



**ADDIS ABABA UNIVERSITY COLLEGE OF DEVELOPMENT STUDIES
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**DETERMINANT OF GRADUATION FROM SAFETY NET PROGRAM:
THE CASE OF MENZ GERA MIDIR WEREDA**

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Determinants of Graduation from Productive Safety Net Program: the Case of Menz Gera Midir Wereda.

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A thesis submitted to Center for Regional and Local Development Studies of AAU in partial fulfilment for the requirement of an award of MA degree.

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Declaration

I, the under signed, declare that this thesis entitled “Determinants of Graduation from Safety Net program: the case of Menz Gera Midir Wereda” submitted in partial fulfilment for the requirement of a master’s degree to the center for Local and Regional Development of Addis Ababa University is entirely my work and has not been submitted for fulfilment of any degree in any university. And to the best of my knowledge, all the sources I used in this paper are duly acknowledged.

June 17, 2019.

Girma Abebe

Certification

This is to certify that this thesis entitled “Determinants of Graduation from Safety Net program: the case of Menz Gera Midir Wereda” submitted in partial fulfilment for the requirement of a master’s degree to the Center for Local and Regional Development of Addis Ababa University is an original work done by student Girma Abebe Id No. GSR/5232/10 under my supervision.

June 17, 2019

Kumela Gudeta (PhD)

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List of Acronyms

AAU	Addis Ababa University
ACSI	Amhara Credit and Saving Institution
DA	Development Agents
FAO	Food and Agriculture Organization
GHI	Global Hunger Index
HABP	Household Asset Building Program
HH	Households
MDG	Millennium Development Goals
OFSP	Other Food Security Program
ORDA	Organization for Rehabilitation and Development of Amhara.
PIM	Program Implementation Manual
PSNP	productive Safety Net Program
PW	Public Works
RUSACCO	Rural Saving and Credit Cooperatives
SDG	Sustainable Development Goals

Abstract

Safety net, in Gera Midir Wereda is not a mere program; it is one aspect of life. Being number one food insecure woreda in North Shoa Zone and probably Amhara Region, Gera Midir Wereda virtually lives on Safety Net Program. It has the highest number of Beneficiaries in all the zone. It has also the highest graduates though not as high as expected given the number of beneficiaries. This paper aims at examining determinants of graduation in the study area, exploring if it is sustainable and has supportive institutional set up. Both quantitative and qualitative methods of research were employed. And cross sectional data was collected using a household survey questionnaires. Key informants both in the woreda and kebelles were interviewed. The data thus collected was presented and analyzed using descriptive statistics and econometrics model, in case of the quantitative data and Narrative method in case of the qualitative data. The major findings showed that determinants for graduation from PSNP were age of the household head, educational level of the household head, total size of cultivated land, amount of loan received, access to Household Asset Building Program, access to training and total household size at varying degree of significance. Other variables like access to irrigation, sex of the household head, use of fertilizer, use of improved seed, shocks and land fragmentation did not show significant influence on graduation. From the qualitative data we found out that low level of expenditure on public works like irrigation, natural resource management, high dependency and risk averse behavior prevented the safety net program from evolving to productive level, causing it to remain unsustainable. The institutional set up was found conducive of the program implementation. To improve the program, implementers should focus on increased expenditure on public capital like irrigation and forests, creation of market links, changing attitude by trainings as well as skill and confidence building trainings that enable households to use more credit and more irrigation. These in turn enables them to change their life and move off the productive safety net program.

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1 Introduction

1.1 Back ground of the study

Currently the second global policy, the Sustainable Development Goals /SDGs/ is high on the agenda. Adopted by member states of the United Nations is in operation since 2016 (UN, 2015). Poverty, as it was in the MDG, has central place in the Development Goals. Heads of state and governments as well as high representatives, on behalf of the people they serve, to end poverty and hunger everywhere. Goal two provides end hunger achieve food security and improve food security (UN, 2015).

Regarding, one of the indicator for this goal, the document enjoins governments to “Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable”. Along with this goes the provision that requires countries to reducing vulnerability of the poor to extreme events of climate, social and economic shocks and build resilience for the poor against such vulnerable situations. Member states are also have to create pro-poor, gender sensitive and inclusive development and strategies that fosters pro-poor investment.

The documents envisaged to achieve this and 16 other goals by adopting strategy of inclusion. SDG anchors on the principle of “no tradeoffs” between its three dimensions of development namely social development, ecological development and relational development, a characteristics that define “sustainable” (Gupta & Vegelin, 2015).

According to these authors social inclusiveness, which has its root in the millennium development goals, is related to human rights, inequality, redistribution, rural development and entitlement and capability. Environmental inclusiveness on the other hand has several assumptions behind it which include: environment is source of livelihood for the poor, a change in environmental extremities affect the life of the poor and with expansion of the economy important resources can be grabbed and held by government and businesses denying the poor access. Relational inclusiveness sought to remedy that environmental degradation and social inequality which the concept assume to result from the action and decision of others by means of participating the poor.

A recent assessment of the implementation of SDG indicates that “no country is on track to implement SDGs(Bertelsmann Stiftung, 2018). According to the report economic and security spillovers, high income countries create, undermined the efforts of low income countries effort to achieve SDGs. Other developing countries though making progress in reducing poverty, inequality and malnutrition, their progress is reversed by conflicts.

Another document, FAO (2018), indicates that environmental-variability continued to threaten Africa and the world that if this trend continues by 2050 additional 71 million people will be food insecure and half of them will be in this continent. This report further revealed that Africa is not on track to meet SDG2 and prevalence of malnutrition is on the rise reaching 20%. This is higher than the world’s average. The figure related to food insecurity in Africa is staggering; of the 821 million undernourished people in the world 257 million live in Africa and of these, 237 million are in sub-Saharan Africa. The number of malnourished people in Africa increased by 34.5 million people from what it was in 2015. Of these 32.2 are in sub-Saharan Africa. The report attributed this debilitating situation in Africa to adverse climate change like El-Nino, drought, insufficient rains and conflicts.

SDG also has made a lot of improvements by way of rectifying the weakness of its predecessor-the MDG. Some of these changes introduced in the SDG include treatment of nutrition as separate goal apart from poverty, as nutrition and poverty may not be the same (Gupta & Vegelin, 2015). This is also reflected in the implementation manual of the Safety net program of Ethiopia (GoFDRE, 2016) which requires joint implementation of the safety net program.

The Ethiopian government time and again re-iterated its commitment to the vision of SDG express confidence to achieving them by 2030 (Planning Commission of FDRE, 2017). It pointed to its “remarkable achievement” with the preceding policy, MDGs, the lesson it learnt from it and the pro-poor policies it puts in place as evidence for doing well in the future. A recent SDG report put Ethiopia 128th out of 169 countries in its performance of SDG implementation with 53.2%. Also the global hunger index ranked Ethiopia 93th out of 119 countries with GHI index of 29.1 which is described as severe though it came down to this level from over 50 % in 2000 (Global Hunger Index, 2018). That figure casts some doubt as to the country’s ability to meet SDG goal 2.

Inspire of that, however, the Ethiopian government must be credited for some of the most important words it undertook to reduce poverty and ensure food security. Some of the SDG goals and indicators are found incorporated in different policy documents such as the Nutrition policy, the health policy, Education policy and most importantly, the Productive safety net which is also the topic of this document.

The productive safety net program (PSNP), having been implemented for more than a decade now, is gaining maturity and becoming the main policy framework for dealing with poverty and providing social protection to the rural poor (FDRE, 2014, 20016). The PSNP has undergone a lot of improvements both with the deficiencies in implementation and its program components. With the introduction of each new phase of the program, lessons learned from the previous ones are used to its improvement(GoFDRE, 2016). The current phase, the 4th PSNP, has introduced a lot of changes. Inclusion of new actors, such as MoLSA, integration of the program with other policies such as the policy of Climate Resilient Green Economy, Policy of Social Protection, Policy of Disaster Risk Management and National Nutrition Program are the major ones of the changes in the program. The Goal of the PSNP also changed in a way that reflects the new program concept. According to the PSNP, report of EFY 2010, the goal is: *“Resilience to shocks and livelihoods enhancement and food security and nutrition improvement for rural households vulnerable to food insecurity”*(MoALR, 2018, p. 1)

The cash and food transfer is expected to enable households to acquire assets that increase their productive capacity. In addition to the direct financial and material benefit the program provides to households, it facilitates the utilization of social services like health and education by requiring pregnant and lactating mothers as well as school children attendance to health services and schools. They also improve the economic capability of the community as a whole by providing public goods like roads and environmental conservation services (GoFDRE, 2016). In its fourth phase the PSNP was planned to provide 7, 997, 218 clients in 349 *weredas* of Tigray, Amhara, Oromia, SNNPS, Harari, Dre Dewa, Afar and Somali Regions. Of these 6,870,104 are under public work while the remaining 1,127,114 are permanent direct support beneficiaries (MoALR, 2018).

The PSNP being an empowering program, except in some cases, is not a permanent assistance program. Beneficiaries of the program are expected to graduate as they are able to acquire the necessary wealth that enables them to be resilient to any shock. According to the program beneficiaries are expected to graduate from Productive safety net, from food insecurity and from poverty (Devereux & Ulrichs, 2015; MoARD, 2009). Data obtained from the ministry of Agriculture indicates that 3,673,397 customers are graduated from PSNP between 2008 and 2015. Of these graduates 30.56% are in Amhara Regional State. Our study *wereda*, Menz Gera Midir, is in this state.

1.2 Statement of the Problem

The Ethiopian productive safety net program, one of the largest social protection programs in the continent(Guush, Gilligan, Hoddinott, Kumar, & Alemayehu, 2014), is designed to protect people in chronically food insecure areas from the consequence of economic and environmental shocks(GoFDRE, 2016). The PSNP is modeled after a similar program in Bangladesh(Devereux & Ulrichs, 2015; Sengupta, 2013). This program aims at making very poor households resilient to such shock by helping them avoid selling their assets and gradually build more asset through transfer in the form of food and/or money. At the end beneficiary households will have enough resources that enable them to cope with any shock. That is when they are considered ready to exit the program(MoARD, 2009). Graduation is therefore the major component and objective of the program.

The PSNP is an evolving program. The practice in implementation and conceptualization of its theories has not yet stabilized. The principle and concept of graduation has been an issue of controversies, (Ulrichs & Martina, 2015) and its implementation across regions and over time widely varied (Gilligan, et al., 2009; Jeremy, et.al,2018). The conception of Donors, Government, and actors in Federal, State, *Woreda* and *kebele* level as well as the beneficiaries have different conception and understanding about the meaning and purpose of graduation. As there are different actors so are there different experience with respect to the outcome of graduation (Devraux, et ea., 2014). This calls for a case by case study of the topic.

There are a lot of researches on PSNP of Ethiopia. Most of these researches are evaluative and focuses mainly on impact of the program on various aspect of the life of the beneficiaries like nutrition, asset building, environmental protection, livelihood, health and educations as well as private transfer. There are only few studies that directly dealt with the topic of graduations (Devereux & Ulrichs, 2015; Devraux, et al., 2014; Sengupta, 2013; Yibrah, 2013)The first of this study, (Sengupta, 2013) is based on a pilot program of graduation. This pilot program is a local project slightly different in content from the national model. It is implemented by a local NGO called Relief society of Tigray (REST) and Dedebit Credit and Saving Institution (DECSI). This qualitative study shows the pathway adopted to end food insecurity for the poorest of the poor in the pilot area and the challenges the implementing NGO faces.

Subsequent qualitative researches were carried out about the same time as the above. Devereux and Ulrichs, (2015) using qualitative methods set out to find out how Program beneficiaries, Government actors, the Donor Community, NGOs and other stakeholders view Graduation. This study revealed variation in perception of graduation and practice of its implementation. The other study,(Devraux et al., 2014), in which one of the authors is involved in, shared many of the findings of the first one and showed how graduation implementation varied over time and across places.

Quantitatively three researches, were carried out (Desalegn & Lerong, 2017; Hayalu, 2014; Yibrah, 2013). Two of these researches were done in different woredas of Tigray region while the third is in Babile Woreda of the Oromiya Region. All the three reasearches came up with different findings. They are all done in different agro-ecological zones which affects their findings. Moreover, all the studies are based on the previous phases of the program.

From all these studies we understand that graduation is understood by each actor differently depending on the agenda they have for it. The implication of this variability in practice and lack of unison on the principle of graduation offers a chance for continuous renegotiation and introduction of changes in the program components and structures. Such changes are evident in all phases the program has undergone (GoFDRE, 2016). The studies also revealed so much variation in operationalizing the graduation model. Political outlook, agro-ecological differences, capacity and other factors make it impossible for a uniform program

implementation. Therefore graduation, being unique and localized experience has to be studied on a case by case basis. In addition to that, three of the studies are done in Tigray) in Oromia, one study is done and some sample is included in another study.

Therefore this study is to be carried out in area that hasn't been so far studied, in a new program setup and new different agro-ecological zone.

