2003 were estimated US\$17 billion while Foreign Direct Investment were US\$15 billion per annum in the same period (United Nations 2006). Since 2004 and for most of the period considered here remittances consistently represented the second-largest source of foreign financing for the LDCs. The magnitude of remittance inflows to the LDCs is particularly noteworthy in comparison with other financial inflows. Undoubtedly, net ODA disbursements (excluding debt relief) continue to represent the main source of external financing for the world poorest countries, having reached approximately \$42 billion in 2010 (UNCTAD, 2012).

Particularly in Africa, remittances have become a highly debated topic in recent years. For example the remittance that the Africans working abroad sent for the period 2000-2003 were estimated US\$17 billion while Foreign Direct Investment were US\$15 billion per annum in the same period (United Nations 2006).

## **2.2: Concept of poverty**

Although there is no consistent definition of poverty, but as the existing literature suggests that poverty is multidimensional and multi-faceted phenomenon as manifested by the conditions that include malnutrition, inadequate shelter, unsanitary living conditions, unsatisfactory and insufficient supplies of clean water, poor solid waste disposal, low educational achievement and the absence of quality schooling, chronic ill health, and widespread common crime (World Bank, 2012). It also goes beyond these dimensions to

include vulnerability and powerlessness and its perception varies by gender, age, culture and other social and economic contexts. (Berhanu, 2009).

Poverty as a deprivation in wellbeing, the conventional view links wellbeing primarily to command over commodities, so the poor are those who do not have enough income or consumption to put them above some adequate minimum threshold. This view sees poverty largely in monetary terms (Houghton, 2009).

The approach of wellbeing is clearly expressed by Amartya Sen (1987), who argues that well-being comes from a capability to function in society. So poverty comes up when people have inadequate income to meet basic needs, and also lack of education, insecurity or low self-confidence or sense of powerlessness, or the absence of rights such as freedom of speech. Poverty is a phenomenon of multiple dimensions. The deficiencies in income may mean the inability to obtain certain commodities; the perception of poverty can be increased when the lack of food is present in the households, therefore food security becomes an important concept in the perception of poverty on behalf of households (Luz Andrea, 2013).

Poverty is not only about cash income and consumption levels, but includes the capacity to accumulate assets that reduce vulnerability to financial shocks, and to gain access to entitlements such as education and health that contribute to livelihood security and sustainability (Hulme et al, 2001).

### **2.2.1 Measurement of poverty**

“We will spare no effort to free our fellow men, women, and children from the subject and dehumanizing conditions of extreme poverty, to which more than a billion of them are currently subjected” (MDG, 2000).

To identify number of people live in poverty has become an indispensable issue to policy makers in order to concentrate decreasing the burden of poverty.

Strongest clarification of poverty measurement provided by Ravallion (1998), who argues “credible measure of poverty can be a powerful instrument for focusing the attention of policy makers on the living conditions of the poor”. The main reason to measure poverty is target interventions. Precisely one cannot help poor people without knowing them, who they are where they live for example by region or urban/rural and how extent they are poor. Generally, the most important to measure poverty is to support efforts of development and allocation of resources to give priorities towards poorer areas.

Three ingredients are required in computing a poverty measure. First, one has to choose the relevant dimension and indicator of well-being. Second, one has to select a poverty line, that is, a threshold below which a given household or individual will be classified as poor. Finally, one has to select a poverty measure to be used for reporting for the population as a whole or for a population subgroup only (Coudouel, et al, n.d).

Poverty may also be tied to a specific type of consumption; for example, people could be house poor or food poor or health poor. These dimensions of poverty often can be measured directly, for instance, by measuring malnutrition or literacy.

There are four reasons to measure poverty as identified by (Houghton, 2009).

- To keep poor people on agenda
- To be able to identify poor people and so to be able to target appropriate intervention.
- To monitor and evaluate projects and policy interventions geared to poor people.
- To evaluate the effectiveness of institutions whose goal is to help poor people

### **2.2.1.1 Monetary as a measure of welfare**

'Income equals welfare' began with Bentham and utility theory. Utility was developed as the measure of the satisfactions provided through goods and services and increase in satisfaction was regarded as the normal aspiration of people. Given also that the satisfaction, or utility, derived from goods was identified as the source of happiness and that maximising happiness (or the greatest good of the greatest number) is our individual and collective goal, efficient organisation of production and exchange to maximise the availability of goods and services was a proper objective, if not a duty (Greeley, 1994).

Conceptually, income is observable and it has a transitory component which makes it a doubtful ranking of households based on permanent income. However, consumers have some idea about their permanent income, and so are unlikely to make lasting adjustments to their spending if they believe that the changes in their income are transitory. As a result, consumption is a function of permanent but not of current income (Mankiw, 2010).

Measuring poverty using monetary measures, one may have a choice between using income or consumption as the indicator of well-being. According to (Coudouel, et al, n.d ) the most analysts argue that, provided the information on consumption obtained from a household survey is detailed enough, consumption will be a better indicator of poverty measurement than income for the following reasons:

- ***Consumption is a better outcome indicator than income.*** Actual consumption is more closely related to a person's well-being in the sense defined above, that is, of having enough to meet current basic needs. On the other hand, income is only one of the elements that will allow consumption of goods; others include questions of access and availability.
- ***Consumption may be better measured than income.*** In poor agrarian economies, incomes for rural households may fluctuate during the year, according to the harvest cycle. In urban economies with large informal sectors, income flows also may be erratic. This implies a potential difficulty for households in correctly recalling their income, in which case the information on income derived from the survey may be of low quality.
- ***Consumption may better reflect a household's actual standard of living and ability to meet basic needs.*** Consumption expenditures reflect not only the goods and services that a household can command based on its current income, but also whether that household can access credit markets or household savings at times when current income is low or even negative, perhaps because of seasonal variation, harvest failure, or other circumstances that cause income to fluctuate widely.

While income/consumption measures continue to serve as an important tool for the evaluation of global poverty, it has been widely recognized that income-generation programs are not sufficient for poverty alleviation. Rather than concentrating on the main objective of development, "to create an enabling environment for people to enjoy long, healthy and creative lives," the focus on economic growth often ends up taking the driver's seat, leaving people behind (Mowafi 2004)

### **2.2.1.2 Use of poverty line**

Determining welfare described above has become failure of development strategies to have significant impact on absolute poverty. The widespread adoption of Basic Needs strategies in developing countries was a response to this dissatisfaction with achievements on poverty reduction. There was a concern to be more specific about the precise way in which income growth impacted upon the quality of human life and a concern to focus more explicitly on the way in which average income growth was distributed between poor and non-poor households. This first concern, with the relationship between income growth and human development (Seers, 1972).



Once an aggregate income, consumption, or nonmonetary measure is defined at the household or individual level, the next step is to define one or more poverty lines. Poverty line can be defined as the money a person/household needs to achieve a minimum level of 'welfare' in order not to fall into poverty, or in other words cut off line separating poor from the non-poor (Singh, 2009).

Researchers tend to differ in determining the exact line between poor and non-poor people. However, poverty lines have been widely used in constructing poverty profiles showing how a measure of poverty varies across sub groups of a population, such as geographic areas (Shea, 1997). People in different circumstances with different household sizes or demographic compositions or living in different places naturally have different levels of economic welfare at the same level of income. They have different needs. A poverty line should reflect these differences. The poverty line for a given individual can be defined as the money the individual needs (Ravallion, 1994)

To achieve the minimum level of 'welfare' to not be deemed 'poor', given its circumstances. Everyone at the poverty line is taken to be equally badly off, and all those below the line are worse off than all above it (Khan, 2002). The conventional approach to the development of a poverty line is to define it in terms of a consumption, expenditure or income level sufficient to meet primary human needs. There are very strong practical arguments in favour of consumption as the unit of measure; however, income, properly calculated, is satisfactory for poverty line estimation and, for the sake of continuity, we refer here to the poverty line as an income level. This is usually defined as a point on the income distribution curve where, given the share of food and non-food expenditure in total expenditure, income is sufficient to buy a nutritionally adequate diet. In other words, the poverty line consists of the cost of a nutritionally adequate diet multiplied by the inverse of the Engel's co-efficient for food (Hagenaars, 1986).

In order to set poverty line as Ravalian (1992) and Sen (1996) identified there are two methods of measuring poverty. The food-energy-intake (FEI) method and the cost-of-basic needs (CBN) method. It is known that these methods give radically different results.

The food energy intake (FEI) depends on how relative prices and tastes change the price change may encourage people to consume cheaper calories, and so FEI poverty line tend to fall, as (Wodon, 1997) identified this problem in data for Bangladesh. So the cost of basic needs (CBN) method mostly is used to determine the poverty line. CBN is estimated consumption bundle assumed to be adequate for 'basic consumption needs' and then

estimates its cost of each of the subgroups being compared in the poverty profile (Ravallion, 1994). Most of the developing countries adopted CBN approach in producing income or expenditure based poverty statistics as four UNSD sub-regional workshops identified.

In this method identified as everyone's basic needs may be thought as falling into two categories food and non-food. Broadly, CBN approach involves a three step assessment as (David, 2004) explained in his book.

- Define the minimum nutritional requirements of a poor person and determine a food basket or bundle that can provide this minimum requirement. The cost of buying the food bundle is a food poverty line (*fpl*).
- Choose an operational definition of a poor person's basic non-food needs that will allow estimating their cost directly or indirectly. Use this non-food basic needs cost to adjust *fpl* upward into a total poverty line (*tpl* )
- Compare *fpl* and *tpl* against some metric, e.g. distribution of income or expenditure per person. The proportion of persons whose incomes (expenditures) fall below *fpl* is an estimate of food poverty incidence.

FAO /WHO guided to countries a recommended daily allowance (RDA) for energy and defined as 'the amount needed to maintain health, growth and appropriate level of physical activity (WHO, 1985). FAO uses 2100 kilocalories (kcal) consumption per person per day as the threshold to estimate the prevalence of undernourishment (Naiken, 2003).

According to establishment of the poverty line three basic approaches can be identified.

- The absolute poverty line
- The relative poverty line.
- The subjective poverty line.

### ***ABSOLUTE POVERTY LINE***

Absolute poverty occurs when people cannot obtain adequate resources (measured in terms of calories or nutrition) to support a minimum level of physical health. Absolute poverty means about the same everywhere, and can be eradicated as demonstrated by some countries.

These lines reflect the value of the resources needed to maintain a minimum level of welfare. The aim is to measure the cost involved in purchasing a basket of essential products (goods and services), which allow a person to reach minimum levels of satisfaction in terms of basic needs. An absolute poverty line is "fixed in terms of the standards indicator being used, and fixed over the entire domain of the poverty comparison (Ravallion., 1992).

Absolute poverty lines identify those living below an arbitrarily fixed level of wellbeing. Absolute poverty lines are especially appealing in the context of developing countries where the focus remains on attaining minimum standards of living for large portions of the population. (Arndt, 2016)

An absolute poverty line is essential if one is trying to judge the effect of antipoverty policies over time, or to estimate the impact of a project (for example, microcredit) on poverty (Houghton, 2009). As identified (Ravallion M. , 1998) there are two steps in the process of defining absolute poverty line. The first step involves specifying a reference level of utility representing a minimum standard of living. The second step involves identifying a money metric threshold between the poor and non-poor that is associated with the reference utility level.

### ***RELATIVE POVERTY LINE***

Sometimes we are interested in focusing on the poorest segment (e.g. a fifth, or two-fifths) of the population; these are the relatively poor. When defined in this way, it is a truism that "the poor are always with us." It is often helpful to have a measure such as this in order to target programs that are geared to helping the poor (Revision, 2005).

Relative poverty occurs when people do not enjoy a certain minimum level of living standards as determined by a government (and enjoyed by the bulk of the population) that vary from country to country, sometimes within the same country. Relative poverty occurs everywhere, is said to be increasing, and may never be eradicated.

A relative poverty line begins with some notion of a standard of living  $r(x)$  for the distribution  $x$ , such as the mean, median, or some other quintile, and defines the cut-off as some percentage of this standard (Foster, 1998). Relative poverty is concerned with how well off an individual is with respect to others in the same society. A relative poverty line is one that could be expected to shift with the overall standard of living in a given society (Mowafi, nd).

Furthermore, Relative poverty lines measure poverty in relation to the wellbeing of the society. A well-known example of a relative poverty line is the European Union's threshold of 60 per cent of median income (Arndt, 2016).

### ***SUBJECTIVE POVERTY LINE***

Subjective poverty being defined as people's overall subjective evaluation of their own financial situation (Buttler, 2013) People are considered as living in poverty if their income and resources are so limited that they are precluded from participating in the activities

commonly approved by the society in which they live (Townsend, 1979: 88; European Commission, 2004). However, subjective poverty is based on individual perceptions and evaluations of external circumstances (Rottiers, 2011). Another perception of Subjective poverty defines as a considerably low level of satisfaction with one's life situation or with particular life domains such as income, health, leisure time, environment or social integration (Böhnke, 2008). Therefore subjective poverty is concluded as rather complex, vague and computable manner in the literature.

### **2.2.2 Foster-Greer-Thorbecke (FGT) Index: aggregate poverty measures**

The couthers of this method who were at Cornell University at the time, were made up of a theorist (Foster) and two empirically inclined development economists (Greer and Thorbecke) Thorbecke was concerned with evaluating food poverty in Kenya as part of a major project sponsored by its Ministry of Finance. Greer was a Ph.D. student who was part of the Kenyan project and whose dissertation under the direction of Thorbecke would address both conceptual and empirical issues of poverty measurement (James E. Foster, 2010)

After settling poverty line (mostly absolute poverty) the next step is constructing the aggregate poverty measures these include the headcount, the poverty gap and the poverty severity indices.

