

## **BREAKING THE CYCLE: EXPLORING COPING MECHANISMS AND REDUCING DEPENDENCY ON FOOD AID IN ETHIOPIA**

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### **Abstract:**

This study delves into the local perception, impact, and coping mechanisms related to food aid, as well as the determinants of dependency syndrome in the context of Raya Azebo Woreda, Southern Tigray Ethiopia. It aims to explore how communities perceive and are affected by food aid, while also investigating the factors contributing to the development of dependency syndrome. Understanding the local dynamics and responses to food aid is crucial for developing sustainable interventions that empower communities and promote self-reliance.

**Keywords:** food aid, local perception, dependency syndrome, coping mechanisms, Southern Tigray.

### **INTRODUCTION**

According to FAO 2017 global report on food crises, Ethiopia is the second most populous country in SubSaharan countries. Ethiopia is considered a least developed country ranked 171 out of 182 countries in the UNDP HDI 2009 report (WFP, 2010). The problem of food insecurity has continued to persist in Ethiopia as many rural households have already lost their means of livelihood due to recurrent drought and crop failures. Empirical evidence of food security in Ethiopia indicates the prevalence of a high level of food insecurity, with significant individual and spatial characteristics. According to Harvey and Lind (2005), humanitarian policy group (HPG) reports a prolonged relief assistance can undermine local agricultural production and by extension the economies and a large amount of food aid can damage local agricultural production. This in turn would lead to a perpetual need for relief assistance, creating a vicious cycle and trapping people in chronic. Dependency. Another form of relief aid dependency trap relates to possible labor disincentives from participating in public works programs. If work requirement is tied to receipt of relief, this would take scarce labor away from other key livelihood strategies, increasing the dependence on relief aid. In other words, an individual becomes aid dependent when he/she cannot meet immediate basic needs in the absence of relief assistance. Gautama (2018) reported that food aid had neither created dependency nor induced any form of negative impacts on local agriculture and diet pattern on Himalayan farmers; rather, aid was found covering approximately 20% of the total household food needs and contributed significantly to the poor and highly food-deficit households by reducing their reliance on debt as a means of securing food aid. Therefore, any justification like dependency for their cutback may create a void in farmers' livelihoods by removing an effective safety net that had been assisting them to avoid the loss of livelihoods in extreme conditions. In Ethiopia as elsewhere in the developing

world, there is a perception that food aid fosters dependency and creates disincentive effects at the household level and that these effects are inimical to longer-term development. Thus, allegations of dependency syndrome are becoming controversial and worth investigating. Although many empirical studies by little (2008), and Harvey and Lind (2005) initiated the dependency syndrome debate about food aid in Ethiopia, most of them were either extensive literature reviews or employed qualitative semi-structured interviews and household economic data that gave little attention to the views and perceptions of beneficiaries. To date, the existing and documented studies failed to take into account people's own experiences and local perceptions, which are crucial in understanding the people's dependency situations. Moreover, there has been a methodological gap in the studies so far; since almost all were structured qualitatively. Hence, this study strives to unravel the question of whether long-term recipients of food aid develop a dependency syndrome, thereby reducing their efforts to improve their livelihoods. The study analyzed the perception and livelihoods activities of food aid beneficiary households using qualitative and quantitative methods in rural Tigray southern zone, Raya Azebo Woreda.

## **MATERIALS AND METHODS**

### **Description of the study area**

Raya Azebo Woreda is located in the Southern zone of the Tigray region with GPS coordinates of 12° 46' 27" - 12° 51' 8" W latitude and 39° 34' 6" - 39° 55' 19" E longitude. The Woreda sits at an altitude of 1500 to 2300 m above sea level with an average temperature of 16 to 27°C (Figure 1). The annual rainfall ranges from 400 to 600 mm coupled with an unreliable and very erratic pattern that has overtime resulted into crop loss (Woreda Agriculture and Rural Development, 2020). About 90% of the Woreda's population lives in rural and semi-urban areas. Their livelihoods are highly dependent on agriculture whereby approximately 91% of the rural population earns livelihood from agriculture directly (Woreda Agriculture and Rural Development, 2020).

