

LOCAL COPING MECHANISMS FOR FOOD AND LIVELIHOOD INSECURITY IN THE STUDY AREAS

Coping mechanisms are mechanisms by which households come across their recovery and relief needs and adjust to upcoming risks. Households develop and adopt diversified coping mechanisms and sequential responses upon which people use in times of crisis and shocks. In addition, households use various distinct means to cop up in times of food crisis and these distinct means of coping mechanisms are adopted depending on how bad the crisis is and accordingly to the resources availability to manage their situation. Some look for part time work, sell their assets, undertake some income generating activities, participate in safety net programs and some others acquire food assistance from governmental and nongovernmental organizations (Sisay B., 2012).

Coping mechanisms employed by farming households can be divided into three namely; Production based responses (improved productivities and production expansion), market related responses (like sale of assets majorly livestock for purchase of food grains) and non-market responses (societal and institutional income transfer systems) (Degefa T., 2002). The latest paradigm of food security affirms that food insecurity victims are not passive agents, they adopt various behavioral responses to minimize shocks and food insecurity risks in line with the negative implications of the current and future welfare of their respective household. The coping strategies or responses comprise wide ranges of modifications to consumption, production and saving patterns of households originating mainly due to the desire to preserve a relatively smooth food consumption pattern. Coping mechanisms involve variety of strategies which can minimize ex

ante risks as well as strategies which can minimize the adverse impacts in entitlement failure on current nutrition levels and future production capacity (Tilaye T., 2004).

Various measures such as selling livestock, renting land, pity trading, borrowing and working as a laborer are employed in general by most farming households as sources of income. It is a common phenomenon and tradition for people to support each other in cases of hard times due to blood tie, social bondage and cultural influence (Ahmed M., 2015). Regardless of the limited roles played by these activities in the whole economy, the activities are very crucial sources of income which enable farmers to cope up especially in times of food shortages. Furthermore, these activities are more vital for the poorer farmers who are most likely to employ them to directly access and buy food. However, their access to these kinds of income generating activities is constrained by shortage of skill, labor and other inputs.

A study in South Asia identified that rural people who are facing food crisis first adopt those mechanisms which have relatively smaller long run costs such as taking out savings and calling for remittances. Then comes mechanisms with higher long run costs such as selling households' productive assets. Finally, there are mechanism which show economic deprivation and a failure to cope. These extreme coping mechanisms comprise strategies such as leaving their village in search of enhanced livelihood options. Rural households first sell an asset which minimizes the loss return per unit of cash raised by selling it (Devereux S., 2001).

Households response to food insecurity can be classified into two; adapting and coping strategies. Coping strategies are those responses by households to improve the deteriorating conditions of their household while adaptive strategies encompass permanent changes in which basic necessities can be fulfilled irrespective of the time for longer period of time. Other similar

studies also noted that households are not just passive victims of the problem of food shortage, basing on their capability and available capital and opportunities, they try to adopt different mechanisms to handle the situation. Mechanisms adopted by households in reaction to the declining availability and entitlement of food in abnormal periods of the year are the coping strategies. These strategies are adopted to minimize the impact of livelihood shocks. On the other hand, when households are becoming more and more vulnerable to extreme circumstances, their mechanisms become limited for survival or to combat destitution and death. Those specific strategies which are adopted to combat destitution and death in extreme circumstances are survival strategies (Tagel G., 2008). Basing on literatures and experience in field visits, the study has assessed various coping mechanisms employed by the smallholding farmers.

Table 8.1 Coping mechanisms employed to fulfill basic necessities of sample households

No.	Coping mechanisms	Response	
		Yes	No
1	Sending member of household for a job abroad	104 (28.1%)	266 (71.9%)
2	Buying less amount of agricultural inputs	248 (67.0%)	122 (33.0%)
3	Selling assets (both productive and nonproductive)	297 (80.3%)	73 (19.7%)
4	Begging	52 (14.1%)	318 (85.9%)
5	Taking loan or getting into debt	186 (50.3%)	184 (49.7%)
6	Sending all Household members abroad for job	8 (2.2%)	362 (97.8%)
7	Cutting health/education expenditures	185 (50.0%)	185 (50.0%)
8	Reducing all expenses	196 (53.0%)	174 (47.0%)