#### ***Head Count Ratio (P<sub>0</sub>) or the Incidence of Poverty***

The headcount index is the well-known and simplest one of the poverty measure. It identifies the share of population whose income fall less than the poverty line and also literally counts heads. And also allows policymakers and researchers to track the most immediate dimension of the human scale of poverty (UNSD, 2005).

The headcount ratio is formally defined as follows:

$$HC = \frac{P}{N}$$

Where  $P$  is the number of poor people (those below a poverty line  $z$ ) and  $n$  is total population. And also alternative analytical expression is

$$HC = \frac{\sum_{i=1}^N 1(y_i \leq z)}{N},$$

where the “1” indicator at the numerator is a function assuming value 1 if the  $i^{\text{th}}$  individual has income  $y$  below the poverty line  $z$ , and assuming value 0 otherwise. As above,  $N$  is the size of total population (and not the total number of poor individuals!).

### ***The Poverty Gap (P1) or Depth of Poverty Index***

For any individual, the poverty gap may be defined as the distance between the poverty line  $z$  and his/her own income  $y$ . aggregating individual poverty gaps for all poor individuals, gives the aggregate poverty gap.

The poverty gap index (PGR) is a more comprehensive measure used to reflect the intensity of poverty. It encompasses both the extent and depth of poverty and is calculated as the mean shortfall of all households from the poverty line (Mauritius, 2015)

For example A poverty gap of 0.142 in 1988 recorded in Côte d’Ivoire means that the average income of the poor is about 86 per cent of the poverty line ( $1 - 0.142 = 0.858$ ). The poverty gap in South Africa among Blacks in 1993 is 0.106, which means that the average income of the poor is about 89 per cent of the poverty line ( $1 - 0.106 = 0.894$ ) (Deaton, 1997)

The formula of the poverty gap index is as follows:

$$PG = \sum_{i=1}^P (z - y_i)$$

**PG:** Poverty Gap

**P:** is the number of poor individuals (and not the size of total population!)

**Y<sub>i</sub>:** the income of the individual “i”

**Z:** the poverty line

### ***Poverty Severity (P2) or Squared Poverty Gap Index***

The squared poverty gap index (also known as the *poverty severity index*, P2) averages the squares of the poverty gaps relative to the poverty line. It is one of the Foster-Greer-Thorbecke (FGT) class of poverty measures that allow one to vary the amount of weight that

one puts on the income (or expenditure) level of the poorest members in society. (Jonathan, 2009).

Squared poverty gap also takes into account inequality among the poor. This is simply a weighted sum of poverty gaps (as a proportion of the poverty line), where the weights are the proportionate poverty gaps themselves; a poverty gap of, say, 10 percent of the poverty line is given a weight of 10 percent while one of 50 percent is given a weight of 50 percent; this is in contrast with the poverty gap index, where the gaps are weighted equally. Hence, by squaring the poverty gap index, the measure implicitly puts more weight on observations that fall well below the poverty line (Jonathan, 2009).

Formally the formula of squared poverty gap or poverty severity is as follows:

$$P_{\alpha} = \frac{1}{N} \sum_{i=1}^N \left( \frac{G_i}{Z} \right)^{\alpha}, \quad (\alpha \geq 0),$$

Where  $\alpha$  is a measure of the sensitivity of the index to poverty and the poverty line is  $Z$ , the value of expenditure per capita for the  $i$ th person's household is  $X_i$ , and the poverty gap for individual  $i$  is  $G_i = z - x_i$  (with  $G_i = 0$  when  $x_i > z$ ). When parameter  $\alpha = 0$ ,  $P_0$  is simply the headcount index. When  $\alpha = 1$ , the index is the poverty gap index  $P_1$ , and when  $\alpha$  is set equal to 2,  $P_2$  is the poverty severity index. For all  $\alpha > 0$ , the measure is strictly decreasing in the living standard of the poor (the higher one's standard of living, the less poor one is deemed to be). Furthermore, for  $\alpha > 1$  the index also has the property that the increase in measured poverty because of a fall in one's standard of living will be deemed greater the poorer one is.

### **2.3 Impact of remittance on poverty: Empirical literature**

There is a contradictory view of impact of remittance on poverty, optimistic views argue that immigration reduces poverty reverting population from low income rural to better life urban sector. Remittance improves the standard of living of households left behind in origin country of migration if emigrants' family were poor remittance contributes to alleviate the poverty. The pessimistic view argue that mostly emigrants from high or middle income families, most of the poor families disable to emigrate because they enable- to cover the emigration cost. Remittance is reliable security to households live and also it is against the tragedy of poverty. It has become ant-poverty force in developing countries. Remittance receivers can allocate income their greatest needs.

Evidence around the globe show that households that receive remittance are financially better off across multiple dimensions relative to similar households that do not receive remittance. Remittance receiving households have higher income and levels of consumer spending and lower incidences of extreme poverty relative to similar households that do not receive remittances (Dilip, 2013). Remittances are likely to reduce poverty as they may be directly received by the poor. The impact of remittances on the reduction of poverty can be perceived from both the micro and macro perspectives. However, to capture this impact, there is no formal framework (Chimhowu *et al.*, 2005). But it is evident and it is reasonable to assume that the amount of transfer done by the migrants to the family members back home do have some overall impact in reducing the poverty. (Uruci and Gedeshi, 2003).

Some evidences suggest that the extent to which remittances can be a broad strategy to capture the impact of remittance on poverty reduction substantially, it has to be understood empirical studies around the globe.

Furthermore, overwhelming importance of remittance exposes uncountable researchers to conducts it over the world in different dimensions, it is concentrated in this research the micro effect of remittance on poverty alleviation. According to multiple evidences in common agreed that remittance has a positive effect on poverty reduction and secure the livelihood of remittance receiving households. However recent cross-country studies are increasingly finding evidence of positive impact of remittance on reducing poverty. Although most of the empirical work has been done for Latin American and Asian countries, a few studies have been done using African data. We review some of the studies that are relevant for our paper in this section.

Considerably, the empirical evidences pointed out a negative relationship between poverty and remittance (Lucas 2004). A World Bank study by Adams and Page (2005) describes that a 10 per cent increase in per capita official international remittances will lead, on average to a 3.5 per cent decline in the share of people living in poverty. Similarly, according to IMF (2007), found that on average, a 10 per cent increase in the share of remittances in a country's GDP is associated with about a 1.5 per cent fall in headcount poverty and 1.1 per cent fall in poverty gap.

According to one cross country study in of 71 developing countries found that a 10% increase in per capita official international remittance would produce a 3.5 per cent decline in the share of people living in poverty. Similarly, a study conducted 74 low and middle income countries suggest that that the impact of remittance flows on the poverty headcount might be

smaller on average. The point estimates for the poverty headcount measure using survey mean income suggest that a 10 percent rise in share of remittances in GDP will cause a 1.6 percent decline in the poverty headcount ratio (people living on less than \$1/day). The point estimate for the poverty gap and severity of poverty (poverty gap squared) suggest that on average, a 10 percent rise in share of remittances in GDP will cause a two percent decline in depth and severity of poverty (Adams R, 2003).

Research conducted in Nepal showed that a dramatic increase in remittance for responsible for one-third to one-half of the overall reduction in headcount poverty rate in the country, which declines from 42 percent in 1995-96 to 31 percent in 2003-04 (Dilip, 2013). As (Campos, 2002) finds that remittances helped reduce the national poverty rate by 4.2 per cent in El Salvador as well as reduced the Gini coefficient from 0.55 to 0.53. Similarly, a study conducted in Guatemala finds that the squared poverty gap measure in Guatemala declined by 19.8 per cent when international remittances were included as a part of the total household income (Adams., 2005). Another study finds that remittances have a statistically significant impact in reducing poverty in Mexico at the municipal level (Lopez, 2005). A study of impact of change of remittance on three Foster Greer Thorbecke poverty measures which was used national sample survey data from Mexico in 2002, found that a 10% increase in international remittance causes a 0.53% decrease in the poverty gap squared measures while a 10% increase of international remittance causes 0.30 decrease in the poverty measure (Taylor, 2005).

On other hand, a study that was used a data from African countries found that a 10% increase in official international remittances as a percentage of GDP will lead, on average to a 2.9% decline in share of the people living in poverty (Anyanwu and Erhijacpor 2009 ). Indeed this result depicts strong evidence that a remittance have a significant impact on poverty reduction to Africa. Obviously, the poor can benefit from international migration and remittances. For example, according to Adams findings that in rural Egypt, the number of poor household's declines by 9.8% when household income includes international remittances, and that remittances, account for 14.7% of total income of poor households (Adams, 1991). Similarly, remittance provides a secure livelihood to households receive remittance, according to (ADB, 2008) 80% of remittance beneficiaries in Morocco, Senegal, Mali and Cameroon are poor households. Moreover, remittances are mainly used to meet basic needs like food, education, housing and health care. According to a study conducted in Burkina Faso in 1994-1995, found that remittance reduced rural poverty by 7.2% points and



urban poverty by 3.2% points (Lachoud, 1999). Similarly, another study conducted in Lesotho were found that remittance a very important role in giving households the means to achieve at least minimum food requirements (Gustafsson, 1993). And also study have been made in Ghana concluded that migrants remittance to Ghana are in fact countercyclical and are effective in helping smooth household consumption and welfare overtime specially for food crop farmers, who are typically the most disadvantaged socioeconomic group (Quartery, 2004). Another study in South Africa shows that % increase in remittance reduces the headcount, poverty gap, and poverty gap squared by 0.03%, 0.06% and 0.078% respectively (Biyase, 2014)

Considerably, a study conducted in Ethiopia was found that, using poverty profiles and binary outcome models, international remittance significantly reduces the poverty incidents among the urban households in Ethiopia (Emerta Assaminew, 2010).

Conclusively, the bulk of current researches agreed that the remittance has a significance effect on poverty reduction. They indicated that remittance significantly reduces poverty dimensions and also remittance enables recipients a secure livelihood for surviving against the tragedy of poverty.

## **2.4 Remittance and poverty profile in Somaliland**

Remittance plays a significant role to Somali society to survive after the collapse of the republic of Somalia. So Somalia is world's largest per capita recipient of remittance (Hammond, 2011). Furthermore, the Somali Diaspora is a major contributor to the livelihood of the households and to recovery and development in general in 2004. The worldwide Somali diaspora was estimated to send remittance about between 750 million and 1 billion to Somalia each year (UNDP, 2002). So this makes the country the most remittance fourth dependent country in the world.

According to (UNDP/World Bank, 2003) remittance represent 2.3% of the Somalia household income but an unequally distributed across the country. People living in towns are more likely to have a relatives living abroad and benefit disproportionately from diaspora assistance. Since the oil boom in the Gulf in 1970s remittances have played important role in the local economy of Somaliland (Ahmed, 2000). In Somaliland it is difficult of estimating the volume of remittance because remittance are transferred number of different channels, they can be cash or in kind through Hawaala or in hand. Ministry of planning (1998) conducted a short study in 1997 a part of two-year Development plan this mainly considered

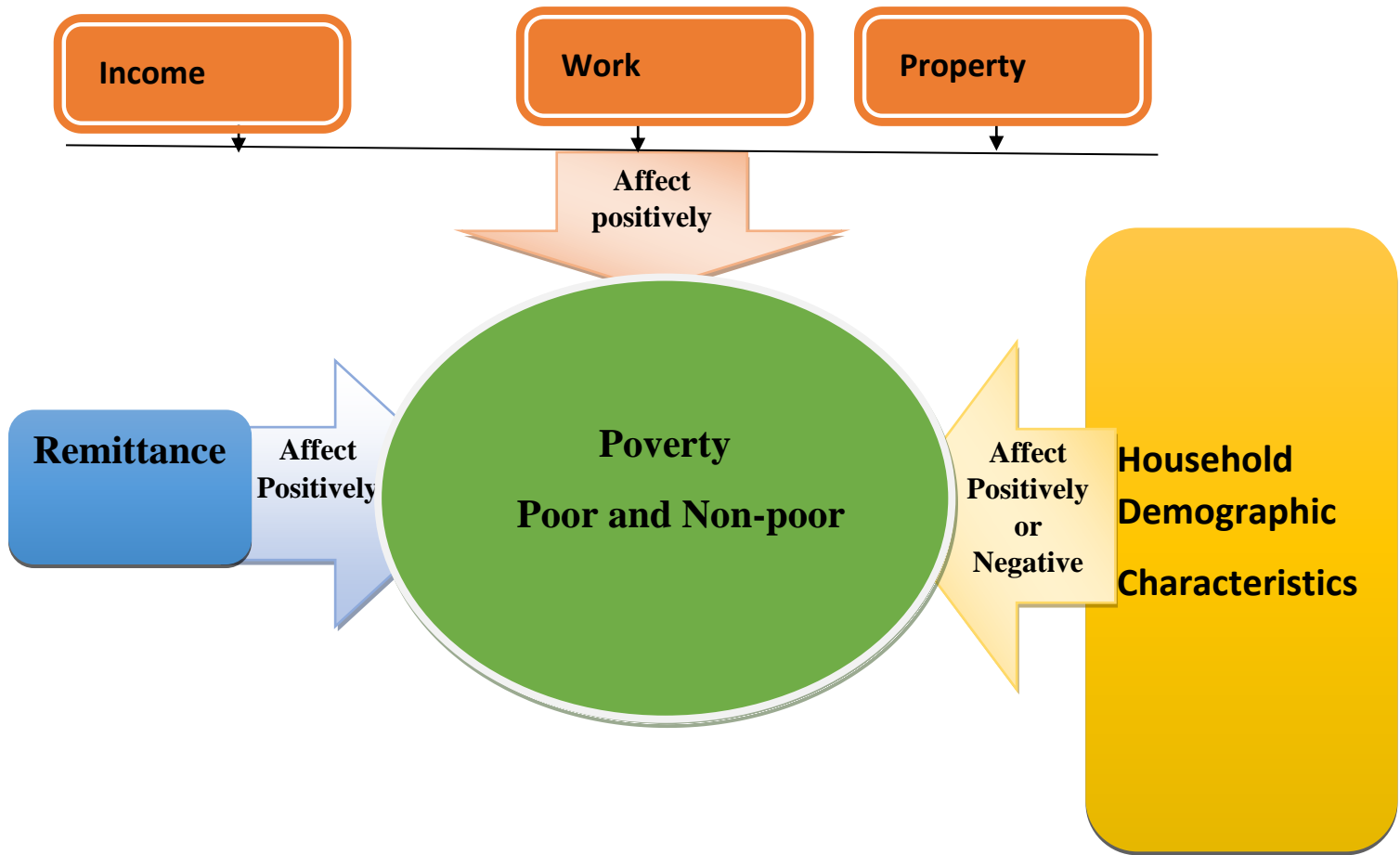
on providing estimates of size of the remittance it came up a figure of about \$93 million for transfer channels through remittance companies (Ahmed, 2000). As well as, remittances surpass three times the value of the livestock income which the only recourse the exports to the overseas (Ahmed, 2000).