### **Data type and source**

Both qualitative and quantitative data types were used since the research followed mixed methodology. Primary data sources were collected from targeted households using a semi-structured questionnaire from household heads. A one to one interview was conducted with the Woreda Agriculture and Rural Development head on early warnings and food security as regards direct beneficiaries' perception of the dependency syndrome. Focus group discussions were conducted in the presence of each Tabia leaders including the administrators, development agents, women, religious and youth leaders, and food targeting community members. The secondary sources of data such as distribution and early warning reports of the Woreda were also used.

### **Sampling techniques and sample size determination**

#### **Sampling design**

The sampling design is a multi-stage sampling. First, the study area and Tabias were selected purposively and the proportions of sample respondents from each Tabia were allocated using propositional to

population sampling (PPS) technique for the food aid receipt household heads. Finally, target households were administered using a systemic random sampling technique.

### **Sample size determination**

A hundred households of food aid beneficiary were sampled and calculated using the Yamane (1967) formula at a 90% confidence level with a 10% margin (Israel, 2018). Besides, the study also referred to the past documented investigations with similar interests and respective sample sizes to infer against this research work's sample size determination.

Yamane (1967) provided a simplified formula to calculate sample sizes. At 90% confidence level,  $p=0.5$  was assumed for the following equation:

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

Where N= Number of total beneficiaries and n= Number of sample size.  $n = 14,991/1 + 14,991(0.1)^2$

$n=100$  Three Tabias were selected to assess the perception of food aid and dependency syndrome at the local level from the exiting food aid beneficiaries in the Woreda. As a result, Hawolt, Machare, and Karra rural Tabias of the Woreda were selected due to their high food aid beneficiaries' caseload with longer years of food aid status. The proportionate sampling technique was applied to determine the number of household head respondents of each Tabias where Hawolt, Machare and Karra reportedly had 5,606, 4,968 and 4,417 beneficiaries, respectively. The male and female respondents were also computed using proportionate to population sampling method (Table 1).

### **Method of data analysis**

Collected data from the survey respondents were analyzed using both descriptive and inferential statistics. To establish a relationship between variables and dependency syndrome, a probit model was employed. Dependency syndrome has been treated as a binary dependent variable where (1) represented presences of dependency as a result of the explanatory variables for food aid, and (0) otherwise. The results were summarized and presented into simple tabulations using percent and frequency statistical techniques. Finally, the analysis and interpretation of results were drawn alongside implication and conclusion of this study.

### **Model specification**

A binary model was utilized to determine the beneficiaries' perception, socio-economic effects of food aid, coping mechanisms, and the notion of dependency syndrome with the food aid recipient; (1) if food aid created dependency and (0) if otherwise. Such a relationship also required the utilization of qualitative response models. In line with this, logit, probit, and linear probability models were the possible options. Though ordinary least squares (OLS) regression estimates can be computed for a binary model, the error terms are likely to be heteroscedastic which leads to inefficient parameter estimates. As a result, hypothesis testing and construction of confidence interval becomes indefinite and confusing. Likewise, a linear probability model may produce predicted values outside the acceptable level of 0-1 value which abuses the basic belief of probability. Thus, to alleviate these problems and produce relevant empirical

outcomes, the most widely used qualitative response models (logit and probit) were used. Disregarding the minor differences between logit and probit models, indicated that the probit and logit models are quite similar, so they usually produce predicted probabilities that are almost the same. According to Stock and Watson (2006), the probit model is a nonlinear regression model specifically designed for the binary dependent variables. According to Legesse et al. (2015), the probit model will be preferred to other alternative models because these authors were anticipating drawing their sample from a normally distributed population and lead itself to a meaningful interpretation than the other types.

Methodologically, the social-economic effects of food aid were discussed qualitatively using frequencies, percentiles, tables, means, and figures using stata11 version. Additionally, the third objective of the study involving a major coping mechanism of households for dealing with food shortages was also similarly analyzed descriptively.

