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FACTORS AFECTING IMPLEMENTATION OF SAFETY NET PROGRAM IN SEKOTA DISTRICT, WAG HIMRA ZONE

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GRADUATE PROGRAM

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MSC THESIS RESEARCH

BY

HABTU KASSIE WOLDU

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THESIS APPROVAL SHEET

As member of the Board of Examiners of the Master of Sciences (M.Sc.) thesis open defense examination, we have read and evaluated this thesis prepared by Mr. Habtu Kassie Woldu entitled Factors affecting implementation of safety net program in Sekota District, Wag Himra Zone . We hereby certify that, the thesis is accepted for fulfilling the requirements for the award of the degree of Master of Sciences (M.Sc.) in Rural Development Management Studies.

Board of Examiners

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Name of External Examiner   Signature   Date

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DECLARATION

This is to certify that this thesis Factors affecting implementation of safety net program in Sekota District Wag Himra Zone submitted in partial fulfillment of the requirements for the award of the degree of Master of Science in Rural Development Management to the Graduate Program of Department of Rural Development and Agricultural Extension, Bahirdar University by Mr. Habtu Kassie Woldu (BDU 0906104PR) is an authentic work carried out by him under our guidance. The matter embodied in this project work has not been submitted earlier for award of any degree or diploma to the best of our knowledge and belief.

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ACRONYMS AND ABBREVIATIONS

ANRS   Amhara National Regional State

CFSTF   Community Food Security Task Force

DCT   Donor Coordination Team

DPCC   Disaster prevention and preparedness commission

DS   Direct Support

HABP   Household Asset Building Program

NGO   Non Governmental Organization

OFSP   Other Food Security Program

PPS   Probability Proportional to Size

PIM   Program Implementation Manual

PSNP   Productive Safety Net Program

PW   Public Work

SPSS   Statistical Package for Social Science

WFSTF   Woreda Food Security Task Force

WHZAO   Waghimra Zone Agricultural office

OPERATIONAL DEFINATIONS OF TERMS

Belg: The small rains of the highlands falling from February through May are known as belg rains, referring to the second most important sowing season of the Amhara region.

Household: A rural family with the head, wife and children living in one house permanently.

Kirmet or Meher (summer): A period which indicates the long rainy season which generally occur from June to September and provide the main agricultural season.

Kebele: part of a Woreda, is the smallest unit of local government in Ethiopia

Livelihood Assets: are used by individuals to realize their self-defined goals/outcomes that include human, physical, financial, natural and social assets (DIFD, 1999; Frank Ellis, 2000; Rakodi, 2002).

PSNP: A social protection program in Ethiopia. It bridges six months food gaps of beneficiaries and helps private asset protection and communal asset creation (Ethiopian ministry of agriculture, 2010).

Woreda: An administrative division in Ethiopia (managed by a local government), equivalent to a district with an average population of 100,000. Woredas are composed of a number of kebele, or neighborhood associations.

ABSTRACT

Key words: Food security, Implementation, Graduation, Logit model, Sekota Woreda

The research was undertaken in order to come up with policy recommendations regarding implementation of the productive safety net program under going in Sekota Woreda, Waghimra zone. It had two objectives: To assess the implementation of the productive safety net program and to identify the factors that affect household's productive safety net program graduation. Primary and secondary data types used for analysis and descriptive statistics and econometric model called logit were used as analysis techniques to analyze the data. The highlights of the result are the beneficiaries of the program feels that the implementation and the graduation procedures are filled with irregularities. The non-graduates feels that the graduates are not food self-sufficient. In addition, all of the graduates have appealed to the program in that their graduation is not appropriate. And still 83% of respondents said that their produce is not sufficient enough to feed themselves. In terms of capacity building, all agree that the program built their capacity and still the majority (79%) of respondents replied that their livelihood would become bad or worse without the program. The econometric model came up with results of amount of land possessions, access to extension service and experience of food gap influences the probability of graduation from the program, negatively. Variables like Amount of animal wealth, trainings from the program, genuine asset registration and including educational variables influence households' probability of graduation from the PSNP program, positively. The program got recommendations from this research that it should revise the activities which it is implementing to build farmers capacity and hence fill their food gap. After years of implementation farmers are not food self-sufficient and still there is improper implementation again than should be addressed.

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CHAPTER ONE

1.   INTRODUCTION

1.1.   Background of the Study

World summit on social development in Copenhagen in 1995, 117 countries adopted a declaration and program of action with commitment to eradicate absolute poverty and reduce overall poverty (Gordon, 2005). However, still the problem needs special commitment, and efforts were not as such successful in eradicating poverty and food insecurity because of institutional, demographic, socio-economic and natural factors. Consequently, after the new millennium many countries adopted social safety net as a means of reducing poverty and food insecurity (ibid).

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Social safety nets can be defined as non-contributory social protection intervention which typically overlooked by countries throughout the world. Although, before decade's safety nets only experienced in the global north, they are increasingly being adopted in the third world as a means of providing a minimum standard of livelihood and addressing for the poorest section. The social protection agenda in Africa has evolved rapidly since the new millennium, driven by a particular set of vulnerability factors. They are now being looked as attractive instruments for the poorest individuals in some part of the developing world (Dicks, 2012). As a result, Productive Safety Net Program (PSNP) in Ethiopia, Hunger and Safety Net program of Kenya and the Vision 2020 Umurenge Program (VUP) in Rwanda are among the well known large scale social protection programs (Devereux & White, 2010: Sima, 2013 & Irungu et al., 2009).

Productive safety net Program (PSNP) is one of the largest social protection programs in Africa, receiving substantial attention from not only the Ethiopian government, but also from the giant donors (Yisak & Tassew, 2012; World Bank, 2011). The Productive Safety Net Program (PSNP) was launched by the Government of Ethiopia, with the support of a group of development partners, in January 2005 at 262-food insecure Woredas (Ethiopian Ministry of Agriculture, 2010). The program passed three phases (first from 2005 to 2009, the second from August 2009 to July 2011 and the third phase from August 2011 to July 2016) (Ethiopian Ministry of Agriculture, 2010). Number of intervention Woredas increased from 262 to 319 and beneficiaries increased from 4.84 to 7.6 million (Ethiopian Ministry of Agriculture and Rural Development, 2011). Though it is passing three phases, the PSNP's objectives were almost the same and it includes smoothing household food consumption and protecting assets, strengthening household and community resilience to shocks, and breaking Ethiopia's chronic dependence on food aid.

The study area, Sekota Woreda, in particular and Waghimera zone in general, was included in the list of the food insecure Woredas since the start of the program. Indeed, Waghimera Zone is identified as drought prone area, located in the dry lowlands of north eastern part of the Amhara region. Historically, the area has been highly dependent on humanitarian assistance since at least the 1974 famines (Adugna Lemie, 2007). According to the 2012/2013 report of the region 123, 927 people of Waghimera Zone were/are being assisted by productive safety net program (PSNP). Sekota Woreda, being in the vulnerable Waghimera zone, experienced food aid and food shortage for so many years, and still it is under food aid

assistance. The Woreda had 78,000 number of food aid beneficiaries in 2003; in 2004 and 2005. In 2006, the Woreda had 59,691 food aid beneficiaries. In 2007, Abergelie, Gazgiblla and Sahila Woredas were created. As a result some of the beneficiaries were excluded from Sekota Woreda beneficiaries and become Abergelie and Gazgiblla beneficiaries. In that time Sekota Woreda had 43,535 beneficiaries (Save the Children United Kingdom, 2008). Most recently, the 2016 report of the Woreda indicates that Sekota Woreda PSNP beneficiaries were 39,632 (Sekota Woreda office of Agriculture, 2016). Whereas on the same year, the Woreda emergency resource food aid beneficiaries were 6,500 for 6-months (Ibid.). Hence, this research was initiated and executed to analyze the productive safety net program being undertaken in Waghimra zone taking Sekota woreda as a showcase. The study fills the information gap in terms of flaws in implementation and characterizing graduate and non graduate households to give policy insight for future better undertaking of the program.

1.2. Statement of the problem

There is no problem of underdevelopment that can be more serious than food insecurity that has an important implication for long term economic growth of low income countries (World Bank, 1986). Food insecurity is a pervasive problem in developing countries, undermining people's health, productivity, and often their very survival. Therefore, much of the development agenda focuses on directing scarce resources to providing food to people in need or enabling them to acquire it themselves (Smith et al., 2006). Access to sufficient food in a sustainable manner is a fundamental human right. Realizing this, Non Governmental Organizations (NGOs), community organizations, research institutions and governments in Africa have been testing alternative technologies and approaches for over a decade (IIRR, 1998).

In Ethiopia, more than seven million people have received PSNP transfers enabling them to meet consumption needs, reducing the risks they faced, and providing them with alternative options to selling productive assets. The PSNP is smoothing consumption and protecting assets and a growing number of PSNP clients are having growing access to household building efforts. Where the two programs (productive safety net program and other food security programs) are combined, particularly in areas where programs were well implemented (indicated by a high level of transfers), household asset holdings have increased and crop production appears to have improved (Ethiopian Ministry of Agriculture, 2010). Productive Safety Net Program /PSNP/ is among the implementing programs in food security in Ethiopia. Among the beneficiary regions ANRS has been receiving aid for last ten years, the regional state had been supporting 1.8 million people as chronically food insecure clients which are characterized as resource poor households who fail to produce enough food even in times of normal rains (World Bank. 2010).

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PSNP Program Implementation Manual (PSNP-PIM) recognizes that in order for households to graduate from the program (or out of food insecurity), there is a need for them to be linked to OFSP that go beyond the PSNP food and cash safety net transfers (MOARD, 2006). The OFSP include interventions that provide credit and loans for agriculture as well as non-farm income generating activities, and the provision of 'agricultural technologies' such as extension services, and inputs (Gilligan et al, 2008). While the overall goal of the PSNP is to address food insecurity through household asset protection and community asset creation, the OFSP are designed to increase participant's income from agricultural production, and build up household assets (Gilligan et al, 2008).

Annual assessments to determine PSNP graduation are carried out by a Community Food Security Task Force using broadly defined regional benchmarks based on household assets, such as education levels, land, livestock and tool holdings. However, flexibility in assessing graduation based on these asset portfolios may be applied to different livelihood zones within a region (MOARD, 2007).

Dicks (2012), illustrates there are positive changes that have resulted from the PSNP initiative Along with the major changes in other sectors, the program contributes to improvement of Ethiopia's human development index (HDI) (from 3.33 in 2004 to 3.65 in 2012) rating.

Contrary to the positive impacts, there are also challenges in the implementation of PSNP. As a result, limited capacities for ensuring the design and application of technical standards, community based planning, and information management and reporting are reported as the main challenges. Other challenges which negatively affect the program include dependency

syndrome, way of targeting, weak institutional linkage and lack of active community participation in the decision making process (Gebru et al., 2009).

The program was also criticized by Tadele Mamo (2011) and he indicated that there was no significant difference in the values of asset holding between PSNP participants and non-participants. Similarly, there was no significant difference in values of change in assets over the specified period between the two groups. Besides, PSNP has negative impact on asset creation. Asset holding of PSNP beneficiaries has significantly decreased by 36.7% (Habtamu, Ali, 2011). The same significant negative impact on asset is also found by Gilligan et.al, (2008) and Wheeler et.al, (2010).

There are also some studies on the implementation of productive safety net program factor affect graduation of beneficiaries from PSNP (Barn & lane, 2010; Berhane et al., 2013&Sabates-Wheeler et al., 2012). However, the study area the socioeconomic, institutional and agro ecological circumstances are different. Moreover, it is being in the vulnerable Waghimera zone, experienced food aid and food shortage for so many years, and still it is under food aid assistance. Eventhough Sekota Woreda is in serious and growing food security problem, Safety net program has implemented above ten years and majority of beneficiary had not graduated from productive safety net program. Therefore, this study will try to address the factors affecting implementation of PSNP program and factors influencing household's graduation from the program in Sekota Woreda, Waghimra zone.

1.3.   Objective of the Study

1.3.1. General objective

To assess factors that affect implementation of productive safety net program in Sekota Woreda, Waghimra zone, Amhara Region of Ethiopia.

1.3.2. Specific Objectives

➢ To assess the implementation of productive safety net program in Sekota Woreda, Waghimra zone.

➢ To identify the factors that affect household's productive safety net program graduation in Sekota Woreda, Waghimra zone..

1.4.   Research Questions

➢ How is going the implementation of the PSNP program?