1.3 Objective of the study

1.3.1 General objective

The general objective of this study is to explain the factors that affect graduation from safety net program in the study area.

1.3.2 Specific Objectives

The specific objective of this study is:

- to identify determinant variables that influence graduation by households,
- to explore how sustainable graduation is,
- to describe what role institutions have on graduation,

1.4 Scope of the study

The scope of this study is limited to the study of graduation in Menz Gera Midir Wereda in the past 5 years. The time period was selected with a view to include participants from both current and previous phase of the program. This is important because the current phase of the program has a lot of changes in it and it is possible to see if it has any effect on the graduation outcome.

1.5 Significance of the study

This study can be used by other researchers both in focusing their studies and comparing their own findings. It can also be used by the *woreda*, as this study can show the realities in the ground and thus, help *woreda* level program implementers to improve their practice. The research can also be used by policy makers as the accumulation of cases can help state and federal government policy makers generalize on the problem of the program.

1.6 Limitation of the study

There are three ecological zones in the study wereda, namely, wurch (Alpine), Dega (temperate) and weina Dega (subtropical). Though the kebelles are selected on the basis of their predominant Agro-ecology, it cannot be said that the data is collected from each kebele is not from one agro-ecology as intended. Therefore it has the limitation in incorporating enough respondents from Weina Dega.

1.7 Definition of terms

Productive Safety net Program: is a social protection program in which the government transfers food/money directly or as public work wage to chronically food insecure households.

Graduation: graduation is a stage in the program implementation where participants of PSNP officially exit the program by finding themselves in a position where they don't need the benefit the Program offers.

Social protection: social protection is a set of government policies designed to reduce risks to the health, life and livelihood of households.

Promotion: is a policy direction where in PSNP participants are encouraged to attain self-sufficiency and exit program.

Targeting: refers to selection of Participants for PSNP. It is a policy which shows who gets priority in becoming part of this program.

2 Literature Review

2.1 Review of the conceptual foundation of PSNP

2.1.1 Review of the Concept of Social Protection

An early work (Devereux & Sabates-Wheeler, 2004, p. i) defined social protection as:

“all public and private initiatives that provide income or consumption transfer to the poor, protect the vulnerable against livelihood risks and enhance the social status and the right of the marginalized with the overall objective of reducing the economic and social vulnerability of poor, vulnerable and marginalized group”
(Norton, Conway, & Foster, 2001)

For Norton Conway & Foster, (2001, p. 7) “Social protection refers to the public actions taken in response to levels of vulnerability, risk and deprivation which are deemed socially unacceptable within a given polity or society”. Therefore, social protection is a policy tool put in place to deal with absolute poverty and vulnerabilities of the poorest and also insecurity of the non-poor in times of shocks and other demands of life. There are two ways of achieving this objectives: the first is through social assistance where the poor/ vulnerable receives transfer in cash or in-kind payment. The second is social insurance where beneficiaries are expected to contribute to a fund from which they are payed in the event of shock or crisis to re-instate them in their previous status.

Devereux & Sabates-wheeler, advanced a conceptual fame work for social protection (2004) . This framework composes four functions. These are, a) protective functions which provides relief from deprivation, b) preventive functions which aims at averting deprivation, c) primitive

function, which aims at enhancing income and capabilities and finally d) transformative function which brings social equity, inclusion, empowerment and right.

As varied as the objective of the social protection functions and their objectives so are the specific programs and interventions put forth under the generic concept of social protection. Some programs are launched to provide citizens relief from economic and other shock, others to develop human capital, still others to reduce poverty and vulnerability as well as to empower women and other marginalized groups. However, not all intervention fall cleanly in one or the other categories as a specific intervention usually have overlapping objective and effects. Such is the case with the Ethiopian version of social protection, PSNP, as will be discussed later.

2.1.2 Social protection in Ethiopia

Ethiopia is a country with predominantly rural population and agrarian economy. Agriculture takes the greatest share of the country's GDP, constitute major source of employment and export. Because of this the country's economic development policy remained centered on Agriculture and the rural area. ADLI, Agricultural Led Industrialization therefore came out as the naturally justified development strategy. The emphasis on agriculture and the rural area as the main focus of development is that agriculture, has great potential for creating linkage, creates surplus capital for investment, and provides raw material for industry and has potential for market creation(Tada, 2001).

However this development endeavor was not without challenges. Economic shock precipitated by drought, soil degradation, land tenure system, and other problems plagued the rural economy and livelihood (MoFED, 2010; Tada, 2001; Ayele & Husain, 2015). Despite effort by government and other actors to alleviate poverty and protect the vulnerable, rural poverty and food insecurity persists leaving millions in dire need of assistance for sustenance. Because of recurrent drought, which now occurs annually, and consequent livelihood losses millions of people live in annual relief. In 2003 the number of relief recipient increased to 13.2 million from what were 2.1 million in 1996(Guush et al., 2014).

The mounting problem of food insecurity and besieging need for relief which could not be met with hitherto policy of annual appeal for relief, forced government to accept the necessity to install a social protection policy (Hoddinott, Berhane, Gilligan, Kumar, & Alemayehu, 2012) in 2005. According to the program implementation (GoFDRE, 2016), the 2002/3 drought induced a deliberation that give birth to the productive safety net program /PSNP/. Apparently it was necessary to “break the cycle of emergency appeals” that did little to save asset and comprehensively address food insecurity in the country, though it did save lives. Safety net had already gained popularity Latin American countries, (Porter & Goyal, 2016), and therefore was a natural choice for Ethiopia. The program is at the heart of the social protection and food security policy of the country, so much so that the recently promulgated social protection Policy (GEFDR, 2014), maintains it as number one policy measure and strategy.

2.1.3 The productive safety net program

The theoretical background for safety net and its consequent design, according to Hanna & Karlan, (2017), is based on four concepts . The first is the concept of socially optimal utility which recognize the fact that marginal utility is higher for the poor. This theory underlies the distributive kind of program design. The distributive program typically target the poor. Though there is the possibility for economic growth depending on the amount of transfer, the primary purpose of distributive safety net is to limit poverty and improve living condition for the most poor.

The second reason for safety net is absence of insurance market, traditional or otherwise. The poor has many risks such as loss of agricultural products, unexpected medical expenses, or drought. In such cases households may not be able to borrow to smooth consumption or when they can, it is often with long term cost like pulling children out of school or loss of asset. Therefore the safety net program comes in to help households to smooth income shocks.

The third reason for safety net is the existence of what the authors call behavioral or bargaining constraints that lead house hold choice and decision that keeps the family in poverty. This occurs when the household unable to resist temptation to spend money on trivial goods and miss the opportunity for investment and when intra household bargaining result in poor outcome for

the benefit of the household especially for children and women. In such situation, instead of making transfer in cash payment is given in kind to women to increase their bargaining power.

The fourth reason for safety net is market failure that makes it impossible for asset accumulation. Asset building is important for households because it will increase their income, giving them freedom from the need for consumption transfer. Productive asset transfer, provision of training and information is therefore necessary to enable them to make sound investment decisions. Also in the absence of long term saving and credit service especially pension savings safety net program can play in building the service to ensure consumption capability of the old.

(Gilligan, Hoddinott, & Alemayehu, 2009) Argues that in rural areas of Africa exists entrenched market failure of credit and insurance. Farmers, according to them are liquidity constrained and risk averse. For these two reasons they are unable, for example to buy fertilizer or invest in new seeds. The safety net program therefore can provide them with the necessary income that enables them to overcome both kind of market failure.

The PSNP according to the PIM, has the objective to enhance resilience to shocks and livelihoods, and improve food security and nutrition, for rural households vulnerable to food insecurity. Since the program has its origin as response to shock created by one of the major droughts in Ethiopia, the productive safety net was introduced to protect vulnerable households from depleting their asset (Bishop & Hilhorst, 2010). The program has two components, public work and direct transfer components. All able bodied households and beneficiaries are supposed to provide labor service to a public work planned by the *wereda* administration which also meant to help build community asset. Other vulnerable people, about 15% of the total beneficiaries, like the old, orphans, lactating mothers, malnourished children and people with disabilities receive direct cash transfer. For PW participant transfer is made either in cash or food (GoFDRE, 2016).

2.1.4 Other food security program

Other food security program /OFSP/ is a collective name for series of food security activities that were implemented along with the PSNP (Guush et al., 2014)The OFSP works

complimentarily with the PSNP as the former help households to increase income from farm and non-farm activities and thereby build asset while the PSNP close the gap in consumption created by income shock. The services given under the OFSP include, provision of seeds, tools, agricultural input, credit services, livestock, shots, bees, soil conservation and water harvesting. The problem however was not widely used. The reason given for this is the limitation on the part of Agricultural Extension Workers DA's, as they do not have the capacity to make the necessary assistance.

The government of Ethiopia was also very worried about the PSNP creating dependency syndrome, keeping the farmers in poverty trap and obviously the budget burden (Sengupta, 2013). The OFSP was therefore a policy alternative aimed at providing PSNP participants the necessary asset and sustainable income that enables them to be free from the need of consumption transfer. This fear of dependency was very high that, at the beginning of the program, government officials are said to force PSNP beneficiaries to graduate without evidence that they meet the required criteria for graduation (Brown & Amdissa, 2006).

Later, in 2009, the limitations with OFSP led to policy deliberation of Donors and Government which resulted in substantial improvement of the program. The new program that resulted from this improvement is called Household Asset Building Program /HABP/. The HABP was deliberately made to target PSNP participant households. Under the HABP households have the option of receiving service in any of the 3 areas that were given at each *kebelle* - crop production, Animal husbandry and natural resource management. Each service is to be given by Development Agents DA's specialized in the field. Access to credit service is also facilitated for the PSNP beneficiaries through Micro Credit Associations and Rural Savings and Credit Associations.

Recent studies shows that PSNP beneficiaries that have access to OFSP/HABP have more success compared to that do not in all area of the program's outcomes (Guush et al., 2014; Hoddinott et al., 2012; Wendim, 2018; Porter & Goyal, 2016).

2.1.5 Graduation

Graduation in the context of PSNP is defined as the movement out of PSNP. the graduation according to the graduation guidance note (2009) has two stages: graduation from food security program and graduation from PSNP. According to this guidance not “a household is graduated when in the absence of of receiving PSNP transfers, it can meet its food needs for all 12 months and is able to withstand modest shocks.” The guidance not call this “food sufficiency”. However the definition is criticized for being not clear especially operationally as to what constitute modest shock and as to how to assess food sufficiency (Devereux & Ulrichs, 2015).

Graduation as described by Sengupta (2013), is an alternative solution to government run social protection programs that, though protect the poor, could not bring them out of poverty. Graduation is therefore a means for the poor to climb or “graduate” out of poverty, and as such it offers a mix of interventions. This it does according to the same author through its five building blocks: targeting, consumption stipend, savings, skill training and asset transfer. The purpose of targeting is to choose the most poor that needs to be pulled out of poverty. The selected households are given material asset for long term income together with consumption stipend to smooth consumption in the interim. Saving and credit service and financial and other trainings pertinent to the investment they are in are part of the graduation intervention.

The Ethiopian graduation is said to have been modelled in the likeness of a rather successful graduation program implemented in Bangladesh in 2000 by NGO called BRAC(Devraux, et al., 2014). The Ethiopian version of graduation, however, is more of an assessment tool that shows how much the food security program is succeeding rather than a separate program in its own right (ibid). BRAC’s graduation model is a program while the Ethiopian version is an outcome of the safety net program. Apparently, this inherent difference between the Ethiopian graduation model and that of BRAC and the latter’s ineffectiveness to bring program participants from poverty is the reason for introduction of pilot graduation projects in some part of the country (Sengupta, 2013).

In the conception of the Ethiopian safety net policy graduation is a gradual process involving graduation from PSNP when status of food sufficiency is achieved and from Food Security Program when food security is achieved (MoARD, 2009). For greater impact of the PSNP speedy achievement of graduation, a PSNP beneficiary is targeted for OFSP and other development program services. After graduation from the PSNP, households are encouraged to continue receiving the service of OFSP until they achieve food security. This is because PSNP is only for smoothing consumption and protect households from falling

deep in to poverty, therefore, not expected to make households become food secure. The OFSP on the other hand meant to help households build asset and ultimately fend off food insecurity.

A recent study, (Devereux & Ulrichs, 2015) poses a question, “should graduation be the objective of social protection?”. The authors were led to raise the question because of the debate among scholars and actors about the objective of social protection. For some social protection should be transformative, and thus empower beneficiaries to create their own income through manpower and asset investment. For others the purpose of social protection is to protect the basic level of consumption for the poor. Others think that it is both. The graduation concept according to these authors, is ingrained in the transformative concept of social protection and its proponents argue for it saying social protection programs like the safety net creates dependency and thus perpetuate poverty. They also argue that the program creates budget constraints for government rendering the program unsustainable.

2.2 Review of Empirical Studies

The productive safety net is one of the areas with abundant studies. This is not surprising in view of the fact that the program has been around for over a decade now. Most of the studies, as can be expected, concerned themselves on impacts of the program. There are few studies on graduation from the program.