The general representation of the econometrics model, in this case, is described as follow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \epsilon_i \quad X\beta + \epsilon$$

**Table 2.** Description of dependent and independent variables planned to be used in the model.

Explanatory variable	Explanation	Category	Value	Expected sign
<b>Dependent variable</b>				
DS	Dependency syndrome	Dummy	0=No, 1=Yes	
<b>Independent variable</b>				
AHH	Age of household head	Continuous	Year	Positive, Negative
SHH	Sex of household head	Dummy	0=male, 1=female	Positive
FS	Family size	Continuous	Number	Positive, Negative
LS	Land size	Continuous	Hectare	Negative
PIH	Productivity in hectare	Continuous	Quintal	Negative
MOC	Main Occupation	Dummy	0=other, 1=farmer	Positive
ESHH	Education Status of household head	Dummy	0=Literate, 1=Illiterate	Negative
NLHHO	Number of Livestock household owned	Continuous	Number	Negative
FAP	Food Aid Packages	Dummy	0=No, 1=Yes	Positive
DFA	Deliverability of Food Aid	Dummy	0=No, 1= Yes	Positive
ERD	Exposure to recurrent drought	Dummy	0=No, 1=Yes	Positive

Source: Researcher's own computation.

Where  $Y$ =the dependent variable, 1 represents the presences of dependency syndrome as a result of the explanatory variables for food aid, and 0 otherwise.  $X_1$ =Age of HHH year,  $X_2$ = Sex of HHH (where 1-Female and 0-male),  $X_3$ = Family size in number,  $X_4$ =Educational status of HHH,  $X_5$ = Land size (ha),  $X_6$ =Number of livestock,  $X_7$ = Household's livelihood base,  $X_8$ =Food deliverability,  $X_9$ = Food aid package,  $X_{10}$ =Market price of food aid items,  $X_{11}$ =Exposure to recurrent droughts,  $\beta_0$ = constant,  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$  = coefficient to estimate the relationship between dependency syndrome and the independent variables, and  $\varepsilon_i$ =random error term.

### **Variable definition and hypothesis**

#### ***Dependent variable***

Dependency syndrome ( $Y$ ) was treated as a binary dependent variable where (1) represented presence of dependency as a result of the explanatory variables for food aid, and (0) otherwise.

#### ***Independent (Explanatory) variables***

Independent variables are selected based on existing theories and empirical studies. The hypothetical assumptions of these selected explanatory variables are given in Table 2.

### **RESULT AND DISCUSSION**

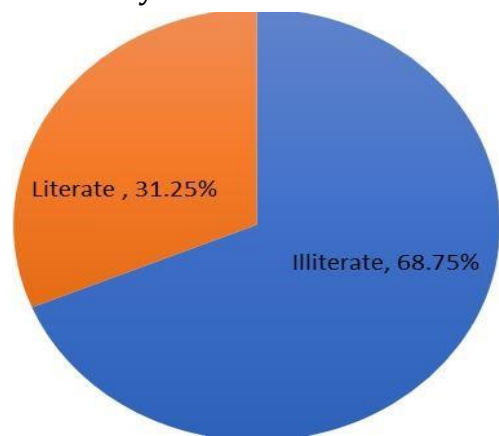
#### ***Respondent's profile***

As shown in Table 3, 54.2 and 45.8% of the respondents were found to be male and female respectively. The age category of the respondents was divided into five intervals. Accordingly, 32.28% were between 25 and 35 years of age, 28.14% of them were between 36 and 45 years of age, 25% were between 46 and 55 years of age, 7.29% were between 56 and 65 years of age and the remaining 7.29% were above 66 years old. The minimum and maximum ages of respondents were between 25 and 80 years old and 44 was the mean year of respondents, respectively. As regard to marital status of respondents, 69.79% of the respondents were married and the remaining 30.27% of them were categorized as widows, divorced, and single respondents. Additionally, the majority of the households (43.8%) were reported to have a family size of 5-6 members followed by 2-4 (33.3%) members. 19.8% of the respondents were also reported to have a family size of 7 and above members while only 3.1% of these respondents were found to be single families. It is also observed that the computed mean of the household family size for the study is about 5, which is well above the mean of national level 4.8. When seen the religious compositions of respondents (72.92%) were predominantly Orthodox (Coptic) Christian and the remaining 27.08% of them were Muslim respondents.