➢ What are the socioeconomic, institutional and demographic factors affecting household's graduation from the PSNP ?

1.5.   Significance of the Study

To analyze the effectiveness of the PSNP, identification and analysis of factors affecting household graduation from the program is significant. Therefore, the study can add more to assess the implementation of household graduation from PSNP. It is also one important area of

development research. As a result, this study could render advantages to government, policy makers, researchers and institutions working on the study area.

1.6.   Scope and Limitation of the Study

Even though safety net program has implemented above ten years in Ethiopia, it is still in serious and growing food insecurity problem. The majority of beneficiaries had not graduate from productive safety net program. To address this problem, factors of PSNP should be studied. Therefore, the study focused only identifying social, economic and institutional factors affecting effective implementation of PSNP. And also, the study was aerially limited in Waghimra zone of Sekota Woreda. Hence, the study cannot be typically generalized for the whole country. However, recommendations and policy Implications of the study could be used in other locations having similar context with the study area. During the study, difficulties had faced in logistic availability and resistance of sample respondents during interview.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Concepts and Definitions of Social Protection

Social protection is a new policy agenda. There is no agreement on the boundary of social protection, but most operational definitions include two elements: social assistance (protection against poverty) and social insurance (protection against vulnerability). A third component advocated by some definitions addresses social injustice and exclusion (social equity to protect people against social risks such as discrimination or abuse) (Devereux and Sabates, 2004).A recent definition that includes all three components was proposed by the 2010 European report on 'social protection for inclusive development'.

''Specific set of actions to address the vulnerability of people's life through social insurance, offering protection against risks and adversity throughout life; through social assistance offering payments and in kind transfer to support and enable the poor, and using inclusive approach that enhance the ability of the marginalized to access social insurance and assistance'' (European Communities,2010).

The primary function of social protection is to reduce income poverty and prevent vulnerability. Poverty alleviation or reduction is achieved through raising household incomes, while income or livelihood vulnerability can be managed or reduced by stabilizing incomes vulnerability also has a social dimension, related to marginalization and exclusion, and this can be addressed through strategies that empower people. Recent paradigms on social safety nets in third world countries focus on 'graduation 'and self-reliance. for low income household that have labor capacity, social protection expected to provide temporary

support, and should promote sustainable livelihoods rather than dependence on 'handouts'(Devereux, 2012).

2.2. Overview of Food Security and Vulnerability

Maintaining food security at the national and household level is a major priority for most developing countries, both for the welfare of the poor. Developing country governments have adopted various strategies including efforts to increase production, government intervention in markets, and public distribution of food and maintenance of national food security stocks.

According to Thomson and Metz (1997) household food security accepted by the committee on world food security defines as "physical and economic access to adequate food for all household members, without undue risk of losing such access". Food insecurity is the state of a lack of access to food or an adequate diet either temporarily (transitory food insecurity) or continuously over time (chronic food insecurity). Vulnerability is also seen to be key referring to factors placing people at risk of becoming food insecure or reducing ability to cope (Hussein, 1999). When the kind of vulnerability that is under consideration is vulnerability to food failure, then food insecurity is not really distinguishable from vulnerability as a separate concept (Ellis, 2003).

Food security must assure "access by all people at all times to enough food for an active and healthy life". Food insecurity in turn was defined as the lack of access to enough food for a healthy, active life. The World Bank described food security as essentially a matter of ensuring effective demand rather than a question of food supply and has three main components: food availability, food access and food utilization (FAO, 1992b and Haddad, 1997). Reference to Devereux (2000) reveals that food insecurity incorporates low food intake, variable access to

food, and vulnerability – a livelihood strategy that generates adequate food in good times but is not resilient against shocks.

With more than 800 million people in developing 35 countries still suffering from chronic under nutrition and hunger, and food security will remain the top priority for food policy for many years to come. Most crises were concentrated in Africa and were caused by drought, conflict or a combination of two (FAO, 2004). However, as the work of Hubbard (1995) indicates local differences in food security systems, the effect of the actions of government and NGO's on food security in the area and possible changes in actions of government and NGO's to improve the impact on food security.

Ellis (2003) indicates that many factors can be implicated in making people less than food secure: seasonality, being food deficit from own production even in normal years, and the abundance of risk factors that comprise the 'pervasive uncertainty'. During 1970s the concept of food security was conceived as adequacy of food supply at global and national levels (Maxwell and Smith, 1992).

Food security is often associated with food self-sufficiency and the need to grow more food. However, in reality it has much stronger links with issues of poverty, employment and income generation. For low income economies, where a large percentage of the population live in rural area depend on agriculture for their income, increasing food production may be an important element in increasing food security, but only because it increases small farmers income (FAO, 2004). The households are identified as food secure if their entitlements, or demand for food is eater than their needs, defined as the aggregation of individual requirements (FAO, 1997).

Vulnerability is a function of exposure to risks/shocks and of resilience to risks/shocks. Risks/shocks are events that threaten people's food access, availability and utilization and hence their food security status (FAO, 2004 and Romer et al., 2004). Devereux (2002) defines vulnerability as "the exposure and sensitivity to livelihood shocks". By risks we understand events or trends that create a measure of instability which may have a negative impact on people's welfare. The degree of vulnerability for an individual, household or group of persons is determined by their exposure to the risk factors and their ability to cope with or withstand stressful situations (FAO, 1998).

According to Ellis (2003) vulnerability is an acute decline in access to food. People can be vulnerable to many other things: income falling below a certain level; a wide variety of illnesses and infectious diseases; accidents at work; atmospheric pollution and so on.

2.3. Rationale for the Productive Safety net Program

According to FAO (2006) the problem of food insecurity in recent years has worsened with around 14 million people requiring emergency food aid. The major causes of food insecurity in Ethiopia include land degradation, recurrent drought, and population pressure and subsistence agricultural practices characterized by low input and low output.

 As Haque and Andrew (2004) point out that a crucial element of the Coalition's recommendations is a gradual shift away from a system dominated by emergency humanitarian aid to a productive and protective safety net system resourced via a multi-year framework. The government of Ethiopia has decided that there is an urgent need to address the pillars of food security that address food availability, access to food and utilization. In addition basic food needs

of food insecure households via a productive safety net system financed through multi-year predictable resources, rather than through a system dominated by emergency humanitarian aid. And it is described as the framework of the national Food Security Program; the government has decided to develop a new Productive Safety Net Program (MOARD, 2006). The national safety net program hopes to ensure consistent support to the chronically food insecure through a mix of cash and food (Thompson and Winer, 2004).

2.4.   Background of Productive Safety net Program

As World Bank (2007) reveals the PSNP was initiated after the Coalition for the War against Hunger- comprising the Government of Ethiopia, its development partners, and key NGOs pushed for more sustainable alternatives to the annual provision of large amount of humanitarian food aid to prevent starvation. The program initially reached about 5 million chronically food-insecure people, and then it was scaled up in 2006 to reach 7.23 million people.

Ethiopia's vulnerability to famine has worsened over the past two decades (World Bank, 2007). Ethiopia has a structural food problem, and over 7 million Ethiopians (10 percent of the population) required outside assistance even in 2005. Although around 2.2 million Ethiopians still depend on emergency handouts in 2005, unlike earlier years, almost 5 million of the needy were not targeted by emergency food aid but instead took part in the new, ambitious, safety net program, which was devised in 2003 as part of the government's Coalition for food security, and which is being implemented since January 2005 with donor funding (FAO, 2006).

The overall development objective is to improve the efficiency and productivity of transfers to food insecure households, reducing household vulnerability, improving resilience to shocks, and to provide multi-annual and predictable resources. The safety net program is intended to serve a dual propose. One is to help bridge the income gap of chronically food-insecure households, and the second to engage such household in community based asset-building in exchange for the income they earn (ibid).

As World Bank (2007) and MOARD (2004) have indicated that PSNP have two components: Public Works, and direct support. A large scale public works initiative which pays wages to food insecure but able-bodied citizens. For those physically unable to work, the program provides direct grants. As MOARD (2006) point out for the purposes of implementation, there are no strict criteria for the division of resources that go to public works or direct support. The Community Food Security Task Force (CFSTF) will determine which households will participate in public works, and which in direct support.

In the last decade moving chronically food insecure and vulnerable households from extreme poverty helping them to accumulate assets has received greater attention in the social 10protection agenda. The asset based approaches to flourish growth and reduction of poverty initiated from debate in the 1980's challenged the common poverty measurements based on expenditure, income and consumption. The new research findings describe the meaning of poverty making asset ownership and livelihood situation at their focal analysis (Sen, 1997; Ellis, 2000). As a result, from this finding many theoretical models and empirical research has emerged.

Asset accumulation model focus on ownership, preservation and transmission of assets for household's way out from poverty. Some advocators of graduation have point out the path to productive livelihoods is linear and incremental, such that enhance households revenue (income) through time and lead to increment in the number of assets (Moser, 1998). According to carter et al.(2008), A more modern approach to asset accumulation was 'asset threshold models'' which argues due to non-linearity in asset accumulation the existing benchmark(threshold) need to be aligned if the households are to graduate from poverty. This study is based on ''asset threshold model'' that households become food self sufficient when they reach the intended benchmark. This process mainly measure by ownership of assets and considering the number of assets the beneficiaries expected to graduate from the intervention.

2.5. Productive Safety net Program, Objectives and Components

According to the first program implementation manual (Ethiopian Ministry of Agriculture and Rural Development, 2004): the major objective of PSNP was to provide transfers to food insecure population in chronically food insecure Woredas in a way that prevents asset depletion at household level and creates assets at community level. The program will thus address immediate human needs while simultaneously (i) supporting the rural transformation process, (ii) preventing long term consequences of short-term consumption shortages, (iii) encouraging households to engage in production and investment, and (iv) promoting market development by increasing household purchasing power (Ethiopian Ministry of Agriculture and Rural Development, 2004).

Whereas in 2010 the PIM was revised and PSNP contains the following objective: To assure food consumption and prevent asset depletion for food insecure households in chronically food insecure Woredas, while stimulating markets, improving access to services and natural resources, and rehabilitating and enhancing the natural environment. More specifically, the program consists of the following elements (Ethiopian Ministry of Agriculture, 2010) and it focuses on chronically food insecure Woredas; It focuses on food insecure households primarily chronically food insecure households but also those who faced transitory food shortage; it aims to assure food consumption, so that chronically food insecure people have enough food to eat throughout the year; it aims to prevent asset depletion, so that food insecure households do not have to lose their assets in order to provide food for themselves; it aims to address underlying causes of food insecurity by rehabilitating the natural resources base; it aims to have a positive impact by stimulating markets and injecting cash into rural economies and, while doing that it also aims to contribute to the creation of an enabling environment for community development by increasing access to services, such as health, education, roads and market infrastructure (Ibid).

Looking at these elements of the objective it is clear that the PSNP provides a safety net to protect people falling further into trouble, while also providing a secure food and asset platform from which they may be able to improve their household status and become food secure. It also clear from this that while everyone wishes graduation of households from the PSNP will be as widespread and fast as possible, the PSNP is not designed to make this happen: in addition to the safety net that the PSNP provides to prevent people falling lower, other measures are also needed to help people raise higher. These other measures are provided through the

government's food security Program (FSP) and other investments and services (Ethiopian Ministry of Agriculture, 2010).

The program components: Productive Safety net program have two components: (1) Public work, and (ii) Direct support (DS). Those public work beneficiaries have able bodied labor that can participate in labor based public work activities. Public works are labor intensive community-based activities which are designed to provide employment for chronically food insecure people who have "able –bodied" labor (Ethiopian Ministry of Agriculture and Rural Development, 2004; 2010). The later, DS, were households who have no labor at all, no other means of support, and who were chronically food insecure. According to the PIM some communities with a high share of widows or female headed households were inevitably used more resource for direct support (ibid.). Taking the above points in to account, this research was focused on labor based public work beneficiaries since they have the labor and they are expected to create and conserve assets more than the direct support beneficiaries.

2.6.   Empirical Studies

Because productive safety net program is launched since 2004 in Ethiopia it is difficult to get empirical studies for literature. The empirical studies have been conducted about productive safety net program is very limited written by different authors which is published in Ethiopia.

