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Determinants of Productive Safety Net Program Graduation: The Case of Rural Households of Kurfa Chelle District, East Hararghe Zone

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Abstract

This study aimed to investigate the productive safety net program (PSNP) graduation practices and determinants among the rural households of Kurfa Chelle District, East Hararghe Zone, Oromia Regional State, Ethiopia. The study employed cross-sectional survey and descriptive-qualitative designs. Through systematic random sampling, 280 households from the graduate and non-graduate PSNP were chosen. The study also used purposive sampling technique to choose five key informants and 21 participants in three focus group discussions. While data collected through survey were analyzed using a binary logistic regression model, the data collected by focus group discussion and key informant interviews were analyzed using content analysis. The results demonstrate that the total crop yield and the targeting mechanism appeared to be positively and statistically significant at the 0.05 alpha level after program graduation, while the total crop yield increased by 1 quintal while maintaining other factors constant. It was found that 0.81% more households graduated from the program. Similar to this, a fully targeted sample household has a 25% higher chance of graduating from the PSNP. However, only 54% of beneficiaries disagreed, and there is no appreciable difference between beneficiaries who are receiving benefits now and those who are graduating. PSNP graduation was negatively influenced by gender, education level, gross income, targeting mechanisms, livestock possession, irrigation and credit access, and drought. The targeting system, graduation procedure, support, and transfer timeliness all have an impact on the creation and protection of assets, so the program's performance needs to be improved.

Keywords: /Food security/Graduation/Kurfa-chelle/Productive Safety Net Program/

1. Introduction

Food insecurity is a global issue, according to Maier (2014). Numerous studies show how, since the 1980s, unforeseen and seasonal shocks have had an impact on many poor people's lives and levels of food

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security (Kedir, 2017; Wudil, Usman, Rosak-Szyrocka, Pilař, and Boye, 2022). In recent years, specifically in developing nations like Bangladesh, some Latin American countries, and the majority of African countries, a global food crisis and severe economic shocks have had a significant negative impact on the lives of many people. In terms of numbers, these sudden issues, which primarily affected developing countries, caused 115 million people to go hungry between 2008 and 2009 (MoARD, 2015).

Gordon (2005) notes that 117 nations agreed to a declaration and program of action that included a commitment to end absolute poverty and lessen overall poverty after the 1995 Copenhagen global summit on social development. Due to institutional, demographic, socioeconomic, and natural variables, however commitment and efforts were not as effective in eradicating poverty and food insecurity. As a result, following the millennium, many nations implemented the social safety net as a means of reducing poverty and food insecurity. Those who are at risk of hardship, poor, or experiencing food insecurity and other forms of deprivation can receive food, cash, or vouchers from safety net programs, which offer predictable and dependable assistance (WFP, 2018). Subbarao *et al.* (1996) and Devereux (2002), cited in Khandker, Shahidur, Koolwal, Gayatrib, and Samad (2013), claim that safety net programs are frequently provided by the public sector; donors, NGOs as well as by private players, either conditionally or unconditionally in kind, in cash, or in voucher form.

Africa is the world's poorest area, with the most recent and least developed food security programs. Most Africans are not covered by social security systems (Africa Today, 2012).

The Ethiopian government, along with other groups of international donors, made significant changes to the existing food security program and scaled its level of intervention by introducing the Productive Safety Net Program (PSNP) in 2005 (Aseffa, 2013). The PSNP is now in its fourth phase (the first phase of the PSNP (Phase-1) covers the period from January 2005 to December 2006 and delivered transfers to 4.84 million food-insecure people). The current phase (Phase-4) PSNP scaled up to cover 8.3 million chronically food-insecure households. In this phase, built on the successes and lessons learned from the past three phases of PSNP implementation, the Government and Development Partners designed a new generation of the program called PSNP-4 and launched it in January 2015 (MoARD, 2015). The PSNP aims to improve the efficiency and productivity of transfers to food-insecure households, thereby reducing the number of households and addressing the causes of food insecurity (Hermela, 2015). Food-insecure households often strive to lift themselves out of poverty and food insecurity and become successful graduates (Slater, Ashley, Mulugeta, Mengistu, and Delelegn, 2006).

The PSNP began in 2005 with 162 Ethiopian districts that had a history of persistent food insecurity. 40% of all households with chronic food insecurity receive food, and 60% receive cash (Tewodros, 2011). In accordance with the PSNP (program implementation manual, 2006), the primary outcome indicators of the phases one and two programs called for the PSNP to graduate 90% of beneficiaries by the end of 2009; however, only 9% of beneficiaries did so (Gilligan, Hoddinott, & Seyoum, 2009).

Several empirical studies have been conducted on the graduation determinants of PSNP with different outcomes. The study done by Hayalu (2014) shows that 78.30% of the beneficiaries did not believe the graduated households were food self-sufficient. In addition, Desalegn and Yu (2017), in their study in Babile, reported that graduation rates have fallen far behind expectations, which leads to the low confidence of households to level the program. Moreover, Muhammed (2017) conducted a study on PSNP targeting in the Babile district of the Somali region. The author found that full family targeting was not made because beneficiaries were forced to share their food with non-beneficiary (their family and relatives). Although sharing food items and other resources is a kind of social support among the pastoral community, this practice has negatively affected the beneficiaries of PSNP by reducing their food consumption rate. This shows that the

focus given to the study on the practice of PSNP targeting is inadequate and lacks the current knowledge of targeting exercises implemented at the community level.