Source: Survey result, 2015

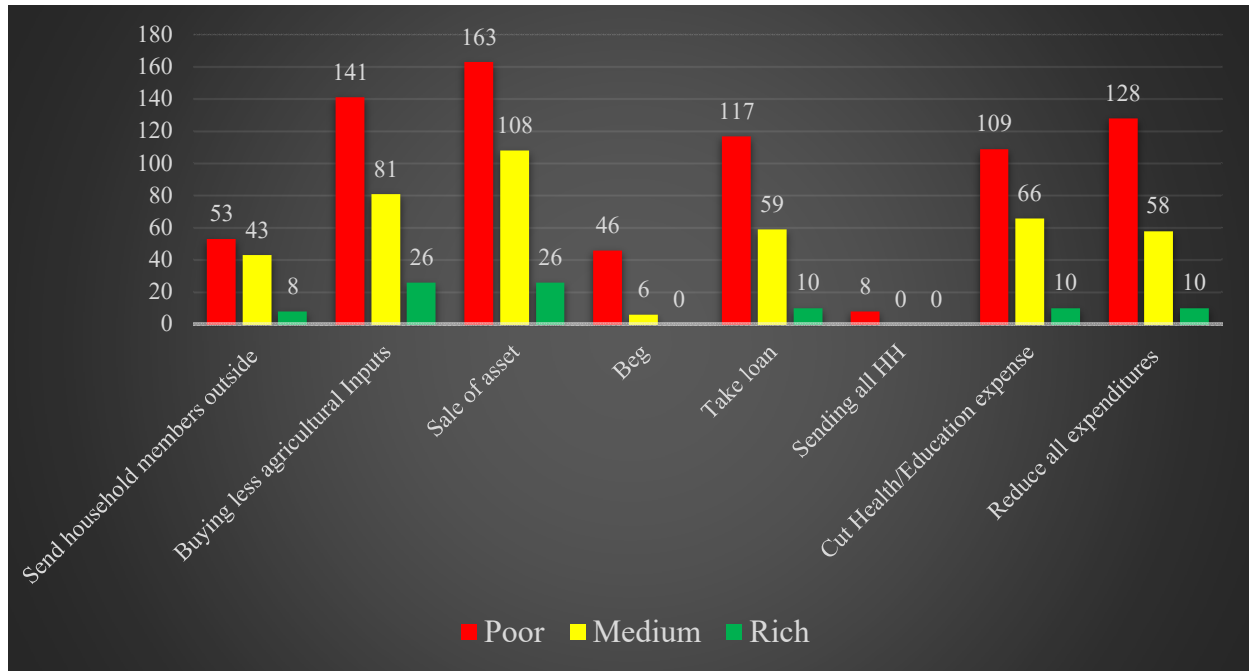
To fulfill basic necessities and to fill existing gaps, it was observed that households employ distinct ways of coping mechanisms. As it is difficult to give credit to all, sell of productive and non-productive assets such as land, livestock, grains etc. were found to be employed by majority

of the households as major coping mechanism to fulfill their basic necessities in the study areas. Similar studies conducted in rural Ethiopia also revealed that coping mechanisms employed by farming households include sale of livestock, agricultural and certain types of off-farm employment, asking for grain and cash loans, migrating to other areas, selling wood and charcoal, selling cow dung, small scale trading, reduction of meal and meal sizes, consumption of wild foods, dependence on foreign aid and remittances and dismantling parts of their houses for sale. Some of the coping mechanisms mentioned are likely to be adopted after other possibilities are exhausted or pursued already (Sisay B., 2012).

Yet, the figures of other coping mechanisms which are employed by households as last options of survival such as dismantling a household, begging, buying less amount of agricultural inputs and others, were also significantly prevalent in the study areas. These coping mechanisms are mostly used after smooth coping options are exhausted. As can be seen from the above table 8.1, 80.3% of the sample households have sold their assets to fulfill their basic necessities. Some even in extreme circumstances have dismantled parts of their houses for sale to cover basic expenses.