According to a household survey conducted in Hargeisa found that 25% of households depend on remittance or it is their source of income. They used cover their living expenses and pay for education and health services (Lindley 2007). Similarly another study found that 40% of Somaliland household's benefits from money sent by the diaspora (Chalmers and Hassan 2008).

However, remittance is very vital for the survival of thousands of households in Somaliland and the economy of the country as well. The majority of the existing literature focused on Somaliland diaspora's role on development, particularly household level remittance which mostly shows positive effect of remittance on recipient's livelihood but there are other studies show negative impact that the remittance is intended to recurrent expenses or basic necessities. Moreover, in Somaliland poverty and inequality are main challenges facing the economy of the country. According to World Bank more than 1 in 4 households in urban (1 in 3 rural) do not have enough to meet their daily basic needs. In addition also provision of basic services are lagging such as access to education, health, water and sanitation and also access to services very inequitable, and there is a significant variation between poor and non-poor. According to the Ministry of National Planning and Development and the World Bank national poverty is estimated to be 33.5%. Meanwhile, the proportion of the population below the poverty line stood at 38% in rural areas and 26% in urban areas (Ministry of National Planning and Development, 2012).

## 2.5 Conceptual framework

Figure 2.1 Conceptual Framework



Source: Constructed from existing literature, 2017

## CHAPTER 3 METHODOLOGY

### 3.1 Study design and approaches

This study adopted both quantitative and qualitative approaches, to achieve or reach the objective of the study. Explanatory research design was employed in this study. Quantitative research approach was used to determine the objectives of the study, because quantitative research is systematic and scientific investigation of quantitative properties and their relationship. In addition to meet the objective of the study qualitative research was also included in the study to assess unquantifiable aspects of the study objectives.

### 3.2 Sample and sampling techniques

The source of data of this study were all households dwell in selected districts in Hargeisa city. Hargeisa city consists of five districts, three of these districts were selected randomly namely 26 June, Ibrahim Kodbur and Ga'an Libah. Each district consists of number of sub districts, therefore households was sampled through simple random sampling technique in each selected district and sub districts equally by using lists found from local administration offices in selected districts. In addition to this non-probabilistic sampling technique was employed for key informant in this study.

According to population survey, Hargeisa households was estimated 99,750 households (MoNP&D, 2014). And the target population of the selected districts is 73,150 households. To determine the sample size from the target population, formula for determination sample size was considered. For this study Cochran formula was used for calculating sample size when the population is finite. Cochran (1997) is used.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

$$n_0 = \frac{z^2 pq}{e^2}$$

And

Where  $n_0$  is the sample size,

$z$  is selected critical value of desired confident level

$p$  is the estimated proportion of an attribute that is presented in the population

$q = 1-p$  and

$e$  = is the desired level of prcision.

Hence, the researcher used 93% level of confidence whereby

$p = 50\% = 0.5$  (sample proportion)

$q = 1- p = 1- 0.5 = 0.5$  then,  $q = 0.5$

$z = 1.81$

$e = 7\%$  (0.07)

$$n_0 = \frac{1.81^2 (0.5)(0.5)}{(0.07)^2} = 167.15 = \mathbf{168}$$

$$n = 1 + \frac{168}{73,150} = 167.6 = 168$$

**Table 3.1 Sample size allocation for each districts**

Districts	Sub districts	Number of Households		Sample Size based on proportional sampling	
<b>26 June</b>	<b>DURYA</b>	42,560	9,044	98	21
	<b>ALMIS</b>		6,650		15
	<b>AINGAL</b>		17,556		40
	<b>GOLJANNO</b>		9,310		22
<b>Ga'an Libah</b>	<b>SHEIKH NUR</b>	10,374	1,330	24	3
	<b>SHEIKH MADAR</b>		3,192		7
	<b>MOHAMED HARBI</b>		2,394		6
	<b>WARAABESALAN</b>		3,458		8
<b>Kodbur</b>	<b>HERO AWR</b>	20,216	5,586	46	13
	<b>LIHLE</b>		3,990		9
	<b>GUUL ALLE</b>		2,926		7
	<b>JIGJIGA YAR</b>		7,714		17
<b>Total</b>		73,150		168	168

Source Designed by the researcher

### **3.3 Source and Tools/Instruments of Data Collection**

Source of data was primary data and was included some secondary data to substantiate the findings from different institutions such as annual reports of Ministry of National Planning and Development and other government institutions as well as bodies related to the study area such as remittance companies, scholarly articles, and other information collected from related studies. Different methods of data collection was employed questionnaire and key informant interview to make research realistic and their accuracy was checked to avoid biasness whether two instruments are supporting each other by using triangulation which means whether the qualitative supports quantitative and vice versa (Flick, 2006). The primary data was concerned household demographics (Age, Sex Marital status, Family size, etc.) and socioeconomic characteristics including, Remittance, income, wealth, Education level, Employment, monthly household food and non-food consumption, were used to collect through questionnaire to determine the determinants of Poverty.

### **3.4 Procedures of Data Collection**

Data was collected from three selected districts in Hargeisa city and questionnaire was used to gather data. Five undergraduate level students were trained for one day to work with the researcher for collecting the data from the selected districts. So that training covered understanding the meaning of each question to emphasise how to interpret questions to respondents. In addition of collecting the qualitative data, informative interview was used to know and get more information about the study and know the perception of the society to the remittance and how it affects the household livelihood. Informative interviewee include Ministry of National Planning and Development, Ministry of Social Affairs, Central bank, Dahabshiil remittance, Salam Bank and local communities form the study area.

### **3.5 Methods of Data Analysis**

This study used descriptive statistics (mean, standard deviation, frequency, cross tabulation, and percentages) which used to analyse the quantitative data that was collected, Foster, Greer and Thorbecke (FGT) was used to set the poverty line to differentiate poor from non-poor, and econometric model ‘logistic model’ was employed because the dependent variable (poor) is dummy and can be written as (1,0) to classify the poor and non-poor and also identify the core explanatory variables that have an impact on dependent variable (poverty).

### 3.5.1 Foster Greer and Thorberk (FTG) indices

Study was used (FGT) poverty measure that was introduced by (Foster Greer and Thorberk, 1984) to determine the poor of studying households in order to classify the sampled population into poor and non-poor groups. As well as three types of poverty measures were computed such as headcount index, poverty gap and poverty gap squared based on FGT model of poverty measure. Poverty line was identified and used a yardstick starting point of poverty analysis in assessing welfare and determining who is poor and not poor. So people are counted as poor when their measure standard of living is below poverty line.

However, in order to determine the absolute poverty line, cost of basic needs (CBN) method was used which based on the estimated cost of the bundle of goods adequate to ensure that basic needs are met (food and non-food items). CBN was evaluated using current local market prices of goods and services.

The quantity of food basket of a household was determined in such a way that the given bundle meets predetermined level of minimum energy intake of daily 2200 kcal per adult equivalent in this case and was valued the local price.

First this study underlined poverty measurements and described the partial indices that are the basic building blocks of poverty measurement such as headcount ratio, poverty gap index and severity of poverty index. First step evaluating income poverty and identified the poverty line  $z$  and then poverty and non-poverty groups was distinguished. And second step was aggregation step at which the data were put together to form an overall picture of poverty. This is usually done with the help of poverty indices.

#### *Poverty indices*

As mentioned above the part of poverty measurement in literature are three measures like poverty indices including poverty headcount ratio which determines the unique boundary between poor and non-poor and its formula is  $P_0 = \frac{1}{N} \sum_{i=1}^N I(y_i < z_i)$ , poverty gap based on the aggregate, average or per capita shortfall of the poor income from the poverty line and give as a conclusive answer of the

average depth of poverty and formulated as  $P_1 = \frac{1}{N} \sum_{i=1}^N \frac{g_i}{z}$ , and poverty severity is a weighted sum of the poverty gaps and measures the inequality among the poor and its

formula is  $P_2 = \frac{1}{N} \sum_{i=1}^N \left( \frac{g_i}{z} \right)^2$ .

### 3.5.1 Econometrics Model Analysis

In order to identify the key determinants of poverty, this study used Logistic Regression Model. The model is fitted to estimate the strength of relationship of each factor with poverty when other variables are controlled. Dependent variable ‘Poverty’ is a categorical variable (dummy) and takes the values of (1, 0) to identify whether the household is poor or non-poor. According the model the dependent variable ‘poverty’ in survey data takes the value of 1 if the household is poor and 0 for non-poor to avoid the probability of variables being fall into other categories.

*The Specification of the model is as follow*

$$\text{POVERTY (P)} = \begin{cases} 1, & \text{if household is poor} \\ 0, & \text{otherwise} \end{cases}$$

$$P_i = \frac{1}{1+e^{-Z}} \dots\dots\dots (1)$$

$P_i$  is 1 with the probability of being poor and 0, if otherwise

$$Z_i = \alpha_0 + \sum \alpha_i x_i + u_i, \dots i=1,2,\dots,n \dots\dots\dots (2)$$

$Z_i$  = dependent variable

$\alpha_i$  = the coefficient of explanatory variables

$\alpha_0$  = intercept term

$x_i$  = explanatory variables

$u_i$  = disturbance term

$n$  = the number of explanatory variables

Equation (1) represents the probability that a given household is a poor. So the probability of a given household is non-poor is as follows:

$$1 - P_i = \frac{1}{1 + e^Z} \dots\dots\dots (3)$$

By dividing equation (1) by equation (3),

$$\frac{P_i}{1 - P_i} = \frac{1 + e^Z}{1 + e^{-Z}} \dots\dots\dots (4)$$

This new equation ( $P_i/1-P_i$ ) is known as the odd ratio that means the probability of household to be poor to the probability that a household will not be a poor.

Finally taking the natural log of equation (4), the equation becomes as follows



$$L_i = \ln \left[ \frac{P_i}{1 - P_i} \right] = Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (5)$$

$L_i$  = the log of the odds ratio     $Z$  = the dependent variable

The above expression also can be written as:

$$Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + U_i \quad (6)$$

$X_1, X_2, X_n$  = the explanatory variables

$\beta_0$  = The intercept

$\beta_1, \beta_2, \dots, \beta_n$  = the slopes of the model

$U_i$  = the disturbance term or error term

Following earlier researchers' experience, this study assumed that probability of being poverty depends on the probability of receiving remittance was assumed and other explanatory variables such as household's socio-demographic and socio-economic characteristics. This was assumed that the probability of being in particular income class (poor or non-poor) is determined by underlined variables. The variable  $z$  was assumed to depend on the probability of receiving remittance as well as other explanatory variables.

The equation is given as follows:

$$\text{Prob (poor 1/x)} = \alpha_1 \text{ remit} + \alpha_2 \text{ HH age} + \alpha_3 \text{ sex} + \alpha_4 \text{ HHsize} + \alpha_5 \text{ depratio} + \alpha_6 \text{ HHeduc} + \alpha_7 \text{ HHMRS} + \alpha_8 \text{ income} + \alpha_9 \text{ workers} + \alpha_{10} \text{ HHprop} + \epsilon$$

Finally, maximum likelihood method was used to estimate the values of coefficients. And also to measure the degree of relationship among the continuous predictor variables, Variance Inflation Factor (*VIF*) was used to make diagnostic check whether there is a co-linearity among explanatory variables or not.

### 3.6 Definition of the variables and hypothesis

#### Dependent variable

**Poverty status:** this variable is the dependent variable of the study which is categorical variable (dummy) and it took the values of (1, 0). If the households are poor the poverty status takes the value of 1 and of the households are non-poor takes the value of 0. Poverty and non-poverty was distinguished using through FGT model to determine poverty

households from non-poverty households. Those households whose income fall below \$ 1.46/per day/AE were considered poor; while those households whose income were greater or equal to \$ 1.65/ per day/AE were considered non-poor.

### **Explanatory variables**

This study was considered a set of explanatory variables those have direct or indirect impact on the dependent variables. According to literature, there are many variables that are considered that they have an impact on poverty. The core variable of this study examines is remittance variable plus set of other universe variables, that tested by related topics to have an impact on poverty those are socio-demographic and socio- economic variables.