The study was conducted in the Kurfa Chelle district. The researchers selected this district because it is one of the PSNP-targeted districts defined by the government as chronically food insecure due to its prior experience with food insecurity. The PSNP has been running in the district since 2005. According to the district Agriculture and Natural Resource Office, due to its prominent level of vulnerability to food insecurity, with more than one-third of the total population being undernourished, 33% of the rural population of the district received support from PSNP. In addition, PSNP has graduated only a small number of supply and demand households. Many recipient households remain in the program to support additional PSNP, while PSNP support is gradually increasing the number of households scheduled to graduate. By the end of 2014, about 14% of beneficiary households had graduated at the national level, leaving more than 86% of the safety net needed in front of the safety net to cover food shortages (MoARD, 2016).

Even though a few studies have attempted to examine the PSNP beneficiary targeting processes (Hayalu, 2014; Gebresilassie, 2013; Desalegn and Yu, 2017), they have not explored the overall practices of PSNP, from beneficiary targeting to households' graduation from PSNP. Therefore, the present study seeks to fill those gaps by examining the full PSNP implementation process and practice in the context of the study area. This study aimed to examine the practices and determinants of PSNP graduation among rural households in Kurfa Chelle District, East Hararghe Zone, Oromia, Ethiopia.

2. Research Methods

2.1. Description of the Study Area

Kurfa Chelle District is one of the 20 districts of East Hararghe Zone, Oromia Regional State, Ethiopia. The district covers a total area of 301.77 hectares, accounting for about 1.33% of the total area of the East Hararghe zone and is located at a distance of about 66 km west of Harar and 579 km east of Addis Ababa, the capital city of Ethiopia. Astronomically, the district is found between 9° 06' and 9° 19' N latitudes and between 41° 45' and 42 ° 30' E longitudes (KCHDARDO, 2018). According to EHANRO (2017), the three agro-ecological zones — highland (baddaa), mid-highland (badda-daree), and lowland (gammoojjii) agro-climatic zones- cover about 36%, 13%, and 51% of the total area of the district, respectively. The district covers a total land area of 301.77 square kilometers and has 18 rural and two urban kebeles (whereas kebele is the smallest administrative unit in Ethiopia and in Oromia called ganda). As shown in Figure 3.3, the land use pattern of Kurfa Chele district is dominated by arable or cultivable land, which constitutes 11,899 hectares (39.43%) of the total land area. Forest land accounts for 6,746 hectares (22.35%), and the remaining 3, 047 hectares (10.09%), 3,653 hectares (12.11%), 2,905 hectares (9.63%), and 1,927 (6.38%) of land area in the district is considered pasture or grazing land — land used for social service (built-up land), shrubs and bushland, stony, hilly, and degraded land, respectively (Kurfa Chele District Agriculture and Rural Development Office, 2018).

In addition, the long-term annual mean maximum and minimum temperatures are, respectively 8.30⁰C and 22.80⁰C. The mean annual rainfall is 65.1mm in the lowland area and 160.5mm in the higher part of the study area, and the highest annual rainfall record is mostly seen in August. According to the 2007 population and housing census report, the total population of Kurfa Chele district was estimated at 58,701, of whom about 29,675 (50.55%) were men and 29,026 (49.45%) were female. Out of the total population of the district, about 52,937 (90.18%) were residing in rural areas, and 5,764 (9.82%) were urban dwellers. Most of the inhabitants of the district are followers of the Muslim religion, which accounts for 96.44% of the population, with 3.27% of the population practicing Ethiopian Orthodox Christianity. The largest ethnic group in Kurfa Chele is Oromo,

which accounts for 94.25% of the population of the district and is followed by Amhara which makes up 5.69%. According to the district report of 2016, the total population of Kurfa Chele was estimated and reached 75,418 (Kurfa Chele District Agricultural and Rural Development Office, 2018).