2.2.1 Studies on Impact of the program

Guush et al., (2014) sought to see if social protection, the safety net program aims to offer, can have any impact in improving the life of beneficiaries. They carried out the research using difference in difference method to estimate the impact. Their finding indicate that beneficiaries of PSNP show significant improvement, compared to non-beneficiaries, in attaining food security. Households that were in the PSNP have improved their food security status by 1.29 months and their Tropical Livestock Unit by .38 unit. Those households who use OFSP/HABP, along with PSNP, achieved even better results-increased food security by 1.505 months and TLU by .99 unit.

A similar study by Porter & Goyal, (2016) looked in to the impact of PSNP on child nutrition. They find that PSNP has a positive significant impact on children growth for all age groups: 3-5, 5-8 and 12-15. PDSP has the effect of increasing height for alder boys by 2.4 cm. They also

showed that children that has experienced deprivation exhibited remarkable improvement, a 3.5 cm growth. This indicates that children that suffer from periods of food insecurity can respond to such program and catch up.

Another important study by Béné et al., (2012) investigated shocks and the PSNP. The researchers found that drought, crop losses, sickness of family member, high price of input and livestock losses are predominant causes of shock in Ethiopia. According to this study, faced with shocks, households respond by reducing food consumption (70%), reducing expenditure for non-food items (40%) and sell of livestock (29%). This result indicates households care not to lose their assets. No one responded to sell of tools. The finding shows that PSNP reduces the adverse effect shocks for households. However, PSNP does not altogether protect households from shock.

Another important study by Hoddinott et al., (2012) presented the impact of productive safety net and related program on agricultural productivity. One of the objectives of this study is to measure change in yield of major cereals- wheat, burly and maize. The other objective is to measure change in area of land put to cultivation, and third is to measure change in amount of investment in fencing, fertilizer, and water harvesting. The finding shows that for households who are in PSNP alone, the amount of yield showed decline. For beneficiaries of PSNP and OFSP/HABP there is an increase in yield but not statistically significant. For the second objective, change in area of land cultivated, no clear pattern was discerned. They also found PSNP alone has no effect on agricultural use and limited effect on investment, (on fencing only). The use of PSNP and OFSP/HABP on the other hand improved agricultural input use and investment.

All these studies have implication for graduation because graduation is an outcome of PSNP and OFSP/HABP. The PSNP combined with the OFSP meant to make households resilient to shock and economically empowered. Impact analysis shows how successful the program is and how much households are ready for graduation.

2.2.2 Studies on graduation from food security

Researches on the issue of graduation from PSNP are limited. The few there are, however, are very important in helping us learn about challenges of graduation, determinants of graduation, current debate on the very purpose of graduation as objective of PSNP, variation across regions in implementation and procedure of graduation and so on.

Devraux, et al., (2014) studied 8 communities in 4 *weredas* and 2 regional states. The study identifies what they call graduation enablers and constraints. They categorized constraints and enablers in to program specific, beneficiary specific, market specific, and location specific and environmental specific. The enablers and constraints are factors that determine graduation from both the PSNP and food security program.

Program specific enablers by the study include increased size of loan package of loans provided through HABP, increased wage rate for PW, application of full family targeting, timely release of risk funds, timely payment of wages, availability of irrigation, and adequate bench mark for graduation 30,000 birr. Some of the enablers are also identified by other respondents as constraints. Inadequacy of the wage rate to achieve graduation, modality of payment in cash which is too small to buy food in view of high price of food items, the difficulty to attain the graduation benchmark, disparity of benchmark and wage rates application in different localities are program specific constraints.

Beneficiary specific enablers and constraints: the characteristics of program participants determine graduation outcome. Such characteristics as education level, family size and composition, and household asset. Apart from that attitude of beneficiary households towards graduation is important factor. Some are said to want to continue in the program indefinitely while others especially female household heads prefer to avoid the laborious work of PSNP and graduate to do their own business.

Market based enablers and constraints: for households involved in investment by taking loan, the existence output and input determines the success of their endeavour. For some relatively well of households market price of goods is an enabling factor for graduations as they are able to sell livestock they fattened or crops they produced. Market price is a constraint for the most

poor who has to pay a lot for food. For others the high price of agricultural products is meaningless because they are buying other products like cloths for children even at higher price.

Climate specific enablers are related to PW programs carried out to mitigate environmental risks. Irrigation is one are affected by climate. Construction of new dams, promotion water pump that enable the use of irrigation, as well as community works like terracing to prevent soil erosion are enablers for graduation. Erratic rainfall. Hailstorm and similar hazards, deforestation and absence of irrigation in some areas are constraints.

Another research by Sengupta, (2013) investigated a graduation pilot program carried out in Tigray using qualitative method. The study reveal that the pilot graduation program implemented by an NGO was largely a success. The reason it succeeded is it was focused intervention in which asset is transferred to targeted households based on their choice of livelihood together with training on business and financial management as well as credit and saving services. There was different success rate among beneficiaries, however. In fact there were “fast climbers”, “medium climbers” and “slow climbers”.

Those beneficiaries especially the young and educated who do not have land were involved in non-farm activities and showed remarkable success because the program matched their ability, skill and energy. In the case of medium and slow climbers, the problem was the rather standardized implementation of the program which failed to account special constraints of some beneficiaries like landless, uneducated and elderly.

Yet another study carried out in Tigray, (Yibrah, 2013), sought see which factors determine graduation using logistic regression model. The study identified 15 variables as determinants of graduation from PSNP. Such variables include, access to credit, literacy level of the household, existence of irrigable land, age of the household, follow up by NGO's. sex of the household, the program span, use of access to other program, number of female adult in the HH, number of male adult in the HH, Ln of land holding, involvement on petty trading, saving experience, total production, family size and livestock holding. Of these only 10 were found statistically significant. Ln of land holding, age of HH, sex of HH, adult female and total production are variables that are found insignificant.

2.3 Conceptual framework of the study

Graduation can be constrained and enhanced by a number of factors. Some authors in the field, for example Daidone et al., 2015; Devraux, et al., 2014) categorized them into several “typologies” these are program specific factors, beneficiary specific factors, market specific factors and environment specific factors. Devereux & Ulrichs, (2015), modified the framework of Devraux, et al., (2014) wherein they substitute community specific factors for political specific factors. For the purpose of this study, the above categorization seems to work very fine.

Within the categories specific variables, as will be discussed in detail in the next chapter, are shown in figure 1

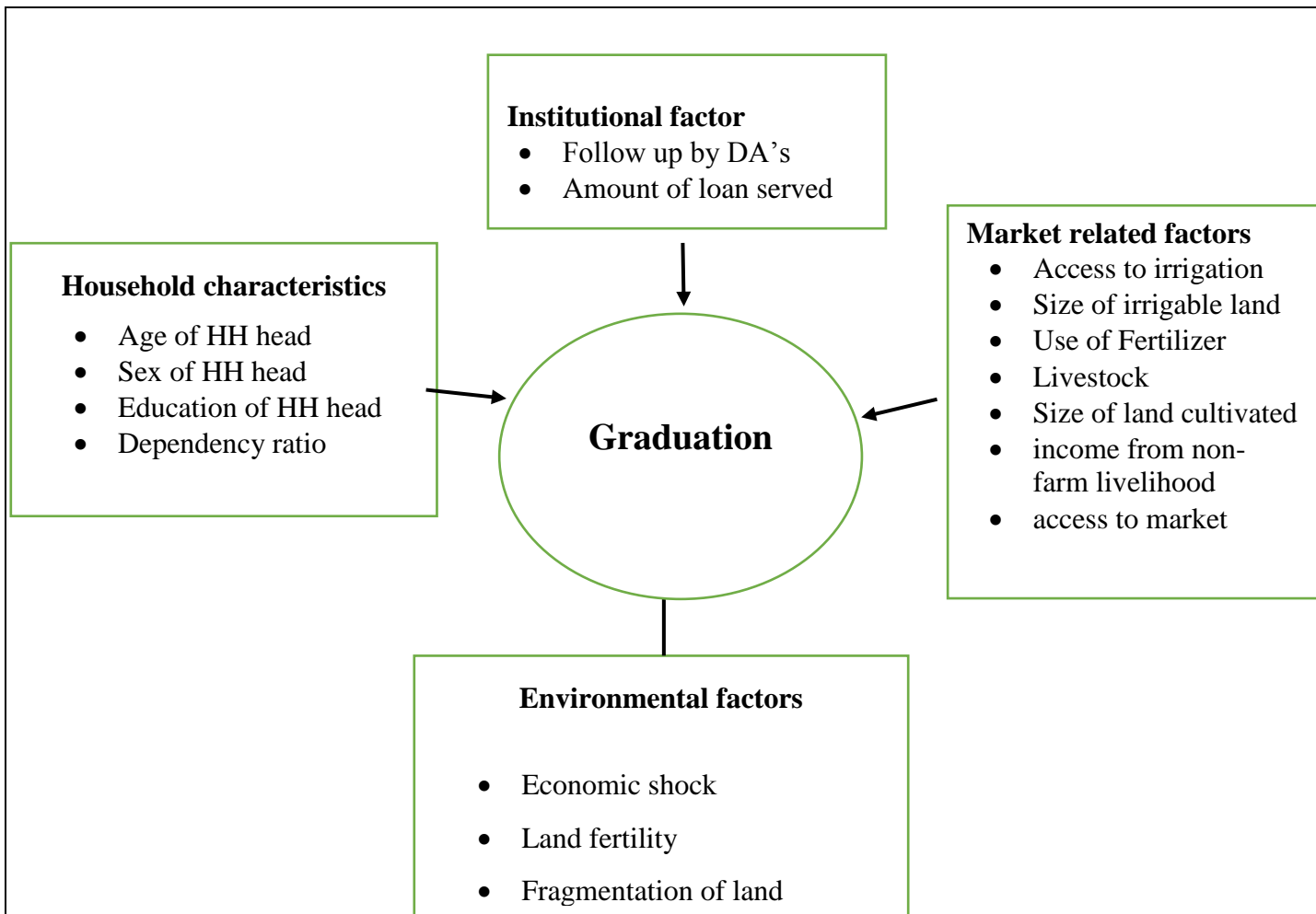


Figure 1. Conceptual frame work

Source: Adapted from (HAYALU, 2014 : p 30)

3 Chapter three: Methodology

3.1 Description of the study area

The study area, Menz Gera Midir *Woreda* is situated in North Shewa Zone of The Amhara Regional State. Gera Midir is part of a vast area of land in the eastern escarpment of the northern mountain, called Menz. Menz is now divided in to five *Woredas*: Gshe Rabel, Menz Keya, Menz Gera, Menz Lalo and Menz Mama *woredas*. Being a watershed to the two Major rivers of Ethiopia, Abay and Awash, Menz is an environmentally degraded place with highly eroded and thus unproductive soil (Ayele & Husain, 2015). It is not surprising therefore, the

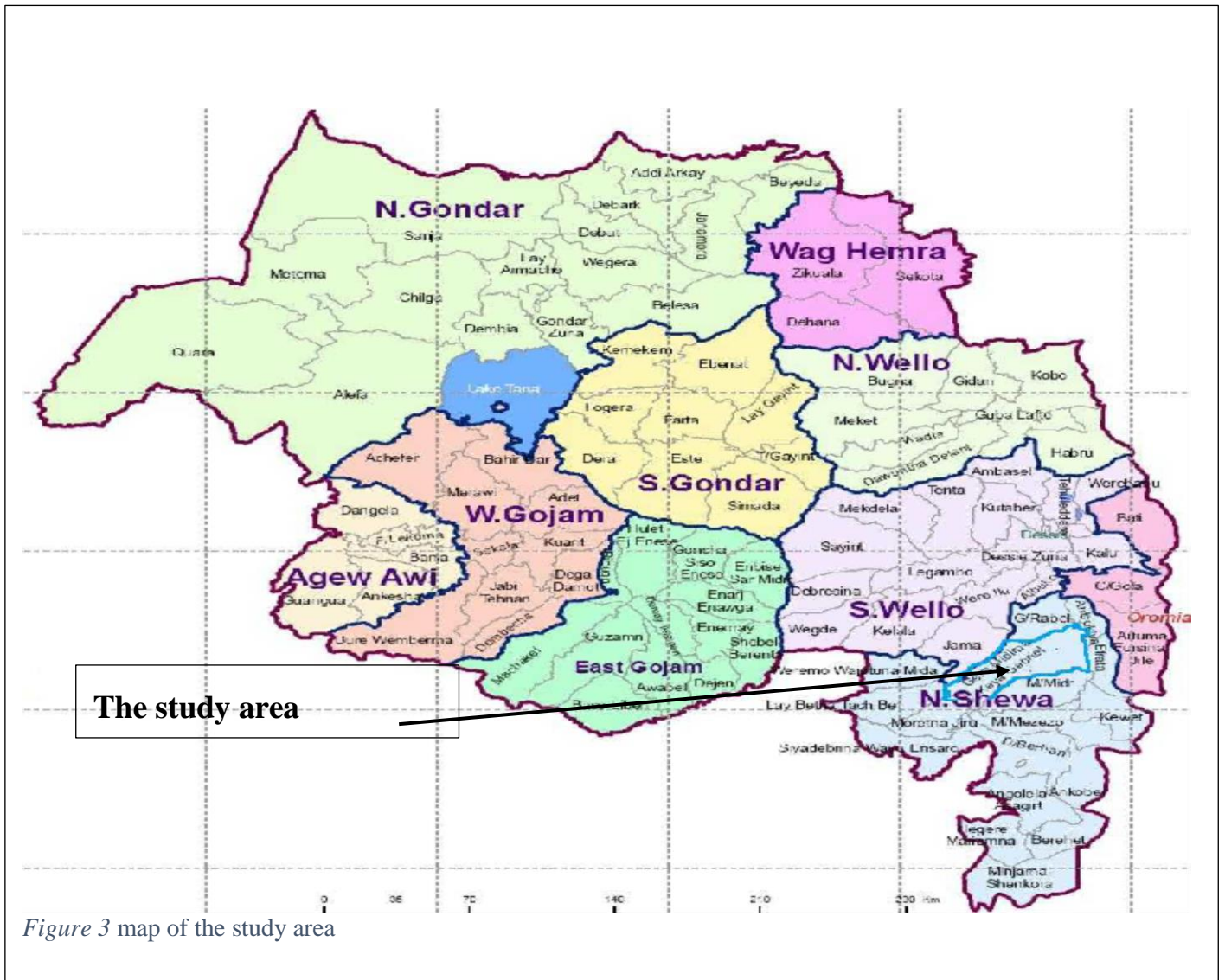


Figure 3 map of the study area

five of the seven *woredas* under the PSNP in North Shewa are from Menz.