#### ***Households land size in hectare and productivity in Quintal***

As indicated in Table 4, majority of respondents (44.79%) owned land between 0.51 and 1.49 ha, 27.08% of them were holding 1.5 to 2.49 ha of land and 9.38% of them were found holding a land between 1.5 and 2.49 ha, respectively. Only 4.2% of them were found holding  $\geq 3.5$  ha of land. On the other hand, 14.58% of the total respondent household heads did not have land during the interview. Given the scarcity of land in mind, households were also exposed to different natural and manmade problems such as the recurrent

Agriculture Bureau and some experts believed that the provision of food aid for a prolonged period would eventually become an obstacle for local development activities and by extension



**Figure 2.** Education status of household heads.

droughts where many of the households' lives and livelihoods were prone to different levels of chronic and transitory food insecurity problems. The productivity levels of households were also found to be very poor due to the existence of the recurrent drought in the area. The productivity level of the land in Woreda ranged from 1 to 8 quintal of Teff and 15 to 25 quintals of sorghum during drought seasons and 16 to 20 quintals of Teff and 50 to 60 quintals of sorghum during the normal/good production seasons (Woreda Early Warning and Food Security Report, March, 2020). In Figure 2, 68.75% of them were illiterate while 31.25% of the respondents were found to be completing basic primary and basic secondary schooling and categorized as literate.

#### **Food aid and beneficiaries' perception of dependency**

would make the inhabitants more dependent on food aid. The Woreda and Tabia level officials were also certain that beneficiaries of food aid have already developed dependency syndrome. The head of Early Warning and Food Security of the Agricultural Office, for instance, explained that "since food aid is available and continued for many years, beneficiaries, mainly the male farmers have developed a dependency syndrome and become reluctant to improve their lives and livelihoods. To this end, beneficiaries of food aid were not willing to use their potential to improve their livelihood by themselves." Officials and experts generally described local people as unwilling to invest their time and resources to improve their wellbeing; whilst they have wider opportunities, these people can invest their time and energy. This is in line with Siyoum et al. (2012) who did a research in Ebinat district, one of the chronically food-insecure in northern Amhara, Ethiopia. For example, what these officials mentioned was "there are mechanized agricultural investments owned by foreign investors and Ethiopians in the Woreda in which a large number of daily based laborers can be employed and get an average of 150 to 200 birr per person/day, but these beneficiaries of food are still looking and prefer 48 birr payment per person a day that is found as a result of public work of this safety net program. He said, "In fact, beneficiaries of food aid are coming to the specified soil and water conservation areas, but many of them were not punctual and they do not even deliver quality job". That is why many households do not see changes in their lives and livelihoods.



### **Food aid packages against beneficiaries' family size**

As indicated in Figure 3, majority of the respondents (42.71%) were receiving 75 kg in one-month distribution time. 21.88% were also receiving 60 kg. Only 1.04% of the respondent was receiving 105 kg of wheat in onemonth distribution time. Also, under-coverage was the most frequently reported problem with relief assistance, mentioned by 83.3% of people interviewed. The implication inferred by several people that report this problem is that ration sizes are diminishing from time to time since it is shared among many poor household members. Thus, food aid recipient households have not fulfilled the minimum WHO calorific requirements (2100 kcal per person per day). Accordingly, food aid beneficiaries are mostly forced to lead and live a subsistence life for many years. One beneficiary said that the support is too small to manage the food requirements of his large family size and described the received aid as "*sprinkle it among some*" or Tsebel Tsadik in Tigrigna. This finding agrees with other studies on food aid packages in Ethiopia which revealed that it is too small to manage the food demands of households (Siyoum et al., 2012).

### **Food aid deliverability**

Almost all interviewed households, Tabia and Woreda administrators explained that food has never been delivered and distributed timely. The respondents said the food came and was distributed usually after these beneficiaries have exhausted what they had at hand and/or sold their productive assets. As per Table 5, 96.88% of the interviewed households complained about the delay of this food assistant.

### **Selling of productive assets for food aid purpose**

To triangulate the level of beneficiaries' dependency, participants of the survey study were asked if they sold their productive assets such as ox to get registered into

food aid as in Figure 4. Accordingly, 100% of these study participants replied "No". On the same note, these respondents were also asked if they knew someone who sold his/her fixed assets for food aid purposes and 92.71% of respondents answered "No". To probe participants' response, the researcher used triangulating questions and forwarded to focus group discussion participants and key informants. As a result, participants of the FGD were also reassured as food beneficiaries households are not in a position to sell their fixed assets for food aid purposes.