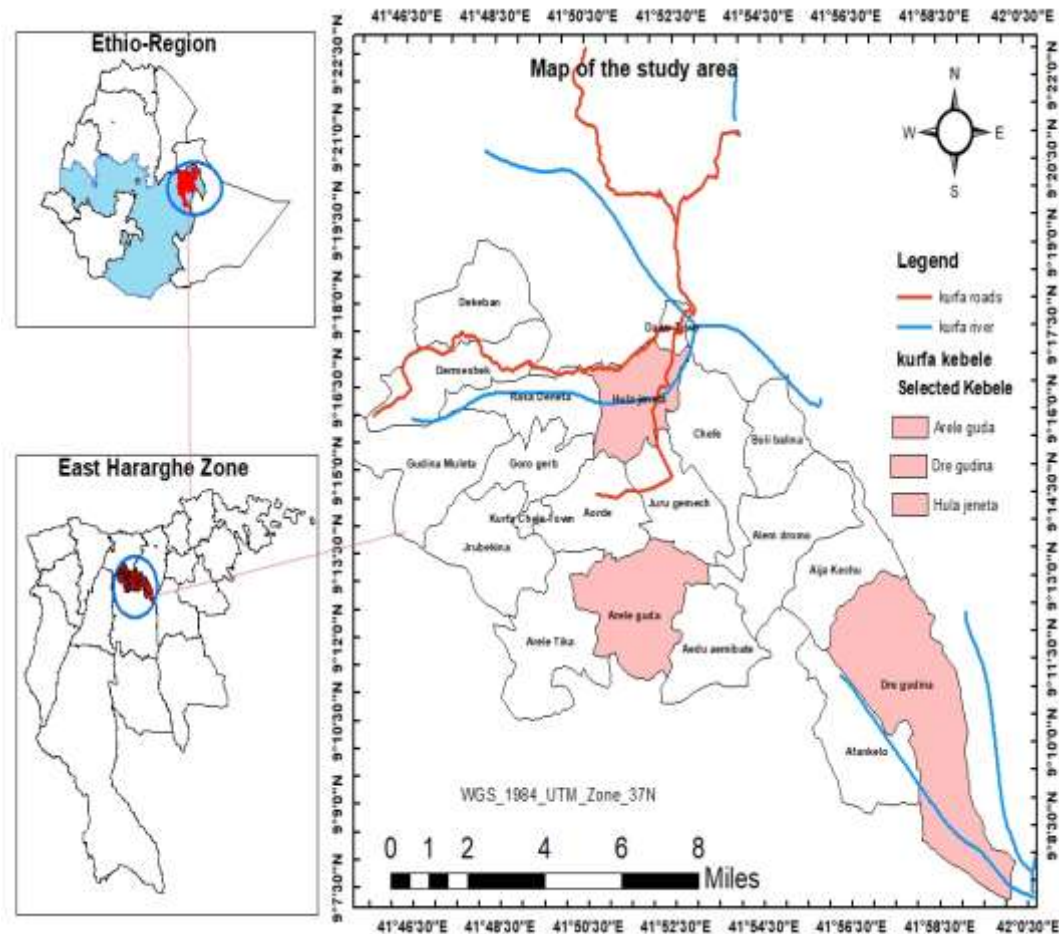


Figure 1. Map of the study area (Source: Ethio-GIS (2020))

2.2. Research Design

We used a household based cross-sectional study design because it allows us to compare several different variables at the same time. We have also employed included qualitative approach to provide detailed descriptive information about the topic. The strategy employed in this investigation is simultaneous triangulation to elucidate concepts, characteristics, explanations, and countermeasures to represent problem situations.

2.3. Sampling Techniques and Sample Size

Kurfa Chelle District was selected purposefully due to its many years of support provided through the emergency and safety net programs. Besides this, there is a low level of beneficiary graduation from this

district. Furthermore, the district is characterized by a low level of household awareness about graduations because of the many questions raised regarding the implementation of graduation at the community level (EHANRO, 2017). The multi-stage sampling procedure was applied to draw samples for the study. The district has three agroecological zones: Baddaa (highland), badda daree (mid-highland), and gammoojjii (lowland). From the 9 lowlands and 4 midlands, PSNP targeted Kebeles; the study selected one Kebele from the midland and 2 Kebeles from the lowlands. Finally, 280 households (85 from graduated and 195 current PSNP beneficiary households) were selected systematically based on the proportional sampling procedure technique using Slovin's formula (Slovin, 1960), with 95 confidence levels, which were computed as follows:

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

$$n = \frac{928}{1 + 928(0.05)^2} = 280$$

Where, **n** is the sample size, sample drawn from the total households of selected *kebele's* =280
N= is the population size, the total households benefited from PSNP of selected *kebele's* =928
e= the level of precision/sampling error tolerated for the study were used = 0.05.

In addition purposive sampling was used for selecting participants for the focus group discussions (FGDs) and key informant interviews ((KIIs). While 21 people participated in the FGDs each FGD is composed of 7 participants, and 5 key informants were selected. Out the three FGD groups, two groups consisted of representatives of the graduated and non-graduated households, and the other group consisted of development agents, kebele food security task force representatives, and kebele administrators. The KIs were selected from the district agriculture and natural resource office representative, district PSNP coordinator, district HABP coordinator, district food security task force coordinator, and district cabinet representative.

2.4. Data Sources and Data Collection Methods

The study gathered primary and secondary data from various sources. The primary data were collected from the fieldwork using survey, focus group discussion and key informant interviews. For the survey, the researchers prepared and administered close-ended and open-ended structured questionnaires, which were filled out by trained enumerators at the household level. It was prepared in English and then translated into Afan Oromo. While for the focus group discussion, FGD guides was used, for the key informant interviews, an open-ended interview guide was employed to get detailed information. The data collection was held in the three selected. The researchers used audio-recording materials to record the discussions and interviews. Further, prior to the start of the actual data collection, a pilot survey was conducted in the Grawa district, and 35 respondents participated in this survey. The questionnaires were distributed to the respondents, and finally, all respondents responded. The pilot survey was found useful in testing the survey instruments and refining the interview questions.

2.5. Methods of Data Analysis

The gathered data were edited for accuracy and completeness. Then the edited data were compiled using Statistical Product and Service Solution (SPSS) version 24 software. The quantitative data were analyzed using descriptive (mean, standard deviation, and percentages) and inferential statistics (binary logistic regression model). The logistic regression model was used to identify and explain the determinants of households' PSNP graduation. The underlying reason is the PSNP framework and beneficiaries are expected to graduate from the program after reaching the household's graduation criteria within the five years supported by PSNP for their

clients. The study used the binary logistic regression model as it is a suitable econometric model when the dependent variable is represented in two (Yes or No) categories (Gujarati, 2004). The dependent variable was a dummy (graduation from PSNP), and those who graduated at the intended time assumed two values (1 for PSNP graduates and 0 otherwise) (Emilie, 2013). The qualitative data that were obtained from FGDs and KIIs were analyzed using content analysis. Table 1 presents the description.