Moreover, about 67% of the sample households have bought very less amount of basic agricultural inputs such as improved seeds, fertilizers and etc. which in turn indubitably affect their yield and food security conditions. These assets if depleted recurrently, many households will be in a chronic struggle for survival than just coping. As has been supported by various studies, there are phases in which households apply specific coping mechanisms after considering its current significance to the long term impact on the household. The following figure 8.1 also presents these coping mechanisms and their adoption across different wealth groups in the study areas.

Figure 8.1 Coping mechanisms among different wealth groups



Source: Survey result, 2015

The above figure 8.1 depicts the coping strategies adopted by rural smallholding farmers in times of shocks and vulnerabilities to various risks among the three wealth groups identified from sample respondents in Kilte Awelalo. Selling assets such as livestock and land was found to be adopted by the majority smallholding farmers and followed by buying less agricultural inputs such as improved seeds and fertilizers. Coping mechanisms such as begging and sending all family members outside were majorly employed by poor households, whereas there was no household in the rich wealth group adopting these coping mechanisms. There can be seen a pattern of coping mechanisms adoption among the smallholding farmers, i.e. poor households constitute the highest adopters of majority of the coping mechanisms and practically the sole adopters of extreme mechanisms such as begging and sending all family members abroad. The pattern reveals that till households make sure that suitable alternatives are exhausted, they will try to sustain life with the resources at their disposal and only after this coping mechanisms are exhausted and there is still a

need for more resources, extreme strategies such as begging and dismantling family members will take over the smooth coping mechanisms.

Similar studies also revealed that patterns of coping mechanisms are mainly determined by the pre-crisis appearances in households which involve succession of responses to severe conditions. This does not represent an instant awakening into danger, rather it is a progressive narrowing of various options which lead from broad attempts to reduce risks in long-term by actions designed to reduce damage caused by a crisis to the extreme measures intended for saving lives even at the expense in dissolution of household (Cutler P. and Stephenson R., 1984).

Likewise, households' response pattern in times of food crisis comprises of succession of phases along a range of coping mechanisms which stretches from long-term minimization of risk through crisis damage contained to the extreme instance of household breakdown. The phases can be grouped into three major stages; risk minimization, risk absorption and if required, risk taking for survival. The first phase incorporates insuring against risks in a pre-crisis circumstance within an environment of limited credit and insurance markets. It comprises measures such as savings, accumulation, investment and diversification. In the second stage of coping, accumulation of earlier investments, calling in for loans and searching for more new credits are employed. As capital for further investment dries up, consumption of both food and non-food items is restricted and the variety and number of potential income sources which are available become vital for survival and the capability to safeguard past investments decrease and households will be forced to shift to the third phase of risk taking for survival (Sisay B., 2012).

Apart from the coping strategies employed for sustaining basic necessities, the study has incorporated a separate food insecurity coping strategies employed by smallholding farmers due

to its high relevance to see those specific strategies employed in times of food shortages in a household.

Table 8.2 Coping strategies adopted to cover up food shortage

No.	Food insecurity coping strategies	Response	
		Yes	No
1	Household relief assistances (Food aid)	140 (37.8%)	230 (62.2%)
2	Selling livestock and/or their products	245 (66.2%)	125 (33.8%)
3	Eating less preferred food (including wild foods)	258 (69.7%)	112 (30.3%)
4	Reduction of consumption (Cutting number of Meals per day)	280 (75.7%)	90 (24.3%)
5	Grain/cash credit	196 (53.0%)	174 (47.0%)
6	Forming <i>Equib</i>	15 (4.1%)	355 (95.9%)

Source: Survey result, 2015

To cover up food gaps, majority of the households reduce their food consumption pattern by cutting the number of meals they consume in a day. It was also observed that in extreme conditions exemplifying the case where some households were witnessed to go to sleep without a meal at night during the survey. In addition to this, it was found that selling their productive assets is one of the major means to cover up their food shortage. Moreover, it was also found that eating less preferred foods such as wild food like cactus is used as a coping strategy in cases of food shortages among sample households. Similar study also indicated that in cases where food shortages become worsened and smooth coping strategies are exhausted, rural households were forced to consume inedible vegetables and wild fruits which are not consumed in normal times. It was also asserted that farmers were seen to employ various mechanisms for resilience in times of shocks, mechanisms such as borrowing grains or cash from others was one major coping mechanisms used to avoid impacts of food shortages (Ahmed M., 2015).