### **Household's livelihood bases**

The most important issue in the dependency syndrome debate was the type and nature of livelihood activities households pursues to improve their livelihoods.

According to one of the local officials' arguments, farmers' perceived lack of interest in engaging in livelihood activities to supplement their income. To take up this issue, households were asked about the type of livelihood activities they pursued to cover the household's food requirement. The participants' response revealed that food aid remains one of the many sources contributing to the majority of farmers' livelihood portfolios. Besides, interviewed households explained that they engaged in multiple on-farm and off-farm activities to earn income and support their families. As per the study result, food aid was found to be insufficient to cover household food gaps; hence, households engaged in as many livelihood activities as

possible. Table 6 shows the number of livelihood activities that households pursued to cover their food gaps.

### **Descriptive analysis of variables**

To analyze the effect of food aid and beneficiaries' perception at the local level, the binary (probit) model was applied and 100 questionnaires were distributed among the target beneficiaries of the three selected Tabias.

### **Results from the econometrics model**

Here, food aid dependency syndrome and its determinant factors are presented. The effects on perceptions of food aid at the household level along with dependency syndrome and significance of explanatory variables of probit regression model was analyzed and shown in Table 7.

Above the marginal effect after probit result, four out of eleven explanatory variables were found to be statistically significant at 1 and 5% respectively. The determinant factors, in this case, were family size (FS) with p-value of 0.011, education status of household head (ESHH) with p-value of 0.039, number of livestock households owned with p-value of 0.004, and the market prices of food aid (MPFA) items with p-value of 0.048. The remaining variables were not found in the course of determining the dependency syndromes of food aid beneficiaries. The hypothetical assumptions and respective probit regression results are discussed in the following.

#### ***Family size (FS)***

Family size was hypothesized as having both negative and positive effects with the dependent variable (dependency syndrome). Accordingly, the probit result showed a negative relationship at a 5% significance level (Table 7). This outcome might be due to the fact that as the number of families living under one roof increases, the probability of diversifying household's sources of income also increased. In a sense, some members of the households may be engaged in the labor wage markets such as in nearby investors' irrigation daily works where 150 to 200 birr per person per day was found to be paid, and in the construction sector of the nearby small and medium towns. Moreover, some members of the household might move to nearby Woredas to look for daily works like weeding, harvesting, and related farming activities, hence collecting different amounts of birr and supporting their family's food and related demands. The probit result thus indicates that the number of family size in one roof increased by 1 person, while the probability of developing dependency syndrome decreased by 14.1% (change in y to x - column 2, Table 7).

#### ***Education status of household head (ESHH)***

From Table 7, the educational status of HH head was significantly associated with food aid dependency syndrome at a p-value of 0.039 (Table 7). Analysis of the probit regression result indicates educated households were less likely to be food aid dependent than households headed by uneducated at a 5% significance level (Table 7). Therefore, the educational level of the household head could influence an individual beneficiary's perception of food aid and the related notion of dependency syndrome among the household members. Thus, the educational attainment by the household head could lead to awareness and



possible advantages of modernizing agricultural activities and enhance the production and productivity of the available land using technological inputs like better seed, fertilizer packs, and the diversification of household incomes, which would in turn enhance the household's food supply and demand. According to this study result, the illiterate headed household is more exposed to food aid dependency syndrome than literate headed households. Thus, the result of the probit marginal effect indicates that as the education status of the household head changed from 0 to 1, the probability of developing dependency syndrome also decreased by 28.31% (Table 7).

#### ***Number of livestock owned by households (NLOHH)***

The model result depicts that as expected, the number of livestock owned by households has a negative effect at 1% significance level with a p-value of less than 0.05 ( $p=0.004$ ). This result indicates that when the number of households who own livestock increased, household head and the families will be able to plow their land, improve their production capacity, and the probability of becoming food aid dependent is decreased. Moreover, they will be able to diversify their source of income by selling animal products like milk, butter, goat, sheep and other related animal products, thus improving the livelihood opportunities of households. From the result, it is possible to realize that when the number of livestock increased by one tropical livestock unit, the probability of developing food aid dependency syndrome decreased by 16.4% (Table 7).