Table 1

Description of the Variables and their Measurements

Variable	Variable description	Unit of Measurement	Variable Nature
Dependent variables	Graduated from PSNP	(1=Yes, 0=No)	Dummy
Independent Variables			
AGE	Age of household head	Years completed	Continuous
SEX	Sex of household head	1=male;0=Female	Dummy
EDU	Education level	Years of schooling	Dummy
FAMSIZ	Family size	Number	Continuous
FARSIZ	Farm size	Hectare	Continuous
TOTCROPRO	Total crop production	Quintal	Continuous
TLU	Livestock holding	Tropical livestock unit	Continuous
ACESIRIG	Access to irrigation	1=Yes, 0=No	Dummy
DAFUP	DA Follow up	DA visits in number	Dummy
ACREDIT	Access to credit	1=Yes, 0=No	Dummy
TARGME	Targeting Mechanism	1 if full family targeted 0=No	Dummy
DROUGHT	Drought	1 if natural calamities occur, 0=No	Dummy

2.6. Ethical considerations

Official letters approving the collection of the required data were provided by Haramaya University, College of Social Sciences and Humanities. All the household survey respondents, focus group discussants, and key informants were asked if they would be willing to participate in the research process. This was done by informing them the objectives and outcomes of the study. The respondents were also informed that the

information they provide would be kept confidential—individual’s personal information would be neither exposed nor given to any third party. This was brightly written on the forward part of the household survey questionnaire sheet and forwarded by enumerators. The focus groups discussants and key informants have verbally agreed to participate in the study.

3. Results and Discussion

3.1 Respondents’ Socio-economic and Demographic Background

This part presents and discusses respondents’ demographic characteristics and socio-economic variables identified in this study.

Table 2

Age, Sex, Educational, and Family Size of Household Heads

Variables		Graduated		Non-Graduated			Total		
		N	%	Mean	N	%	Mean	N	%
Age	< 40	19	22		140	72		195	57
	> 40	66	78		55	28		121	43
	Total	85	100		195	100		280	100
Sex	Male	68	80		129	66		197	70
	Female	17	20		66	34		83	30
	Total	85	100		195	100		280	100
Educational status	Unable to read and write	20	24		123	63		143	51
	1-6	39	46		62	32		101	36
	7-8	18	21		8	4		26	9
	9-12	8	9		2	1		10	4
	Total	85	100		195	100		280	100
Family Size	below5	45	53		60	31		105	38
	Above5	40	47		135	69		175	62
	Total	85	100	1.55	195	100	1.56	280	100

Source: Survey, 2020.

Table 2 revealed that 19 (22%) graduated household heads and 140(72%) non-graduated sample household heads were found in the age category of under 40 years. On the other hand, age of 66(78%) graduated and 55(28%) non-graduated household heads were found to be over 40 years of age. Out of 280 respondents, about 159 (57%) were younger than 40 years old. This shows that younger household heads had less experience in PSNP and less accumulation of assets. Of the total sample of households, 197(70%) and 83 (30%) were male- and female-headed households, respectively. Of this, 68(80%) of graduated households are

male, which indicates the likelihood of being food self-sufficient is high when the household head is male-headed. Therefore, it can be said that the sex differences of the respondents might influence the graduation of beneficiaries from PSNP.

Further, as Table 2 indicates, regarding the educational background of the non-graduated respondents, out of 280 respondents, 143(51%) were unable to read and write, 101(36%) were in grades 1-6, 26(9%) reached grades 7-8, and only 10 (4%) were above grade 9. The proportion of household members unable to read and write (n=123, 63%) was greater than their counterparts who graduated (n= 20, 24%). This shows households with better education are in favor of promoting awareness of the possible advantages of PSNP and diversifying household incomes, which in turn enhance household supply.

Furthermore, while 105 (38%) of the respondents had a total family size of <5, 175 (62%) of the respondents had a family size of >5. The average family size for graduated households is 1.55, whereas it is 1.56 for non-graduated households. The number of sample households that had more than five family members was 40 (47%) and 135 (69%) for graduated sample households and non-graduated household heads, respectively. Thus, non-graduated households had larger family sizes than their counterparts in graduated households, implying that a larger family size has a negative impact on graduating from PSNP while keeping other factors constant.

Table 3

Farm Size, Total Income and TLU of Household Heads

Variables		Graduated			Non-Graduated			Total		
		N	%	Mean	N	%	Mean	N	%	Mean
Farm Size	< 0.25ha	45	53		61	31		106	38	
	0.25 - 0.5ha	35	41		111	57		146	52	
	0.5 - 0.75ha	3	3		23	12		26	9	
	0.75 - 1 ha	2	2		0	0		2	1	
	Total	85	100	1.63	195	100	1.70	280	100	1.67
Total income	<5qun	2	2		172	88		174	62	
	6-10qun	26	31		23	12		49	18	
	11-15qun	57	67		0	0		57	20	
	Total	85	100	2.38	195	100	1.43	280	100	1.90
Tropical	0.013-0.5	69	81		56	28		125	45	
Livestock	0.51-1	14	17		115	59		129	46	
Unit (TLU)	1.01-2.5				20	10		20	7	
	2.51-5	2	2		4	2		6	2	
	Total	85	100	1.98	195	100	1.13	280	100	1.55

Source: *Survey, 2020.*

As Table 3 reveals, about 106(38%) of the respondents have a farm size of less than 0.25-hectares. While 0.25 to 0.5 (n=146, 52%) have a relatively higher size, only 28 (10%) of the respondents have more than 0.5-hectares of land. The findings showed that the mean farm size of graduated households obtained by fewer households was 1.63 ha, whereas by those of non-graduated households was 1.70 ha. The majority of graduated and non-graduated households had farm sizes of < 0.5 hectares and 25-0.5 hectares, respectively.