The geographical location of Gera-Midir *Wereda* lies between 10°00' N to 10°34'N and 39°17'E to 39°43'E (Ayele & Husain, 2015). There are, according to this paper, four agro-ecological zones in the *wereda*; these are Alphine (wurch), temperate (dega), sub-tropical (weina dega) and kolla (tropical). It has a bimodal rainfall model with unpredictable patterns. The rainy season usually runs from June to August. Annual rainfall ranges from 700mm to 1100mm. The mean annual temperature of the area is 12.3°C. The District comprises 22 *Kebelle administrations* (KAs), having 2 urban *Kebelles* and 20 rural KAs. The total population of the District is estimated to be 112,670 in the year 2010. The total area of the District is 1105.55 km². The average population density of that year was 101p/km² of land.

3.2 Research design

The research design employed for this study is a mixed method research design. The mixed method research design combines qualitative and quantitative research methods. A mixed method design, having drawn up on the strength of both methods is more powerful than either methods (Creswell, 2003). In this study mixed method research design is selected for two reasons. The first reason is related to the objective of the study. This study includes research questions that employ both qualitative and quantitative methods for collecting and analyzing data. The second reason is, even these research questions that requires predominantly one or the other of these methods can benefit from a little mixture of both. Therefore the quantitative data was checked against by qualitative data gathered by key informant interviews. The quantitative data is predominantly used.

3.3 Data sources

Both primary and secondary data was used for this study. The secondary was obtained from the concerned public offices. Reports, guidelines, program implementation procedures, data of program beneficiaries, and other relevant records such as loan disbursement, in the food security coordination offices from the federal government down to the *kebelles* were collected and incorporated in the study. Other documents like previous studies and program assessment and evaluations are another sources of secondary data.

The primary data was also collected by the student researcher. The data was collected mainly from the program beneficiaries using questionnaires. Qualitative data was also collected from both program participants and program coordinating officers and experts in the *woreda* and *kebelles* using semi-structured interview questions.

3.4 Data collection Instruments

Two data collection instruments, interview questions and survey questionnaire, were employed for collecting the necessary data for this study. The questionnaire is the main instrument for collecting the quantitative data. For the qualitative data the semi structured interviews was used.

3.5 Sampling Design and procedure

Non probability sampling design was used for this study. Both the *woreda* and the *kebelles* were selected purposely based on the number of participants and graduates from the program. From the data obtained from North Shewa Zone Food Security Coordination office, nearly half of the participants of the seven *weredas* are in Gera Midir Wereda. Because of that, the *woreda* is selected for this study. From the *woreda* sample *kebelles* were selected using similar criteria. And from the *kebelles*, a total of 382 participants were selected. Of these 280 households were to be from non-graduateds while the remaining 102 were to be from graduated households. 390 questionnaires were distributed and 12 questionnaires failed to be returned or discarded for not being correctly filled. Therefor the actual questionnaire returned is 378- 279 non-graduated and 99 graduated.

Sample	Sampling technique	Reason for the technique	Sample size
<i>Wereda</i>	Purposive	To select <i>Wereda</i> with high number of beneficiaries	1
<i>Kebeles</i>	Cluster sampling	To include all agro ecological zones	4
<i>Households</i>	Stratified sampling	Equal representation of graduates and non-graduates	378
<i>Kebele , woreda and community level officials and experts</i>	Purposive sampling	To select experts and officials with intimate knowledge of the program and its implementation	9

For the qualitative data interviewees were selected from food security program coordination offices in the woreda and *kebelles*, community organizations like Community Food Security Task Force both at *kebelle and wereda* level, *Kebelle Appeals Committee (KAC)*, village saving and loan association (VSLA) and similar others. The qualitative data was collected from program participants is through the questionnaires in the form of open ended close ended questions.

To determine the sample size for households, the sample size determination formula described by (Kothari, 2004, pp. 77–78) was used

$$n = \frac{z^2 \cdot N \cdot \sigma_p^2}{(N - 1)e^2 + z^2 \cdot N \cdot \sigma_p^2}$$

Where:

N= size of population

n = size of sample

σ_p^2 = standard deviation of the population

e^2 = acceptable error

z^2 = standard variate at a given confidence level

According to a data obtained from North Shewa Zone Food Security Coordination Office, there are 52, 528 beneficiaries in Gera Midir Wereda in 2011. On the other hand between 2005 and 2010, 13,663 beneficiaries were graduated. Applying the above given formula, and using 95% confidence interval, 5 % of acceptable error, and 64, 191 graduated and non-graduate beneficiary households, we obtain the following sample size :

$$n = \frac{z^2 \cdot N \cdot \sigma_p^2}{(N - 1)e^2 + z^2 \cdot N \cdot \sigma_p^2}$$

$$n = \frac{(1.96)^2 \cdot (64191) \cdot (.5)^2}{(64191-1)(0.05)^2 + (1.96)^2 \cdot (64191) \cdot .5^2}$$

$$n = \frac{61649.0364}{161.4354} = 382$$

382 households is therefore the size of the sample.

3.6 Method of Data analysis

3.6.1 Analysis of Quantitative data:

The analysis of the quantitative data is carried out using statistical analysis program, STATA. The data was analyzed using both descriptive statistics and inferential statistics. Descriptive statistics such as mean and frequency and variance was used. Chi square test was performed to determine the association of the string independent variables while t-test is used for the continuous variables.

For econometrics analysis logit model was used. The logit model is appropriate for this study because the independent variable have two outcome- graduated (1) and non-graduated (0). The dependent variable, graduation status, is a dichotomous variable of nominal values of 1= graduated and 0= not graduated. The explanatory variables are given in the next section. Log odd of the logistic output is used to interpret the result.

The model specification:

$$\frac{p(\text{graduated}=1)}{p(\text{non-graduated}=0)} = \beta_0 + \beta_1 \text{hhage} + \beta_2 \text{hhsex} + \beta_3 \text{numdep} + \beta_4 \dots + e$$

3.6.2 Definition and hypothesis of variables

Sex of HH - Sex of household head is a nominal variable (1 = male, 2= female)). According to (Desalegn & Lerong, 2017) male headed households has better likelihood of graduation compared to that of female headed households.

Age of Household (AGE): age is a continuous explanatory variable. As age of the household head increases, it is assumed that beneficiary could acquire more knowledge and experience.

Nevertheless, there are other studies, for example, (Addisu, 2015) that shows decline of productive efficiency with increasing ages. Therefore, the expected sign of age cannot be determined.

Dependency Ratio (Dependency ratio): is continuous variable and defined as ratio of dependents to productive or active labor force of the household. It is hypothesized that as the number of dependents increases the likelihood of graduation will decrease.

Education (Education): It is a continuous variable measured in a number of years a household head has been in school. Education assumed to have a positive relationship with graduation because as a household head progressed from illiteracy to formal education, and higher class within it, the likelihood of them achieving graduation status increases.

Size of cultivated land: This variable is defined as the size of land put to cultivation and measured by hectare. It is the sum of areas of land owned and area of land acquired through rental or sharecropping methods. The more land households cultivate the higher the probability of their graduation. Therefore this variable is expected to have a positive relationship with graduation.

Livestock ownership (TLU): it is a continuous variable and measured in TLU (tropical livestock unit). Household's livestock ownership for a household in PSNP is considered to have a positive relationship with graduation. According to Guush et al.,(2014, p. 16) household heads that have more livestock have the likelihood to be food self-sufficient and thus graduate from PSNP.

Irrigable land (IRRILAND): is a continuous variable and refers to the size of irrigable land households own. It is expected that beneficiaries with larger tracts of land have more likelihood to graduate. Berhane et al (2013) finds access to irrigation as significant factor affecting productivity and food self-sufficiency. This may mean household with access to irrigation graduate sooner however mere access may not be enough and size of land with irrigation access matters. That is why we choose size over access.

Application of fertilizer: it is a demi variable where yes= 1 and no=0. Households that apply fertilizer are more likely to graduate than household that do not.

Application of improved seed: is likewise a dummy variable and yes=1 and no=0. This variable is expected to have a positive relationship with dependent variable.

Land fragmentation: refers to distance between plots of land households own or cultivate. It is measured with a Likert scale of measurement where 1=high fragmentation, 2= medium level of fragmentation and 3= low level of fragmentation. This variable is hypothesized to have positive relationship with the dependent variable, i.e. as one goes from 1 to three, the likelihood of graduation increases.

Access to HABP: is a dummy variable where 1=yes and no=0. The HABP is a program designed to help households build asset. The program implementation manual instructs program implementers to prioritize Safety Net program beneficiaries to be prioritized and the assumption is that double benefit from both program will speed up their self-sufficiency and resilience. That means they will graduate sooner.

Training: households receiving any training, as per the OFSP/HABP, related to business management, financial management, marketing, time management or communication is said to have great impact on the likelihood of the beneficiaries graduating from safety net program.(Sengupta, 2013).

Loan amount: is a continuous variable measured in birr. This variable is chosen over access to credit. Though some researches, Desalegn & Lerong, (2017) for example, show that access to credit is a significant determinant of graduation, we opted to the loan amount because there are researches that indicate access to credit can be a problem instead of opportunities by leaving beneficiaries indebted (Sengupta, 2013). Another study, Devereux & Ulrichs, (2015), suggested that increased amount of money available for credit service is imperative for success in in graduation. An increase in credit money available increases the likelihood of household's graduation.

Follow Up by Development Agents (Follow up): follow up is dummy variable (1= for households with access to follow up by DAs, 0=otherwise). Devereux and Abates (2011) indicates follow up by development agents enhance the likelihood of graduation from PSNP.

Economic shocks: refers to occurrence of natural calamities particularly of drought. It is dummy variable (1= if shocks occur, 0=otherwise). It is hypothesized that households vulnerable to shock have low likelihood of graduation.

Income from non-farm occupation: is a continuous variable measured in Birr. It is for those households who have other occupation and it asks the amount of money they earn as a result of this occupation. It is believed that the more household increase their income, the more likely they are to graduate early. Income from other occupation is therefore, positively related variable.

Distance from market: is a continuous variable measured in km. According to Devraux, et al., (2014) market is an enabling condition that facilitate graduation if market is close by to safety net beneficiaries.

3.6.3 Analysis of qualitative data

The qualitative data analysis collected from key informants using semi-structured interview questions and observation notes will be organized based on pre-set themes. The data, thus organized, will then be presented in using narrative method of presentation.

4 Chapter four result and discussions

4.1 Introduction

This section presents determinants for graduation from safety net program in the study area which is pulled out from econometric analysis results (i.e. binary logistic regression model). The section is subdivided into three parts. In the first part, brief summary of bivariate analysis results of demographic, socio-economic, ecological and institutional variables will be presented. The second part deals with model specification and estimation procedure in addition to explanation given on the on the definition and expectation of the hypothesized variable. The third section will provide discussion on identified determinants of graduation from the safety net program on of the study area.

4.2 Determinants of graduation

4.2.1 Summary statistics of the major variables

Under this section, bivariate statistical methods of analysis mainly t-test and chi-square were used to investigate the difference in mean for the categories of continuous dependent variables and association of various sets of continuous and discrete variables related to sample households graduation status. In this regard, non-graduated households and graduated households differ with respect to some demographic, socio-economic and ecological conditions. The detailed result of the means of the continuous variables and scores of discrete variables are given in table 1 and 2 below.