#### ***Market prices of food aid items (MPFA)***

As hypothesized, market prices of food items were significantly and positively associated with food aid dependency syndrome at a p-value of 0.048 (Table 7). The probit regression result reveals that households who sold some portion or full ration size were found to be developing food aid dependency syndrome. This could be happening because many households were receiving food aid for as long as 5 to 15 years and this would positively inspire beneficiaries to be dependent on the yearly based food for work (FFW) program which contradicts the objectives of the program. On top of this, the market values of food aid items are higher than the local products like sorghum and maize. As a result, the benefits gained by selling food aid items compare to own products that result from much time and effort and might also affect households' development of dependency syndrome. Besides, all of these beneficiaries of food aid might not be interested in exerting much effort (energy) and time to be engaged in their respective farming activities when they are sure they have yearly based food support with less effort and time. To this end, beneficiaries might calculate their respective comparative advantages concerning food aid and their production. Accordingly, the probit results of the regression indicated that when the market prices of food aid items increased by one birr, the probability of developing food aid dependency syndrome increased by 0.04% (Table 7).

#### ***Descriptive analysis of the socio-economic effects of food aid***

As regards its importance in saving the poor households' lives, assets, and improving beneficiaries lives through enabling investment in improved human nutrition and health, or in productivity-enhancements to household, the researcher initially perceived that the ongoing food aid might affect the social values of the

community as a result of the targeting biases/errors and related problems. As indicated by the majority of the respondents (80.21%) in Table 8, food aid has not affected their social values and interaction in the study Tabias; whereas it deepens the existing supporting mechanism among the food aid recipients themselves and with the other community members in their areas of residence. This implies that beneficiaries had been sharing some parts of their rations with people who are experiencing food shortages and other related problems during shocks and related food crisis, and the ongoing food supports enabled the poor households to have tea and coffee talks, wedding and

**Did you agree that the food aid has spoiled your social interaction or neighbors? Freq.**

	Percent	Cum
Agree	13	13.54
Indifferent	6	6.25
Disagree	77	80.21

Total 96 100

**Table 9.** Economic effects of food aid.

Do you think that food aid brought livelihood change in your HH?	Freq.	Percent	Cum.
No	60	62.50	62.50
Yes	36	37.50	100
Total	96	100	

**Table 10.** Major coping mechanisms households adopt to cope food shortage.

S/N	Major coping mechanism	Share (%)
1	Work as daily wage laborer within the investors' investment area, nearby Woredas and the construction sectors	50
2	Selling of livestock and other small animals and renting out lands for one or more years	20
3	Borrow from neighborhoods (cash and grains)	5
4	Changing their diets (switching food consumption from preferred foods to cheaper)	5
5	Cutting portion size or number of meal	5
6	Growing cash crops like Kacht and vegetables	5
7	Engaged in petty trading like selling of local beer, that is, <i>Suwa or Tela</i>	5
8	Sending children to the middle east countries such as Saudi and collect remittances	5

Funeral ceremonies attendance in their respective locality. 13.54% of the respondents on the other hand, are of the opinion that the food aid is hampering their relationships (Table 8). There is lack of transparency

by the Tabia leaders in reaching the targeted people, likely occasioned by diversion of the food aid purpose due to social networking and political attitudes of some leaders.

Participants in the survey were also asked if this decade's long food aid brought about changes in livelihood and has an economic effect or not. As a result, 62.5% of the interviewed participants responded that the aid did not add something special to their lives and livelihoods (Table 9). Contrary to that, they criticized the timeliness, ration size and reliability of the aid. Furthermore, interviewed beneficiary households revealed that food aid usually arrives later than scheduled hence they hardly depend on food aid even in times of food crisis.

Besides, 37.5% of these beneficiaries also reported that the food aid had been contributing a lot to their daily lives and livelihoods. Thus, beneficiaries' of food aids saved their fixed assets that they would have sold to purchase food for households' food consumption during the food crisis. Additionally, the decade's long food aid has brought extra benefits for those households who were poor. For instance, food aid enabled some of the beneficiaries to buy fixed assets such as goats and sheep. Above all, the food aid helped beneficiary households to buy scholastic materials for their children.