2.6.1. Assessing Implementation of Productive Safety net Program

The assessment PSNP transfers are stabilizing and promoting livelihoods, protecting assets against distress sales for food and non-food needs, improving household food security and

raising household incomes. Current beneficiaries are doing better on many objective and subjective indicators, compared to past beneficiaries and non-beneficiaries. Most significantly, the panel survey analysis found a strong program effect on income growth and on household food security of beneficiaries compared to non beneficiaries. The analysis also indicated that the program effects may be pro-poor, in the sense that those in the lower income quintiles were benefitting much more in terms of income than those at the top of the income distribution. PSNP households that have taken Livelihood Packages have acquired valuable productive assets, especially livestock. The PSNP contributes to wellbeing in many other ways, for example in terms of beneficiaries" investment in their children's education, and the use of contingency funds to intervene in local emergencies (Sabates, et al., 2008).

Sharp (1997) who reviewed a large body of evaluation studies as well conduct several new case studies, found that food aid has in recent years been spread too thinly over too many areas and too many people. Little evidence of area targeting can be found. The result indicated that targeting errors of inclusion (are a greater problem than errors of exclusion). As Zeller (2001) have indicated identifying the poor and hence targeting them is complicated by the fact that poverty is multi- faceted and is measured or expressed in a variety of ways.

The major criticism against community targeting, raised by Ravallion (2000) is that its purported informational advantage may well be outweighed by an accountability disadvantage. The intended beneficiaries tend to be better off than the intended beneficiaries of other components; this component should not be aggregated with the others in assessing the safety net program

performance (Reutliger et al., 1996). Village leaders in some instances preferred to distribute small amounts among everyone equally rather than have to make such difficult choice of inclusion and exclusion (World Bank, 1999).

Implementing agencies: As part of a wider Food Security Program, the PSNP was implemented through the Food Security Coordination Bureau in the Ministry of Agriculture and Rural Development (MOARD). Implementation followed the tiers of government in Ethiopia with activities in federal, regional and Woreda (or district) level administrations and involved a broad range of sector institutions across government–Disaster Prevention and Preparedness, Finance and Economic Development (through which PSNP cash resources flow), Natural Resources and numerous Woreda line offices. Outside government NGOs and other international organizations (especially WFP) provided implementation support, particularly for the delivery of food transfers. At the community level, taskforces target, monitor public works inputs and outputs, confirm completion of public works and notify the Woreda to trigger payments. Donors work with government through the Joint Coordination Committee (JCC) and the Donor Coordination Team (DCT) (World Bank, 2011).

Some aspects of the PSNP are highly decentralized. Decision-making on public works activities is made at the community and Woreda levels, and the distribution of Woreda and regional contingency funds is made at regional and Woreda levels. However, many aspects of the PSNP remain tightly controlled by federal level agencies. These include beneficiary quotas and the designation of food insecure Woredas' status. The extent to which political support and preferences towards particular regions influences geographical targeting of the program is a

subject of repeated debates. Woredas have little control over the allocation of budgets for equipment and staff so are not in a position to distribute budget across their program as they find appropriate. Furthermore, since the PSNP is such a large program at Woreda level, PSNP teams at the Woreda level frequently have to defend their capital and equipment from demands by other Sectoral /cabinet offices (World Bank, 2011).

2.6.2. Factors that Affect Household's Productive Safety net Program Graduation

Irrigable land ownership is among the determinants of household's graduation from PSNP. Households with access to irrigation have the chance to produce more than twice in a year. The annual total production of these households will become two or three times bigger than the beneficiaries who have no irrigable land. As a result, households with irrigable land have the higher probability to leave the program within shorter period of time (Berhane et al, 2013).

Additionally, Yibrah(2013), on his study on determinant of Graduation from productive safety net program using binary logistic regression identifies irrigable land , program span, livestock holding , credit access , male adult, family size , literacy, follow up, saving experience and petty trading as the main significant factors in PSNP graduation. Hence, the regression analysis indicates access to irrigable land and graduation positively correlated. In addition to this, male households have the likelihood to graduate early with 0.371 marginal effects than female households. Moreover, households with saving experience were graduated sooner than beneficiaries with low saving habit by 0.42 marginal effects. Additionally, graduation correlates positively with integrated agricultural packages i.e. beneficiaries with access to agricultural package have the probability of graduating with 0.53

increments in marginal effect than non participants in the package. He also shows educated beneficiaries more likely to graduate than the illiterate. In addition to his, graduation decreases with households having large family size i.e. each additional unproductive member of the household decrease the probability to graduate by 5 percent level of significance. Furthermore, households who participated in petty trading and own livestock holding have 28 the probability to graduate reflected in the mean significance difference of 5 and 1 percent respectively among graduates and non-graduates. However, this study difference from the above study in which total production and land holding are insignificant factors and include program span , male adult and literacy over looked by other researchers.

A paper by Taruvinga, 2013concludes that key determinants that can positively condition rural households to attain high dietary diversity are: participation in irrigation schemes, gender, education, income, ownership of a home garden and small-livestock.

Holden et al., (2004) identified the socio-economic and biophysical characteristics of a less favored area in the Ethiopian highlands. The result indicates that land degradation, population growth, stagnant technology, and drought necessitate development of non-farm employment opportunities in the area. Access to low-wage off-farm income is also restricted by lack of employment opportunities since households otherwise would have engaged in more off farm wage employment than observed.

According to the research done by Meseret, 2014, in South West Ethiopia 42.9 and 57.1% households were found to be food insecure, food secure, respectively. Out of nine explanatory

variables, educational status of household head, family size, use of farm input and number of oxen owned by households were found to be significant at less than 10% probability level. Sale of livestock, borrow grains and cash from relative and reduce size of meal were identified at initial stage as first, second and third choice whereas, escaping of meal, ate less preferred food and reduce size of meal were also identified at severe stage as first, second and third choice in which food insecure households practiced during food shortage. To improve household food security, the farmer should use their oxen for cultivation purpose, use family planning and allocate their income for all expenditure and the Woreda education office together with minister of education should provide adult learning program to reduce illiteracy.

John, B. and Solomon, B. (2010), studied the Link between Rural Households to Microfinance and Markets in Ethiopia as a Base line and Mid-term Assessment of the PSNP plus project in Raya Azebo Woreda in Tigray region. The objective of the study was to collect a retrospective baseline on specific household assets and to carry out a midterm assessment of the project which includes measuring changes against the assessed baseline, assessing changes in income, investigating the utilization of project derived income, attributing any assessed changes to project and non project factors. The authors used descriptive statistics techniques to analyze the data. The findings of the study include: the PSNP plus value chains in Raya Azebo have been well designed and well implemented and could, in principle address some of the key constraints and to livestock production and marketing in the study area. The result also shows that the project is starting to have some positive impact on and assets. According to the study, although most of the PSNP participants don't have much advantage in asset building some still got that advantage which the participants feel that it came because of their participation in the program.

Using these and other results of the document, the authors concluded that the program in well designed and well implemented and in concert with specific types of credit, can translate in to a fairly immediate impact on household income for the poor. And where this income is being reinvested in assets such as livestock, as is being done in Raya Azebo over time, if no major shocks occur, it could be expected that this would lead to the kind of asset accumulation required to graduate households from the safety net program.

Thimothyet. Al. (2007) studied the PSNP and other food security programs being undertaken by the government and the NGOs. The purpose of the study was to provide insights on how best to promote self-resiliency for chronically food insecure, both at the household and community levels. It was also intended to provide guidance on the effectiveness and complementarities of PSNP and other NGO intended projects using a sustainable livelihood approach. The study used descriptive statistics to analyze the qualitative and quantitative data collected for it. The authors identified households which are more vulnerable than less vulnerable. More vulnerable households have more female headed households, lower household size, shortage of family labor, low education level, less access to livelihood assets like land, livestock and farm implements, low expenditure on food and durable expenditures and severe and prolonged food shortages. The factors that were found to household resilience across the range of livelihood systems are ability to diversify sources of income, a willingness to invest in productive household assets, a commitment to establishing savings and or contingency funds and shared decision making between spouses. The authors recommended that the mix of interventions implemented within a particular livelihood context should be tailored to / aligned with the opportunities that exist in a given livelihood system, or agro-ecological zone. In addition, they recommended that livestock investments should be coupled with veterinary services, credit and

saving services should be improved and experience sharing should be facilitated among farmers with various personal successes.

Azadi, et al. (2017) studied international food aid programs taking the case of the Productive Safety Net Program (PSNP) in Tigray Region, Ethiopia. The objective was to analyze the distribution and allocation of food aid in the PSNP in Tigray. They used descriptive statistics techniques to analyze the data like chi square and one way ANOVA among others. The result came up with socio-demographic characteristics like age and family size have significant influence in the amount that beneficiaries receive from the program. Older households with smaller family size receive more direct support from the program. They also found out that there is also a big difference in the amount of support married and single women receive from the program. The conclusion is it is paramount in coming up with such kind of information for policy intervention to correct food security programs at the household and community levels and they are also helpful in time of emergency in first addressing to whom from the community.

Bethelhem, L. and Holden, S (2014) studied how the PSNP program affects livestock accumulation and children education. They used panel data to analyze the welfare impact of the program. In other words, the objective of the study was to assess whether the program raised livestock asset levels and children's education among participant households. Using treatment effect models they came up with results like participants in the program invested more on livestock assets and children's education than non participant households Participation in the program helps to protect beneficiaries from sacrificing their children's education in response to shocks. Their conclusion remains the same when they control for the extent of selling some of their livestock to avoid graduation from the program.

2.7. Conceptual framework

The factors are classified in to three dimensions namely demographic factor, socio-economic factors, and institutional factors. The dependent variable of this study is graduation from productive safety net program and expected to be influenced by independent variables which can be expressed in terms of demographic factor, socio economic, and institutional.
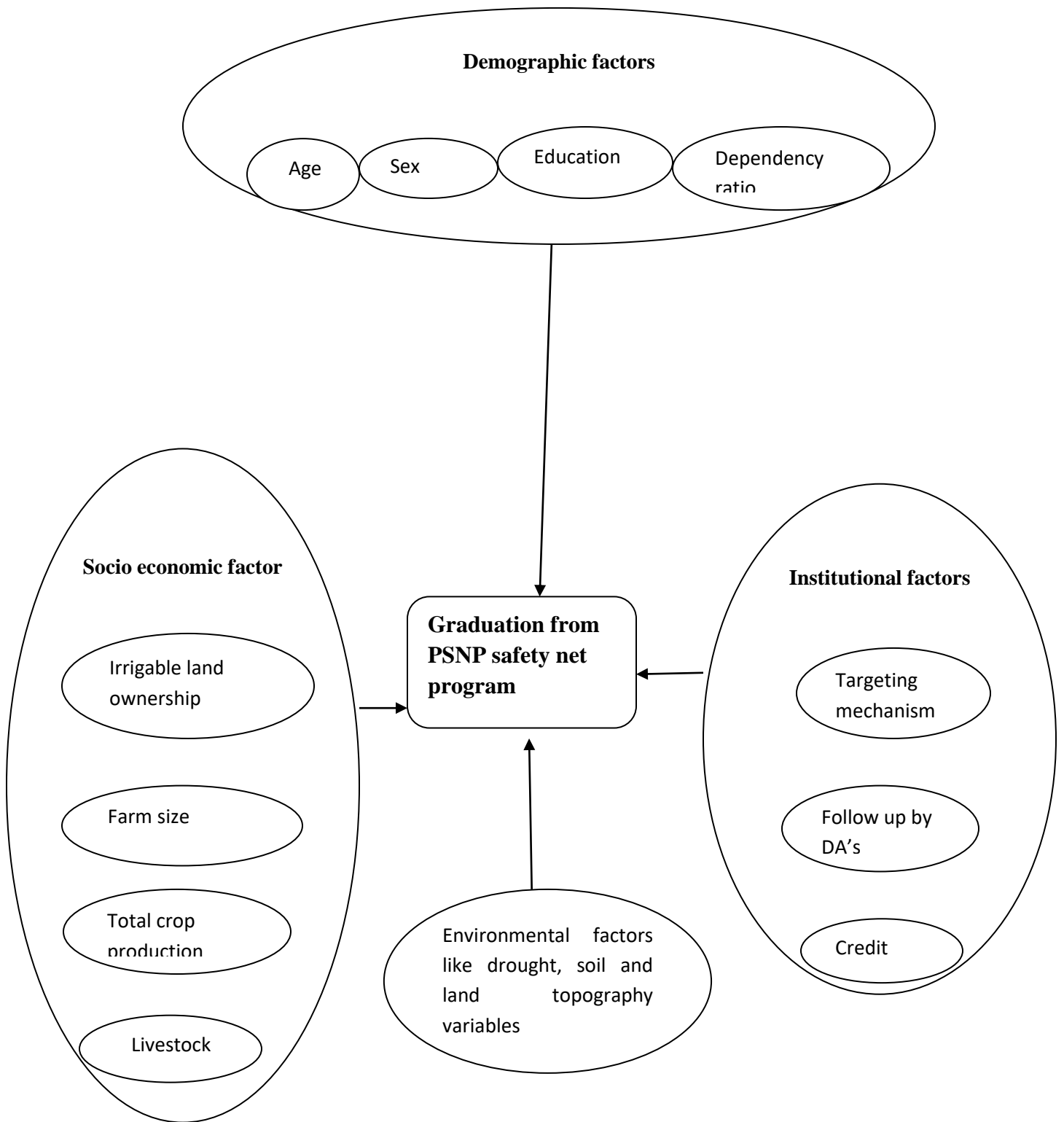
Figure 1 Conceptual Frame Work of the Study

The history of thinking about food security since the world food security conference can be conceptualized as consisting of three important and overlapping paradigm shifts. The three shifts are from the global and the national to the household and individual, from a food first perspective to a livelihood perspective and from objective indicators to subjective perceptions. Regarding the linkage, having enough food availability at the national or local level or food self-sufficiency for that matter is only a necessary but not a sufficient condition for ensuring that households have adequate access to food. Similarly, food access is only necessary conditions and not sufficient conditions for the next stage to be met (i.e. consumption) (Mulugeta, 2002).