Table 1. Tabulation of graduation status of households

Graduation status of HHs	Freq.	Percent	Cum
non-graduate	280	73.68	73.68
Graduate	100	26.32	100
Total	380	100	

Source: survey result

Table 1. Shows that a little less than a third of the households graduated from safety net program. It reflects the sampling procedure employed in this study. Since graduated households are one third of the non-graduated households, the sample size has to reflect that proportion to insure representation of the two groups.

Summary of Continues variables

Table 2 cross-tabulation of continuous independent variables with the dependent variable

		Age	hhsiz	Depratio	cultivated	tlu_aft	loan_a~t	nofainc
Graduate	N	279	277	277	280	279	279	278
	Mean	45.25						
	Standard deviation	448	5.059	0.968336	.9104982	4.0487	3536	741.2
	maximum	0.60	1.463	0.868082	0.424932	0.3755	4575	1840
	Minimum	73	1	0	1	9.44	18000	10000
		25	9	4.5	3	0	0	0
Non-graduate	N	99	99	99	99	99	98	99
	Mean	43.93	4.9798	0.9687	1.1352	6.8361	6231	1970
	Standard deviation	0.273						
	maximum	1	1.3505	1.2701	1.1131	1.146	6703	2886
	minimum	70	10	4	2.5	17.481	25000	11000
	t-statistics	23	3	0	0.5	2.016	0	0
	0.2431	0.029**	0.492	0.000*	0.000***	0.000***	0.000***	

Source: survey result

*Significant at 10% level of significance, ** significant at 5% and *** at 1%.

The above table shows that the average age of graduated and non-graduated households are different by a value of 1.327 years. The t-test value of this test is 1.169 and the p-value of .02431 is way higher than the critical point .05. There for we do not have evidence to reject the null hypothesis that says there is no difference in mean age between graduated and non-graduated households. That means there is difference in mean age between graduated and non-graduated households.

The other two variables, *size of cultivated land* (the combination of land owned, rented and sharecropped) as well as household size are found significant with a p-value of 0.000 and 0.029, respectively, of t-test. Variability, as the standard deviation shows, is also greater in non-graduated households, by an amount of 0.035 hectare of land, compared to graduated households. Family size is also have some difference in the two groups of households. The average household size is greater in non-graduated households by approximately 40 persons in

every one-hundred households than in graduated households. Similarly the standard deviation indicate a household size difference of about 34 persons in one hundred families among non-graduate households. Family size is a significant indicator of the existence of mean difference between graduated and non-graduated households with a t-test significance point of 0.029.

The other three continuous variable tropical livestock, and non-farm income and loan-amount are also continuous variables that were tested for significance of predictor relationship with the dependent variable.

Tropical Livestock Unit (TLU) is a measure of household's animal wealth. The graph shows significant mean livestock unit difference between graduated and non-graduated households. Graduated households have on average 2.8 TLU more animals. As expected the variation in graduated households is greater than in non-graduated households by 0.029 unit. A 0.000 p-value for the t-test also indicate that there is significant difference in mean Livestock unit between the graduated and non-graduated groups of the dependent variable.

Amount of loan: amount of money households borrow from formal credit association is also another variable which the t- test confirmed to have significant difference between graduated and non-graduated households. The p-value for the t-test indicate 0.000 which is less than 1% and force us to reject the null hypothesis of no-difference. Average amount of money borrowed by non-graduate and graduate households differ by an amount of birr, 1228 in favor of the latter. In addition to that variability in both group of households very high with 4575 in non-graduated households and 6703 in graduated households.

Non-farm income is also another determinant that differentiates the two group of households. Non-graduated households earned nearly three times more than non-graduated households did from sources not directly related to their everyday livelihoods. Variability in the non-graduated households is also different. Standard deviation for non-farm income of graduated household's 1044 Br. more than that of non-graduated households. This difference must, therefore, have contributed to the significant association of the variable to graduation status of households. The t-test shows a 0.005 percent significance of relationship which implies that non-farm income is important predictor.

Summary of categorical variables

The other variables are categorical variables measured in either nominal scale or ordinal scale. Each variable as can be seen in the table below are tested for significance of association with the dependent variable.

Table 3 cross-tabulation of string variables with the dependent variables

Y		non-graduated		graduated	Percent	total	chi2
		N	percent	N			
Sex	Male	185	80.34188	76	19.65812	263	0.049
	Female	94	73.61478	23	26.38522	117	
DA assistance	missing	1	100	0	0	1	0.000
	not assistance	11	91.66667	1	8.333333	12	
	assisted	267	72.95082	98	27.04918	365	
Fertilizer	Missing	1	50	1	50	2	0.227
	User	33	97.05882	1	2.941176	34	
	Non-user	245	71.42857	98	28.57143	343	
Improved seeds	Missing	5	71.42857	2	28.57143	7	0.000
	Non-user	120	88.88889	15	11.11111	135	
	No	199	78.96825	53	21.03175	252	
	Yes	76	61.78862	47	38.21138	123	
Access to HAPB program	missing	1	100	0	0	1	NS
	No	162	73.63636	58	26.36364	220	
	Yes	117	73.58491	42	26.41509	159	
Training	missing	2	100	0	0	2	0.000
	No	134	91.15646	13	8.843537	147	
	Yes	144	62.33766	87	37.66234	231	
Degree of land fragmentation	High	107	93.85965	7	6.140351	114	NS
	midium	169	68.14516	79	31.85484	248	
	Low	4	22.22222	14	77.77778	18	

Source: survey result.

Sex refers to the gender of the household head. Of the 378 respondents 261 are male headed and ¹only 73 are female headed families. Given the fact that agriculture is a labor intensive

activity, female headed households, especially those without any adult male in the family, will find it difficult to get all the agricultural activities done. And this, it is assumed, determines their ability to graduate. Indeed the Pearson chi² test shows the relevance of this variable in explaining the dependent variable with a p-value of 0.049 which is significant with 0.05 level of significance.

Assistance from development agents (DA's): is yet another factor that determines farmers' productivity, and consequently their ability to graduate from the PSNP. However, DAs are now in the center of the program, being the secretary of the safety net task force and also coordinators of the public work. Also in this phase of the program safety net is made to serve as a tool to advance other socio economic policies like health education and agriculture development (GoFDRE, 2016). In view of that it seemed impossible for beneficiaries to refuse the service. Accordingly, only 12 respondents reply that they do not get DA assistance while the remaining 366 respondents say they get assistance from DA's. Apparently because of this lack of variability among respondents regarding this variable, the chi² test does not found significant association with the dependent variable.

Application of fertilizer: most of the respondents, 343 households, said they use fertilizer and the remaining 34 households said they do not use fertilizer. Of those who do not apply fertilizer, however, 97% are non-graduated households and only 2% are graduated. For this reason application of fertilizer to farm is found to have significant association with graduation. The p-value for the Pearson chi² test is 0.000 which is less than 1% of level of significance.

Improved seed though, the application of improved seed does not become the norm in the agricultural production process like fertilizer does, it still has considerable popularity among farmers. Of the total 380 respondents 135 households said they do not use improved seeds while the remaining 232 households use improved seed. Among those who do not use improved seeds 89 % belongs to the non-graduated while the graduated constitute only 11%. Among the users of improved seeds the proportion of application is 65% for non-graduated and 35% for graduate. Though it seemed that in both users and non-users the number of non-graduates are large, the proportion in the two groups has significant difference. This implies that application of

improved seeds has determinant effect on graduation. As it is, the chi2 test's p-value attests to this with 0.000 significance.

Shock can also be an important indicator of graduation. However in this particular study the variable's relationship to the dependent variable is not significant despite a 148 response of "no experience of shock" and 231 "yes" to the experience of shock. The percentage in both groups (that experienced and not experienced shocks) is proportional i.e. 75/25 in the shock-experienced and 73/26 in shock-non-experienced. This implies that shock does not have determinant relationship to the dependent variable. The reason for the insignificance of the variable is most shock households experience does not occur to isolated households. According to the DAs in the *wereda*, the main Cause of economic shock is related to extreme cold which result in crop loss like legumes. This affected all farmers. Others who are not affected by extreme cold are people in different agro-ecological zone and perhaps most experienced farmers who could foresee and avoid the peril.

Training: some researches, for example, (Sengupta, 2013) indicate that households who received important skill trainings did better than those who do not. Here also the Pearson chi2 result shows training as having a strong relationship to graduation. The p-value for this test is 0.000. According to the data, 231 households received trainings while those who do not receive and training are 147 households.

Access to HABP/OFSP: incidentally there is no OFSP in the *wereda*. According to the safety net program coordination office in the *wereda* the program has ceased to exist for 4 years now. There is however HABP and 159 people out of the 378 people said they are beneficiary of the program while 220 (58%) said they are not. The chi2 test of association for this variable is not significant.

Level of land fragmentation: land fragmentation can affect household productivity especially for those households that are scarce on labor. Sometimes households leave their crops ungraded in some remote place which some pests like birds and monkeys destroy a good deal of them. Among the 380 respondents 114 said that they have highly fragmented land while the majority 248 said they the level of their land fragmentation is medium while the remaining 18 had low

level of fragmentation. However the Pearson chi2 test shows that the data did not give us evidence that it has relationship with the dependent variable.

Level of land fertility: land fertility is another variable which the Pearson chi2 test does not find significant. The reason probably is almost all (374) respondents have land with medium level of fertility, 1 respondent said it has high level of fertility while 5 respondents have low fertility land.

4.2.2 Estimate of determinants of graduation

Following the estimation of the model, necessary tests such as multi-collinearity association between independent variables was carried out. And to do that, the Variance Inflation Factor (VIF) test was applied. The value for VIF is 5.24 which indicate that there is no problem of multi-collinearity.

After the multi-collinearity test was run few variables that are found to have multi-collinearity relationship with other variables. 17 variables were selected to be included in the model. Thus having been tested for goodness-of fit the model was found to fit the data. The likelihood ratio test statistics exceeds the Chi-square critical value at less than 1% probability level. This implies that the hypothesis, which says all coefficients except the intercept is zero, was rejected. The value of Pearson Chi-square test shows the overall goodness of fit of the model at less than 1% probability level.

In another way the model can be tested for fitness using the classification statistics that categorizes in to 1 if the predicted value is equal to or greater than .5 and 0 otherwise. The model correctly predicted 86% of the 378 respondents in to graduated /sensitivity/ and non-graduated /specificity/ groups. The sensitivity and specificity group which the model correctly predicted are 67.35% and 92.7% respectively. It means that the model does predict graduated and non-graduated groups correctly.

The output for the logistic regression model employed to estimate the likelihood of parameters and the effect of the 17 selected independent variables on graduation outcome is presented in table 4. Of these variables 9 of them are found to have significant determinant relationship. Of

the total 9 significant variables, 3 variables are significant at 1%, 2 variables at 5% and 4 variables are at 10% level of significance. In terms of sign of relationship 3 variables are found to have negative relationship with graduations while the remaining 6 variables positively influenced graduation outcome.

Table 4. Logistic regression output table

Logistic regression	Number of obs	=	372
	LR chi2(17)	=	191.07
	Prob > chi2	=	0.000
Log likelihood = -118.96725	Pseudo R2	=	0.4454

graduated	Odds Ratio	Std. Err.	Z	P>z [95%]	Conf.	Inter-val]
Age of HH head	0.957	0.0189	-2.23	0.026**	0.928	0.995
Sex of HH heads	0.6277	0.2589	-1.13	0.259	0.280	1.409
HH size	0.7959	0.1045	-1.74	0.082*	0.615	1.030
Dependency ratio	0.7879	0.1725	-1.09	0.276	0.513	1.210
Education level	1.0883	0.0524	1.76	0.079*	0.990	1.196
Cultivated land	2.8014	1.243	2.32	0.020**	1.174	6.685
fertilizer	1.1271	0.319	0.42	0.672	0.647	1.963
Improved seed	1.2745	0.2592	1.19	0.233	0.856	1.899
fragmentation	0.9656	0.1599	-0.21	0.833	0.698	1.336
Irrigation size	0.8784	1.2825	-0.09	0.929	0.050	15.36
TLU	1.985	0.1956	6.96	0.000***	1.636	2.408
Loan amount	1.0001	4E-05	2.99	0.003***	1	1.000
DAs assistance	2.2159	3.1224	0.56	0.572	0.14	35.07
Shock	0.7698	0.1969	-1.02	0.306	0.466	1.271
Non-farm income	1.0001	7E-05	1.67	0.096*	1	1.000
HABP	0.6728	0.1426	-1.87	0.062*	0.444	1.019
Training	8.376941	4.108374	4.33	0.000***	3.203	21.91
_cons	0.018222	0.036135	-2.02	0.043	0.000	0.888

Note: *** significant at 1%, ** at 5%, and * at 10% critical points for significance.

Source: regression output of the survey data.