1. Household head age (HHage): a continuous explanatory variable which indicates the age of the household head. As literature indicate as the age of the household head increases the probability of falling poverty is less. This supposes the older the household head the more experience he/she has in the respective livelihood choices. Therefore as there maturity goes up older persons are more risk averters and thus the chance that the household to be poor is less.
2. Household head sex (sex) is a dummy variable which takes values (1, 0) if the household head sex is female takes the value of 1 if male takes the value of 0. Most of the researchers indicates that female headed households are vulnerable to be poverty because of lack of resources and therefore male headed households are less likely to occur in to the poverty trap
3. Marital status of the households (HHMRS): is dummy variable which indicates the marital status of the household head, whether the house hold head is married or unmarried and take the values of 1 and 0 respectively.
4. Household dependence ratio (DEPratio): is continuous variable which considered the household members aged below 15 and above 64 and supposed to be in active. Most of the literature about poverty reduction underlined that high dependence ratio has a positive impact on the poverty. So researcher hypothesizes that high dependence ratio and probability to fall a poverty trap are positively related. Therefore a family with relative higher number of dependence ratio would increase household poverty.
5. Household head education (HHeduc): is ordinal variable which the household's head education level that takes values of 0 = illiterate 1 = write and read only 2 = elementary school 3= high school 4= university level. According World Bank (2005)

there is strong correlation between education level achievement and poverty. Therefore it is assumed that the education level of household head determines the standard of living of household. So as education level of household head increases the chance that the family become or fall into poverty is less.

6. Household size (HHsize): is a continuous variable which determines the total aggregate of household members. The expectation is that as the family size increases the probability of household being poverty also increases. Because of existence of large number of household members without recourses can increase the incident of poverty of that household
7. Remittance (Remit): is a dummy variable which indicates whether the household receive remittance or not that takes values of (1, 0) if the household receive remittance takes the value of 1 (one) and if not takes the value of 0 (zero). Therefore researcher assumes that the probability of being poor depends on the probability of receiving remittance. As literature indicates the households those receive remittance the higher the chance to be a better economic condition and not fall into the poverty trap.
8. Total Household Income (TOTINC) is a continuous variable which indicates the income of households disregarding how they receive the income, so high income household are less likely to fall on poverty than low income households. Therefore as income of household is high the probability that the household is not poverty is high.
9. Household property (HHprop) is dummy variable which determines whether the household owns property or not that takes the values (1, 0) if the household has a property takes the value of 1 (one) and if not takes the value 0 (zero). This supposes that if household has a property such house, land, farm, business and etc the chance this household falls into the poverty incident is less. So researcher assumes that property ownership and poverty has a negative relationship.
10. Household employment (workers): is a discrete variable which underlines the number of the adult workers in the households. If the number of workers in the household is high the chance the household is not fall into the poverty trap is high. Therefore the researcher presumes that household employment and poverty have negatively related.

## **CHAPTER 4 RESULTS AND DISCUSSIONS**

### **4.1 Introduction**

This chapter discloses the main findings of this study and tries to come up with answers of the study questions concerning the impact of remittance on poverty reduction. The results presented in this chapter strived to achieve the underlined objectives of the study in order to estimate the magnitude and uses of remittance and to identify the contribution of remittance to poverty alleviation with comparing the poverty status of remittance receiving households and those do not have remittance, generally how do remittance effect on absolute and subjective poverty, in addition to identify the main determinants of poverty including remittance and other core variables. Nonetheless this study used logistic regression model to identify main determinant of poverty at the study area.

### **4.2 Households demographic characteristics**

#### **4.2.1 Descriptive Statistics**

168 household heads were interviewed. So that the results of descriptive analyses are presented in tables 4.1, and 4.2. Table 4.1 presents the results for the categorical variables whereas table 4.2 presents the results for the continuous variables. Descriptive statistics unveiled that household head sex, household head education, Household size and household dependence ratio have a significant association with poverty incidence at a 1% significant level. Whereas Age and marital status of the household heads indicated that there is no significant differences between poor and non-poor households.

##### **4.2.1.1 Age of the household heads**

The mean household head ages of the study were found 49.85 ~50 with a standard deviation of 12.46, where maximum and minimum of household head ages are 88 and 22 respectively. Nonetheless as table 4.2 indicates the mean of poor and non-poor household head age were found 50 years and 49.76 with standard deviation of 10.99 and 13.5 respectively. So that there is no significant difference in the distribution of household head ages of the sampled respondents between poor and non-poor.

Even though, literature hypothesised that there is positive relationship between household head age and poverty that postulates the poverty is relatively high at young ages, declines at Middle Ages and finally starts to increase at old ages of household head. But in this study there is no significant mean different between of poor and non-poor households head ages

which underlines household head age has no impact on household poverty whatever ages of the household heads.

#### **4.2.1.2 Sex of household heads**

The sample household size is 168 households. As table 4.1 shows 91(51.2%) were male headed households, whereas, 77(45.2) were female headed households. According this finding there is no big different between female and male of head of the surveyed households. Nevertheless the male headed households surpassed the female headed households slightly. In addition 72(42.86%) of the poor households 26(15.48%) are male headed households and 46(27.38) are female headed households. As this result indicated the female headed households are poorer than their male- headed counterpart.

In this study, sex of the household head were postulated to have an impact on poverty status of the household, considerably the male headed household are better off economically. Like the most related literature indicated that female headed households are more likely to be poor and male headed households are less likely to be poor. Generally Women, who are usually female-headed households, face gender discrimination with respect to education, earnings, rights, and economic opportunities.

So far female headed households are accepted internationally and Somaliland context that they are vulnerable in poverty according to male headed households. The chi square indicates the association is statistically significantly with p value of 0.000.

#### **4.2.1.3 Marital status of household heads**

As indicated in table 4.1, the majority of household head are married; considerably 68% of the household head are married or 114 out of 168 surveyed households are couples. The widowed and separated or divorced household heads were computed 15% and 14% respectively. The study revealed that 27% married household heads are poor whereas 41% of them are non-poor. As this result unveiled most of the married household heads are economically better off with comparing their counterpart because marriage tends to increase economic wellbeing of the coupled households and one feature is that since marriage involves long-term commitment, it increases the productivity and the efficiency of the household through couples' specialization in specific skills and duties. Even though the study indicated that the separated couples are more likely to be poor whereas 15 (9%) out of 24(14%) divorced household heads are poor. In widowed household heads, they are slightly

towards non-poor 15 out of 26 are economically better off. However most of the widowed household heads are old aged and they get help from their relatives mainly their mature children. This study found that marital status is statistically insignificant to differentiate the poor and non-poor of the study area.

#### **4.2.1.3 Household head education.**

Education level of household head was categorized whether they are literate or illiterate. As table 4.1 shows 168 of surveyed household heads out of 52% were found to be illiterate, this means they are unable to read and write or did not attend schools. Whereas 48% were found to be literate. Nevertheless beyond the 52% of illiterate households' heads 27% were found to be poor, while both poor and non-poor household head education exhibits high level of illiteracy. But non-poor households head education level indicates slight lower value comparing poor households. As indicated in table 4.1, 48% of literate households out of 15.5% are poor comparing their counterpart. This study unveiled that most of the poor household heads are relatively illiterate. As majority of the literature hypothesized that education level of household heads is negatively related to the poverty. However this study agreed with the literature and the researcher's pre hypothesized statement that the households head education level is statistically significantly to differentiate the poor and non-poor household of the selected districts (26 June, Ga'anlibah and Kodbur) in Hargeisa city.

As quoted from key informant interview, the vast interviewee agreed that the ignorance or illiterate is one of the challenges of poverty; they suggested that in order to improve the livelihood of households or tackle the poverty tragedy in Somaliland, government should enhance education and skills of the society.

#### **4.2.1.4 Household size**

Accordingly the results computed from 168 surveyed households under 1,326 members, the average household size were found 7.89 where minimum and maximum household size were found 15 and 3 respectively. According to the Somaliland population survey indicates that the average Somaliland household size is 7 (MoN&D, 2015). As summarized in the table 4.2, the average household size of the poor and non-poor households was computed 7.26 and 8.36 respectively and where minimum and maximum of poor household size were found 3 and 15 respectively. As the literature revealed, the households with higher members (size) tends to be poor households, this study shows that 'higher family size is supposed to have negative relationship with being poor and decreases poverty status with 1% significant level.

#### 4.2.1.5 Household Dependence ratio

Dependence ratio is the ratio of economically inactive age to the active age of the households and mainly calculated dividing under 15 years of age and adults of 65 and above by 15 to 65 years old. The mean of dependence ratio of the studied households were found 0.3642 with a maximum and minimum dependence ratio of 0 and 2.5 respectively. The mean dependence ratio of poor households is .4408 which is higher than their counterparts and a maximum dependence ratio as well. Based on the researchers prior assumption that was households with higher dependence ratio tends to increase the poverty of the household. As summarized table 13 there is a significant average mean difference between the dependence ratio of the poor and non-poor households at a less than 1% significant. Nonetheless, this study agreed with literature that the households with higher inactive ages (dependence ratio) tend to be poor.

**Table 4.1 Comparison of categorical variables and poverty status**

Variable Definition		Poor		Non-poor		Total	
		Freq	%	Freq	%	Freq	%
<b>Gender</b>	Male	26	15.48%	65	38.69%	91	51.2%
	Female	46	27.38%	31	18.45%	77	45.8%
	<b>Total</b>	<b>96</b>	<b>42.86%</b>	<b>72</b>	<b>57.14%</b>	<b>168</b>	<b>100%</b>
<b>Education</b>	Literate	55	32.7%	26	15.5%	81	48.22%
	Illiterate	41	57.14%	46	27.38%	87	51.78%
	<b>Total</b>	<b>111</b>	<b>100</b>	<b>72</b>	<b>42.86%</b>	<b>168</b>	<b>100</b>
<b>Marital Status</b>	Single	1	0.6%	3	1.79%	4	2.39%
	Marred	45	26.9%	69	41.07%	114	67.9%
	Divorced	15	8.93%	9	5.35%	24	14.28%
	Widow	11	6.53%	15	8.9%	26	15.43%
	<b>Total</b>	<b>72</b>	<b>43%</b>	<b>96</b>	<b>57%</b>	<b>168</b>	<b>100</b>

Source: own survey, 2017

**Table 4. 2 Comparison of continuous variables and poverty status**

Variable Definition	Poor		Non-poor		Total		Min-Max	P-value
	Mean	St.dev.	Mean	St.dev.	Mean	St.dev		
<b>Age</b>	50	10.994	49.76	22-88	49.85	12.46	22-88	$\rho=0.894$
<b>Household size</b>	7.26	2.711	8.36	2.970	7.89	2.90	3-15	$\rho=0.015$
<b>Dependence ratio</b>	.4408	.32403	.3068	.50418	.3642	.41501	0 -2.5	$\rho=0.038$

Source: own survey, 2017

### **4.3 Poverty and poverty measures**

Setting poverty line using CBN approach begins with a nutritional threshold chosen to reflect minimum consumption requirement for a healthy life and then adjustments of non-food expenses (e.g. housing and clothing) are made. First basket of food that deliver minimum nutrition requirements (calories) were identified. Most of the world adopted international standards of food poverty threshold those set by World Health Organisation and Food and Agriculture Organization (WHO/FAO). Even though there are considerable variations the most used minimum nutrition requirement is 2,100 kilocalories per day per person in urban areas and according to MoNP&D of Somaliland the minimum nutrition requirement for a healthy, normal life under Somaliland condition is 2,100 kilocalories per day. Even poverty is often seen as specific to individual level, so it needs adjustment for age and gender. Even though, all members of the household could be identified. But it is also difficult to allocate a specific income to each member of the household. Nonetheless it is hard to determine who consumes part of common pot of rice or pot of soap. Instead, often researchers collect data as a household level, so the question concerns does the household have an adequate resource requirement to provide enough resources collectively. The easy way that could be got is to divide the household's income or expenditure to the household members. However in reality, it is far from occurrence how to set specific weights. So far the most dietary energy threshold used in most of urban developing countries is 2,100 kilocalories per person per day.

The first step of setting poverty line is to determine the minimum nutrition requirement of healthy person (2,100 kilocalories) and then determining a food basket or bundle of the food that can provide the minimum food consumption requirement. The determining of food basket depend on the reference group whose consumption is vicinity of the caloric requirement with the lowest. Then the food basket consumed by reference group of the sample household were focused and in addition operational of a poor person's basic nonfood needs that allow to estimate their costs directly were added up to set poverty threshold of minimum consumption requirements to generate the cost of basic needs (CBN).

The cost of the minimum nutritional requirement of 2,100 kilocalories and nonfood necessities was identified by using Engel function in order to lead the split point or threshold that separates poor and non-poor of the study area.



**Table 4.3 Food Consumption of Food Poverty Line**

Food Items	Mean Kcal/kg(L)*	KG(L) consumption/Day/AE	Kcal/Day/AE consumed	Share(% of Kcal)	Mean Price/Kg(L) USD	Mean Price KCal (USD)	Food Poverty line/day/AE in USD
Rice	3923	0.132308	519.044284	24.7164	1	0.00025	0.129761
Sorghum	3805	0.06012	228.70333	10.8906	0.75	0.00020	0.045741
Pasta	3550	0.02634	104.1854	4.9612	1.25	0.00035	0.036465
Maize	3751	0.06206	232.888337	11.0899	1.25	0.00033	0.076853
Wheat	3623	0.045425	164.216098	7.8198	0.9	0.00025	0.041054
Meat	1148	0.043250	49.661332	2.3648	5.25	0.00457	0.226952
Sugar	3850	0.096592	371.8869	17.7089	0.75	0.00019	0.070659
Milk	737	0.122034	89.939795	4.2828	1.5	0.00203	0.182578
Vegetable	1100	0.061038	67.1363	3.1969	2.5	0.00227	0.152399
Oil	8964	0.028562	256.020804	12.1915	0.71	0.00008	0.020482
Salt	1780	0.005891	10.49666	0.49984	0.6	0.00034	0.003569
Tea leaf	1103	0.005284	5.822737	0.2773	1.5	0.00136	0.007919
<b>Total</b>			<b>2100</b>	<b>100</b>	<b>17.96</b>	<b>0.01222</b>	<b>0.994431</b>

Source: designed by the researcher

Note \* (column 2 of the above table) is taken from MoNP&D (see appendix 3)

Survey data of food expenditure consumed by households conducted from study area were converted by kilocalories and adjusted composition of household age and gender because individuals with different age and gender do not consume same amount of calories, see appendix 4.