The term "vulnerable groups" is used to refer to both the potentially food insecure and the food insecure. Chronically food insecure groups are comprised of people who already today are below a food security threshold and who are unlikely to emerge from this in the foreseeable future(FAO, 2009). As Maxwell and Smith (1992) point out Chronic food insecurity means that a household runs a continually high risk of inability to meet the food needs of household members. In contrast, transitory food insecurity occurs when a household faces a temporary decline in the security of its entitlement and the risk of failure to meet food needs is of short duration.

While the safety net program has the role of enabling households to eliminate the hunger gap and protect assets, other livelihoods development initiatives, especially household extension packages, should assist these same households to accumulate assets and thereby reduce their future vulnerability. Inaddition these programs are envisioned to take place against the back ground of stable growth inducing macro-economic policy (ACF, 2006). The current policy direction is towards linking the targeting of other Food Security Programs more closely with the safety-net targeting, in order to maximize the potential for graduation (Slater et al. ,2006).

Mechanisms for monitoring registries, overseeing implementation, and evaluating their performance are crucial for accuracy, transparency and to see the contribution of PSNP in reduction to food insecurity. Furthermore, the transparency of the overall system from federal oversight mechanisms of implementation assessment and helps to cross-check against established criteria. An independent evaluation like program effectiveness through household survey data is also crucial (ACF, 2006).

In Figure 1 above, the differently affecting factors relevant to graduation are illustrated. The household profile, institutional factors, socio-economic factors and intervention of other food security programs are framed to show that the household graduation and its contribution to vulnerability of food insecurity. The household profile and institutional factors play a great role in identifying which household should be selected for safety net program that is under taken in rural household. On the other hand intervention of other food security programs will have strong effect on contribution for household to be food secure. Since the problem of food insecurity is the most challenging, multi-faceted effort is needed to reduce this problem. In this regard, one of food security intervention which is safety net program is aimed to improve food insecure households through provision of food and/or cash transfers. As the result, the food insecure households should be targeted and thereby reduce vulnerability to food insecurity through enabling households to reduce asset depletion and build assets. Safety net activities should promote and strengthen integration of activities, betterment of supports at the grass root level, transparent institutional co-operation and coordination (Slater et al. , 2006).

CHAPTER THREE

3.   RESEARCH METHODOLOGY

3.1.   Description of the Study Area

3.1.1.   Geographic position, Location, and Population

Sekota Woreda is located between 12^0 23' and 130 16' north longitudes and 38^0 44 and 39^0 21′east latitudes. It extends for about 98 km in the north south direction and 67 km in the east west direction. It has compact shape and an area of 3058 km2 (SERA, 2001). The district is located in the eastern part of Waghimra Administration Zone (WHAZ) of the Amhara National Regional State (ANRS). WHAZ, which is one of the11 administrative zones in ANRS, represents the Agaw ethnic group and comprises of 7 Woredas namely Sekota Administrative Town, and SekotaZuriya, Dehana, Gazgibla, Abergelle, Sihala and Ziquala. Sekota Woreda shares borders with Ziquala Woreda in the west, Dehana and Gazigibla Woredas in the south and southwest, Tigray National Regional State in the North and east, North Wollo Zone in the south. Sekota town, the capital of the zone, is 720 km North of Addis Ababa and 540 km north east of the regional state capital, Bahirdar.
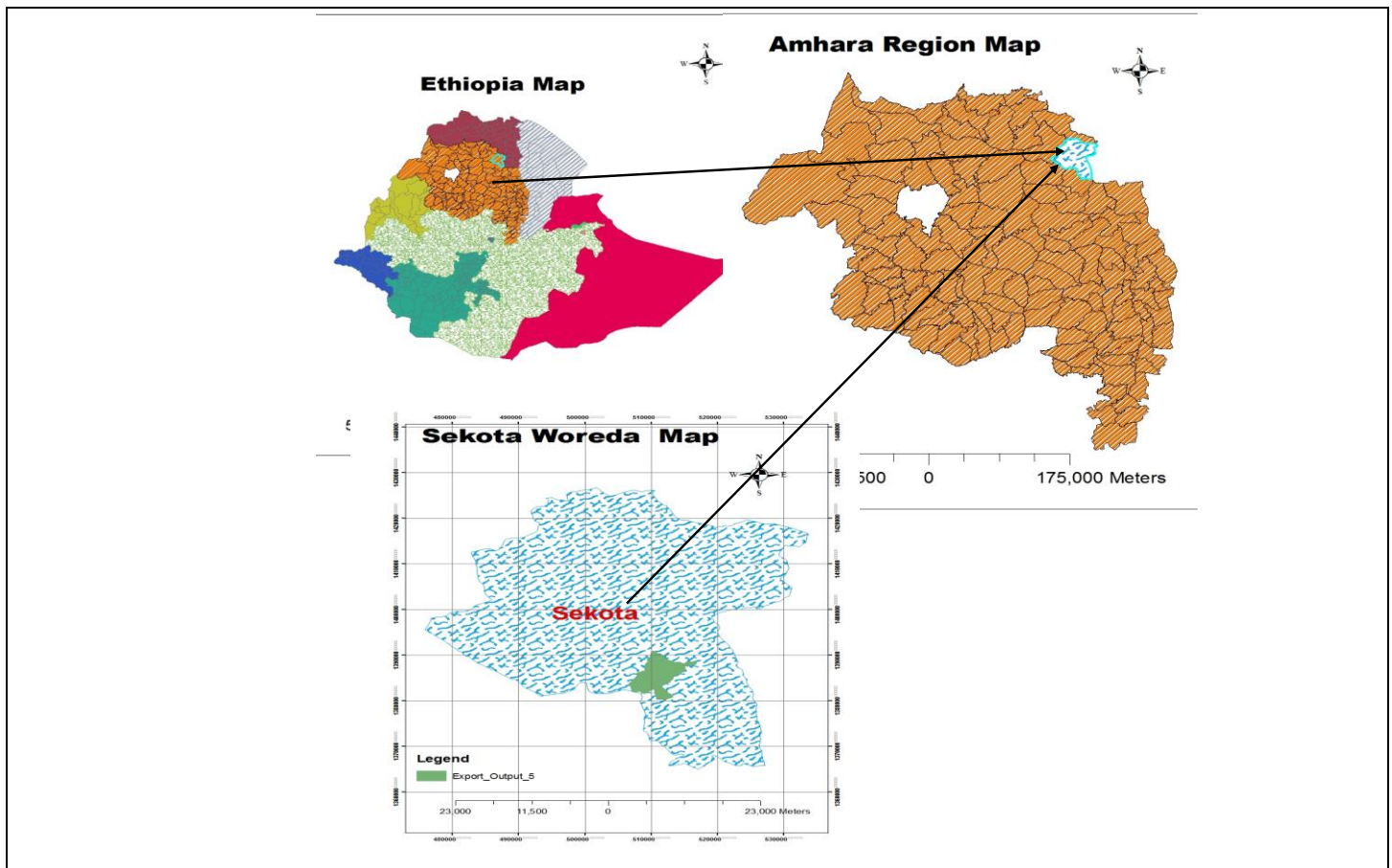
Source: Waghimra zone office of Agriculture (2018).   SCALE 1:658:159

Figure. 2. Map of Sekota Woreda

The result of the July2007 population and housing census showed that the total population of

Sekota Woreda was140771 (WADO 2015).The major ethnic group in the Woreda is Agaw,

however about 52 % of the population speaks Amharic, 45% Agewegna (*the local language*

called ''Himtigna'') and 3% Tigregna. Orthodox Christianity is the dominant religion (99.5%)

and other religions in the Woreda include Muslim (0.4 %), Protestant Christians (0.04 %) and

some other religion (0.06%) (WADO, 2006). Agriculture is the major enterprise on which the

livelihood of the rural population depends on. Only 0.5 % of the rural population collects its

livelihood from non-agricultural activities like handicraft, trade and being hired as casual and

daily laborer.

3.1.2. Topography and Soil type, and Climate

Undulated terrain marked the topography of the Woreda. The topography of the area consists of a chain of mountains, hills, valleys and cliffs that exposed the natural resource for severe degradation mainly due to erosion. The hills and cliffs are stony and rocky covered by very sparsely scattered vegetation. Valley bottom and plateau are suited to agriculture. Generally, flat land and land with gentle slope is scarce and comprises only 27% of the total area. Hilly topography covers about 36% of the area while valley, ups and downs and marshy area make up 2%, 34% and 1% of the Woreda, respectively (SERA, 2001).Regarding the soil type, red soil is the predominant soil type in the Woreda constituting 50.9%. The second most abundantly found soil type is gray soil (35.2%) followed by black soil (8.3%). The proportion of land with brown soil is only 5.6%.

The major environmental characters of the Woreda are given in Table 4.1. The Woreda includes areas with low elevation, Tekeze Valley, and peaks (Mount Bella) with elevation of about 3715 m.a.s.l. The mean annual rainfall of the Woreda ranges between 400 mm and 1386 mm. Thus, computed 30 years average rainfall data depicts that the Woreda receives very minimal rainfall. The Woreda, generally, has a higher annual evaporation amount than the precipitation it receives. Lack of sufficient rainfall for both crop and animal production is the major agricultural bottleneck of the Woreda. The area is characterized by sub moist major agro ecological zone tepid to cool sub moist mid highland and hot to warm sub moist lowland (SERA, 2001).

Table 3.1. Background data about the Climatic characteristics of Sekota Woreda

Character	Lowest	Highest
Rainfall	400 mm	1386 mm
Evaporation	1044 mm	1798 mm
Mean max temp.	12.88 ºC	32.92ºC
Mean min temp	-1.11 ºC	16.76 ºC
Absolute max tem	15 ºC	36ºC
Absolute min tem	3.0 ºC	13.8 ºC
Elevation	1086 m.a.s.l	3715 m.a.s.l

Source: WADO, 2006

According to the Waghimra Zone Agricultural Development Office (2015) the nature of topography of Sekota Woreda is challenging for arable farming. The Woreda has very undulating landscape: more than 35% of the area has rugged topography, 36% hilly, and 2% valley. It is only 27% of the total area with more or less plain topography. Out of the total area, only 29,962.5 hectare (18% of total area) has been used for annual and perennial crop production, with the average land holding size per household of 0.75 ha. The remaining areas of the Woreda are roughly classified into grazing (3%), bush land (38%), road and settlement (7%), and marginalized land (34%).

Agriculture is the main source of economic activity in Sekota Woreda. About 93% of the Population of the Woreda is engaged in mixed farming and the rest 7% of the population engaged in trading, government officials, daily laborer, weaving and etc. The farming system can generally be characterized as mixed, and includes the production of arable crops and rising of

livestock. The level of production for both sectors remains far below its potential, mainly because of adverse climatic conditions due to erratic rainfalls and long standing drought periods. Other reasons include, the relatively small land holdings; which range from 0.25 to 0.75 hectares, and insufficient application of basic agricultural inputs such as fertilizers and pest control techniques (DPPC, 2000).