With regards to income, of the total sample respondents, 174 (62%) had less than 5 quintals, 49(18%) 6-10 quintals, and 57(20%) 11-15 quintals, respectively. Of the graduated households, 2(2%) earned a total

income of less than 5 quintals, 26(31%) 6-10 quintals, and 57(67%) 11-15 quintal, respectively. Similarly, for non-graduates, 172(88%) earned crop production of fewer than 5 quintals, whereas 23(12%) earned 6-10 quintals, which shows that the income of graduated households was relatively higher than that of their counterparts, non-graduates.

The survey result also shows that about 125(45%) of the respondents had 0.13 to 0.5 TLU, 129(46%) of the respondents had 0.51 to 1TLU, about 20(7%) respondents had 1.01 to 2.5 TLU, and only 6 (2%) of respondents had more than 2-5to1-5 TLU. In addition, the average livestock ownership for the graduated households and non-graduated sample households was 1.98 and 1.13 TLU respectively.

Table 4

Descriptive Analysis of Institutional Factors

Variables	Graduated			Non-Graduated			Total		
	Labels	N	%	L	N	%	Labels	N	%
DA follow up	Yes	68	80	Yes	55	28	Yes	123	44
	No	17	20	No	140	72	No	157	56
	Total	85	100	Total	195	100	Total	280	100
Access to credit	Yes	38	45	Yes	51	26	Yes	89	32
	No	47	55	No	144	74	No	191	68
	Total	85	100	Total	195	100	Total	280	100

Source: *Survey, 2020.*

As indicated in Table 4, 157 (56%) program participants did not visit for follow-up with development agents. This is one of the most promising achievements in program implementation. In addition, Table 3 shows credit access received for the past five years. Accordingly, about 47(55%) of PSNP graduates and 144(74%) non-graduates did not receive credit. Similarly, of the total sample households, most of them (n= 191, 68%) did not receive any kind of credit for the past five years. FGD participants identified the major possible reasons for low access to credit services including high interest rate, a lack of collateral and low accessibility for beneficiaries, previous loan repayment failures, and credit partner loan repayment failures. Household savings efforts have also been raised as an issue, calling for the establishment of independent institutions to reduce beneficiary interest rates, costs, and time.

Results showed that of the total sample respondents, 118(42%) responded that the program was targeting² all household members, whereas 162(58%) reported that the program was not targeting all household members. More than 66(78%) of graduated households did not target all family members, and about 96(49%) of non-graduated households did not have full family targeting. Besides, most of the respondents reported problems like inclusions and exclusions, decreasing or increasing family size, and sometimes ignoring polygamous households. FGD participants described that perfect family targeting could not be achieved in their areas. Large size households are not yet partially covered in the area. They also pointed out that there was a problem with the targeting mechanism itself, where detailed assessments of the livelihood standards of their local households had not been conducted.

² Table is not given to minimize the number of tables.

The key informants were arguing for partial family targeting of some households with a large adult labor force in the initial stages of the PSNP. Practically, a few households deliberately claims benefits that they are not entitled by providing false information about their family size.

Concerning the vulnerability of households to natural shocks, 222 (79%) beneficiaries are drought tolerant. Likewise, Gilligan *et al.* (2009) identify drought as a major constraining factor for household graduation in PSNP. Areas with chronic food insecurity are subject to PSNP because they are vulnerable to natural shocks. This study supports Song's (2019) findings that non-beneficiaries are particularly vulnerable to natural shocks like drought.

All FGD participants said that natural, recurrent drought outbreaks were affecting their lives. Not only that, but they are also emphasizing the impact of high food prices on their lives, which is wreaking havoc in parallel with their efforts to graduate from the PSNP. In addition, the occurrence of drought, especially fluctuations in rainfall (late and early release), is a recurring phenomenon in the PSNP period.

3.2 Features of Productive Safety Net Program

Table 5

Beneficiaries Preference to the Type of Transfer and Responsible Bodies for Selection

Pre-Intervention	Labels	N	%
Type of transfer	Food only	151	54
	Cash only	67	24
	Both	62	
Selection bodies	Development agents (DAs)	93	33.3
	KFSTF	85	30.1
	Kebele administration	65	23.3
	I do not know	37	13.3
	Total	280	100
Reasons for selection	Degraded land	99	35.3
	Few numbers of Livestock	130	46.3
	Less family support	20	7
	Food aid	31	11
	Total	280	100

Source: *Survey, 2020.*

In Table 5, the respondents were asked to select their preference for the mode of payment. Based on this, 151(54%) of respondents preferred food only. The report from some of the FGD participants indicted that cash transfer will have the disadvantage of pushing the household heads to spend the money on other needs than food. On the other hand, 67(24%) household heads prefer cash transfer because they will cover other expenses such as children's education and healthcare. The remaining 62(22%) household heads want to receive half cash and half food.

The number of respondents who are targeted based on different criteria such as access to mediocre quality farmland accounts for 99(35.3%), a few numbers of livestock ownership accounts for 130(46.3%), less family support or remittance from relatives accounts for 20(7%), and dependence or reliance on food aid accounts for 31(11%).