The influential variables, in the order of their significance are TLU, training, loan amount, cultivated land, age, HABP, education level, HH size and income from non-farm activities. The 3 negatively related to graduation are: Age, HH size, and access to HABP. It is worth noting

that the sign two of these variables namely age and HABP show is rather unexpected. Given this result, the possible explanation for each significant variable is given as follow:

Livestock: is positively related to graduation. A unit increase in TLU increases the odd of graduating likelihood from safety net program by a factor of two times (1.97). This result is statistically significant with p-value of 0.000. This implies that households with more animals are in a better position to graduate compared to other households who have less.

This finding is consistent with the financing of Yibrah, (2013) who separated out oxen from the other animals (TLU) and estimated both. He found both oxen and TLU variables to be significant. Hayalu, (2014) in contrast, found no significant relationship between Livestock with graduation. However the other qualitative researches (Devraux, et al., 2014; Sengupta, 2013) reported positive relationship between livestock asset and graduation from safety net program.

Training: Training to households in the safety net program is very important in their success to graduation. The *wereda*, according to informants in the agriculture department of the study *wereda* and *kebelles*, provide all sort of training households need as part of the household asset building program. Those who are involved in animal fattening, for example age given training on the kind of animal they have to by, their feed, how and when they sell, how to manage the money, etc. The data also confirms the importance of training. According to this model, household that are given the necessary skill training have the odd of graduation 8 times more than untrained households, with all other variables in this model held constant. The p-value for this variable is 0.000 which is significant at 0.01 level of significance.

The importance of training for graduation is also supported by other researches as well. Sengupta, (2013) for example quoted a respondent as saying,

“I think the point isn’t whether it’s a credit program or if it’s free [loan given through HABP] – it is the training that makes the difference. Training is very important. Even with a free asset, one can be lost without training”

OFSP/HABP: the productive safety net program envisages for households to be food secured and have strong asset base to enhance their resilience. The PIM, for this phase of the program, provided for safety net program beneficiaries to be prioritized in the various asset building programs and other food security programs. In the study *wereda* only HABP exists, however. Unfortunately the program has only negative relationship to graduation, the reason access to HABP has a negative relationship with graduation is because it is a program based on credit service, which is not free asset, in fact, according to Sabates- Wheeler & Devraux, (2013) it is an expensive service.

Sengupta, (2013) has documented a detailed account of vulnerable households who has been forced in to taking loans as part of the graduation path way adopted by program implementers. Her finding was that ended up losing the money and indebted. The reason for beneficiaries losing the money is attributed to high price of goods, high interest rate and inflexible payback period. Households that are tripped into debt by “access to credit” are therefore prone to depend on safety net money to pay for it. This intern undermine their progress to graduation.

During an interview with an expert in the study *wereda*, he recounted, not in an answer to question specifically related to this issue, an experience with OFSP which was operating in the *wereda*. The program disbursed a revolving fund in the form of loan to the most poor. But the beneficiaries spent the money and were unable to pay back, which rendered the program insolvent and liquidated in the *wereda* about 4 years ago. This is because households who receive credit for asset building rather spend the money on consumption, presumably to fill their food gap. They also use the money to pay for debts on fertilizer.

According to this model, therefore, in Gera Midir Wereda, households with access to HAPB have twice as much probability of remaining in the program compared to households that do not have access to HAPB. And the p-value for this result is 0.062 which is significant.

Size of land cultivated: is the total size of land households own or acquire (through rent or share cropping system). Size of land put to cultivation in this way, has a positive relation with graduation. Each additional hectare of land increases the probability of household’s graduation by an odd long value of 2.8, with a p-value of 0.05%, given all variable in the model are held

constant. This implies that the more households have land put to cultivation, they have increased likelihood to graduate.

Amount of loan served: The size of the loan acquired through formal credit, has strong positive relationship with graduation outcome. In Gera Midir Wereda, we found that an increase in the amount of loan served increase the odd of graduation by a factor of 1. This result is significant at p-value of 0.000. It is noted above that access to credit may not be that significant in positively influencing graduation. Increased amount of money for credit service on the other hand is an enabling condition that seed up household's graduation (Devraux, et al., 2014).

Level of education: Education status is continues variable measured by number of years of schooling HH heads get, in formal education. Apparently, the level of formal education one attains, helps them to improve their life. This is probably because education help households understand all technical advice they are given by DAs regarding the use of fertilizer, pesticide weedicide, soil conservation and the like. They can also take note of training sessions or meetings which they could refer as needed. Education also make them open to ideas and enable them to adopt new technology and to participate in new programs.

According to this data additional one year education increases the odd of graduating from safety net program by 96%, with significance level of 0.036, all other variables are held constant in this model.

Age of the household head: age transpired as another, though not so significant, determinant of graduation. The age of the household head seems to have a negative influence on graduation status of the household with p-value of 0.064. Thus an increase in the age of the household head reduces the odd of her/his ability to graduate by 96%, all other variables in this model held constant.

Non-farm income: in general households who have livelihood other than agriculture do not show any significant difference from farm only households. However income received from non-farm activities has, though not so strong, positive relation with graduation. An increase

each birr earned in non-agricultural activities like trade, increases the likelihood of the household graduating by a factor of 1 with p-value of 0.085.

Non-significant variables

There are other variables in this model which are not significant but expected to have been. Such variable include, to list the few, sex, access to irrigation, application of fertilizer, application of improved seed dependency-ratio as well as support from DAs. Why these variable are not significant, we cannot know for sure but can hypothesize and future researches will look in to them.

Access to Irrigation size: apart from access to irrigation size of irrigated land is not significant. The average land size that are irrigated, according to this survey, is 0.043 hectare. Because of that and limited usefulness of irrigation in general, its contribution to graduation is insignificant.

Distance form market: distance from market could have been a significant determinant. The reason it is not in this model is because of the sampling procedure followed. All the tree *kebelles* are made to have equal number of graduate and non-graduate. This lack of randomness could be the case for the lack of significance of the variable.

Assistance from DA's: other researchers (Sengupta, 2013; Yibrah, 2013) found this variable to be important determinant. The reason it is not significant in this wereda may be has to do with the organization of the program. Households, especially in the PSNP, are not at liberty to refuse service from these development agents. This is because now (4th phase of PSNP) safety net is not only an independent program, but a means to achieving socio-economic objectives like education, health and agriculture. Therefore households can be coerced to comply with DA service. Secondly, the DA's are secretary to the safety net committee and coordinators of public works. They also approve payment because they have the register. All these can be the reason all households subscribe to DAs services.

4.3 Sustainability of graduation

Under this section is presented analysis of the post-graduation situation of households. The topic explores how far graduation is sustainable in the study the data used for analysis of this question is qualitative data collected mainly using key informant questions and to some extent secondary data. There are also data collected from 100 graduated households using survey questionnaires and this data is summarized using descriptive statistics.

According to data obtained from Northern Shewa Zone food security office, number of household beneficiaries in public work were 38, 869 households in 2005. That figure did not change for five years and when in 2009 the number changes, Household beneficiaries were 38, 827 that is only 42 people less. Between 2010 and 13, number of beneficiaries were 38252 about 600 people less than the original beneficiaries. The major graduation change came about in 2014 where, in what appear to be a politically enforced graduation, about 3500 people exit the program. An informant in the zone there was a political intervention in the graduation for they said and forced many in to self-graduation saying that households are developing dependency. But in 2016, about 10, 000 more people are admitted in the program and to date that figure barely changes.

Table 5 Number of Beneficiaries and graduates in Gere Midir Wereda

	data from household beneficiaries													
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
beneficiary	38, 869	38, 869	38, 869	38, 869	38, 827	38, 252	38, 252	38, 252	34, 790	34, 146	34, 496	46, 486	46, 486	46, 486
graduated				54	575	0	3462	978	68	141	701	0	57	2336

Source: North Shewa Zone Food Security Office

As can be seen from table 5, the total number of graduates since the program starts in 2005 are 13, 877 households. This implies that nearly two-third of the original beneficiaries are still in the program. Also, though they do not have the exact number, experts in the *wereda* said that most of graduated households are back in the program when in 2016 new households are admitted with the launching of the new phase of the PSNP. It can be a point of debate whether safety net is really productive and gives poor households economic empowerment that enables them to withstand minor shocks.

In light of these facts and figures, therefore, it would be appropriate to pose the question: is safety net really helpful and necessary?

Most of the respondents have similar response to this question: A DA in one of the *kebelle* s said,

“There are households that would definitely die if it were not for safety net. But these are very few people. As it exists the program is too large, and unnecessarily”

Another DA in another *kebelle*

There are safety net beneficiaries who actually changed their life. Out of nothing, they become owners of two cows, two oxen.... Saving even the safety net money and using the credit service provided there are also other beneficiaries who would die without the safety net”

Another DA said,

“Yes it is necessary because it enabled many households change their life, especially women. Safety net also help create community asset [they planted eucalyptus tree]. We apportioned it to them and the whole community is building a house using it”.

From these informants we learn that there are some who fully believe in its necessity. Some see the potential of the program to bring change to the lives of its beneficiaries. They attribute the limited impact of the program on most of the beneficiaries to the attitude and behavior of the beneficiaries. As one informant puts it,

“There are some who wish to leave off the program forever, they do not want to take credit and make investment on undertakings that can change their life, there are others who, having taken the money, spend it on drinks”.

Others are generous on their view of the programs impact. In their view the program has always positive outcome for everybody. They argue that with the cash from public work transfer they buy fertilizer, the use of fertilizer to increases their productivity. Beneficiaries also pay all other payments including tax and credit to the government which saves them from selling their

produces. Apart from its impact on individual beneficiaries they point out to many public investments such as school, irrigation projects, and other investments the program is funding to validate its importance. The program is used both by woreda and *kebelles* to smooth some budget deficits.

Still others are of the opinion that safety net is really necessary but to the few truly poor who do not have any means of livelihood. In their perception, most other households are receiving the cash not just they need it but it is given to them and no-one refuse gifts. And not many put it to meaning full use. These people perceive safety net as having a negative impact on household's productivity. A woman, who she said is "a model farmer" said, "*There aren't many in the safety net program who haven't as much as we do, [in terms of land and livestock asset]; even then, the only way they are better than us is that they labor more*" and she added, "*some lost a great deal of their crops to the monkeys while they are off to public works; it is not any gain at all*"

Another non-beneficiary on the other hand argued that

"I tell you the payment of the safety net is not to change your life, though there are some, here in hour neighborhood there is someone who became a changed man all because of safety net, but this year I have to be in the program because I have no produce next year because of some soil problem and I need the money to buy some grain"

According to a one of our DA informant, even some beneficiary households are beginning to realize that the safety net is something that holds back not advance one's life. During the valuation assessment of household asset to determine this year's graduate, many came forth declaring self- graduation . "*I have been working many years in this wereda, this is the first time so many people want to graduate*", he said. The reason they want to graduate is that the public work prevented them from doing their trading business. In another *kebelle* of the total graduates 12 households are self-graduate. They consider 34 birr per a day's work too is not much.

Those who are for minimal safety net program think what is called "shock" can be easily averted.

“Common problem in this area is that the rain stops early, and the solution for it is to use short harvest seed, to use irrigation. But they are so used to safety net that when you talk to them about irrigation, they reply “let safety net exist” who bothers?”

They also claim that it undermines the agricultural extension services. They say that modern agricultural services are not being delivered to the farmer. The entire program of the safety net depends on the DAs and because of this preoccupation with the program and its many demands, little attention is given to agricultural development. Additionally, as we will be looking at in the next section, , the DA’s are not giving a door to door practical support, they are doing usually a mass consulting which the farmers rarely understand and, if they do, not usually implement it.

Response of households who are asked to compare their post graduated life to that before the program is presented in table 6.

Table 6 living standard of post graduated HHs after graduation

Income status of graduated HHs	Freq.	Percent	Cum.
Missing	2	2.06	2.063
Improved	46	47.42	49.48
The same as before	45	46.39	95.88
Declined	4	4.12	100

Source: table output of survey data.

The data shows that fifty percent of respondents say that their condition improved compared to that of pre-graduation period while close to that number of respondents say that it is the same. Though we cannot be sure to what extent of this improvement attributable to safety net program, the number of people that have improved life after gradation is encouragingly good. Only four people, out of hundred said their life declined. This is an insignificant number.

According to an expert in the wereda the number of people whose life the program improved is much higher than the graduation figure suggests. He thinks that households do not report their real asset during assessment for graduation. The problem, he said, is that the household head himself reports her/his income and they conceal their wealth. The reason they do that is because

“they are beneficiaries for 15 years and even if they have the wealth, they think that they can still use the safety net money to further augment it”.