The major crops grown in the Woreda are Teff, Wheat, Sorghum, Barely and Peas. These five major crops account for more than 60 percent of the annual cropland. Erratic and low level of rainfall account for large portion of year-to-year variation in area of land cultivated as well as productivity. Per capita output covers only 39.6 percent of the annual requirement of a person or about five months' food requirements. As a result, the life of a large majority of households is dominated by concerns of food availability.

3.2.   Materials and methods

3.2.1.   Data type and their Source of data

Both Qualitative and Quantitative data type were employed for the study from both primary and secondary sources. For the purpose of the study primary data were collected from 262 sample households, focus group discussion participants and selected key informants.

Primary data collected from sample households on: households demographic characteristics (education, age, family size, sex, marital status), livestock holdings, bio-physical characteristics (Agro-ecology, land size, number of plots, slope and soil fertility status), institutional factors (accessibility of credit, agricultural extension and training services, market facility and land tenure), land management and perception (soil erosion severity, soil conservation practices, perceptions of land degradation) and causes of food insecurity.

Secondary data was collected from both published and unpublished documents, which include about population, age structure, land use pattern, farming systems, infrastructure situation, crop production trend, meteorological data (annual rainfall and min-max temperature), etc. The secondary data was collected from Zonal and Woreda office of Agriculture and Rural Development, Sekota Dry-land Agricultural Research Center (SDARC) and Save the children UK.

3.2.2. Sampling techniques and Sample size Determination

Household is the unit of analysis in this study, in which, household heads were contacted to be interviewed. The study conducted using systematic random sampling of probability sampling technique. Systematic random sampling is a probability sampling technique in which sample respondents are selected from a list and all subjects have equal probability of selection. To select the household's respondents through systematic random sampling, the first step was identification of non- graduated and graduated households from the list in each kebele. Thus, the lists of household respondents were the frame of the study.

Waghimra zone has 7 Woredas and all are addressed by safety net program. Sekota Woreda is one of the chronically food insecure Woreda that are targeted by a PSNP. Sekota Woreda has a total of 33 kebeles of which 33 kebeles are where the PSNP have been operational. The study undertakes multi-stage sampling technique Thus, Sekota Woreda was selected purposefully due to its higher number of caseload and many years of support provided through the emergency and safety net program.

The study area consists of 33 kebeles with a total population of 140771(WADO 2015). There are 39,632 PSNP beneficiaries in the study district. Moreover, all kebeles are benefiting from the productive safety net program. Similarly, three rural kebeles were selected purposefully based on their number of beneficiaries because in the district the kebeles with high number of beneficiaries have high number of graduated households and using the proportion to size formula a calculation was made to distribute the questionnaires to each selected Kebele. Taking these kebeles from the whole district can effectively represent the study area.

Finally, systematic random sampling was employed to select a specific household in each village because the population is relatively similar in socio-economic, livelihood and geographical location. Following this procedure, 195 Households selected from the three kebeles.

The sample size was determined using sample size formula given by Yemane(1967).

$$n= \frac{N}{1+N\,(e^2)}$$ 1

$4540/1+4540(0.05)^2 = $ ***195***sample size***.***

Where, n is sample size, N is total population and e is the level of precision.

Table 3.2. Workout for taking the sample size by selected kebeles

No	Sample Kebele	Population	NGHH's	GGHH's	Sample Size NGHH's	Sample Size GGHH's	Total sample Size
1	Woleh	7955	1518	64	59	9	68
2	Tsemera	9377	1953	93	78	10	88
3	Tiya	5689	864	48	32	7	39
	Total	23021	4335	205	169	26	195

Source: WARDO (2016) and the researcher, (2017). N.B: NGHH's: non graduated households', GGHH's: Graduated households.

3.3. Methods of Data Collection

In view of the complexity of the problems of the factor affecting the implementation of PSNP and food insecurity, the nature of information needed on various aspects of this research, a single method of data collection is impossible to satisfy the data requirements. Therefore a combination of formal (Using structured questionnaire) and informal (Using group discussions and individual communications) method of data collection techniques were employed to generate adequate and reliable data.

Household survey: To generate data at household level, formal survey was undertake using structured questionnaire. Before embarking the formal survey (i.e. interview), pre-testing of the interview schedule was carried out and accordingly revision was made and finalized. Ten enumerators were selected based on their proficiency in communicating using local language, educational background and prior exposure to similar tasks. Training was given to enumerators on the content of the schedule and procedures to follow while conducting the interview. The populations for this study were taken from the three selected kebeles from the total of 33 kebeles which are founded in the study area. The researcher believed that the sample size of 3 kebeles had represented these kebeles and an achievable sample to compose well-founded generalization of the study. Concerning to the selection of the 195 respondents; the PSNP beneficiaries were selected and included in the sample size on the base of availability and purposive sampling technique.

Focus group discussion:

Focus group discussions were employed to generate general and specific information related to assess the implementation of PSNP graduation of beneficiary and trends of food security programs in the study area. Group discussion was used to generate additional contextual data and

it helped the researcher to substantiate data collected from sample households through interview schedule. It was conducted with, KFSTF,WFSTF, and key informants (Woreda agriculture, NGO). A total of three focus group discussions was undertaken, this was conducted with a group composed of 7-9 male and female households who are non-graduate PSNP beneficiaries, 7-9 male and female household with the respective kebele residents who are graduated beneficiaries, and Kebeles officials, staffs of the Woreda Agriculture and other NGO staffs working in the area. The nature of the data includes the general features, trends and problems of PSNP and food insecurity with respect to change in vegetation cover, land use pattern, soil erosion severity, and occurrence of drought and productivity decline.

Key informant Interview: Key informant interview at district undertaken with officials to assess the implementation of PSNP graduation in the district. Open ended questionnaire were prepared for the key informants. The interview was conducted ones with each interview. The respondents were district council representative, WFTSF, district agriculture and rural development office PSNP coordinator head apart from the household heads to enrich the quantitative results. The respondents selected purposefully because the graduation guidance note (2007), give the mandate of implementation of PSNP graduation for the above listed government bureaus.

3.4. Method of Data Analysis

Different types of analytical methods can be used to evaluate different research results and make different conclusion and recommendation for a given survey information. According to Hopkins et, al (1996) and Pallent (2001), each and every analytical method has its advantage and limitation; hence, it is advisable to select the one that can better suit to the specific purpose. For

the first objective Descriptive statistics like mean, frequency, percentages (cross tabulation) and Pearson correlation analysis techniques were employed to meet the objective. For the second objective, econometric analysis or logit model was used to study the determinant factors of graduation from the PSNP program and both kinds of analysis was made using the SPSS 16.0 and stata version 12 softwares. Furthermore, the statistical significance of the dummy/discrete variables were tested Using Chi-square test; t-test also employed for continuous variables.

3.4.1. Econometric model

The study employed logistic regression model specifically binary logistic regression which is a non-linear regression model specifically designed for binary response of a dependent variable system. It is non-linear model that can be linearized using appropriate transformations. It is called ''binary logistic regression model'' when the dependent variable is expressed in two categories and called ''multiple logistic regression model 'when more than two categories (Gujarati, 2004). Binary logistic regression model was employed to address the likelihood of households' PSNP graduation due largely to the binary nature of dependent variable, graduation; that can be expressed as yes or no responses.

$$p_i = \in \left(Y = \frac{1}{X_i} \right) = \frac{1}{1 + e^{-(\beta_1 + \beta_2 X_i)}} \quad \text{..2}$$

In the logistic distribution, Pi is the dependent variable, Xi is the data, i, the possibility of response by an individual (possibility of having 1 and 0 values by ithindividual).

Whenβ1+β2Xi in equation 3is obtained.

$$p_i = \frac{1}{1 + e^{-Zi}} \quad \text{...3}$$

Zi is between -∞ and +∞, and Pi is between 1 and 0.when Pi shows the possibility of graduating from PSNP, the possibility not graduating from PSNP is 1-Pi(Harrel, 2001). Then the possibility of not graduating can be explained as in equation 4 as follows:

$$1 - p_i = \frac{1}{1 + e^{Zi}} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots .4$$

Equation 5 is obtained by dividing the graduated by non graduates:

$$\frac{p_i}{1 - p_i} = \frac{1 + e^{Zi}}{1 + e^{-Zi}} = e^{Zi} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots .5$$

When the natural logarithm of both sides of the equation is written, Equation 6 is obtained:

$$L_i = \ln\left(\frac{p_i}{1 - p_i}\right) = Zi = \beta_1 + \beta_2 X_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots$$

6

Thus, non-linear logistic regression model is liberalized based on both its parameters and variables. ''L'' is called ''logit'' and models such as this called ''logit models'' (Gujararti, 1995, 2004). When there are more than one independent variable, (X1, X2....... XK), binary and logistic models apply. In these situations, equation 1 is used for proper transformations:

$$P_i = \in (Y = \frac{1}{X_i}) = \frac{1}{1 + e^{-\beta_1 + \beta_2 X_i + \beta_3 X_2 + \cdots \beta_k X_k}} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots .7$$

In logistic regression models involving a binary code, categorical dependent variable has the following assumptions (Agresti, 1996 & Tuzunturk, 2007):

i) Conditional mean of logistic regression has a value between 0 and 1

ii) If the data is X, the possibility of Y's being 1 is Pi, that is, E(Y =1| X i....Xk) =Pi

iii) N number of observation about dependent variable are statistically independent

iv) Defining variables are independent of each other

$$Z_i = \beta_0 + \beta_i X_i + \cup_i \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots .8$$

Where Zi= = the dependent variable (Graduation)

Xi = a vector of explanatory variables

βi =a vector of estimated coefficient of the explanatory variables (parameters)

ui= disturbance term

3.4.2. The dependent Variable

The dependent variable in this study is graduation from productive safety net program at household level. This dependent variable is designed to measure the determinants of PSNP graduation in the study area. It is represented by 1 if households are graduated, and 0 other wise. A combination of socioeconomic, demographic, institutional and location factors were used to explain household graduation in the PSNP.

3.4.2.1. **Definition of Independent Variables and Hypothesized Relation**s

I. **Demographic Factors**

1. **Education level of household head (HHEDU).** It is assumed that a literate household head is often tends to adopt new skills, ideas and which in turn have positive effects on graduation. For this study purpose literate is defined as those who can read and write and illiterates are

those who can't read and write. Therefore, it was hypothesized that there is a positive relation with the dependent variable (million and belay, 2004).

2. **Family size (FSIZE):** Family size refers to the total number of household members who lived and eat with household head. An increase in household size implies more mouth to be fed from the limited resources and has negative relation with household food graduation, as it is cited on (Million and Belay, 2004).

3. **Dependency ratio (DEEPRATIO):** Dependency ratio is obtained by dividing inactive labor force (age less than 15 and above 65) by the active labor force (age between 15 and 65) with in a household. Dependency ratio is continuous variable and defined as ratio of dependents to independents or active labor force. It is hypothesized that as the number of dependents increases the likelihood of graduation will decrease (Mesert, 2014).

II. Socio-economic factors

4. **Farm size (FARMSIZ):** Refers to the size of cultivated land and is a continuous variable measured in hectare. Frankenberger and Sutter (2007) illustrates households with large farm size have higher probability of graduation.

5.**Irrigable land (IRRILAND):**the potential of households to irrigate their land and is dummy variable (1= households with access to irrigation land, 0=otherwise). It is expected that beneficiaries with irrigable land have more likelihood to graduate. Berhane et al (2013) finds access to irrigation as significant factor affecting graduation i.e. household with access to irrigation graduate sooner.

6. Total Annual Crop Production (TOTACROPRO): is continuous variable and measured the total amount of production in quintals annually. It is hypothesized that households with high production have higher probability of graduation.

7. Livestock holding (HHLIVSTC): it is a continuous variable and measured in TLU (tropical livestock unit). Household's livestock ownership after PSNP targeting (from 2005 -2013) will considered in this study, because the program started in 2005. According to Arega (2012) and Frankenberger and Sutter (2007), Household heads that have more livestock have the likelihood to graduate from PSNP.

III. Institutional factors

8.Access to credit (Credit): the likelihood of getting access to credit service and it is dummy variable (1=households with access to credit, 0 = otherwise). According to Hashemi and Montesquieu (2011) and Devereux and Sabates (2008) beneficiaries with access to credit have more likelihood of graduating.

9. Full Family Members (FullFami): it is a dummy variable taking one for families whose whole members of the family participates in the program, zero otherwise. It is hypothesized that if the whole family members of the household are participating, they will get every benefit the program is delivering and they are likely to graduate.