Table 6

Household's awareness of the Graduation Criteria and the Selection Process

Pre-Intervention	Graduated			Non-Graduated			Total		
	Labels	N	%	Labels	N	%	Labels	N	%
Are you aware of the graduation criteria?	Yes	48	56	Yes	64	33	Yes	112	40
	No	37	44	No	131	67	No	168	60
	Total	85	100	Total	195	100	Total	280	100
Was the selection process transparent and fair?	Yes	32	38	Yes	80	41	Yes	112	40
	No	53	62	No	115	59	No	168	60
	Total	85	100	Total	195	100	Total	280	100

Source: *Survey, 2020.*

According to Table 6, about 168 households (60%) reported that they were not aware of the graduation criteria and that there was no training package for the beneficiaries. In this regard, Hayalu (2014) found that beneficiaries had a poor understanding of how graduation proceeds and graduation requirements. This has its own impact on the household's graduation and appeal mechanisms, as clients lack the ability to appeal and are vulnerable to discrimination. It could also lead to early graduation without information on principles and procedures.

In addition, Table 5 depicts that about 168(60%) of the households believed that there was a lack of appropriate information about the PSNP graduation criteria and that the selection process was not transparent. However, the key informants and focus group discussants believed that the selection process was transparent but unfair. They mentioned, for example, that posting the names of the eligible beneficiaries to the public shows the transparency of the selection process. In fact, it is impossible to generalize that the selection process has no weaknesses, as several factors might affect its implementation. The graduation is not carried out according to the rules established for implementation. There is a lack of uniform understanding of graduation benchmarks and processes across various levels of implementers. This is partly related to a lack of training and misunderstandings.

Findings indicated that only half of the respondents (n=93, 33%) have even heard of the term. The knowledge about graduation is higher among graduated beneficiaries 23 (27%) than among current beneficiaries 70 (36%). Lack of knowledge or limited understanding of graduation created tension and anxiety among PSNP participants. Most beneficiaries were unaware of the characteristics of food self-sufficient customers, and more than half of them (n=187, 67%) knew of graduation through indirect sources among program implementers and professionals. A similar study by Devereux and Ulrichs (2015) showed that the community has a very low understanding of graduation and lacks clarity about what it means for participants to graduate from the program.

The result indicated that of the total sample households, 119(61%) of the sample respondents reported that there were delays in payments, whereas only 76(39%) reported that there were no delays in payments.

According to the PIM (2016), PSNP's timely cash transfer to its beneficiaries was assessed. Furthermore, PSNP is expected to be predictable, adequate, and timely so that households do not sell their assets and constrain their consumption. In practice, it was found that as the majority of respondents claimed, cash transfers and food distribution are not completed on time.

The program's constraints to turn off payments on time were mentioned in the KIIs and FGDs. Furthermore, past predicted participants' perspectives are compatible with previously highlighted home survey respondents who were given to customers, particularly between April and June, particularly during periods of high food cost. As a result, the value transmitted via PSNP at this time will be lower than the price from October to January. This goes against PSNP's values and objectives, which states that it has the same past worth whether it's cash or food.

3.3 Graduation of Productive Safety Net Program

Table 7

Graduation Criteria and Graduation Decision Makers

Pre-Intervention	Labels	N	%
Type of Program exit	Graduated on Benchmark	24	28
	Graduated Voluntary	6	7
	Self-Graduated	7	8
	Premature	48	57
	Total	85	100
Community Participation	Yes	20	24
	No	65	76
	Total	85	100
Decide for graduation	DA's	44	52
	CFSTF	17	20
	I don't Know	24	28
	Total	85	100

Source: *Survey, 2020.*

Accordingly, with the results of Table 7, about 48 (57%) of the graduated households in this study were not oriented to protect the program against its goals and long-term views. Only 24 (28%) of the customer's conclusions are according to the benchmark, or you can customize any shock absorber that occurs during the post piece. The remaining households that can intervene through the correction of inclusive errors cannot read the program.

As indicated in Table 7, DA's and CFSTF are the most crucial decision makers in the graduation of PSNP. Accordingly, in the FGDs and KIIs conducted it was stated that the only responsibility for targeting should fall on KFST, which is headed by Kebele's chairperson and the Taskforce of Community Food Security. Respondents surveyed showed a lack of strong organizations at the community level that are responsible for the implementation of the programs. Although CFSTF exists within the structure, they do not fully engage in the work. Basically, they are responsible for the election of possible graduates, but the actual choice of graduates is made by Kebele and the Council.

Table 8*Graduate Delay, Exit and Re-enter the Program*

Pre-Intervention	Labels	N	%
Graduate delayed by 1 year	Yes	68	80
	No	17	20
	Total	85	100
Support after exit	Yes	13	15
	No	72	85
	Total	85	100
I want to re-enter the program	Yes	51	60
	No	34	40
	Total	85	100

Source: *Survey, 2020.*

As shown in Table 8, 68 (80%) customers stay in the program for more than a year, but 17 (20%) of the beneficiaries facilitate consumption that could not be received before the program. Besides, it was reported that less than a quarter of households were restricted and received technical support. However, most households received no support from the government after their graduation. In this regard, a few studies have shown that post-graduation credits, prolonged support, technical assistance, and other household asset-building services are provided to households to prevent them from returning to poverty (MoARD, 2010). As depicted in Table 7, 72 (85%) of the beneficiaries have not received credit or agricultural expansion from the intended institutions, and only 13 (15%) have received support. Similarly, FGD participants explained that there was no household support after leaving the intervention. This means that graduate support is very low and is ignored by the local food security department. Hayalu (2014) reports that none of the graduated participants continued to receive financial or agricultural extension support.