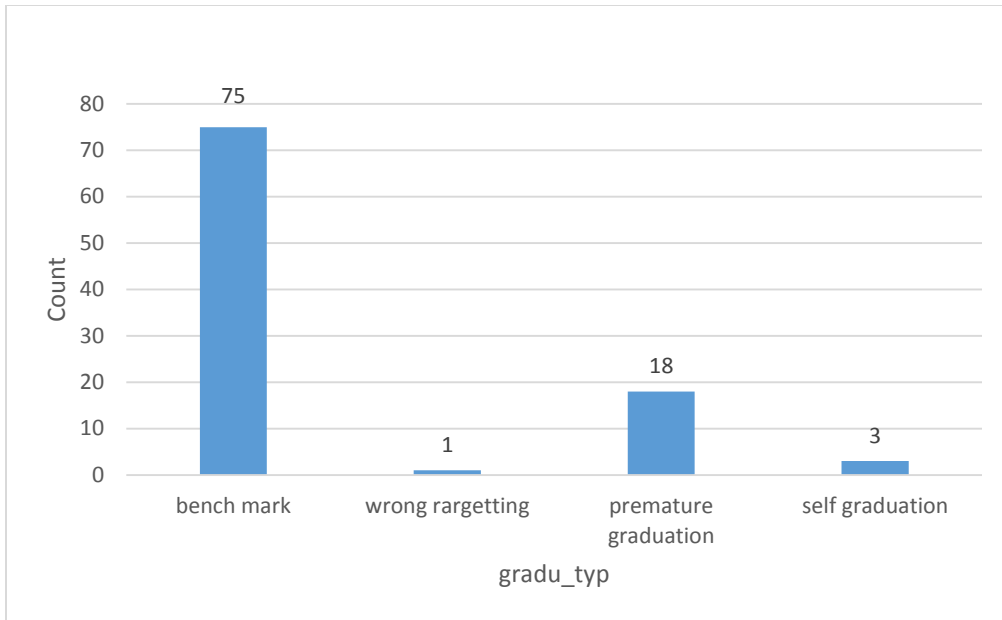
This argument is in line with some of the responses graduated households who want to get back to the program provided when asked why. They say: “because I want to have even more wealth,” “because I want to improve my family’s life” and the like. Interestingly, there was no response that said they don’t have other means of income or inadequate income. Another graduate, who has been a PSNP client for 10 years, was asked if she is unhappy about her graduating and replied, “*of course I am unhappy and I want to get back to the program because it is money and who does not like money when given it?*” she describe the usefulness of the cash transfer as “*lelet leletu*” meaning that “for immediate needs only”.

When asked if there are any complaints about premature graduation, a kebele appeal committee member said,

“They do not complain about premature graduation. That is because the decision is made by the *got* community. They know who has what. What they usually complain is about other people, better off than themselves or as better off as themselves, are still in the program.”

These complaints are usually informal so far no formal complaint is filled. This shows, according to the informants, that the assessment usually reveal real asset of households and graduates themselves cannot refute it.

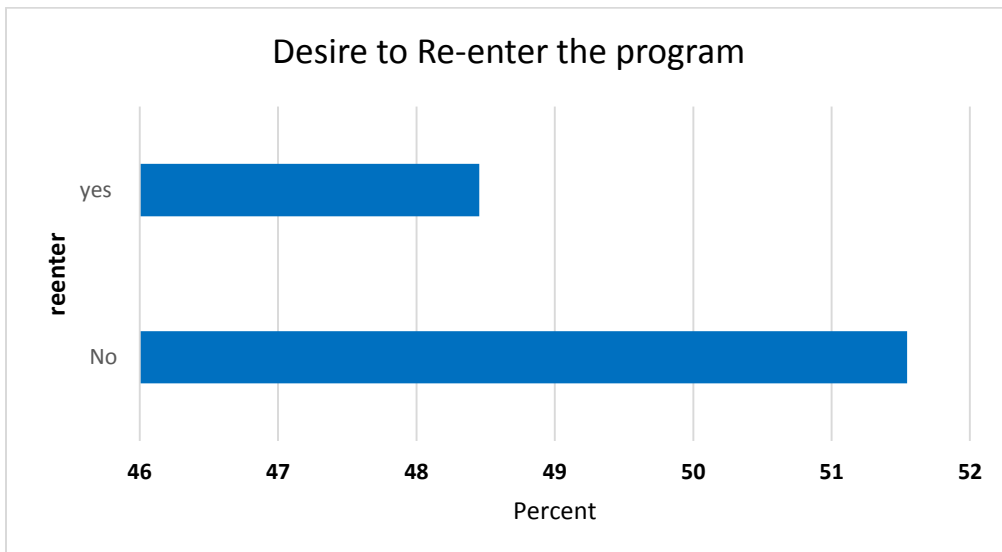
Figure 7 households perception of their graduation



Source: output of survey data.

The chart in figure 4 is consistent with the informant statement. Two third of respondents said that they graduated having reached the asset threshold as per the graduation guideline. 18% of the respondents however feel that they are prematurely graduated. And reasonably these graduates and also some of the graduates who attains the bench mark want to get back to the program.

Figure 8 Graduates desire to get back to the program



Source: output from survey data

As the graph shows 48.5% of the respondent want to get back to the program while 51.5% of the respondents do not want to get back to the program. Assuming that this figure is representative of all graduated households half the graduate wanting to go back to the program, over and above the fact that not enough people graduated over the period of the program, we are forced to ask if this program is sustainable.

Before we go in to the discussion of this issue, it is useful to clear some things about the concept of graduation and sustainability. Sabates- Wheeler & Devraux, (2013) distinguish between what they call threshold graduation and sustainable graduation. By threshold graduation they mean that the movement from social protection into more productive and resilient livelihoods by attaining some fixed number of asset value (bench mark). Sustainable graduation on the other hand is a market oriented livelihood system with high productivity that has the capacity to self-sustain growth not just for the household but for the whole community. The authors' argument is that the graduation practice by safety net and similar other program is threshold graduation and sustainable graduation has to be given attention and supported by appropriate program.

For the purpose of this study sustainability is the ability of graduating households to remain above the asset threshold where they normally function without support. One expert in the *woreda*, thinks that graduation situation status is better in his wereda, it is better in his zone and in his region compared to other weredas, zones, and regions. But he cannot say it is enough. The reason for low level of graduation and fall back lies in the nature of the *woreda*. It is very hard to imagine a high number of graduates given so many problems it is prone to. Every climate related problems such as El Nino never miss the area. It is also very unproductive because the soil is eroded and degraded, also repeated failure of the *belg* renders the farmer virtually a one season producer. Even the *Meher* is not as stable because usually the rain starts early and stops early. The resultant crop failure create huge food gap that the program keeps feeling.

In spite of that, however, experts are hopeful to realize the goal of PSNP though it takes some time and effort.

“What we need to do first is to manage the program properly. This program is very big, it has a big resource, and a lot of people work in it. Therefore it is necessary to first insure that the resources are used for the intended purpose then do additional works especially on irrigation, livestock and forest resources development”

Irrigation development is very low compared to its potential. And, according to informants, most households are resistant to it. Their reasons include: pests, market, and weather are some of them. The type of product most produce using irrigation is potato and to some extent carrot. No other products are suitable to the agro-ecology. This lack of variability in the kind of product creates price fall which bankrupt most farmers. As one expert said,

“Once this direction was given for every expert and kebele officials to go out and get every farmer with access to irrigation to produce something, and everyone produces potato. The price for it fell from 12 birr to 2.50”

For the other expert neither market or other excuses are justified and irrigation is the area where they need to concentrate their resources. In his words,

“Crops grown by irrigation cannot be affected by wurch [extreme cold]. In the neighboring Lalo Mama Wereda, they are using irrigation extensively and they are selling their carrots to Addis Ababa market now . Lalo Mama is of the same agro-ecology as ours”

The above two comments can be an empirical evidence of an interplay of factors described by Sabates- Wheeler & Devraux, (2013) as market conditions, community investment and scale conditions that determine sustainable graduation.

Risk averse behavior is one area that need addressing in order to help very poor and vulnerable people to attain a productive livelihood. According to the survey data of this study of the total 378 respondents only 46% are loan beneficiary. Of these 47% borrowed below 10,000 and if we include those who borrowed 10,000 birr, the figure comes to 84 %.

“There is no shortage of credit money, there aren't just enough people to avail themselves of it” said a credit expert. Another expert said,

“People who do not know animal breath did become owner of several of them because of it. All we need to do it to strengthen follow up, training and support. We also need to work to change household’s attitude. Households commitment and labor plus expert’s support will do miracle”

Another manifestation of this risk-aversion is in the amount of money they borrow. *“Most households ask to do shot keeping and the business plan expert gives them a cost estimation enough only for their price and medical expenses,”*

The fear of these households are not however without reason as there are some who will not succeed for some reason. *“There are few who having been forcefully persuaded will take out the loan and misuse it”* but then this, according to one of the expert, is also a problem associated with the experts who are supposed to follow up how every household is doing. They may not have the time to get to every one as there are more clients than they could personally serve.

Community asset building especially forest development is another potential area with a potential capacity to sustain household s’ livelihood. According to an expert informant the woreda is the highest performance in Amhara region and because of this achievement there are tangible results in the life of the households. *“The farmers told us that in the past three years they are witnessing the old belg, they even said they are seeing animals long disappeared because of the regeneration of the forest”*

“Working on the forest is a must, it stabilize the afro-ecology, they cut grass from it, and also plant trees for cattle food”

The expert’s explanation presented above has strong support in the literature. Sabates- Wheeler & Devraux, (2013) initial endowment is determinant factor for economic functioning whether that endowment is at community level or at a household level.

Another sustainability factor which we will be discussing in detail in the next section and attributable to safety net program is the introduction of health, education and nutrition programs. Because of the safety net households are able to send their children to school, now that the safety net program provides the necessary support. Households will not now prevent

children from going to school. There are investments in school, health care facilities which in the long run will add to the improvement of their life.

Therefore we agree with the experts that though safety net is far from creating productively functioning households as required, there is immense possibility which can be achieved with concerted effort and focused intervention.

4.4 The role of institutions and Graduation

The safety net program is an elaborate program that involves a lot of people and institutions in a long administrative tire that span from federal level of governance down to the got. Different interest groups participate in the program directly or indirectly. The way these actors and interests were involved, coordinated and managed can have immense consequence on the outcome of the PSNP, notably graduation. This section seeks to explore the situation in this respect in the study area.

The safety net program has several permanent and ad hock organizations form the Wereda down to the sub-*kebelle* s. At the worda level there is a Food security office within the ministry of agriculture. It has three teams, household asset building team, public work team, and livelihood team. In these teams, there are experts who work on contract employment basis. These experts do most of the planning for the tasks to be implemented in the worda, as per the program. However they are not alone in doing this. There are technical committees composed of sector organizations such as education, rural road, health, water resource development and the like. These technical committees provide assistance on projects planned or to be planned in their respective sectors, for example, drinking water development project.

Above the technical committees are task forces composed of leaders of sector organizations such as Finance office, Education office, Health office, Security office and similar others. They are chaired by the Agriculture office. They evaluate what the technical committees do, as necessary, amendment on proposals of the committees, gives direction and support solve problems. However the decision of the task force is not automatically executable. There is another committee above it, the steering committee. Headed by the worda Administrator, the

steering committee has all the power to decide on anything related to PSNP. The task force therefor presents and get approval of its decision from the steering committee.

At the *kebele* level there are two committees. The first committee, the equivalent of the *woreda*'s steering committee, is the Food Security Committee which is responsible for the implementation of all programs from public work to targeting and graduation. It is headed by the *kebele* Administrator. It is comprised of people from different sector organization like health, education, youth, women, and manager. There is also another committee called Appeal committee headed by the deputy *kebele* administrator. It includes among others, security, health and agriculture offices.

Below the *kebele* level there are task forces composed of people who have reputation in their communities. These are committees who select the poor of poor in their *woreda* for targeting by the safety net, for credit, retargeting and also for graduation. These are the most powerful committees. What they say is done.

These are the formal organizational structure of the of the program laid by the government. There are other actors directly involved in the safety net program some with full intent to bring the goal of the program to fruition while others are involved indirectly. The most prominent of these are Organization for Rehabilitation and Development of Amhara /ORDA/, Rural Saving and Credit Cooperatives Association /RUSACCO/, and Amhara Saving and Credit Institution (ACSI). ORDA is also in one of the technical committees of the *woreda*, the household asset building committee. ORDA is directly involved in providing training for households who as per the HABP program will be taking credit and have their own business. It gives training on financial management, animal fattening, agricultural extension, etc. It even prepare a business plan for HABP program beneficiaries. In addition to the practical business related trainings it gives such motivational and empowerment trainings particularly to change households' attitude especially the dependency syndrome. Currently, ORDA have entered an agreement to provide all sort of training both to households and the experts and officials need in 13 of the 20 *kebelles*.

ORDA also introduced a kind of saving and credit system as part of its financial management skill training scheme which they currently talking of incorporating it to RUSACCO. ORDA is seen by the *woreda* as strong positive force that helps with the goal of the safety net program.

“The only complaint we had on ORDA was with the payment it makes to households during meetings. This we did not like because it will not be sustainable and we will not find them whenever we want them for meeting. It will also create misgivings on other households who do not participate”

The *woreda* also want ORDA to extend the training service to the remaining 7 *kebelles* at least it to the experts.