10. **Access to Extension Service (DAadvice)**: it is a dummy variable taking one for those households getting extension advice from the development agents (who are close to development agents' office) and zero for the others. It is hypothesized that access to extension service increases farmers' awareness leading to a higher probability of better income and hence graduation from the PSNP program.

11. **Training from the Program (Training)**: it is a dummy variable taking one for those households who took training and zero otherwise. It is hypothesized that if the family got any training from the program regarding the development activity they should undertake, it is more likely to graduate from the program by taking advantage of the training delivered to it.

12. **Asset Registration (Registerasset)**: It is a dummy variable taking one for those households who register their assets properly and zero for others. It is hypothesized that if the family resisters its assets properly and if it undertakes the activities of the program accordingly, it is likely for the family to graduate from the program.

13. **Graduation Criteria (Criteria)**: It is a categorical variable taking one for those households the graduation criterion is total crop production, two for those households which said the graduation criterion is livestock ownership and three for those households who said the graduation criterion is the quality of land possessed. It is hypothesized that the three criteria may have different direction of influence regarding graduation from the program.

IV Environmental factors

14. **Drought Occurrence (Drought):** it is a dummy variable taking one for experience of drought within the locality and zero otherwise. It is hypothesized that if there was a drought occurrence in the locality, the probability of graduation from the program declines.

15. **Food Gap (Foodgap):** It is a dummy variable taking one for those households which experienced food gap while they are in the program and zero otherwise. It is hypothesized that if the household experiences some food gap in the near past, it is likely to complain from graduation and decrease the probability of graduation from the program.

Table 3.3 Summary of hypothesized variables and their expected sign of influence

No.	Variable name	Code	Sign of influence
1	Education level of household head	HHEDU	+
2	Family size	FSIZE	-
3	Dependency ratio	DEEPRATIO	-
4	Farm size	FARMSIZ	+
5	Irrigable land	IRRILAND	+
6	Total Annual Crop Production	TOTACROPRO	+
7	Livestock holding	HHLIVSTC	+
8	Access to credit	Credit	+
9	Full Family Members	FullFami	+
10	Access to Extension Service	DAadvice	+
11	Drought Occurrence	Drought	-
12	Training from the Program	Training	+
13	Asset Registration	Registerasset	+
14	Food Gap	Foodgap	-
15	Graduation Criteria	Criteria	+/-

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

4.1. Descriptive Statistics

The total sample size includes 195 respondents and all of them are PSNP beneficiaries. Out of these 61 are Female headed and 134 are Male headed. A total of 26 respondents graduated from PSNP from the three Kebles under the study; of which 2 are Female headed and the rest 24 are male headed beneficiaries. Table 4.1below shows gender by graduation of the respondents and the Pearson correlation coefficient which was run to check if there is a linear correlation between the two variables shows that there is a significant linear correlation between the two variables with 1% significance level. It shows that being male has a statistical influence on graduation from the program.

Table 4.1 PSNP beneficiaries segregated by their gender and graduation status

Sex of the Respondent	Are you graduated from PSNP?		Total
	No	Yes	
Female	59	2	61
Male	110	24	134
Total	169	26	195

Pearson chi2(1) = 7.7661   Pr = 0.005

As presented in the Table 4.2 below, the beneficiaries of the program were assessed accordingly regarding their crop produce and 90% of them produce 10 quintals or less of grain per year which is very low for the mean family size of the respondents which is 5.4. If we divide these 10 quintals for the mean family size, we get 1.85 quintals per person to sustain him/her for a one year period which is logically very small. And this statistics justifies as the presence of the PSNP program is crucial in supporting the farm households in these kebeles under the study.

Table 4.2 Annual crop harvests of the respondents

Quintal	Freq.	Percent
1-5	69	42.86
6-10	76	47.2
11-17	16	9.93
Total	161	100.00

It was checked that whether there is statistical correlation between graduation status from the PSNP program and land ownership of the farmers. Table 4.3 shows this result. It is statistically significant at five percent level (P<0.012). And all the farmers who said they don't have any land for cultivation didn't graduate at all. All the graduates are from those who have farm land.

Table 4.3 Segregation of respondents' in-terms of owning land with graduation status from the PSNP program

Land possession	Graduated		Total
	No	Yes	
No	34	0	34
	100.00	0.00	100.00
	20.12	0.00	17.44
Yes	135	26	161
	83.85	16.15	100.00
	79.88	100.00	82.56
Total	169	26	195
	86.67	13.33	100.00
	100.00	100.00	100.00
Pearson chi2(1) = 6.3354 Pr = 0.012			

Non graduated respondents were asked if they agree with the graduation process in that whether the graduates are food self sufficient or not. And only 2% of them are strongly agreed with that notion but the rest are either neutral or disagree with the idea. Table 4.4 below shows this fact as summarized from the responses of the beneficiaries.

Table 4.4 Non-graduated respondents' reaction towards graduate households of food self sufficiency

Self sufficient	Freq.	Percent
Strongly agree	3	1.78
Neither	107	63.31
Disagree	29	17.16
Highly disagree	30	17.75
Total	169	100.00

The beneficiary households were asked whether they register their assets for graduation or not. 143 of them said No while the rest 52 said they let registered their assets. And there is a very strong correlation between asset registration and farmers graduation status with the Pearson correlation coefficient of 14.7670 with a one percent significance level (p<0.000). Out of those 143 who didn't register their assets, 92% of them didn't graduate from the program but only the rest 8% graduated. Table 4.5 below shows this result.

Table 4.5 Description of respondents based on asset registration and graduation status

Asset registered?	Graduated		Total
	No	Yes	
No	132	11	143
	92.31	7.69	100.00
	78.11	42.31	73.33
Yes	37	15	52
	71.15	28.85	100.00
	21.89	57.69	26.67
Total	169	26	195
	86.67	13.33	100.00
	100.00	100.00	100.00

Pearson chi2 (1) = 14.7670   Pr = 0.000

It follows from the above fact that they were also asked if they are satisfied with the implementation procedure of the program. As shown from Table 4.6 below, approximately 17% of the non graduates replied that they are satisfied or strongly satisfied. The rest 83% of the respondents are either they are neutral to this question or dissatisfied with the procedure with varying degree between them. Even about 55% are either dissatisfied or highly dissatisfied with the implementation process.

Table 4.6 Non-graduated households' satisfaction with the implementation process of the PSNP program

Satisfied	Freq.	Percent
Highly Satisfied	15	8.88
Satisfied	13	7.69
Neither	48	28.40
Dissatisfied	56	33.14
Highly dissatisfied	37	21.89
Total	169	100.00

In understanding the non graduates' expectation regarding their graduation, they were asked if they are happy with the graduation procedure or not, it is in addition to the implementation feeling already discussed above and it is summarized in the following Table 4.7. Only 17% of the respondents said that they are satisfied with the procedure with varying degree of satisfaction. About 50% are neutral in commenting on the graduation procedure. The rest 55%, they are not happy with the procedure, off course with varying degree.

Table 4.7 Non-graduated households' satisfaction with the PSNP's graduation procedure

Satisfied	Freq.	Percent
highly satisfied	15	8.88
satisfied	13	7.69
neither	48	28.40
Dissatisfied	56	33.14
highly dissatisfied	37	21.89
Total	169	100.00

The beneficiaries of the PSNP program also asked if they are happy with the implementation of the program and hypothesizing that predictability of the support from the program adds satisfaction to them, 125 of them said it is not predictable and almost 62% of them are either they are dissatisfied with its unpredictability or highly dissatisfied. From the 44 households who said the support is predictable only almost 36% of they are dissatisfied with varying degrees. And the Pearson correlation coefficient run to check if there is statistical relationship between these two variables came up with a significant result with P<0.004. Table 4.8 below shows these results.

Table4.8 Predictability of PSNP support deliveries

Predictable	Highly Satisfied	Satisfied	Neither nor	Dissatisfied	Highly Dissatisfied	Total
No	7	6	35	45	32	125
	5.60	4.80	28.00	36.00	25.60	100.00
	46.67	46.15	72.92	80.36	86.49	73.96
Yes	8	7	13	11	5	44
	18.18	15.91	29.55	25.00	11.36	100.00
	53.33	53.85	27.08	19.64	13.51	26.04
Total	15	13	48	56	37	169
	8.88	7.69	28.40	33.14	21.89	100.00
	100.00	100.00	100.00	100.00	100.00	100.00

Pearson chi2(4) = 15.2542 Pr = 0.004

To understand perceptions of graduates about the success of the program, they were asked what their income would be after graduating from the program. According to Table 4.9 below, only 12% of them felt that it will be better than they were in the program. The majority of 69% felt no difference in their livelihood while they were in the program and after graduation and the rest 19% feel themselves in bad or worse situation after graduation.

Table 4.9 Result of respondents' comparison of their livelihood before and after graduation from the program

Livelihood after graduation	Freq.	Percent
Good	3	11.54
The same	18	69.23
Worse	4	15.38
Very worse	1	3.85
Total	26	100.00

Recognizing this fact as it is, all respondents were asked if their farm produce is enough to feed their family or not and it is presented in the following Table of 4.10. 161 or 83% of them said, it is not sufficient enough to feed them while the rest 18% said, it is sufficient. Hence, it is reasonable to guess that it takes some time in the future for the program to fully achieve its objectives.

Table 4.10 Respondents' reaction whether their production is sufficient to feed their family for the whole year or not

Sufficient	Freq.	Percent
No	161	82.56
Yes	34	17.44
Total	195	100.00

To get clear understanding regarding PSNP's role in the local livelihood's sustenance, non graduated farmers were also asked what would they expect their livelihood without the program. About 79% of them said, it would be bad without the program, with varying degree of their livelihood's expectation. Table 4.11below shows the frequency according to their judgment.

Table 4.11 Respondents' livelihood if PSNP were not implemented according to their judgment

Livelihood if not PSNP program	Freq.	Percent	Cum.
Good	6	3.55	3.55
The same	30	17.75	21.30
Worse	76	44.97	66.27
Very worse	57	33.73	100.00
Total	169	100.00	

Respondents were asked if they are satisfied with the way the government is spending money in order to facilitate graduation from the PSNP program. 65% of them replied they are either dissatisfied or highly dissatisfied with the scale of spending so that beneficiaries graduate from the program appropriately. However, 34% of the respondents replied that they have no any complaint regarding the programs investment in enhancing graduation and the following Table 4.12 below shows this result.

Table4.12 Respondents' satisfaction with government's investment to enhance graduation from the PSNP

Satisfied	Freq.	Percent
Satisfied	7	26.92
Neither	2	7.69
Dissatisfied	13	50.00
Highly dissatisfied	4	15.38
Total	26	100.00

To assess the program's contribution to capacity building, farmers were also asked whether they got training from the program so far or not. According to the following Table 4.13, almost 50% of the beneficiaries of the program said 'Yes' and the rest 'No'. We can describe that the program at least introduced some capacity to the locations under consideration.

Table 4.13 Whether the respondent got training from the PSNP program or not

Training	Freq.	Percent
No	99	50.77
Yes	96	49.23
Total	195	100.00

In line with this response regarding training from the program, they were also asked whether they agree with the notion that the program built their capacity in general or not. Accordingly, 97% of the respondents agree that PSNP built their capacity with different degree of agreement. Only about 3% of the respondents are not happy with the idea of the program's capacity building contribution. Table 4.14 below shows this statistics.

Table 4.14 Respondent's rating of the PSNP program's capacity building contribution

Capacity built	Freq.	Percent
Strongly agree	88	45.13
Agree	102	52.31
Disagree	2	1.03
Strongly disagree	3	1.54
Total	195	100.00

Those who have graduated were asked that what type of graduation scheme was used in their graduation procedure to check whether they have graduated from the program according to the benchmark or not. 38% of them said, they have graduated based on their voluntary expression of interest. Another 38% graduated, in order to correct inclusion errors and only 4% of the graduates said, they have graduated based on the benchmark set on the program and this fact is presented in the following Table 4.15.

Table 4.15 Respondents' segregation based on their graduation scheme to graduate from the PSNP program

Graduation scheme	Freq.	Percent
Graduated on benchmark	1	3.85
Graduated voluntarily	10	38.46
Graduation to correct inclusion errors	10	38.46
Premature graduation	5	19.23
Total	26	100.00

Graduated farmers were asked if they submit an application of appeal of their graduation, all 26 graduates appealed to the government. When they were asked their reason of appeal, 81% of them appealed that it is not right to graduate them but it was to fulfill governments' quota of graduates from the program. Otherwise they didn't graduate because they were supposed to graduate. The rest 19 % is because of premature graduation. Farmers' cause of appeal as described is presented in the Table 4.16 below.