The above table presents the food items of the consumption habits of the reference group. So that 12 food items that they consume were identified and have been taken as reference. In addition the amount of food that the households consume each day were identified as kilogram/liter and converted to kilocalories using standard conversion that have taken from MoNP&D (see appendix 4). The market price of each kilogram and liter were settled and taken from local shops and stores in the study districts. And also food items were converted to per kilocalorie/liter and mean prices of kcal/L were taken to calculate food poverty line per day of AE in USD. Price per kcal estimate is multiplied by energy threshold kcal

consumption per day and provides an estimate of food poverty line *fp**l*. Consequently the minimum consumption requirement or poverty threshold the cut point of poor and non-poor were generated. As the result of the total consumption expenditure or food poverty line per day per adult equivalent were found to be **\$0.994/day/ AE**. Hence the food poverty line of the selected districts of Hargeisa city was found to be \$357.8/year/AE.

According to MoNP&D(2014) the specific allowance for the non-food goods is added to food poverty line and reported that urban food and non-food expenditures are 60% and 40% respectively. To obtain the poverty line, non-food items were calculated using Engel coefficient ‘the ratio of food consumption to the total expenditure’. Nevertheless the total poverty line was computed to be  $0.994/0.6 = 1.65$ . So the share of non-food expenditure is 0.66. Using CBN approach poverty line (*tpl*) is found by the summation of the minimum food requirements (*fp**l*) and non-food expenditure (*nfp**l*).

Thus, the total poverty line  $tpl = \$0.994 + 0.65 = 1.65 \sim \mathbf{\$1.65}$ . This number stands for the poverty line or the cut-off point that separates poor and non-poor of the study area.

Therefore, after determining the poverty threshold point that separates poor and non-poor, the next step is aggregation problem of FGT indices. Thus these indices are as follows.

**Headcount index/poverty incident (P<sub>0</sub>):** The headcount index is simply the sample average of the variable  $I(y, z)$ , weighted by the number of people in each household *ni*. The measure is calculated by first counting the number of poor individuals, **G**:

$$G = \sum_{t=1}^m I(y, z)ni$$

And the overall headcount is then calculated as:

$$H = G/N^1 .$$

**Poverty gap/ depth of poverty index (P<sub>1</sub>)**

The most second use is poverty gap and it serves as a poor guide of resource allocation. Poverty gap measures the amount of money by which each individual falls below the poverty line. Firstly, it has to be calculated the total short fall in income for the poor population as follows.

$$\text{Shortfall} = \sum_{t=1}^m (z - y)I(y, z)ni$$

---

<sup>1</sup> The total sampled population

Where the poverty line is  $z$ , income is  $y$ ,  $I(z,y_i)$  is a 0/1 indicator of poverty for each household, household size is  $n_i$ , the total number of households in the sample is  $M$ , and individuals are indexed by  $i$ . The calculation gives the total sum of money that would be needed to make up for the gap between the existing incomes of the poor and the official poverty line.

Finally, the average short fall for the population below the poverty line should be calculate  $G/Shortfall$ . Nevertheless poverty gap shows the distance to be travelled in raising income to close the gap between short fall income and poverty line

### **Poverty severity or squared poverty gap index (P<sub>2</sub>)**

Poverty severity is a way that could be transformed the poverty gap described above in to a distributionally sensitive measure and raising the individual gap a power greater than one. in addition this not only also takes account the distance or gap between the poor and the poverty line, but also the inequality among the poor and gives greater emphasis to the poorest of the poor by weighting each poor person by the square of his/her proportionate shortfall below the poverty line and mathematically it is the square of poverty gap (FGT<sub>1</sub>)

The FGT indices (headcount ratio, poverty gap and poverty severity) were calculated in this study are as follows.

**Table 4.4 Poverty dimensions**

<b>Poverty indices</b>	<b>Index values</b>
<b>Headcount ratio (FGT<sub>0</sub>)</b>	0.382
<b>Poverty Gap Index (FGT<sub>1</sub>)</b>	0.0951
<b>Poverty Severity Index (FGT<sub>2</sub>)</b>	0.0318

Source: own survey result, 2017

According the findings of the above table indicates that 38.2% of the sampled population of the selected three districts in Hargeisa city are poor and under the poverty line. This means they earn an income less than \$1.65 per day/AE. According to World Bank report indicates that around 4 out of 10 households in urban areas in Somaliland consume less than minimum energy requirement of 2,100kilocalorie per day per adult equivalent. That means 42% of households live in urban areas are under the poverty line. (WorldBank, 2014).

The poverty gap index of the study that measures consumption short fall of all poor relative to the determined poverty line across the studied population was found 9.51% that is the gap between poor and poverty line. In order to close the gap \$9.51% income per day per adult of the poverty line is needed to make up the gap between poor and poverty line. Indicates that the percentage of money that needed to eradicate the poverty. On the other hand, to improve the consumption pattern and close the percentage of poor deficit to the community of studied districts (26 June, Ga'anlibah and Kodbur) \$0.139 /day/AE is required. Nevertheless, for instant if \$0.139/day/AE of the poverty line is contributed to poor community of the study area they would escape the poverty.

The third index in consumption expenditure which measures the severity of poverty as calculated the poverty gap index were found that 3.18% of the sampled population falls below the poverty line that implies there is severe degree of inequality among the poorest population (lowest quartile).

**Table 4.5 Poverty dimensions by remittance status**

	Poverty Indices	
	Head Count Ratio (FGT <sub>0</sub> )	Poverty Gap index(FGT <sub>1</sub> )
<b>Total sample</b>	0.382	0.0951
<b>Receiving remittance</b>	0.276	0.07162
<b>Non-receiving remittance</b>	0.484	0.12814

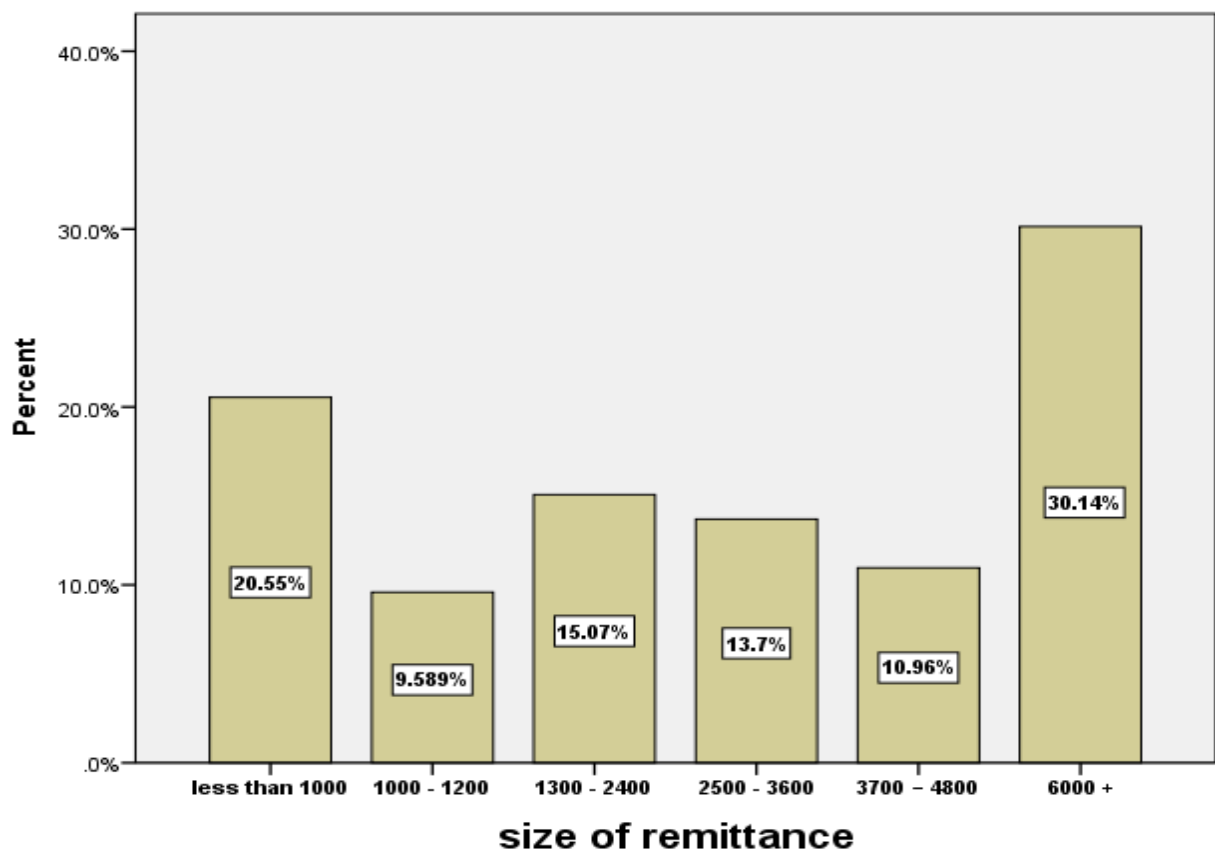
Source: Own survey result, 2017

Considerably, the above table shows the FGT measures of the different groups in the study in considering remittance status of the study area that separates the study population into the households those receive remittance and those do not receive remittance. These results resented the impact of remittance on absolute poverty in order to fulfil one of the core objectives of the study.

#### 4.4 Magnitude of remittance.

As summarized figure 7, size of remittance estimation derived from survey. That depicts 75 (45%) out of 168 surveyed households were found to receive remittance. Roughly, 30% of them they receive more than \$6,000 annually, whereas 21% of them receive less than \$1,000 per year. Similarly, whereas 16% of the households that receive remittance of an amount between \$1300-2400. Particularly, average remittance that households receive annually was found about \$3,468 annually in the study area. Nevertheless most of the surveyed households receive an amount of remittance about \$6,000 annually that implies remittance receiving households receive an amount of remittance about \$500 monthly.

**Figure 4.1 Size of remittance**



Source: Own survey result, 2017yhub

According to Hargeisa economic household assessment, Hargeisa inhabitants receive about \$5 million dollars monthly through remittance companies. Dahabshiil manages over 70% of this amount while another 12 or so companies compete for the delivery of the other 30% where two-third of the remittance goes to the livelihood of more than a quarter of households in Hargeisa directly (King, 2003). Medani (2000) found that nearly 40% of resident of

Hargeisa (excluding those living displaced settlements) receive remittance particularly one quarter of Hargeisa settlements remittance is the main source of income. Similarly according to Ahmed (2000) found that the average remittance that households in Hargeisa receive is \$4,170 per year using 116 recipient households.

Remittance of Somaliland increased the oil boom in Gulf of Arab. But remittance has extensively increased the era of civil war in 1991 which forced huge number of immigrants from country to seek refuge overseas countries mainly in neighbouring countries. In addition thousands crossed to Europe and North America. Substantially these immigrants added value to the already existed remittance of gulf, the largest host country of the community from Somaliland is United Kingdom. Even though there is no census data, but the Somali population in Britain were estimated to be 100,000 (Ahmed 1998).

Even there is no obvious estimation of the magnitude of remittance flow in Somaliland but there are only two studies those have attempted to estimate the magnitude or size of remittance. The first one was conducted the era of former Somali government by Green and Jamal (1987). At that time the population of migrants were estimated 375,000 with annual remittance of \$478-540 million mainly from workers in Gulf, considerably the majority of migrants or worker from north part of the country (Somaliland). Since the study did not provide a division of remittance flow to different parts of former Somalia, but half or more of remittance flow went to Somaliland.

The second study was specific to Somaliland which carried out by ministry of planning and development. As a purpose of estimating the magnitude of remittance in Somaliland, ministry of planning conducted a short study in 1997. As result of this study which was based on estimate obtained through interviews with transfer companies, magnitude of remittance were found a figure of about \$93 million which transferred through remittance companies (MoNP&D, 1998).

Nonetheless, the two studies were not based on evident of detailed empirical work, but they have strived and combined different evidences to come up with a reasonable estimate of the magnitude of remittance. Similarly, USAID reports the magnitude of remittance in Somaliland is 4 million in 1998 with the forecasting the economic disaster of the country (Ahmed, 2000). Although, there are considerable challenges to estimate the size of remittance flow to Somaliland, but some reports declare that still remittance increasing overtime.

## 4.5 Uses of remittance

As table 3 shows the expenditure of remittance or what remittance recipient's households spend the remittance they receive. As summarized the table often households spent on basic needs like food and non-food necessities, 66(88%) out of 75 remittances recipient households declared that they spend on basic needs (food and non-food necessities), whereas nearly 83% of remittance recipient households spent on education fee. Nevertheless most of the households declared that they use remittance basic needs and education this fits in evidence on other studies, (Durand et al., 1996; Black et al., 2003; Goldring, 2004; Maphosa, 2004; Citizens International and Bruks Associates, 2005; World Bank, 2006). Similarly households spent a considerable amount of remittance to house rents, medical care and clothes 72%, 58% and 36% respectively. Furthermore, a minor amount of remittance goes to investment and social events because mostly households use remittance for livelihood necessity issues.

**Table 4.6 Use of remittance**

What remittance is spent on	Responses	
	N	Percent
<b>Basic needs (food and non-food necessities)</b>	66	88%
<b>Medical Care</b>	44	58%
<b>Education</b>	62	82.7%
<b>House rent</b>	54	72%
<b>Clothes</b>	27	36%
<b>Investment</b>	5	6.9%
<b>Social events</b>	7	9.3%
<b>Total (receiving remit households)</b>	75	

Source: Own survey result, 2017

Similarly a study conducted in Hargeisa found that when asked how the remittances were used, many respondents replied 'it's for daily living' or 'it's barely enough'. The majority of respondents (96 per cent) were using remittances for bill regular basic expenses that may include food, education, health, rent, qaad and household items. . Specifically, around two-thirds of respondents that they spent on education and around 60 per cent of respondents said that remittances had been spent on health expenses—regular medicine, doctor's bills or emergency treatments (Anna, 2006)

Moreover, key informant interview from local elders and experts suggested that often remittance recipients spent the remittance for non-necessities for livelihood of households, food, education and medical care.