Table 8 also indicated that 51% (60%) of the beneficiaries responded that they were willing to re-enter, and 34 (40%) of customers rejected the PSNP beneficiary's preference. The FGD strengthens the findings of households where households re-enter the program, as the District Task Force has no additional budget to accommodate households who graduated from the program. Leading informants also argued that allowing the re-entry of safety nets was affecting the efficiency of the program. However, some families believe that they are self-sufficient and do not want to re-enroll in the program.

Concerning the general effect of the program on the livelihood of the beneficiaries and the community, two options were provided to them: improved and unimproved. The result showed that the majority 151 (54%) reported no improvement in livelihood, while 129(46%) of the respondents stated that the program improved the beneficiaries' livelihoods. According to the information collected from FGD, all participants confirmed that the current beneficiaries have improved livelihood conditions because they are still benefiting from the transfer, which helps them protect their assets. However, the result of this study reflects the negative effect of PSNP for the majority of beneficiaries, as it does not improve their livelihood as compared to their previous state.

2.6. Determinants of Graduation of PSNP

Table 9 presents the estimated model using graduation as the dependent variable and demographic, socioeconomic, natural, and institutional factors as explanatory variables.

Table 9*Summary of Results of Logistic Regression*

Variables	Coefficient(B)	Robust Std. Err.	Wald Statistics	Sig.level	Exp (B)
Age	5.411	1.744	2.842	0.050 ^{NS}	33.842
Sex	4.963	2.014	3.671	0.049**	45.821
Education		1.1210	8.546	0.036**	0.21
Family Size	-7.512	4.0926	.000	1.000 ^{NS}	0.043
Farm Size			6.125	0.106 ^{NS}	
TOTCROPRO	3.321	1.437	9.525	0.009**	0.81
TLU			9.652	0.022**	0.312
ACCESIRRIG	-5.341	2.349	5.149	0.023**	0.005
DA Follow Up	1.573	3.313	1.435	0.231 ^{NS}	5.820
ACCESCREDIT	5.079	2.123	5.726	0.017 **	61.603
TARGMECH	3.240	1.541	4.647	0.032**	25.534
Drought	3.740	2.320	6.056	0.015**	42.082
Constant	6.531	463183.103	33.783	1.000	65.760

Number (N) = 280 Prob >Chi2 =0.000 -2Log likelihood = 33.871 LR Chi2 (12) =285.55

****, **and * means significant at 1%, 5% and 10% probability levels respectively

Source: Own estimation result, October 2020

Of the 12 explanatory variables selected as shown in Table 9 were found to affect the PSNP graduation of households. Gender, academic background, total income, total livestock count, irrigation accessibility, credit accessibility, and targeting mechanisms were positive and had a significant impact on PSNP household graduation, whereas drought had a significant negative effect.

Gender: The household's gender was statistically significant, showing a correlation between PSNP graduation probability and quantity. The logistic regression analysis shows that the variable is meaningful at the probability level of 0.013 when it affects the graduation from the program of households in the survey area. If the head of the household is male, the likelihood of graduating from an income household in the program increases with a slight impact of 45.821. The ratio of the average difference between the male and female heads of households was 0.727, which was statistically significant at the significance level of 5%. In this regard, Wilson and Million (2011) stated that Ethiopian female household heads are less likely to be self-sufficient in food due to restrictions on certain income activities, materials, and other resources due to traditional and social barriers.

Educational Level: Our findings showed that an improvement in the level of education, defined by a change in the level of education, leads to an increase in the probability that a generation will graduate by a marginal effect of 0.22. There was a statistically significant difference between graduates and no graduates at a significant level of 5%. This means that household heads with relatively higher levels of education are more likely to have higher food security than households headed by uneducated household heads. These results are consistent with the findings of Song and Imai (2019), Beyene and Muche (2010) that improved education can

lead to the alleviation of food insecurity problems. The findings of this study are similar to those of Song and Imai (2019), who said that a higher level of education can enhance access to information for farmers to improve their understanding of skills and increase farm productivity. Households with higher levels of education are more likely to graduate than those with lower levels of education. This suggests that having an education has improved access to information, making it easier to interpret information and understand and analyze situations than for uneducated householders (Beyene and Muche, 2010).

Total crop production: The magnitude of the positive sign indicates a one-fifth increase in total crop production, and other matters increase the likelihood of graduating from a household's program, which remains constant by 0.81%. The coefficients of this variable show the relationship between graduation and quantity at a probability level of 1%. High-income farmers may have longer planning periods with less risk aversion and greater access to information (Diriba, 2018). As agriculture's primary source of income increases, farmers tend to invest in productivity-smoothing options, such as irrigation options. Therefore, households with higher crop productivity are more likely to graduate from the PSNP. This result is consistent with PIM (2010) and against Hayalu (2014).

Livestock Possession: Livestock is positively and significantly associated with the potential for food availability in the study area. It also allows farmers to increase their purchasing power for food during food shortages, increase food production, and earn more income from livestock production, which can ensure household food self-sufficiency. You can have the opportunity. The results show that an odds ratio of 5.042 for herd size, keeping all other factors constant, means that increasing livestock size by 1 TLU increases the odds ratio of graduating from the program by 5.042 times. The findings of this study contradict the findings of Hayalu (2014).