Table 4.16 Graduated households rational for appealing to their graduation

What is your rational for appeal?	Freq.	Percent
Premature graduation	5	19.23
Quota fulfillment	21	80.77
Total	26	100.00

Graduated farmers then asked if their produces are enough to lead their family for year around and all of them said 'No'. It is wondering of coming up with this result but is shown in the following Table 4.17.

Table 4.17 Graduated households response for whether their farm produce is sufficient enough to lead their family or not

Sufficient	Freq.	Percent
No	26	100.00
Total	26	100.00

A correlation analysis run to check whether there is systematic correlation between households who graduated from PSNP with experience of food gap while they are in the program came out to be significant at 5% significance level (Table 4.18 below). 83% of non graduates experience food gap compared to the 17% graduates. Totally 68% of respondents experience food gap in the program period. Table 4.18 shows the results. Out of those who said no they didn't experience any food gap 95% are non graduates but the rest 5% are from the graduates.

Table 4.18 Experience of food gap

Food gap	Are you graduated from PSNP?		Total
	No	Yes	
No	59	3	62
	95.16	4.84	100.00
	34.91	11.54	31.79
Yes	110	23	133
	82.71	17.29	100.00
	65.09	88.46	68.21
Total	169	26	195
	86.67	13.33	100.00
	100.00	100.00	100.00

Pearson chi2(1) = 5.6764 Pr = 0.017

4.2.   Econometric Analysis

The following Table 4.19 shows the descriptive statistics of the variables included in the logit model used to analyze what factors differentiate graduates of PSNP from non graduates.

Table 4.19 Descriptive statistics for variables used in the logit model

Variable	Obs	Mean	Std. Dev.	Min	Max
GRADUATE	195	.1333333	.3408096	0	1
Famsiz	195	5.461538	1.634773	1	9
Hactar	161	.4984472	.1593367	.25	1
Irriglan	195	.0307692	.1731364	0	1
Amoucrop	161	5.987578	3.140437	1	17
Livestyp	121	3.725124	2.500187	.04	10.65
Credit	195	.5487179	.4989018	0	1
Fullfami	195	.3641026	.4824162	0	1
DAadvic	195	.7025641	.4583066	0	1
Drought	195	.5333333	.5001718	0	1
Training	195	.4923077	.5012277	0	1
registeras~t	195	.2666667	.4433549	0	1
Foodgap	195	.6820513	.4668781	0	1
Readwrite	195	.5076923	.5012277	0	1
Primary	195	.0410256	.1988601	0	1
Secondary	195	.025641	.1584687	0	1
livestocko~a	195	.4871795	.5011222	0	1
qualityofl~a	195	.2974359	.4583066	0	1

After checking the data using the descriptive statistics above, the logit model was run to identify graduates from non graduates. The model is significant at 1% level (P<0.000). The Psuedo R^2 value for the model is 58.59% which is considered very high for the non linear models like logit. The number of observations used in the model is 109 which is below 195 collected which is because of non response questions in the questionnaire like questions for graduates for their life after graduation. Considering this the model is good enough for interpretation. The following Table 4.20 shows the model results from the logistic regression.

Table 4.20 Logistic regression results

GRADUATE	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
Famsiz	-.0116329	.3194993	-0.04	0.971	-.6378401	.6145742
Hactar	-6.889462	3.022626	-2.28	0.023**	-12.8137	-.9652248
Irriglan	-1.47368	55.10687	-0.03	0.979	-109.4812	106.5338
Amoucrop	.2300269	.1999741	1.15	0.250	-.1619152	.621969
Livestyp	.8803732	.2640479	3.33	0.001***	.3628489	1.397898
Credit	-.0680512	1.209987	-0.06	0.955	-2.439582	2.30348
Fullfami	-.4792126	1.272144	-0.38	0.706	-2.97257	2.014145
DAadvic	-3.964214	1.25622	-3.16	0.002***	-6.426361	-1.502068
Drought	-.1180214	.9534897	-0.12	0.901	-1.986827	1.750784
Training	-3.711146	1.291602	-2.87	0.004***	-6.242639	-1.179652
Registeras	5.401979	1.42232	3.80	0.000***	2.614284	8.189674
Foodgap	5.37951	1.879037	2.86	0.004***	1.696666	9.062354
Readwrite[a]	2.812517	1.352883	2.08	0.038**	.1609146	5.46412

Table 4.15 Contd.

GRADUATE	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
Primary	4.29647	2.426453	1.77	0.077*	-.4592911	9.052231
Secondary	-4.187551	2.993937	-1.40	0.162	-10.05556	1.680457
Livestock	-.9935205	1.276632	-0.78	0.436	-3.495673	1.508632
Qualityofl	-.2342945	1.354518	-0.17	0.863	-2.889102	2.420513
Cons	-5.837866	3.155343	-1.85	0.064*	-12.02222	.3464931
Obs.	109					
LR chi2(17)	67.32					
Prob> chi2	0.000					
Pseudo R2	0.5859					

N.B.

ª Illiterate is the reference category of the education variable

*,**,***, refers to significance level at 10%, 5% and 1% level

The amount of land the household possess, the amount of livestock wealth owned, access to extension service, training got from PSNP, registration of asset to the program, experience of food gap, read and write, primary and the constant term significantly influences the probability of graduation from the PSNP program.

If the amount of land the household possess increases, the probability of graduation decreases by 6.8% which is statistically significant at 5% level (P<0.023). This may be a wonder in that it may

be expected that if the amount of land a family owns increases, the amount of harvest it collects increases and there by the probability of graduation from PSNP. However, it came out the reverse from the expectation due to the farm households are stretched to their capacity in handling their farmlands and hence increase in land size reduces production. This result is in contrast with Getnet (2011) and Habitamu (2011) for which the later studied PSNP's impact on off-farm participation. However, it is similar to Hailu and Seyoum (2015) but to become statistically insignificant. Bethelhem and Holden (2014) also has a similar finding in their two models studying impact of PSNP on livestock holding and children's education and came out negative.

If the amount of animal wealth a family owns increases (measured in TLU), the probability of graduation from the PSNP program increases by 0.9% with a one percent significance level (P<0.001). It goes with the expectation that when the wealth of the farm household increases, the probability of graduation from the program increases. This result is similar to Arega, B (2012), Yibrah (2013) and with Thimothy et al (2007) as the later found households with less access to livelihood assets like livestock more vulnerable to risks of food insecurity.

If the beneficiary of the program has access to extension service, the probability of graduation decreases by 4% with a one percent significance level (P<0.002). The expectation is if the farmer has access to extension service, the probability of graduation increases. However, the result came out the reverse to the expectation. It may happen due to development agents biased undertaking in selecting the right candidates for graduation according to measures stipulated on the program. This result is similar to Hailu and Seyoum (2015) but which is statistically insignificant.

If the beneficiary got training from the PSNP program, the probability of graduation decreases by 3.7% with a one percent significance level (P<0.004). The expectation for this relationship is positive but it came out negative. The reason could be the program may select families from the beneficiaries using their vulnerability status. Those who are more vulnerable may get preference from the program for training or capacity building.

If the family registers its assets to the program, the probability of graduation from the program increases by 5.4% and it is significant at one percent level (P<0.000). This variable is in tandem with the expectation but it may let farmers to hide their wealth so it should be handled with care.

If the family experience some food gap during its stay within the PSNP, the probability of graduation increases by 5.4% with a one percent significance level (P<0.004). It may be due to farmers' fake response in intention to get included with the program again. This interpretation comes from all farmers' appeal of graduation. It is also because of the majority (95%) who said 'No' to experience of food gap are from non graduates and 87% of graduates replied that they have experienced food gap at one point in time.

If the household head is literate (Read and Write) in that if he is able to read and write, the probability of his/her graduation increases by 2.8% when compared with the illiterate household head with five percent significance level (P<0.038).

If the household head is primary school attendant, the probability of graduation from the program increases by 4.3% when compared with the illiterate household head with ten percent significance level (P<0.077). Since the reference category of the education level variable is the illiterate group, it is sensible that primary school attendant households have better probability of

graduation than those who are able to read and write (literate). This result is similar to Thimothy et al (2007), Arega (2012) and Getnet (2011).

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The study used primary and secondary data in order to analyze factors affecting the PSNP food safety net program in Sekota Woreda. It had two objectives; one is to assess the implementation of the program and the second is to identify the factors that affect household's productive safety net program graduation. The first objective was achieved by using descriptive statistics techniques like frequency, mean, standard deviation and Pearson's correlation coefficient. The second objective was achieved by the logit econometric model in computing each factor's influence in the probability of graduation from the PSNP program.

The result came out to be the beneficiaries are not satisfied with the implementation and the graduation procedure of the program. There is sufficient data in the results and discussion part of this thesis for this conclusion. One, the beneficiaries of the program were asked if they are satisfied with the implementation process of the program and its graduation procedures and their response for these questions are either neutral or dissatisfied. Second, it was found that all the graduates appealed in complaint that as if they are not the right candidates for graduation. The econometric model also came up with if the farmer has access to the extension service, the probability of his or her graduation decreases. Another point is that when the graduates were asked whether they graduate because of benchmarks stipulated on the program or not, only one of them said he/she graduated on the benchmarks. Others complain that we graduate just to fulfill

governments plan of number of graduates from the program but not because we are able to sustain our life without the program.

Farmers were asked questions regarding PSNP's role in their livelihood, which is both graduates and non graduates. Non graduate households about 99% of them are either neutral or disagree with the notion that graduate households are food self-sufficient. Even about 35 % of them disagree with that notion. Graduates were asked what would look their livelihood after graduation and the majority of them said it is the same or worse than before. In addition, they were also asked whether they are able to feed themselves from their farm produces or not and they disagree with it.

The PSNP program has been crucial to the livelihood of the farming community of the locations which this study focused on, 79 % of respondents said their livelihood could be bad or worse without the program. In addition, almost 50% of respondents got various trainings specifically from the program. And 97% of them agreed with the idea that PSNP has built their capacity. 65% of the respondents said they have experienced food gap while they are under the program, which to show how crucial the program is to the majority of the farmers.

The econometric model also came up with interesting results in identifying graduates and non graduates using different characteristics. Amount of land possessions, livestock wealth, access to extension service, experience of food gap, trainings from the program, asset registration, ability of reading and writing and primary school attendance came out to have statistically significant coefficients in differentiating graduates from non graduates of the PSNP program.

The surprising results from this model analysis are the inverse relationships which came out from amount of land possessions, access to extension service and experience of food gap having

negative relationship with the probability of graduation. As it was said in the results part, farmers are stretched to their capacity in their farm management. Hence, adding one more hectare to the household decreases its productivity, thereby decreasing the probability of graduation.

Trainings given from the program, genuine asset registration activity, and literacy level became positively influencing the probability of graduation.

5.2.   Recommendations

The research used both descriptive statistics and logit model to come up with its conclusions and the following recommendations about PSNP program's implementation and graduation procedures according to benchmarks stipulated on the program document.

It was concluded that there is prevalent problem regarding the implementation and graduation procedures of the program. The causes emanate from, the program's capacity in enabling beneficiaries to improve their livelihood and then graduate. Are those activities run now under the program enabling farmers to develop whatever capacity intended and fill their food gap? All the graduates on the three Kebeles appealed for their graduation. Even the non graduates felt that the graduates are not food self-sufficient. Years after implementation of the program, it has not yet produced the right graduates from the program. Hence, the program should evaluate its activities and revise so that to improve the household income and hence dependence on the program.

The program should also work on giving trainings so that it is one of the factors that characterize graduates. It should also evaluate graduation procedures. It should set a check and balance system in evaluating graduates from non graduates removing sole power of identification from development agents.

The program should also work on in improving livestock asset accumulation since it characterizes graduates by having more livestock wealth. Genuine asset registration is also very important which needs also be thorough. The registration procedure should be transparent and at the same time maintaining families' privacy.

Literacy is very important variable in that literate households are more likely to graduate from the program. In that, literate households with only read and write capability are more likely to graduate than the illiterates. Likewise, Primary school attendants are more likely to graduate than the illiterates and they are more likely than those who are able to read and write. Almost they are twice more likely to graduate than those who are able to read and write. So literacy should be taken on board as a long term activity in capacity building of farmers so that they sustain themselves.