#### 4.6 Impact of remittance on poverty

Since the mass emigration from Somalia in 1991, when central state of Somalia collapsed, remittance has been serving as survival for poor families in the countries. Particularly in Somaliland the remittance has become a cornerstone to the livelihood and economy of the country. In addition remittance is perceived as the most viable means to escape poverty. Nevertheless families whose relatives live in the abroad have been understood economically well off comparing their counterparts. Since there is no empirical research that examines the impact of remittance on poverty reduction, however there are reports from World Bank, MoNP&D and some scholars those indicated the tremendous significant of remittance to the economics of the country and the livelihood of the households who receive remittance particularly. So far this study discloses the impact of remittance on poverty of the studied districts in Hargeisa city.

##### 4.6.1 Impact of remittance on absolute poverty

As summarized table 14, 75 out of 168 surveyed households they receive remittance, similarly 45% of the sampled households they receive remittance. Contrarily, 55% of the households they do not receive remittance. Considerably, households those do not receive remittance have a higher poverty rate comparing their counterpart.

**Table 4.7 Remittance and poverty status**

	poverty status				Total	
	non-poor		Poor			
Remittance status	Count	%	count	%	count	%
<b>Non-remittance receiving Households</b>	43	25.6 %	50	29.8%	93	55.4%
<b>remittance receiving Households</b>	53	31.5 %	22	13.1%	75	44.6%
<b>Total</b>	96	57.1	72	42.9%	168	100%
<b><math>\chi^2= 10.188</math>      p-value 0.001</b>						

Source: Own survey result, 2017



As computed from the study, 30% of the households who do not receive remittance are poor where 13% of the households receive remittance are poor. On the other hand, 26% and 32% of households those do not receive remittance and those receive remittance are non-poor respectively. This study revealed that households receive remittance are economically better off comparing to their counterpart and agreed with the literature that remittance is a means of escaping poverty with 99% significant level.

As table 15 shows there are also a large difference in poverty dimensions between households receive remittance and those do not receive remittance. The incident and depth of poverty is almost half as low with households receive remittance comparing with households without remittance. The study unveiled that 27.6% of those under the households receive remittance are under the poverty line comparing with 48.4% of those under non receiving remittance households are under the poverty line. In addition consumption short fall of all poor relative to the determined poverty line across the studied population under the remittance receiving households is 7.5%. Comparing with 12.8% of those under non receiving remittance households. In order to close the gap those under non receiving remittance is needed \$12.8%/day/AE of the poverty line which is a double of the amount needed in those receive remittance to lift up from poverty.

**Table 4.8 Remittance and poverty dimensions**

**Poverty Indices**

	Headcount Ratio(P)	Poverty Gap index(P)	Poverty Severity index(P)
<b>Total sample</b>	0.382	0.0951	0.0218
<b>Remittance Receiving</b>	0.276	0.07162	0.0160
<b>Non-Remittance Receiving</b>	0.484	0.12814	0.0318

Source: own survey result, 2017

From the results, it can be concluded that remittance has a reducing effect on absolute poverty (both incident and depth of poverty). Moreover remittance receiving households are economically better of comparing with their counterparts. As quoted informant interview,

remittance implies better living standard which means remittance receiving households escape poverty. Similarly a study conducted in Ethiopia was found that, using poverty profiles and binary outcome models, international remittance significantly reduces the poverty incidents among the urban households in Ethiopia (Emerta Assaminew, 2010)

#### 4.6.2 Impact of remittance on subjective poverty

To address the impact of remittance on subjective poverty, this study examined the perception of remittance beneficiaries and non-beneficiaries about the role of remittance on their economic wellbeing. Table 4.5 presented receiving remittance and non-receiving households’ own perception about their financial situation

**Table 4.9 Perception on the remittance impact on the household’s financial situation**

Financial situation	non-receiving remittance households		receiving remittance households		Total	
	Count	%	Count	%	Count	%
Significant improvement	51	54.8%	57	76%	108	64.2%
Slight improvement	32	34.4%	18	24%	50	29.8%
No improvement	10	10.8%	0	0%	10	6%
<b>Total</b>	<b>93</b>	<b>100%</b>	<b>75</b>	<b>100%</b>	<b>168</b>	<b>100%</b>
<b><math>\chi^2= 12.468</math>      p-value 0.002</b>						

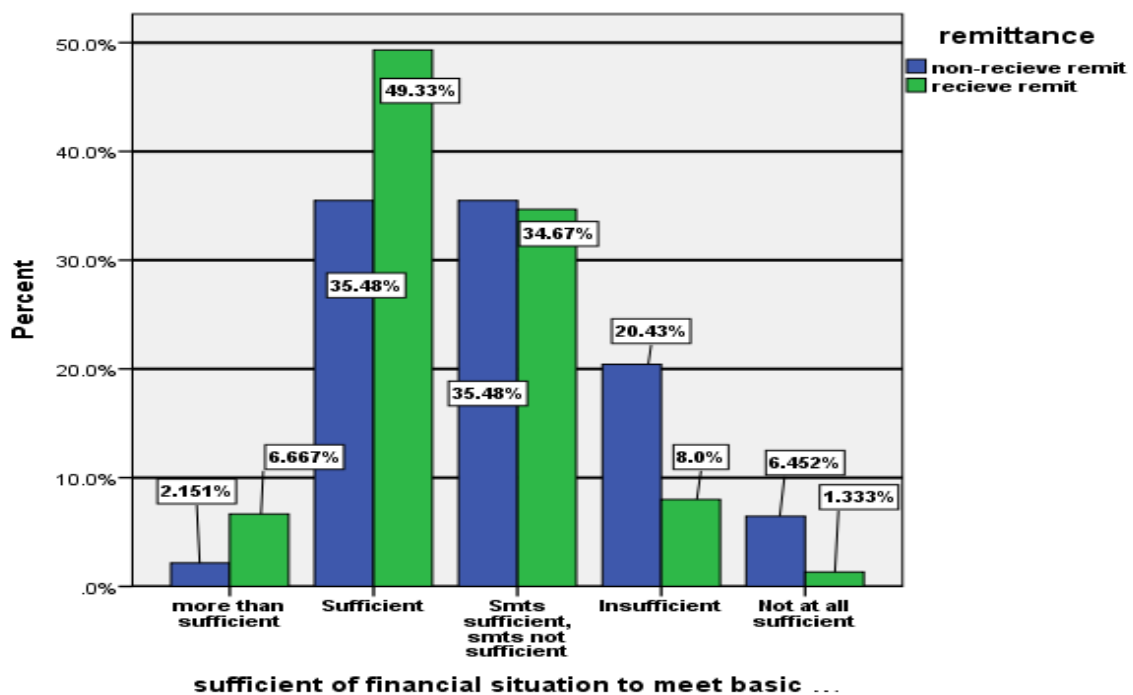
Source: Own survey result, 2017

76% of receiving remittance households chose significant improvement of their financial situation due to remittance comparing with 55% of non-receiving remittance declared that remittance would improve their financial situation. The percentage of remittance receiving households who declared slight improvement is significantly lower compared to non-receiving remittance households 24% and 34% respectively. In addition there is no one of the receiving remittance households who declare no improvement compared with 12% of non-receiving remittance who said no improvement on the financial situation.

As figure 9 reviews the answers of the question “is financial situation sufficient to meet your basic needs” mostly receiving remittance households perceived their financial situation sufficient to meet their basic needs comparing to those without such.

almost 7% and 49% of the households who receive remittance believe that their financial situation is “more than sufficient” and “sufficient” respectively, whereas 2% and 35% of households without remittance perceived their financial situation as “more than sufficient” and “sufficient” respectively. As the figure shows, considering the right tail of the x-axis, too little remittance-receiving households believe that their financial situation is “insufficient” and “not at all sufficient” compared to non-receiving remittance households. Considerably, 20% of non-receiving remittance households believe their financial situation is insufficient compared with 8% of receiving remittance households who declared their financial situation is insufficient. The percentage of households who believe their financial situation is sometimes sufficient and sometimes not sufficient converges both receiving remittance households and households without such, which is 35% and 34.6% respectively and there is no noticeable difference between them.

**Figure 4.2 perception about basic needs**



$\chi^2 = 11.825$      $p\text{-value} = 0.019$

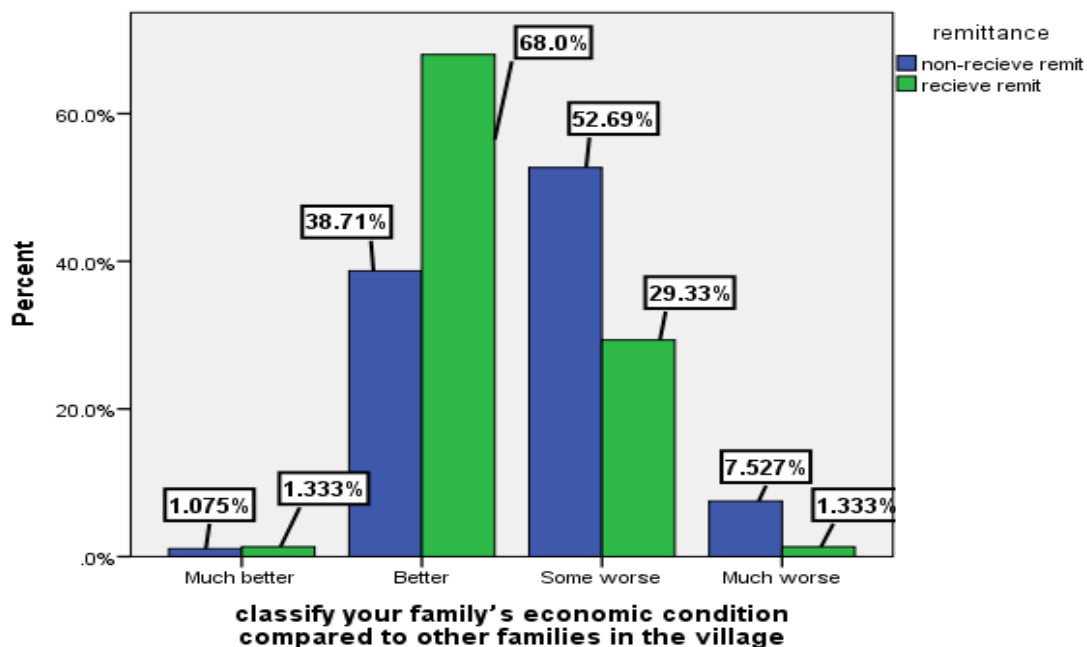
Source: Own survey result, 2017

Summarizing the findings from this figure, often the receiving remittance households perceived their financial situation is sufficient with comparing to their counterpart.

Comparatively, figure (10) indicates the perception of remittance beneficiaries and non-beneficiaries about their financial situation compared to other families in the village or district. Moreover, 60% of receiving remittance households believes that their financial

situation is better than other families in the village. Correspondingly, 39% of non-receiving remittance households believe same way. Likewise, 53% and 8% of non-receiving remittance households place themselves that their financial situation is “some worth” and “much worth” than other families in the village comparing with their counterpart. Whereas much fewer receiving remittance households believe their financial situation is “some worth” and “much worth” than other families in the village 29% and 1% respectively. From this analysis, remittance has considerable impact on escaping poverty; furthermore most of the receiving remittance households place their selves economically better of comparing with their counterparts.

**Figure 4.3 Household’s perception about their financial situation compared to others**

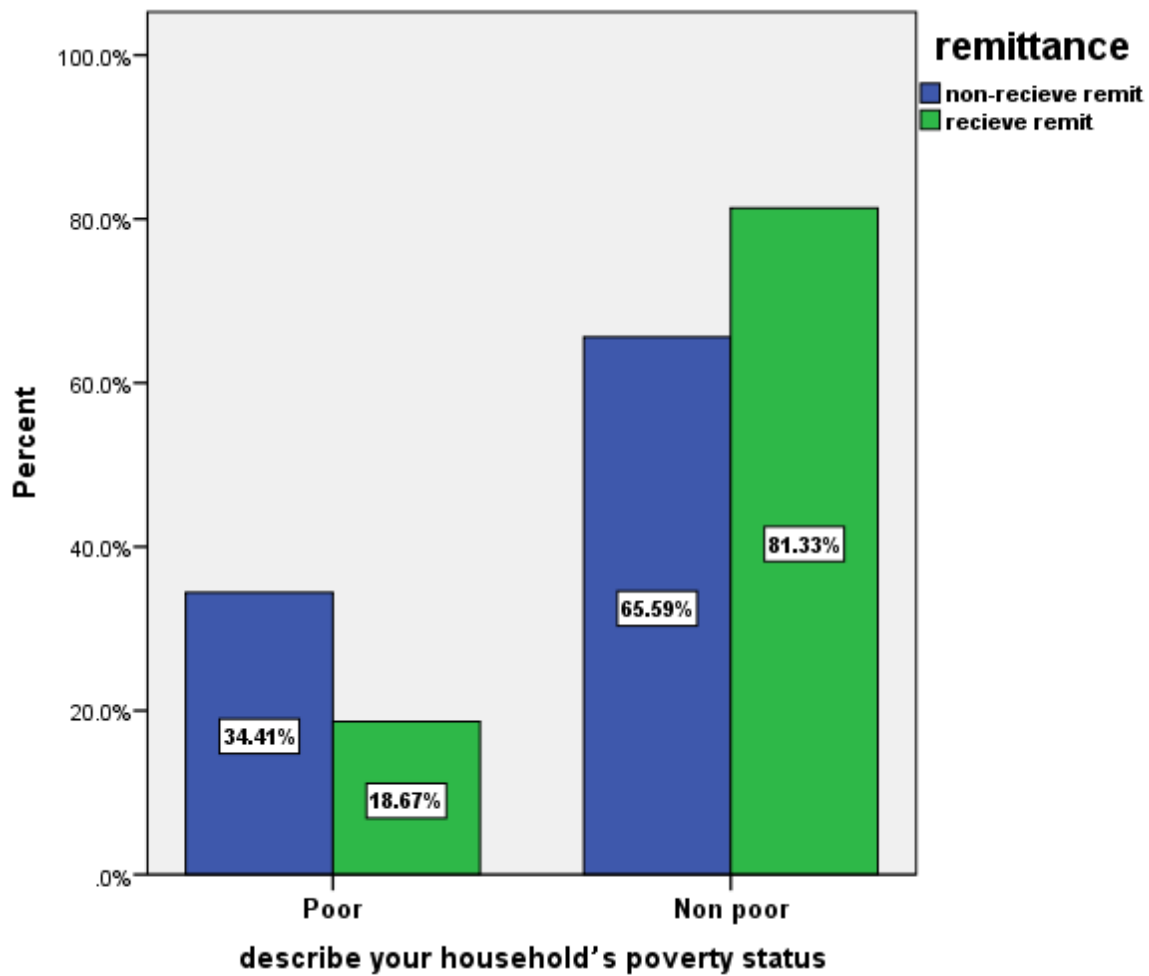


$\chi^2= 15.604$  p-value= 0.001.