The major problem in relation with the borrowing and lending as a coping strategy was that the rich or better offs are actively and highly engaging in this process by systematically forcing the borrower to pay high interest rate. In most cases, the money lenders are the ones who are deciding the interest rates and the amount of cash to lend. In the study areas, it was noticed that majority farmers who are borrowing were just expected to work on the field of the lender as a favor for the cash lent without interest rate for a specified period of time. The number of farmers dependent on food aid and grain or cash credit is not as such small to be ignored, where many households were found to adopt them as additional sources for coping, if accessible.

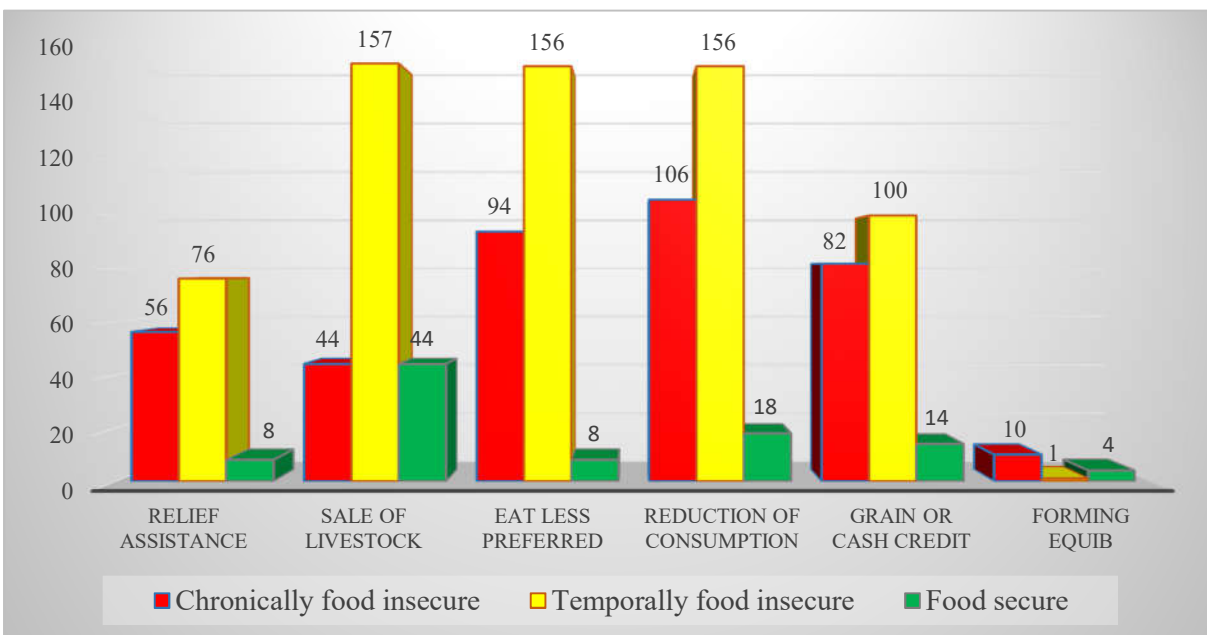
Furthermore, it was found that about 66.2% of the households sell their assets as a coping mechanism to cover seasonal food shortages in their household. This clearly shows if this seasonal food insecurity occurs recurrently, it will deplete the available resource base and expose numerous households to chronic food insecurity condition. A similar study in Tigray Region by Tagel G., (2008) noted that the main coping strategies adopted by rural communities include selling of assets, wood selling, petty trading and agricultural diversification. It also found that selling livestock is a crucial strategy for coping in times of food shortage in the region and also revealed that 62% of the households used to sell their assets during seasons of food shortage. Nevertheless, selling of existing assets such livestock continually as a coping strategy deteriorates households' resource base and exposes them to chronic food insecurity. After households face the problem and have sold their assets of what so ever, it will take some years to recover these crucial assets (Tagel G., 2008).