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APPENDIX

APPENDIX 1. Conversion equivalents of the sub-saharan Africa livestock in to TLU.

Livestock class	Weight(kg)	Metabolic body Weight (weight*0.75)(kg)	TLU
Ox	320	76	1.2
Cow	250	63	1.00
Bull(immature male)	200	53	0.85
Heifer	180	49	0.78
Calf	70	24	0.38
Goat/Sheep	25	11	0.20
Donkey	175	48	0.80
Horse/Mule	200	53	0.80
Poultry	3	2	0.04

Source ILRI (2013).

APPENDIX 2. QUESSIONNAIRES FOR THE INTERVIEW

FACTOR AFECTING IMPLEMENTATION OF PRODUCTIVE SAFETY NET PROGRAM, IN SEKOTA WOREDA, WAG HIMRA ZONE.

1.6.1. General Objective

To assess factor that affect implementation of safety net program in sekota woreda waghimra zone of Amhara Region of Ethiopia.

1.6.2. Specific objectives

➢ To assess the implementation of productive safety net program.

➢ To identify the factors that affect household's productive safety net program graduation.

1.7. Research Questions

➢ How is the implementation of the PSNP program?

➢ What are the socioeconomic, institutional and demographic factors affecting household's graduation from the PSNP?

Individual Questionnaire prepared for Household Heads Survey

Bahir Dar University, College of Agriculture and Environmental Science Department of Rural Development and Agricultural Extension.

Post Graduate Program in Rural Development Management

Introduction:

This questionnaire is prepared by Habtu Kassie a post graduate student (Rural Development Management) in Bahirdar University for partial fulfillment of master degree. The aim of this questionnaire is to collect data about "Factor affecting implementation of productive safety net program, Evidence from Sekota Woreda".

Dear respondents, there are some parts of questions to be completed by you in the subsequent sections. Thus follow the specific instructions which are illustrated under each section and try to indicate your position for that relatively represent your idea from the possible alternatives, that in the case of close ended items and try to explain your ideas freely when you encounter with open ended items.

Thank you!!

General instruction:

1. Encircle on the options that are appropriately represent your response in the multiple choice questions.

2. To the open-ended questions, please write your response on the space provided.

Part I- Questionnaire Identification

1.1. Woreda _____   1.2. Kebele_____

1.3. Mender (gote) _____   1.4. Questionnaire code_____

SECTION II – DEMOGRAPHIC INFORMATION OF HOUSEHOLDS

1. Gender   1.= Male   2.=Female

2. Age   _____

3. Family size 1. Male_____ 2. Female_____

4. Educational level

   None ☐   Read and write ☐   Primary ☐

   Secondary ☐   if any specify ☐

5. Are you graduated from PSNP?   1. = Yes   2.=No

6. Number of Dependents: Below 15 years:_____

   Above 65 years: _____

SECTION III- PERECEPTION OF HOUSEHOLDS TOWARDS GRADUATION FROM PSNP

6. What will happen to your livelihood if PSNP didn't implemented? Would you say:

1. = Very good   2= Good   3=.The same   4. = Worse   5. =Very worse

7. Graduated households are food self-sufficient? Do you agree:

1. = Strongly agree   2.= Agree   3=. Neither   4=. Disagree   5=.highly Disagree

8. What is your confidence level to graduate from productive safety net program? Would you say

you are: 1. = Highly confident   2. = Confident   3=Low confidence   4=Have no confidence

9. Do you satisfied with the current implementation of graduation from productive safety net?

Would say you are: 1. = Highly Satisfied   2. =satisfied   3. =Neither   4. = Dissatisfied

5. = Highly Dissatisfied

10. What do you think are the problems in implementation of graduation?

_____

_____

_____

_____

N.B. Question 11 for graduated Households only if you are current beneficiary go to question 12

11. How do you compare your livelihood with non-graduated households?

1. = Very Good   2. = Good   3. =The same   4. =Worse   5. =Very Worse

12. Do you satisfied with government investment to enhance graduation? Would you say youare?

1. =Highly satisfied   2. = Satisfied   3.= Neither

4. = Dissatisfied   5. = Highly dissatisfied

13. Is asset based graduation criteria appropriate for your kebele?

0. = Appropriate   1. = Neither   2. = Dissatisfied

14. What do you think the problems in the criteria's undergo for graduation in your kebelle?.

_____

_____

_____

SECTION –IV SOCIO-ECONOMIC FACTORS AFFECTING GRADAUTION FROM PSNP

15. Do you have farm land?   1. =Yes   0. =No

16. If your answer for number 15 is ''yes'' how much hectare do you possess_____

17. Of the land you possess do you have irrigable land? 1. =Yes   0.= No

18. If your answer for question 17 is yes, have you irrigated your land and get the product?

    1=yes   2= no

19. If your answer for Question number 18 is No, what is the reason? Please specify

_____

_____

_____

20. Is the product you gain from your farm land enough to lead your family life?

    1=yes   2= no

21. What is the amount of your total main crop production annually (Quintals)?

No	Main Crop type	Harvested (Qt/yr)

22. Which livestock types do you possess after you become PSNP beneficiary? Specify with its

number

No	Livestock type	Number	TLU value
1	Ox		
2	Cow		
3	weaned male calf (Woyefen)		
4	Calf		
5	Donkey		
6	Sheep		
7	Goat		
8	Poultry		
9	Honeybee colony		
10	Other		

SECTION V- INSTITUTIONAL FACTORS AFFECTING GRADUATION FROM PSNP

23. Do you have access to credit? 1. =Yes   2=No

24. If your answer for question 21 is yes, is the credit you gained enough to change your family

life? 1. = Strongly agree   2.= Agree   3=. Neither   4=. Disagree   5=.highly Disagree

25. If you answer of number 21 is ''No'' what is the reason? Please specify

_____

_____

_____

_____

 26. Do all of your family members included in PSNP?

1. =Yes   0. =No

27. If your answer for   question number 23 is ''No' what do you think is the reason? Please

specify_____

_____

28. Do you have access to advice from development agents?

 1. =Yes   0. =No

29. If your answer for the above question is ''yes'' how many times the development agents

give you technical advice? Please specify the interval:

_____

PART VI. OCCURRENCE OF NATURAL FACTORS

30. Are you vulnerable to Drought during your stay in PSNP?

     1. = Yes   0. = No

31. What kind of natural factor challenges you? Specify (Fire, flood, Froze, Crop Failure, Pest incidence)

_____

_____

SECTION VII IMPLEMNATION OF GRADUATION FROM PSNP

32. What kind of PSNP public activities are applied in your area? (Soil and water conservation, watershed, own farmland)_____

33. What is the significance for you through the public works on watershed?_____

_____

_____

_____

34.Is there any training or awareness creation on graduation from PSNP and its criteria?

     1. =Yes   0. =No

35. Which graduation criteria are applying in your kebelle? (Mark X on the criteria's)

0. =Total crop production   4. = Allowance

1. =Livestock ownership   5. = Quality of Land

2. =Off farm participation   6. =Access to credit and agricultural extension

3. =Land quality   7. =Other _____

36. Do you receive support from OFSP/HABP?   1. =Yes   0.= No

37. If your answer for question 31 is ''No'' What is the reason Please Specify?

_____

_____

_____

38. Do you Register Your Asset for graduation?   1. =Yes   0. =No

39.If yes, who registeredyourassets? _____

40. How do you rate the evaluation of zonal and district level officials and experts on implementation of PSNP?

1. =Very Good   1. =Good   3. =Neither   4. = Weak   5. =Very weak

41. How do you rate evaluation of the kebele level and community food security task force on implementation of PSNP?

1. =Very Good   1. =Good   3. =Neither   4. = Weak   5. =Very weak

42. Do you experience any food gap during your stay in PSNP? 1. =Yes   0. =No

43. How do you cope up the gap (specify)_____

44. Which transfer mode is applying in your kebelle? 0. = Cash   1.= Food   2.=both

45. Which mode of transfer do you prefer? 0= Cash   1.= Food   2=Both

46. Is the Transfer from PSNP predictable?   1. =Yes   0. =No

47. On what time and frequency do you receive the transfer from PSNP?_____

Questions 43-54 for Graduated Households Only

48. Do you believe your graduation is appropriate?   1. =Yes   2.= No

49. If your answer for the above question is number 42 is" No'' what do you think is the

reason?_____

_____

_____

_____

50. Does the community participate to decide on your graduation? 1. =Yes   0.=No

51. If your answer for question number 45 is ''No'' so who decide on your graduation?

1. =Development Agents   2. =CFSTF   3.= I don't know

52. Which one of the following program exit type correctly expresses you?

1. =Graduated on Benchmark   2. =Graduated voluntarily   3. = Self graduated

4. =Graduation to correct inclusion errors   5. = Premature graduation

6. =Other_____

53.   Do you stay in the program one year after graduation in the program?

   1. =Yes   0. = No

54.   Do you receive Support after graduation from the program? 1. = Yes   0.= No

55. How much do you estimate the amount of your asset accumulate from PSNP in Ethiopian birr?

         1. = 1000-3000   4. = 5600-8000

         2. =3001-4000   5. = More than 8000

         3. = 4001-5599

56. Do you want to re- enter the program?   1. =Yes   0.= No

57. If your answer for question number 50 is ''Yes'' what is your reason? Please specify

_____

_____

_____

54. If your answer for question number 50 is ''yes'' do you appeal regarding your graduation?

            1. =Yes   0. =No

55. If your answer for question number 54, is ''Yes'' What is your rationale for appeal?

1. =Premature graduation

2. = Request to transform from public works to direct beneficiary

3. =I have graduate for attainment of the government official's quota

4. = I have graduate because of remittance

5. = After graduation I am vulnerable to natural shock

6. = Because of many persons who have better livelihood than me are there

7. = Other_____

56. What do you recommend for effective household graduation from PSNP?

1. Effective identification of beneficiaries and full family targeting

   1,Strongly agree------- 2,Agree----- 3,Dis agree---------4,Strongly Dis agree-------

2. Build the capacity of household graduates,

   1,Strongly agree------- 2,Agree----- 3,Dis agree---------4,Strongly Dis agree-------

3. Achieve food self sufficiency

   1,Strongly agree------- 2,Agree----- 3,Dis agree---------4,Strongly Dis agree-------

4. Enhancing the potential of households in accumulating assets

   1,Strongly agree------- 2,Agree----- 3,Dis agree---------4,Strongly Dis agree-------

5. Diversified non-PSNP programs

   1,Strongly agree------- 2,Agree----- 3,Dis agree---------4,Strongly Dis agree-------

6. If any

_____

_____

_____

=========THANK YOU VERY MUCH =========

Section VIII- Key informant interview Questions for Woreda food security officials, Kebele Administrator, Development Agent.

1. Are the PSNP implementation systems fair and transparent?

2. Is full family targeting functioning? If not, why?

3. Is the support from HABP/OFSP is implementing according to PIM manual? If not why

4. Is the transfer flexible, predictable and participatory?

5. Do you receive training regarding graduation criteria, benchmark and application? If yes, do you know the criteria to say a household head is agraduate or not?

6. Have the previous graduates reached the intended benchmarks? If not, why?

7. Have graduates already withstood a moderate Shock or how confident do they feel about their ability to withstand such a shock?

8. Is there any appeal regarding graduation of households? If yes, are you implementing it according to the guidance? If no, why?

9. What safeguards are in place and are they functioning?

10. What is your benchmark for graduation and how long does this benchmark practicing?

11. What do you think are the main problems during your identification of graduation?

12. Do you incorporate gender issues in your graduation implementation?

13. Does the community participate in the graduation assessment and decision?

14. What do you think are factors that are considered as an obstacle in graduating households from PSNP?

15. What should be done to have effective graduation from PSNP?

Section-VIIII   Questions for Focused Group Discussion

1. How is the PSNP practicing in your locality?

2. Is there full family targeting?

3. Is the transfer flexible, predictable and participatory?

4. Is there occurrence of shock starting from the implementation of PSNP (it can be natural and market related)?

5. Are the complementary programs (credit, access to extension program and others) accessible to all beneficiaries?

6. Are the criteria's and benchmarks for graduation appropriate to the households targeted in PSNP?

7. How do you evaluate the implementation of graduating households from PSNP?

8. How do you compare the livelihood of graduated and current beneficiary households?

9. What do you think are factors that are considered as an obstacle in graduating households from PSNP?

10. How do you evaluate the post-graduation monitoring of intended bodies to households?

11. What should be done in order to have effective graduation from PSNP?