Food aids (mainly the project food aid) stimulates development activities within the selected Tabias. During field survey, the researcher witnessed that the food aid recipients were engaged in a number of activities as biological and physical conservation of natural resources, e.g. soil and water conservation, reforestation, and so forth.

### **Major coping mechanism of beneficiaries**

Discussion with respondent households revealed that during the food crisis, other than entirely depending on food assistance, people are exhaustively trying their maximum effort and diversifying their livelihood options, so they can generate different amounts of income. Table 10 indicates the major types of coping mechanisms apart from the lifelong food aid that people in the study area pursued to overcome household food shortages in times of crisis. Different literatures on coping strategies support these findings (Little, 2006; Corbett (1988) for example, argued that food aid is one among many mechanisms that people use to deal with shortage of food during a crisis. Thus, it is challenging to perceive that people are fully passive recipients of aid. The result demonstrates that in times of crisis, about 75% of interviewed households pursued at least eight different types of coping mechanisms in addition to receiving food aid to deal with their food shortages as indicated in Table 10. Out of the total 75% of respondents, about 50% of them indicated that they had been engaging in different forms of daily labor in both agriculture and construction-related activities to cope with their food shortages. Additionally, 20% of these participants were also reported to have sold some of their livestock and rented lands for a short period to mitigate the food gaps of their households. Finally, 30% of these interviewed households also explained that they had been borrowing cash and grains, changing their diets, cutting portion size of meals as well as collecting remittances from their families abroad and others as indicated in Table 10. This result suggests that the limited nature of food aid forced people to employ diversified livelihood activities to earn their survival income. Participants of the FGD and key informants also mentioned that beneficiaries of food aid were

adopting a range of coping mechanisms/strategies. Some of them were changing their diets (that is, switching food consumption from preferred foods to cheaper, less preferred substitutes); households attempt to borrow or purchase on credit or even eat seed stocks. Most common households attempted to manage the shortfall by rationing the food available to the household (cutting portion size or the number of meals). Some food aid beneficiaries who have access to irrigation were also growing cash crops like Kacht and vegetables. Aside this, some were engaged in petty trading like selling of local beer, that is, Suwa or Tela as well as tea and coffee mainly in small towns.

### **Conclusion**

This study has looked into the determinants of the dependency syndrome debate in the context of long-term food aid transfers in one of the chronically food-insecure districts in Tigray region, Raya Azebo Woreda, Ethiopia. Using qualitative and quantitative research methods, this paper studied a group of 100 direct HH beneficiaries of the current food aid. It has attempted to understand the effect of food aid transfers on the dependency syndrome. The marginal effect after probit result showed that four out of eleven explanatory variables were found to be statistically significant. The determinant factors, in this case, are family size (FS), education status of household head (ESHH), number of livestock households owned, and the market prices of food aid items (MPFA). In line with this econometrics result except for the market prices of food aid items (MPFA) that was found to be increasing food aid beneficiaries dependency syndrome, the remaining three explanatory variables were found to be decreasing household level of dependence on food aid and the related notion of the dependency syndrome.

The majority of the respondents in the study area, on the other hand, reported that food aid has not affected their social values and norms whereas it deepens the existing supporting mechanism among the food recipients themselves and with the rest of the communities as well. Besides, 62.5% of the interviewed participants reported that the food aid did not add anything special in their lives and livelihoods whilst they criticized the timeliness, ration size and reliability of the aid. It is pertinent to note that households' dependence on food aid to meet their basic needs whilst facing livelihood shocks and inability to cover their food gaps should not be confused with the very sense of dependency syndrome. The extremely different types observed meant that when people are unable to produce enough food due to the recurrent droughts and limited access to livelihood opportunities, the result of seeking additional support should not be misconstrued as an indication of dependency syndrome. Thus, perception of food aid dependency syndrome is not reflected in the daily practices of the three purposely selected Tabias of Raya Azebo Woreda food aid beneficiaries, that is, they do not fully rely on the ongoing food aid.

### **CONFLICT OF INTERESTS**

The authors have not declared any conflict of interests.

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