Irrigation Access: The sign of the coefficient of this value showed a positive relationship with graduation and was significant at the 5% probability level. A positive relationship means that households with irrigable land are more likely to graduate than beneficiaries without irrigable land. Households with irrigable land are more likely to be food self-sufficient. Customers with irrigable land could generate more than once a season, which increases production, diversifies income, and facilitates food consumption. Hayalu (2014) and Desalegn and Yu (2017) enhance the results of this study by reporting that community-based equipment, especially irrigation facilities, improves food self-sufficiency in households.

Access to Credits: Credits are an important source of investment information for household income-generating activities. Households can be purchased with improved seeds, fertilizers, livestock, and other agricultural materials for resale after fattening. In addition, households that can be financed and can repay 75% of the loan are more likely to graduate. If households repay 75% of a loan to access credit, the chances of graduating program participants increase by 0.60 with a small impact. Statistically, there was a significant difference between graduates of the program and those with a significance level of less than 5%. Our finding is consistent with Arega (2012) who reported that access to credit has some impact on households' graduation status.

Targeting Mechanisms: Targeting is mandatory as it is used in a variety of social safety net programs and delivering programs to target population groups (Melese, 2019). A slight influence on the targeting mechanism means that other variables remain constant. Partial Families For whole families, targeted household changes are 25% more likely to graduate from the program. The targeting mechanism is significant at the 5% significance level. This means that there is a need to improve safety net targeting, where this issue affects both households with food insecurity and the performance of the program and review whole household targeting. Our findings are consistent with studies by Hayalu (2014) and Desalegn and Yu (2017).

Drought: Drought adversely affects PSNP households' graduation. Binary logistic results indicate that they are constantly maintained by others. Drought-affected PSNP participants are 42.08 marginally less likely

to graduate than drought-affected households. Drought was significant at the 5% significance level. This finding is consistent with the observations of Song and Imai (2019), Burns and Solomon (2012), and Gilligan (2009) that drought-affected households are self-sufficient and struggle to graduate from the program.

3. Conclusion

The purpose of this study was to investigate the major practices and determinants of the Productive Safety Net Program among the Rural Households of Kurfa Chelle District, East Hararghe Zone, and Oromia, Ethiopia. The article analyzed and discussed the major practices of PSNP, the determinants of graduation from PSNP, and the effects of participation in PSNP on asset accumulation. The findings suggest that PSNP supports beneficiary households to improve their consumption expenditure and calorie intake. However, the program encounters obstacles in the process of implementation and is very unlikely to accumulate household wealth. As a result, eight variables were found to be statistically significant (gender, education level, gross income, livestock ownership, irrigation accessibility, credit accessibility, targeting mechanisms, and drought having a negative impact on graduation). The remaining four independent variables, including age, family size, farm size, and DA follow-up, were found to be powerful in explaining the dependent variables. Gender is one of the crucial factors that increases the likelihood of graduation if the head of the household is male. Similarly, more educated households are more likely to graduate than less educated households. Program participants with high livestock numbers as measured by TLU are becoming more likely to graduate from the program. If the beneficiary owns irrigable land, it increases the likelihood of the participants' graduation from the program. The estimate of the model clearly shows that when the yield of annual crops increases, the beneficiaries can graduate. Also, participants with access to credit may graduate faster than households without credit. The households receiving full-family transfers are more likely to graduate than households eligible for partial-family transfers.

However, recipients who have been impacted by drought are less likely to graduate from the program. Many problems, such as inaccurate targeting of poor households, unfair targeting processes, and delays in previous payments, arise because beneficiaries have little knowledge of the concept of food self-sufficiency and of household assets. Most of them were not listed, and because they overestimated the program, they graduated from it. This will soon follow early graduation, which will remain in the programs that are widely used in the academic arena through beneficiary quarter graduation. As a result, beneficiaries leave the program without meeting appropriate graduation criteria and remain chronically food insecure.

4. Recommendations

Based on the findings of the study, the following recommendations were forwarded. Firstly, the limitation of some targeting criteria is an observed drawback of the program in the study area. Hence, the existing criteria have excluded poor households. Thus, reconsideration of the criteria that would allow inclusion of poor households is necessary. Along with the uniform implementation of the criteria by the targeting committee, this should be assured. Secondly, the implementation modalities of the program must perform as per the PIM, i.e., transparency and accountability workings should be maintained, because the targeting mechanism, graduation process, support, timeliness of transfer affect the protection and creation of assets, and then graduation and food security status. Lastly, despite its role in assisting households to secure their daily food consumption, PSNP has many limitations. Therefore, the program should address food availability on a sustainable basis. Though this study can serve as an information source for all concerned stakeholders and

policymakers, it is not free from limitations. Future research might consider more variables that could affect successful graduation from the program, advanced statistical models can be used.

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Authors' Contribution

Mohammed Abdella has originated the research idea, drafted the proposal, and shaped the research, conducted data collection, data analysis, and wrote up the manuscript.

Abenezer Wakuma Kitila has critically commented on the study starting from the initiation up to completion; he modified data collection instruments and data analysis techniques, results, and discussion. He also supervised the research, commented on the manuscript, shaped the manuscript, and produced the final version of the manuscript.

Solomon Tekalign has critically commented on the study starting from initiation up to completion. He modified data collection instruments, data analysis techniques, results and discussion. He also supervised the research, commented on the manuscript, and shaped the first draft of the manuscript.

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