This study also found that household relief assistances such as food aid as one of the coping mechanisms employed by households in the study areas, if accessible. About 37.8% of the total households revealed that they are highly dependent on the food aid, yet many remaining left out

from this figure revealed that they are waiting to part of this food aid program as they cannot feed their households the bare minimum. Tagel G., (2008) also asserted that many people have also been highly dependent on direct food aid as their survival option and food aid is considered as a typical response to seasonal food insecurity such as drought emergencies.

In the study areas, about 75.7% of the total respondents were found adopting a reduction of food consumption through cutting number of meals per day as a coping mechanism in times of food shortages. Various studies have also indicated that decreasing the amount of daily meals as one response method employed by food insecure households to mitigate the devastating impacts of food shortages. They decrease both the amount and quality of food consumption in times of food shortage seasons. The last option for some ill health and disabled people who had already exhausted all their available resources and facing a critical food shortage is begging (WFP, 2009).

Figure 8.2 Food shortage coping mechanisms and food security status of households



Source: Survey result, 2015

As can be seen from the above figure 8.2, majority of the households in the study areas adopt coping mechanisms such as reducing consumption of food by cutting the number of meals and by eating less preferred food items such as wild foods as major strategies. The use of these coping mechanisms is more predominant among the chronically food insecure households. In addition to this, grain or cash credit and relief assistances were also other major coping strategies adopted by the chronically food insecure group. Due to limitedness of resources at their disposal, the participation of households who are chronically food insecure in local money saving institutions such as “*Equib*” is limited. Similar to that of chronically food insecure households’ coping strategies, there can be seen an analogous pattern of coping strategies adopted by temporally food insecure and food secure households also in the study areas. The major coping mechanisms adopted by these households include; sale of livestock, eating less preferred food and reduction of consumption by cutting the number of meals in a day. However, the above mentioned coping mechanisms in times of food shortages are relatively less adopted by the food secure households.

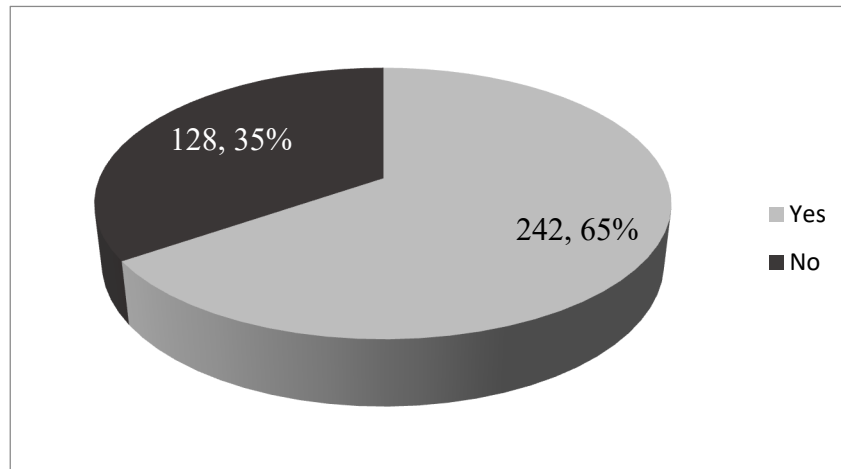
Yishak G., et. al., (2014) noted that peasants do not stay passive in times of seasonal food shortages rather they adopt seasonal coping strategies which help them balance and contain their economic and food insecurity condition. Mequanent M., et. al. (2015) also indicated in their study that the coping strategies of food insecure households can be classified in two phases under three choices for each. The first is the initial stage of food shortage and second severe stage of food shortage. Their study found that majority of the food insecure households adopted selling livestock, borrowing cash or grain from relatives and friends and reduction in the number of meals in descending rank order as strategies for coping. While others in severe food shortage phase

practiced escaping meal, eating less preferred foods such as wild fruits and roots and reduction of meal in similar descending order of practice.