Source: Own survey result, 2017

Before concluding the analysis, this last figure indicates where the surveyed households place their poverty status. 81% receiving remittance households believe they are not poor, where as 66% of non-receiving households believe same way. Together with 19% and 34% of receiving remittance households and households without such respectively place themselves as poor.

**Figure 4.4 Household perception of their poverty status.**



$\chi^2= 5.174$  p-value= 0.023

Source: Own survey result, 2017

Throughout the analysis, relatively receiving remittance households believe they are financially better of comparing with their counterpart. In conclusion, remittance has a strong impact on relative poverty where remittance place its beneficiaries' perception at a higher status that implies always remittance receiving households' financial situation is sufficient to meet their basic needs. Similarly a study conducted in Albania has revealed that the remittance has an impact on relative poverty using perception of remittance receiving and non-receiving households towards the position of their financial situation with comparing other families in the village (Erodita Hoti, 2009).

## 4.7 Econometric model: Binary logistic regression.

This study used binary logistic regression model to identify the key variables that determine poverty in studied districts in Hargeisa city. Considering with literature and researcher's knowledge in studied area 10 variables were predetermined those may have significant effected on poverty. Whereas variables were put into STATA and SPSS to facilitate smooth analysis of the model and get precise results from the statistical packages.

Before computing results of the model, diagnosis checks is needed that either multicollinearity or Heteroskedasticity exist.

### 4.7.1 Diagnosis of the econometric model

To check co-linearity among continuous explanatory variables (Multicollinearity) Variance Inflation Factor (VIF) were used. Each explanatory variable were treated as dependent variable at once and test with other explanatory variable to identify the co-linearity among them and put into the model using STATA.

**Table 4.10 Multicollinearity test of continuous variables**

Variable(s)	Variable code	Multi co linearity test	
		VIF	Tolerance 1/VIF
Household dependence ratio	HHdepratio	1.054	.949
Household size	HHsize	1.133	.883
Number Household employment	Worker	1.106	.862
Total Household income	TOTINC	1.071	.933
age complete year	HHage	1.062	942

Source: Model output, 2017

Rule of thumb suggests that, if we have a VIF above 3 that means we probably have a problem of multicollinearity issues, but if VIF exceeds 5, it is very likely to have multicollinearity and if it is above 10 we have definitely serious problem of multicollinearity. Nevertheless, as shows the above table there is no multicollinearity among continuous explanatory variables of the study.

Furthermore, to test the co- linearity among categorical variables using Pearson correlation tests. As underlined the below table there is no serous correlation among dummy variables. Considerably, correlation among variables range from 0 – 1, where 0 indicates there is no

correlation between variables whereas 1 indicates absolute correlation among variables. So there is no absolute correlation among dummy variables in the study using Pearson correlation.

**Table 4. 11 Multicollinearity test of binary variables**

Variables	Sex	HHmrs	HHEduc	remit	HHprop
Sex	1.00	0.44	-0.38	0.046	0.196
HHmrs	0.44	1.00	-0.32	0.043	0.075
HHEduc	-0.34	-0.32	1.00	0.064	0.11
Remit	0.046	0.043	0.064	1.00	0.276
HHprop	0.196	0.075	0.11	0.276	1.00

Source: Model output, 2017

Finally to check hetroskedasticity problem that describes a situation in which the error term is not the same across all values of the independent variables. In addition, the standard errors are biased when heteroskedasticity is present. This in turn leads to bias in test statistics and confidence intervals. Considerably, to check existence of hetroskedasticity problem Bruesch-Pagan and Koenker test were used.

Hetroskedasticity test- Bruesch-Pagan and Koenker test Statistics and Sig-values

**Table 4.12 Hetroskedasticity test**

Tests	Lagrange Multiplier (LM)	Sig values
BP	7.590	.576
Koenker	14.459	.107

Source: Model output, 2017

Null hypothesis: Heteroskedasticity not present (Homoscedasticity)

If sig value less than 0.05, reject the null hypothesis. Both tests suggested that there is no violation of assumption of homoskedasticity

### ***Econometric model results***

**Table 4.13 Results of binary logistic regression model**

<b>Variable</b>	<b>Odds Ratio</b>	<b>Coefficient</b>	<b>P-Value</b>
Sex	0.250	1.396	.006*
HHagecomp	0.987	-0.013	.548
HHmrs	1.266	0.471	.546
HHdepratio	3.976	1.380	.010**
HHeduc	0.944	0.306	.581
HHsize	0.875	-0.133	.087***
Remit	0.347	-1.058	.013**
HHprop	0.119	-2.125	.000*
TOTINC	0.994	-0.006	.000*
Work	1.106	0.106	.942
Number of observations = 168  -2 Log likelihood = 122.864 R <sup>2</sup> = 0.631 *, ** and *** = 1% 5%, and 10% level of significance, respectively.  Sensitivity- correctly predicted poor group                      72.2% Specificity- correctly predicted non poor                              81.3%			

Source: Model output, 2017

Additionally, goodness of fit in logistic regression analysis is measured by count R<sup>2</sup> which works on the principle that if the predicted probability of the event is greater than 0.50 The event will occur otherwise the event will not occur. The model result shows the correctly predicted % of sample household is 63.1% which is greater than 0.50. Then sensitivity, correctly predicted poor is 72.2% and that of specificity correctly predicted non poor is 81.3 %. This indicates that the model has estimated the non - poor and poor correctly. As summarized in table, ten explanatory variables were considered in this study. Where four of the explanatory variables were found insignificant, whereas six of them were found significantly effect on dependent variable at different levels of significant.



Considerably, the insignificant variables are HHagecomp (household head age), HHmrs (household head marital status, HHeduc (Household head education) and work (number of household members employed). However, these variables were found not be insignificant effects of poverty.

Reasonably, age was predetermined as one of the predictors of poverty, as age increases the probability of falling poverty decreases given the pretext of increased age correlates with increased experience in relation business given the pretext of increased age correlates with increased experience in relation business. In the study area age is not a considerable effect on poverty. Younger ages are more educated than older ages in addition some younger ages can master family issues with the experience that they inherited from elders and society via socialization. Finally it was found that age to be insignificant predictor of poverty.

Similarly, household head marital status was found to be insignificant effect on poverty in the study area. 68% of surveyed household's heads were found to be married whereas majority of them are non-poor because marriage increases economic wellbeing of the households. Similarly most of the widowed household heads were found to be non-poor whereas divorced households' heads were found that they are slightly poor. So this seems that marital status is insignificant predictor of poverty in the study population.

Furthermore, work (number of household members employed) was also found to be insignificant effect on poverty in the study population. Increasing number of workers do not imply increasing income because of the kind of the work, for instant one skilled and educated worker can take a salary compatible to more unskilled workers. Considerably work was found to be insignificant predictor on poverty in the study population.

As result of the model explanation for each significant independent variable are given consecutively as follows.

**Sex (household sex)** sex of the household head is supposed to be predictor of poverty and presumed that female headed households tend to be poor. This study agreed with that female headed households are vulnerable to poverty, the positive coefficient sing implies that the odds ratio in favour of poverty of being poorer increased household headed by females assuming other variables constant. The odds ratio in favour of the probability of falling into poverty increases by a factor of 0.250 as household is headed by a female. Nevertheless as summarized figure (8) 27.38% of surveyed households were poor female headed households whereas 15% were poor male headed households. As noted the key informant interview from

ministry of social affairs and some experts that female headed households are vulnerable to be poor in urban area. Lots of challenges hinder women to work and in addition, men are more educated and skilled than women. Similarly, culture impedes women to involve education and work places. On the other hand as indicated education of the household head implies majority of female household head were found to be illiterate. In result women headed households tend to be poorer according their counterparts.

**HHdepratio (household dependence ratio):** this variable implies dividing children under 15 years of age and old household members at the age of 65 and over divided by the economically productive/working age (15-64). This result from the model compatible to the presumed theory that as dependence ratio increases poverty increases. So as the result indicates that the estimated parameters are positive and significant at 5% level. The positive relation implies that the odds ratio in favour of the probability of being poor increase with increase in household dependence ratio. Other things being constant, the odds ratio in favour of poverty increased by a factor 3.976 as household dependence ratio increased by one. Similarly increasing unproductive age in the household increased the probability of falling poverty.

**HHsize (household size):** presumably, as household size increases poverty tends to increase. It is not surprising that in this study were found that the estimated parameters are negative and significant. As the result of this model, as household size increases poverty tends to decrease was found. The negative relation shows that the odds ratio in favour of the probability of being poor decrease with increase in household size. Other things being constant, the odds ratio in favour of poverty decreased by a factor 0.875 as household size increased by one. According to Hargeisa household economic assessment (2003), poor households are less family size than non-poor households for instant the family size of very poor households and typical poor is 7, lower middle and upper middle family size is 8 and better off households family size is 10. Considerably this implies as family size increases poverty decreases.

**Remit (household remittance status):** remit variable implies the remittance status of the household. Recalling that remittance receiving households recoded 1 whereas non-receiving remittance households were recorded 0. As hypothesized remittance is the key important variable to know whether it determines being poverty or not. As underlined table (remittance and poverty) remittance receiving households are better off comparing non-receiving

remittance households. Result from the model indicates that remit is significant at 5% significant level. The negative coefficient implies that the odds ratio in favour of the probability of being poor decrease with increase in remittance. The odds ratio in favour of poverty increased by a factor 0.347 as remittance receiving households increased by one other things being constant. Similarly this study agreed with the literature that remittance decrease poverty; in addition remittance is a cornerstone to the livelihood of receiving remittance households. A study conducted in Ethiopia was found that, using poverty profiles and binary outcome models, international remittance significantly reduces the poverty incidents among the urban households in Ethiopia (Emerta Assaminew, 2010). Informant interview strongly agree that remittance has a considerable effect on poverty and remittance receiving households are better off and they are in a secure livelihood comparing with non-receiving remittance households.

Furthermore, key informant interview strongly agreed with that the remittance is remarkably significant to its recipients. Moreover, often remittance receiving households are economically better off comparing with non-recipients.

**HHprop (household property):** this variable indicates that the asset ownership of households. Property was presumed to have a negative effect on poverty. Unsurprisingly, the estimated parameters were found negative and significant at 1% level. Nevertheless the negative coefficient shows that the odds in favour of the probability of being poverty decreases as household property increases. The odds ratio in favour of probability of being poverty decreased by a factor 0.119 as property increased by one other things being equal.

As literature raised wealth or capital ownership is negatively related to being poor. As long as the households owned capital such as land. House or business, they escape the tragedy of poverty.

**TOTINC (Total Household income)** as the result of the model shows there is a negative relationship between total household income and poverty as well as the coefficient shows high level of significant at less than 1% of probability level. So the negative effect shows the odds in favour of the probability of being poverty decreases as total household income increases. Nevertheless, the odds ratio in favour of probability of being poverty decreases by a factor as total household income increases by one dollar, holding other variables constant. The result has strengthened the presumed statement that was if the income of the household increases the chance that the household falls to poverty decreases. Considerable income

effects the purchasing power of the households, so households with higher income are less likely to become poor than low income households. As key informant interview suggests income has an absolute effect on the purchasing power of households, so households with low income are unable to escape poverty because their financial situation is not sufficient to meet basic needs

## **CHAPTER 5 SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Summary and conclusion**

This study has assessed the impact of remittance on poverty reduction. It has also assessed the important key variables that are a predictor of poverty. Particularly this study tried to identify the impact of remittance on both absolute and relative poverty and in addition to investigate the magnitude of remittance and how often recipients use the remittance cash they receive in the study area.

Obviously, Descriptive statistics unveiled that household head sex, household head education, Household size and household dependence ratio have a significant association with poverty incidence at a 1% significant level.

This study were used FGT to measure poverty dimensions of the study area. Considerably the poverty line was found \$1.46/day/AE which is the cut-off point that separates poor and non-poor of the study area. Relatively according to the findings of this study indicated that 38.2% of the sampled population of the selected three districts in Hargeisa city (26 June, Ga'anlibah and Kodbur) are poor and under the poverty line. This means they earn an income less than \$1.65 per day/AE.