The other institution that is helping in the safety net program is the Amhara Credit and Saving Institution (ACSI). ACSI has the agency to disburse and collect the rotating fund of HABP. The bank exacts profit for service it provides. Some of the most important services include, preparation of business plans, follow up and support for investing households and collecting money. Because of this additional service ACSI charges additional interest which brings the interest rate to 17%. The interest rate, according to some informants is a little too high. However whether that is one reason for the unpopularity of the credit service requires further study. The Alternative for ACSI is therefore is RUSACOO, Rural Saving and Credit Cooperatives.

RUSACCO is a financial initiative wherein households in rural areas form a cooperative buying some share. The members then make a saving from which they are allowed to borrow. RUSACOO is cheaper compared to ACSI loans, it is only 13% however the loan depends on households’ saving amount and it is not accessible to all. Still RUSACO is gaining popularity and its capital and capital growing steadily.

Table 7. RUSACOO credit and saving data

Year	RUSACO safety clients		net credit disbursed		No. of creditors		compulsory saving		voluntary saving	
	Male	female	male	Female	male	female	male	female	male	female
2014/15	720	362	587956	190958	433	129	221920	98920	5133	2876

2015/16	4389	2247	1005597	336378	599	196	322080	161410	13601	7712
2016/17	4788	2664	1814129	599184	816	280	470930	229786	37575	19403
2017/18	4980	2614	3121768	1083187	1175	464	623860	365289	66173	36189
2018/19	5027	2650	3875385	1397642	1393	576	702415	421881	72553	54593
TOTAL	19904	10537	10404835	3607349	4416	1645	2341205	1277286	195035	120773

Source: Gera Midir Wereda RUSACOO office

As can be seen from the above table number of PSNP clients who are also member of RUSACOO were 1082 in 2014/15, of these one third are female. The total number of member households at the beginning were only 3% of what is today's 30441 households. Likewise, credit increased from 778, 914.00 in 2014/15 to what is now 14, 012,183.00 in 2018/19 or 85.2%. That much increase in just 4 years indicate only how popular the program has become. The number of creditors both male and female in 2014/15 were only 562 households. That figure increased by 71.5% in 2018/19 6061 people. Again there is huge gap between male and female households. A similar increase of 71.5% is witnessed in the amount of money households saved in the above mentioned period. Amount of cash saved reached 3,618, 481.00 from 221,000.00 at the beginning.

A closer look at the data show that out of the total 30, 441 RUSACOO member households only 6061, around 20% took credit, revealing the aforementioned risk averse condition of safety net program clients which we have discussed in the previous sections.

The strength of these institutions for the implementation is that implementing institutions and organizations are now becoming multi-disciplinary and multi sectoral which increases the efficiency and better excursion of the program. The different formal organizations and ad-hoc committees involve both political leader from the wereda to seb-*kebelle* s as well as experts. This according to the experts and officials in the woreda as well as in the *kebelle*, immensely facilitated problem identification, prioritization and implementation. *"if road is identified as a problem there are people both in the technical committee and task force to help plan it and facilitate its implementation"* said one of the informant. In the *kebelle* s, likewise, this multi-sectoral approach to the implementation of the program is very much appreciated. *"We meet every week and divide tasks among ourselves; the health officer gives me health related tasks,*

she will take agriculture tasks and we meet next week to evaluate it,” said one expert in one of the kebelles.

Another strength of the institutional arrangement they raised is that the incorporation in the safety net program of the other sectors. Because of the safety net program these sectors have been improving very much. One informant relates, *“In one kebele we received a complaint to the effect that children are learning sitting on dust. We were able to build 4 buildings using the capital budget of the safety net”*. Another informant remember similar instance, *“one day the school teacher came to tell me about a woman who kept her son away from school. The next day I talked to her and the child is in the school now, if it were before we can’t do that”*

Yet still another strength with the institutional setting is the fact that it is participatory. The public is fully involved in major decision including selection of households for safety net program. Retargeting, and graduation decisions. Households are also involved in decision on project selection.

There are, however, gaps that some of the informants raised needs filling. One is related to the structure of the safety net program. *“The food security office is in the woreda. The program is implemented in the kebele. But in the kebelles we don’t have experts with responsibility for the program, this is a huge gap,”* said an informant in the woreda. Indeed, the program is implemented through the DAs and. One DA for example said,

“Every bit of the task is performed by DAs. The wereda does nothing; all they do is nagging us saying ‘why did you not send that’ what they ask of me is 10,000 birr job and all I get is 1800”.

Not only are they resentful of the burden *“without the pay”* but they are also worrisome that the preoccupation with the works of the safety net program undermining the main extension work as we have seen in the previous section. This however some especially in the woreda do not agree with. One expert opines,

“The safety net does not undermine extension in fact it affords the chance to closer relationship with households and that can be capitalize upon to do the extension. Also natural resource

management is one of the mainstream extension work and weredas with the PSNP have the best experience compared to non PSNP weredas”

Another weakness most informants agree with is lack of effectiveness of the various organizations, which is expected. There is gap in providing adequate training to all involved from the *Kebelle* s’ down. There is also very weak link between the concerned bodies in the regional and zone governments. “They are not giving much support, we would have liked them to help us give targeted and need based trainings”, said one expert.

In general institutional arrangement in the Wereda seems to be well laid and conducive of the implementation of the program with the exception that absence of a structure or even a post responsible for the safety net program. The program is being implemented by people in different sector whose major task is something else. In spite of that all seem to go rather very well.

5 Conclusion and Recommendations

5.1 Conclusion

The productive safety net is a big program that helps a great deal of people to sustain their life. Many would have perished if it had not been for this program. However, the productive dimension as labeled in its name is not actually reflected in reality. It has remained a promise. The PSNP with proper implementation can usher a whole new reality where in the beneficiary

households individually and as a community attain a level of growth that cannot be threatened and affected by those calamities that caused this state of insecurity.

The major findings showed that determinants for graduation from PSNP were age of the household head, educational level of the household head, total size of cultivated land, amount of loan received, access to Household Asset Building Program, access to training and total household size at varying degree of significance. This implies that demographic, socioeconomic and institutional variables govern the ability of households to graduate from the program. In particular, institutional variables demand coordinated and integrated efforts as to collectively address the vulnerability of households.

Likewise the program cannot be said to have a sustainable impact as to elevate poor households to a level of life where they can own a productive asset that enable them to withstand any shock and become independent from external assistance. Informants attributed this to lamented private and public investments. This limitation is manifested in household's reluctance to make use of credit services made available to them and resistance to use irrigation. There is also lack of public investment in economic, social and ecological infrastructures like irrigation facilities, health and education infrastructure as well as natural resources, to mention only but the few. Because of this that graduation limited and precarious. But then, this limitation can be overcome with effort. Changing the attitude of households backed by concerted and focused development intervention to change households and community endowments to productive asset will materialize the hope.

5.2 Recommendation

Based on the findings of this study and also recommendations advanced by experts and officials in the both in the *Woreda* and *kebelles* we recommend the following:

1. It is found by this study that access to credit is not a significant determinant to graduation. While amount of credit served. Therefore the *woreda* must intensify capacity building and skill trainings that embolden households to avail themselves of increased amount of money in lone.

2. Similarly irrigation does not have determinant effect on graduation outcome. We have also seen from the qualitative data that there is reluctance to adopt irrigation on the part of households and investment on irrigation projects on the part of government. Therefore government has to do more both in development of irrigation and promotion of its importance to the beneficiaries.
3. It is also important to devise a scheme, at least for the ultra-poor, whereby they get credit with reduced interest. May be rechanneling the revolving fund in to RUSACCO.
4. Thirdly creation of marketing network encourages households to produce more using credit service made available through both HABP and also RUSACCO. Marketing opportunity is also the main problem that discourage households from using irrigation.
5. Intensify the process of afforestation and other natural resource management as this stabilize the agro-ecology and reduce the effect of climate change.
6. Extending the program's formal structure up to the keblle help fix the gap in institutional set-up since the program is implemented in the *kebelle* s.

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Appendix A

Questionnaire for Households

1. Have you graduated from PSNP?
 i) Yes ii) No
2. Age of household head
 _____years old.
3. Gender /sex/ of the Household Head
 i) Female ii) Male
4. Total number of households

No	Age of member of the household	Number of people	
		Male	female
1	Less than 10 Years old		
2	10-14 Years old		
3	15-65		
4	More than 65 Years old		

5. Is there any adult member of the family with disability or chronic illness?
 i) Yes ii) No
6. Is there any adult member of the family who is unable to work for the past three years because of illness?
 i) Yes ii) No
7. What is your education level?
 i) No education
 ii) Reading and writing
 iii) Some years of school education
8. How many years of schooling have you received?
 _____ Years old
9. How much hectare of farm land do you have?

Land	Type of holdings	Size in hectare
	Owned	
	Rented	
	Sharecropped	

10. Do you use fertilizer?
 i) Yes ii) No
11. Do you use improved seed ?
 i) Yes ii) No
12. Your farm land is fragmented and distant from each other.
 i) True ii) False

13. How do you describe the fertility level of your farm?

Fertility level of the land	High	Medium	Low
Land size in hectare			

--	--	--	--

14. Do you have access to irrigation?

i) Yes

ii) No

15. If the answer for question # 14 is yes, how much of the land is irrigable?

_____ Hectare

16. How much is your annual production of grains, in quintal?

Types	Quantity in Quintals										
	Prodn.	Obtained through Purchase	Obtained by remittance	Obtained through Aid	Total Gain (A)	Gift to others	Sale	Post-harvest loss	Seed reserve	Total Loss (B)	Balance (A –B)
Teff											
Barley											
Maize											
Sorghum											
Wheat											
Bean											
Potato											
Chickpea											
Oilseed											
Total											

17. How secure did you feel about food? Please fill in the table below

- If your answer to “response” column is “No” go to the next question
- If your answer to “response” column is “Yes” go to the “how often this happen” column
- In this column circle on the number of your choice.
- 1 represents “rarely” means once or twice
- 2 represents “sometimes” means twice to ten times.
- 3 represents “often” means more than ten times

	Questions Related to what happen in the past 4 weeks (one month)	Response		If Yes how often?		
		1= Yes	2= No	1 Rarely	2 Sometimes	3 Often
1	Did you worry that your household would not have enough food?	1	2	1	2	3
2	Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?	1	2	1	2	3
3	Did you or any household member have to eat a limited variety of foods due to a lack of resources?	1	2	1	2	3
4	Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	1	2	1	2	3
5	Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?	1	2	1	2	3
6	Did you or any household member have to eat fewer meals in a day because there was not enough food?	1	2	1	2	3
7	Was there ever no food to eat of any kind in your household because of lack of resources to get food?	1	2	1	2	3
8	Did you or any household member go to sleep at night hungry because there	1	2	1	2	3

	was not enough food?					
9	did you or any household member go a whole day and night without eating anything because there was not enough food?	1	2	1	2	3

18. How many animals did you have before you entered the program and how many more have you bought while you are in the program?

Type of animals	Number before the program	Number after the program	TLU values
Camel			
Horse			
Oxen and cows			
Bull			
Heifer			
Calf			
Donkeys			
donkey (Young)			
Sheep and goats			
sheep & goats (Young)			
Chickens			
Others			

19. Do you have access to formal credit?

i) Yes

ii) No

20. If the answer to question #19 is yes how many times were you able to borrow so far?
_____ Times.

21. How much were you able to borrow so far?
_____Birr.

22. How far is the major market from here?
_____km or _____Hours Journey.

23. How far is the second market from here?
_____km or _____Hours Journey

24. Are all member of your family made part of the PSNP?
i) Yes

ii) No

25. If the answer to question #24 is no, what is the reason they are not in it?

_____.

26. Do you receive regular advice and assistance from Development agents?

i) Yes

ii) No

27. If the answer to question #26 is no, what is the reason?

-
-
-
28. If the answer to question #26 is yes, how many visits from the DA's do you get?
 We get visited/ we visited them/ _____times a month.
29. Have you ever experienced any shock while you are in the program?
 i) Yes ii) No
30. If the answer is yes to question #22 what was the nature of the shock?
 i) Drought iii) Illness vi) Low price
 ii) Loss of crops iv) High price vii) Flood
 v) Loss of livestock
 viii) Other specify _____
31. Are you engaged in any activities other than farming?
 i) Yes ii) No
32. If your answer to question # 31 is "yes", what are these activities you are engaged in?
 Multiple response is possible.
 i) Trade vi) Water powered grain mill
 ii) Poultry vii) Diesel powered grain mill
 iii) Animal fattening viii) Hand crafts
 iv) Bee farming ix) sharecropping
 v) Labor employment x) Carpentry
 xi) Others, specify _____
-
-
-
33. Because of the above undertakings how much money did you collectively earn?
 _____ Birr per annum .
34. Do you participate in OFSP/HABP programs?
 i) Yes ii) No
35. If yes which are they?

36. Have you ever received any training related to Financial management, business management, saving and credit, or anything that has to do with the work you do?
 i) Yes ii) No

Part II For graduated Households only

37. Have you ever participated in the decision regarding who should graduate and who should continue to be in the program?
 i) Yes ii) No
38. Was your graduation decided by the community?
 i) Yes ii) No
39. If your answer to question #38 is No, who makes the decisions?