Another important finding by Tagel G., (2008) is that agricultural diversification was also adopted as an important coping strategy by significant number of households in rural parts of Tigray Region. He found that farmers in the study areas attempt to enhance their agricultural production through cultivating two or more crops in one rain season. They practice multiple cropping and also adopt irrigation to enhance their productivity. Some of the major survival strategies which were experienced by rural households include out migration, networks and support from relatives or friends, food aid, daily labor and reducing the quality and number of meals in a day.

On behalf of the Government of Ethiopia, Productive Safety Net Programme was developed in 2004 and incorporated it in the framework of the national food security program. It mainly emphasized to address the issues of the three food security pillars. The productive safety net program (PSNP) was initially launched in 2005 and in the early 2007 it reached out for about 8.3 million rural smallholding farmers in eight regions of the country. The objective of the productive safety net programme is *“to provide transfers to food insecure population in chronically food insecure Woredas in a way that can prevent asset depletion at the household level and build assets at the community level”* as well as bridging the food gap that arises when food production and other sources of income are insufficient given food needs (Alemayehu, et.al. 2008). Accordingly, this study assessed the participation of the sample respondents in Productive Safety Net Programme, its benefits and beneficiary selection related issues.

Figure 8.3 Productive Safety Net Programme recipients



Source: Survey result, 2015

The study found that about 65.4% of the total respondents were beneficiaries and recipients of safety net program. Productive safety net program gives more emphasis on addressing the basic food needs of primarily with the chronically food insecure rural households in line with aversion of productive assets depletion and loss and finally household asset building programs (Amdissa T., 2007). However, numerous respondents asserted that they have been excluded from safety net program even after fulfilling all the minimum requirements to be part of it. They also asserted that selection of beneficiaries in the safety net program has its own back drops where many better offs were included and early graduation from the program.

A similar study conducted also showed that almost all respondents agreed with the benefits by being a member in the Productive Safety Net Programme, where about 98.8% revealed that their consumption level has increased (Negash B., 2012). In line with this, Amdissa T., (2007) also revealed that 75% beneficiaries consumption level was increasing, and Negash B, (2012) had somewhat a better figure due to the fact that his study was conducted in the later stages after beneficiaries were benefiting for more than 5 years.

Table 8.3 Productive Safety net program Public Work Activities (From 2011-2013)

Major activity (outputs)	Activities Year			
	2011	2012	2013	Total
Soil and water conservation				
Different terraces (K.M.)	891	1549	1171	3611
Micro basin (No.)	1086	29	467	1582
Eyebrow basin (No.)	6500	3650		10150
Stone check dam (M ³)	18009	25318	34415	77742
Gabion check dam (M ³)	6679	6962.5	5000	18641.5
Percolation pond (No.)	214	86		300
Pitting (No.)	8570445	5672000		17466596
WATER HARVESTING				0
Community pond (No.)	13	37	106	156
Community hand dug well (No.)	72	266	140	478
Irrigation canal (K.M.)	2.5	3.7	7	13.2
Check dam pond (No.)	2	16	8	26
Cut off drain (M ³)	7500			7500
Spring development (No.)		4		4
INFRA S. DEVELOPMENT				0
Construction of health post (No.)				0
Construction of F.T.C (No.)				0
Construction of school (No.)				0
Construction of public toilet (No.)				0
Construction of new road (K.M.)	29	13.2	23	65.2
Road maintenance (K.M.)	93.5	41.7	28	163.2
Culvert pipe (No.)		3		3

Source: Bureau of Planning & Finance Tigray Region, (2015)

As can be seen from the above table, there are many agricultural and infrastructural development works under Productive Safety Net Programme which are done by the beneficiaries as exchange for the support from the program. As Bureau of Planning & Finance Tigray Region (2015) revealed, due to financial and capital limitations, constructions of health posts, school development programs and public toilet construction have not been incorporated in the program

in all the study areas. It was also asserted that majority of the beneficiaries of the Safety Net Programme in Kilte Awelalo must engage themselves in one of the many development works of the *Woreda* to be beneficiaries from the program. Exceptions of the participants but beneficiaries of the program and who were incorporated as beneficiaries include old aged people, disabled and ill health only.