Objectively, this study tackled that the remittance is the means of survival of remittance receiving households. This paper has shown that remittance represented 45% for households' income in studied districts. Because remittances in Somaliland are a relatively recent phenomenon, their long-term effects have not yet been assessed. Although the direct impact of remittances has so far been positive for recipient households, as this study revealed that remittance reduces poverty dimensions like incident of poverty, poverty gap and severity of poverty in a considerable amount. Remittance recipient households poverty incident were found to be 27%. Whereas non-recipients' poverty incident were found to be 48.4%. . In addition consumption short fall of all poor relative to the determined poverty line across the studied population under the remittance receiving households is 7.5%., comparing with 12.8% of those under non receiving remittance households. In order to close the gap those under non receiving remittance is needed \$12.8%/day/AE of the poverty line which is a double of the amount needed in those remittance recipients to lift up from poverty.

Similarly, remittance has also an effect on relative poverty. This study compared the perception of remittance beneficiaries and non-beneficiaries about their financial situation.

Considerably 76% of remittance recipient households has chosen significant improvement of their financial situation due to the remittance with comparing 55% of non-beneficiaries who declared that remittance would improve their financial significantly, whereas no one of remittance receiving households who chose no improvement on financial situations due to the remittance. On the other hand often remittance recipients believe their financial situation is sufficient to meet their basic needs comparing their counterpart. almost 7% and 49% of the households who receive remittance believe that their financial situation” more than sufficient” and “sufficient” respectively, whereas 2% and 35% of households without remittance perceived their financial situation” more than sufficient” and “sufficient” respectively. In addition in order to perceive the perception of remittance recipients and non-remittance recipients on their position of economic wellbeing compared with other families in the village or district. A hierarchical set of positions were identified which are “much better”, “better”, “some worth” and “much worth”. 60% of receiving remittance households believes that their financial situation is better than other families in the village. Correspondingly, 39% of non-receiving remittance households believe same way. Likewise, 53% and 8% of non-receiving remittance households place themselves that their financial situation is “some worth” and “much worth” than other families in the village comparing with their counterpart. Remarkably, remittance recipients place their selves as they are better of comparing other families in the village. By the way 19% of remittance recipients place themselves they are poor households whereas nearly 35% of none recipients place themselves as poor families. Conclusively, this study revealed that remittance has a considerable effect on both absolute and relative poverty in the selected districts in Hargeisa city.

Furthermore, this study tried to identify and estimate the magnitude of remittance from primary and secondary data. This study revealed that 45% of the surveyed households receive remittance and specifically 30% of them receive an amount greater than 6,000 annually. Average remittance that households receive annually was found to be about \$3,468 in the study area.

Obviously there is no accurate or deliberate estimate of flow of remittance to Somaliland. However, there are two estimates carried out to tackle the magnitude of remittance but they had been done long period ago. First one has been carried out in 1987 the era of former government of Somalia and second was conducted by MoNP&D of Somaliland in 1997. Both studies come up a figure about \$478-540 and 93 million respectively. Lot of problematic issues surrounding estimating the size of remittance in Somaliland, considerably there is no

ample of data and remittance companies are not eager to tell the truth because of avoiding tax and regulation of the government.

Comparatively, this study has assessed how remittance receiving households often spend the remittance cash. This study unveiled that the remittance receiving households often spent the remittance for basic needs (food and non-food necessities) and education. 88% of remittance recipient households declared that they use remittance for basic needs such as food. Whereas 83% of remittance recipient's households said that they use remittance to cover for the education fee. Considerable number that is 72% declared they cover house rent. Whereas 36% of the beneficiaries chose that they spent on medical care.

Finally this study was used Logistic regression model to tackle whether the presumed variables have an impact on poverty or not. Considerably 10 explanatory variables were used in Binary Logistic regression Model. The result from the model indicated that Sex (household head sex), HHdepratio (household dependence ratio, HHsize (Household size), Remit (household remittance status), HHprop (Household property) and TOTINC (Total Household income) were found to have significant effect on poverty with different levels of significance, whereas Hagecomp (household head age), HHmrs (household head marital status, HHeduc (Household head education) and work (number of household members employed). were found to be insignificant effects on poverty.

## **5.2 Recommendations**

Based on the findings of this study, the following recommendations are forwarded to the government and any other concerned stakeholders.

Particularly, this study revealed that remittance has a positive role in reducing poverty; therefore in order to sustain this role that financial sector should be modernized and central bank of government should corporate ensuring the smooth transfer of money and diverting informal channels into formal way. In addition decreasing cost of sending will enhance and increase the size of remittance.

Transfer channels should be strengthening in terms of quality and ability of transferring money from faraway places. Considerably most of the Somali transfer companies are not internationally recognized, they used another banks to facilitate to reach money to the destination. This system augments the transfer costs, so government and concerned stakeholders such as international humanitarian agencies like UN should collaboratively

facilitate a smooth way of transferring money quickly with persuading other country the importance of remittance for the livelihood and telling them without remittance thousands of households' live are in a risk. Moreover, there are more than one time that remittance were ceased because of terrorism funding suspicious. So concerned parts should register remittance companies, and ensure the security and responsibility of the money whether there are funds to terrorists hands used to send through transfer companies.

Government should settle a policy toward the dependence of remittance of households those that receive remittance in the long run because remittance might stopped for many reasons such as banning the remittance form the host countries.

Therefore, government should strengthen the ability of central bank in order to know the flow of money in and out of the country, even though the Somaliland does not have international recognition but the government should corporate concerning stakeholders to ensure the magnitude of money coming into the country.

The government should enhance the skill of the workers by preparing trainings (such as: the language of destination countries, local customs of destination countries, rights and responsibilities of employees and ways how to respond in cases of cheating and exploitation) and should encourage NGO's involvement in providing information to the migrants. This would avoid exploitation and reap the full benefits of remittance. And also government should explore investment opportunities for migrant sending households who are receiving remittance to extend the economic impact of remittance. Moreover, training in the creation of small and medium enterprises could be organized in collaboration with organizations active in this sector; such as micro and small scale trade enterprises Obviously, often transfer companies hide the amount of remittance flow through their institutions, so they underestimate it in order to evade or avoid tax and government regulations that can mislead policy issues of the country. So government should take correction measure against money laundering/or black market exchange.

Remittance receiving households should use the remittances properly for the education, nutrition and health of their children and women because in the long run, the greatest benefits of remittance will accumulate investment in human capital. And in addition remittance recipients should be advised to save some proportion that left from consumption or use investment that could stimulate generally the economic growth of the country.

Remittance receiving households should be given an orientation about the negative feedback effect of the remittance in the long run to stimulate to accumulate human capital or investment



Beyond the remittance recipient households, government should prioritize non remittance receiving households because they are more likely vulnerable to poverty comparing with remittance recipients. Often female headed households are more likely to fall the tragedy of poverty so government should enhance the skills and education of women to break the circle of poverty. And in addition government and concerned NGOs should encourage women empowering and facilitate of gaining employment opportunities.

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# APPENDICES

## Appendix 1 Data collection techniques

### Questionnaire

St. Mary's University

Institute of Agricultural and Development studies

#### Introduction

This survey instrument is designed to collect data for the purpose of research for the partial fulfillment of the requirement of MA thesis in Development Economics at St. Mary University. The aim of this study is academic and contributing the understanding of the impact of remittance on poverty reduction You are kindly requested to participate in these questions and give a truth answer while being assured that any information shared will be confidential and will be used only academic purpose.

Data collector's Name \_\_\_\_\_

Date of Interview (DD/MM/YY) \_\_\_\_/\_\_\_\_/\_\_\_\_

Start Time \_\_\_\_\_ End time \_\_\_\_\_

District/Village \_\_\_\_\_

#### I. Household's Socio demographic information

1. Sex of the household head    Male     Female
2. Age of the Household head
  - a) 20 -30 years
  - b) 31 – 40 years
  - c) 41 – 50 years
  - d) >51 years
3. Marital status
  - a) Single
  - b) Married
  - c) Divorced
  - d) widowed
4. Education level of the household head
  - a) Literate
  - b) Illiterate
5. Mention the highest level of schooling if formal schools are attended:  
\_\_\_\_\_

6. Household member information: (please fill this table)

No	1) Tick the number of your	2) Age(complete)	3) SEX	4) Relation with household head	5) MARITAL STATUS	6) EDUCATION	7) BREASONS FOR ILLITRATE
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

**CODE FOR 3:** 1. Female, 2. Male

**CODE FOR 4:** 1. Head, 2. Spouse, 3. Child, 4. Parent, 5. Grandchild, 6. Brother/sister, 7. Other relatives, 8. Not related

**CODE FOR 5:** 1. Single, 2. Married, 3. Divorced, 4. Widowed

**CODE FOR 6:** 1. Illiterate, 2. Read and write only, 3. Grade 1 – 6, 4. Grade 7 – 8, 5. 9 – 12,

6. Above 12 grade

**CODE FOR 7:** 1. No access school, 2. Lack of money, 3. Do not want no interest,

4. To help family, 6. Other issues

**II. Remittance and socioeconomic of households**

1. Do you receive remittance? Yes  No
2. If you receive remittance how do you receive remittance?
  - a) Monthly
  - b) Quarterly (in every three months)
  - c) Yearly
  - d) occasionally
3. How much remittance do you receive in each year?
  - a) less than 1000
  - b) 1000 - 1200
  - c) 1300 - 2400
  - d) 2500 - 3600
  - e) 3700 – 4800
  - f) 6000 +
4. What do you spend on the remittance you receive?
  - a) For basic needs (food and non-food necessity items)
  - b) Clothes
  - c) Medical care
  - d) Education
  - e) House rent
  - f) investment
  - g) Social events
  - h) Others

If others please specify \_\_\_\_\_

**III. Socioeconomic of households (excluded remittance)**

- 1) Does any of your family member work? Yes  No
- 2) If yes, how many members of your family work \_\_\_\_\_
- 3) What is the income of your household per month whether you receive remittance or not \$ \_\_\_\_\_
- 4) Does your family have a property? Yes  No
- 5) If yes, what kind of property you household have?
  - a) House
  - b) Car
  - c) Land
  - d) Business
  - e) others

If others, please specify. \_\_\_\_\_

- 6) Please indicate the consumption of each of these food items in your family for the last month.

Food items	Consumption by household			
	Food items	Quantity	Value (USD)	Conversion Factors (for Researcher only)
Sorghum	Kg			
Rice	Kg			
Pasta	Kg			
Maize	Kg			
Wheat	Kg			
Milk	Liter			
Meat	Kg			
Sugar	Kg			
Salt	Kg			
Oil	Liter			
Tea leaf	Kg			
Vegetables	Kg			
Others (specify)				

- 7) The food eaten your household is

- a) Enough to eat and fit the kind of food you want
- b) Enough to eat but not fit the kind of food you want
- c) Sometimes not enough to eat
- d) Always not enough to eat


**IV. The perception of household's financial situation (relative poverty)**

1. What is your perception of remittance's impact on household's financial situation

- a) Significant improvement
- b) Slight improvement
- c) No improvement


2. Is your financial situation sufficient to meet your basic needs

- a) Sufficient
- b) Sometimes sufficient, sometimes not sufficient
- c) Insufficient
- d) Not at all sufficient


3. How would you classify your family's economic condition compared to other families in the village (or district)?

- a) Much better
- b) Better
- c) Some worse
- d) Much worse


4. How can you describe your household's poverty status



- a) Poor
- b) Non poor


## **Key Informant Interview**

St. Mary's University

Institute of Agricultural and Development studies

Department of development economics

- 1) What is your understanding of poverty in Somaliland?
- 2) Your perception, what are the main determinants of poverty in Somaliland?
- 3) What's your perception of the important of remittance in Somaliland?
- 4) In your opinion, what is the role of remittance on the livelihood of households in Somaliland?
- 5) Do you believe that remittance play a great role to poverty reduction in Somaliland? If you believe at what extant you can guess remittance reduce poverty? If you do not believe why?
- 6) Your understanding, what is the livelihood situation and economic condition between households those that receive remittance and those that do not receive remittance?
- 7) How would you describe, the situation of Somaliland poverty status if there would not be a remittance?
- 8) Your understanding, mostly what is households receive remittance spend on the remittance?
- 9) Do you believe the economic condition of households receive remittance is better off relative to households that do not receive remittance? If you believe or not explain your argument
- 10) In your opinion, what is the impact of dependence of remittance to society?
- 11) In your opinion, what should be done in order to improve the livelihood of the society?

## Appendix 2: Number and Type of Key informant Interviewee

Institution/District	Key informant	Remark
Ministry of National Planning and Development	2	Heads and practitioners of Ministries, remittances, banks and community elders of the study area.
Ministry of Social affairs	2	
Central bank	2	
Dahabshil Remittance	2	
Dara Salam Bank	2	
Local community in selected district	3	
<b>Total</b>	<b>13</b>	

## Appendix 3. Calorie value of food items consumed by sample households

Ser. No	List food of item	Unit	Kcal
1	Wheat	Kg	3623
2	Sorghum	Kg	3805
3	Maize	Kg	3751
4	Salt	Kg	1780
5	Oat	Kg	3599
6	Peas	Kg	3553
7	Lentils	Kg	3522
9	Irish potato	Kg	1037
10	Sweet potato	Kg	1360
12	Meat	Kg	1148
13	Milk	Lt	737
14	Egg	Each	61
15	Butter	Kg	7364
16	Edible oil	Kg	8964
17	Coffee	Kg	1103
18	Sugar	Kg	3850
19	Spaghetti/macaroni(pasta)	Kg	3550
20	Rice	Kg	3923
21	Teff	Kg	3589

Source: Ministry of National Planning and Development (MoNP&D)

## Appendix 4. Conversion Factors used to estimate Adult Equivalent

Age	Male	Female
< 10	0.6	0.6
10 to 13	0.9	0.8
14 to 16	1	0.75
17 to 50	1	0.75
>61	1	0.75

Source: United Nations statistics division (project of poverty statistics), 2005