The Productive Safety Net Programme (PSNP) uses a combination of community based and geographic targeting to pinpoint chronically food insecure households in chronically food insecure areas. The previous figures in historic recipients of food aid were also used to govern the number of eligible beneficiaries in each region. The targeting criteria as stated in the Government of Ethiopia’s Productive Safety Net Program implementation manual, the beneficiary households must be members of the community and who are chronically food insecure, i.e. households who have faced continual food shortages (generally three months of food gap or more) in the last three years. This also includes households who suddenly become more food insecure due to severe loss of assets and who are not in a position to support themselves as well as any other household without family support and other means of social protection (Coll-Black et.al, 2011).

Table 8.4 Safety net beneficiaries across different wealth groups

Wealth ranking	Safety Net Program involvement		Total
	Yes	No	
Poor	144	73	217
Medium	82	41	123
Rich	16	14	30
	242	128	370

Source: Survey result, 2015

As can be seen from the table 8.4 above, the study found that majority of the safety net program beneficiaries were the ones in the ‘poor’ wealth ranking. Yet, the number of households who are in the wealth group of ‘rich’ who are in safety net program was not as such small to be unnoticed. Moreover, respondents asserted that graduation from safety net was not basing on the mere facts on the ground other than the time coverage under the program. Similar study made in Tigray Region also indicated that 89% of the sampled households are engaged in different food for work activities and are receiving cash or food as exchange for their work and majority constitute poor wealth ranking households, yet, the requirements set for beneficiary selection and graduation from the program are questionable (Tagel G., 2008).

Table 8.5 Respondents’ satisfaction level on Safety Net Programme

Satisfaction level	Frequency	Percent
Highly satisfied	98	26.5
satisfied	119	32.2
Unsatisfied	25	6.8
Not yet a beneficiary / graduated	128	34.5
Total	370	100.0

Source: Survey result, 2015

It was also found that majority 32.2% households who are beneficiaries of Safety Net Program are satisfied with the program followed by 26.5% highly satisfied and finally not satisfied took the least value of 6.8%. A similar study conducted in Tigray region revealed that about 85% of respondents showed asset increment after joining PSNP and 62% PSNP beneficiaries’ were able to preserve their assets (Amdissa T., 2007). In similar lines, others also indicated that the income and other supports from the Safety Net Programme significantly affect the probability of being food secure positively at 1% level of significance (Yishak G., et. al., 2014).

Conclusion

Farmers usually engage in various non/off-farm activities to earn supportive incomes and employ various coping mechanisms in an effort to relive from the impacts of food shortage. In the study areas, it was found that majority smallholding farmers to cope up and fulfill the basic necessities of their household's, they adopt selling assets (such as land, livestock, grains and others) as a priority means. Moreover, households also adopt strategies such as buying less amount of agricultural inputs, taking loan, cutting health/education expenditures, sending member of household for a job abroad and begging in descending order to fulfill their basic necessities.

It was also noticed that the coping mechanisms adopted are mainly determined by the crisis appearances which incorporate succession of responses to severe conditions. For instance, poor households were found adopting extreme coping mechanisms such as begging and sending all family members outside whereas no rich or better-off was found adopting these mechanisms.

In concomitant to this, households were also found adopting different strategies in times of food shortages. Majority of the households primarily adopt reducing their food consumption pattern by cutting the number of meals in a day to cover up food gaps where in extreme cases they were forced to sleep it off without a meal. Moreover, it was also found that eating a less preferred food such as wild fruits like cactus as coping strategy in times of food shortages followed by selling liquid and productive assets. In addition to this, households were also employing various strategies such as selling livestock and/or their products, entailing grain/cash credit, engaging in household relief assistances like food aid and finally forming *Equib* in descending order to cover up their food gaps.

Programs such as safety net were designed to strengthen the response ability of households towards various shocks and to build their asset base to combat these shocks. In line with this, the study found out that majority of the respondents were beneficiaries and recipients of safety net program. The program was designed to give more emphasis to address basic food needs of chronically food insecure rural households and to avert depletion of productive assets. It was also found that majority of the safety net program recipients were satisfied with the benefits and services rendered by the program. Majority of the safety net program beneficiaries were the ones in the poor wealth ranking, nevertheless the number of households in the rich/ better-off wealth group who are recipients of safety net program was not negligible.