STATE OF HOUSEHOLD FOOD INSECURITY IN ETHIOPIA: REVIEW

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ABSTRACT

The objective of the study was to review food insecurity status, cause of food insecurity, food insecurity extent and coping mechanisms practiced to tackle food insecurity problems in Ethiopia. The assessment was based on intensive reading of both published and unpublished documents. Finally, the data were presented in tabular and narration form. The review indicates that Ethiopia is chronically and seasonally food insecure country. Nearly 33 million people are suffering from chronic undernourishment and food insecurity. Different studies indicated that the status, depth and severity of food insecurity in Ethiopia are dynamic. The problem is compounded by backward agriculture, land degradation, drought, population pressure, poor infrastructure facility and low level of off-farm/non-farm activities. In response to the problem, households vulnerable to food insecurity have developed sale of livestock, agricultural and non-agricultural employment, livelihood adjustment, reducing size and frequency of meal, consumption of wild plants, borrowing grains from relatives, migration and livelihood diversification as a coping mechanisms. To ensure food security in Ethiopia, the development workers should create awareness for the community about family planning, soil conservation practice, personal and environmental hygiene, technology adoption and rainwater harvesting to reduce the problem caused by drought and erratic rain fall. Agricultural and non-agricultural employment, livelihood adjustment and livelihood diversification should be enhanced.
1. INTRODUCTION

Food security and insecurity are terms used to describe whether or not households have access to sufficient quality and quantity of food. The concept of food security was originated in the mid 1970s during the international discussion on global food crisis. The initial focus of food security was primarily on food supply problems of assuring the availability and to some degree the price stability of basic food stuffs at the international and national level (FAO, 2005). Food security is perceived at the global, national, household and individual levels. However, food security at global level does not guarantee food security at the national level. Similarly, food security at the national level does not guarantee food security at the household or even the individual level (Duffour, 2010).

Nowadays, food security/insecurity has gained great attention by policy makers, researchers, governmental and non-governmental organizations and development workers. In line with this, ensuring food security remains a key issue for the government of Ethiopia. In order to combat threats of famine and pervasive poverty and there by ensure food security for its population, the government strategy has rested on increasing the availability of food grains through significant investments in agricultural technologies (high yielding varieties of seeds and fertilizer), services (extension, credit, input delivery), and rural infrastructure (roads, markets). However, the impacts of these policies have been shadowed as there are still millions of people who experience extreme hunger in the country. According to the report of food and agricultural organizations of united nation, 41 % of the Ethiopian population lives below the poverty line and more than 31 million people are undernourished (Bogale and Shimelis, 2009; FAO, 2010).

In light of the above information, this study assess the status of household food insecurity, extent of food insecurity, cause of food insecurity, and coping mechanisms practiced by households vulnerable to food insecurity.

2. METHODOLOGY

This article is based on intensive literature review of published and unpublished materials like books, articles and other scholarly materials. The data were presented in tabular and narration form.

3. RESULTS AND DISCUSSION

3.1. FOOD INSECURITY STATUS
Achieving food security in its totality continues to be a challenge not only for the developing nations, but also for the developed world. The difference lies in the magnitude of the problem in terms of its severity and proportion of the population affected (Tsegaye, 2009).

Ethiopia has a history of famine between 1983 and 1985; the country experienced the worst famine in current history, with a substantial crop and livestock loss. About eight million Ethiopians were affected, and around one million have died. The famine also had long term effects in that many of the poor had depleted their assets to deal with the famine, which left them even more vulnerable to future crises. Famine vulnerability continued through the mid 1990s owing to conflict in the northern regions and protracted drought in other regions of the country (Webb and Von, 1994).

Ethiopia has experienced long periods of food insecurity. As a result, more than half of the population is poor and food insecure of which the largest group is rural people with insufficient assets to produce and purchase food (Sisay and Adugna, 2001). Similarly, the blend of manmade and natural factors results serious and growing food insecurity problem, which expose five to six million people to chronic and transitory food insecurity problem each year; and ten million people, are exposed to vulnerability with weak resilience (FAO, 2006).

According to FAO (2014) Sub-Saharan Africa is the worst of all regions in prevalence of undernourishment and food insecurity; Ethiopia (ranking no.1) is the worst of all African countries as nearly 33 million people are suffering from chronic undernourishment and food insecurity. This indicates that Ethiopia has one of the highest levels of food insecurity in the world, in which more than 35% of its total population is chronically undernourished. The report of different studies indicated that chronic and acute food insecurity is prevalent in Ethiopia, especially among rural populations and smallholder farmers. Another study by UNICEF (2014) prevails that about 10% of Ethiopia’s citizens are chronically food insecure and this figure rises to more than 15% during frequent drought years; 2.7 million people will require emergency food assistance in 2014 and 238,761 children require treatment for severe acute malnutrition in 2014. On the other side, the report of World Food Program (WFP) demonstrated that favorable food security conditions prevail in most parts; however, over 7.1 million people were estimated to live in conditions of crisis. These populations are in North Eastern Amhara, Eastern Tigray, and Eastern Oromia; whereas, The number of children with severe acute malnutrition in Afar, Amhara, Oromia, Southern Nation Nationality Peoples region, Somali and Tigray regions showed a slight decrease from 21,566 (86.2% reporting rate) to 21,105 in 2014 (84.4% reporting rate) (WFP, 2014).

According to the report of Global Food security Index (GFSI) (2015) Ethiopia ranking 86 among 109 countries with the total scores of 38.5 with the score changes of 2.2. Of the 109 countries in the GFSI, 60 have seen score increases in quality and safety since 2012. The top five most-improved countries were Mali (+16.4), Ethiopia (+13.2), Singapore (+12.9), Venezuela (+12.5) and Saudi Arabia (+11.7).
<table>
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Source: Own Review

3.2. EXTENT OF FOOD INSECURITY

One possible food insecurity incidence, depth and severity measurement tool, according to Hoddinott (2001), is the Foster-Greer-Thorbecke (FGT) index which is widely used for poverty measurement studies. Adopting this, the present studies make use of the model to measure the extent of household food insecurity. FGT index provides three most commonly employed indices: head count ratio (food insecurity incidence), food insecurity gap (depth) and severity of food insecurity. The head count ratio indicates the number of households whose consumption expenditure is less than minimum requirements to lead healthy and active life. Whereas, food insecurity gap measures how far the food insecure households, on average, are below the cut of value; on the other hand, squared food insecurity gap is more closely related to severity of food insecurity but giving those further away from the minimum level a higher weight in aggregation than those closer to the subsistence level.
Different researchers have adopted the FGT Model to analyze the extent of food insecurity. The study conducted in Northern Ethiopia by Tilaye (2004) using FGT model revealed that the head count ratio, food insecurity depth and severity were reported to be 66%, 30% and 12%, respectively. Another study by Aschalew (2006) used the same model and showed that 43% of households in Diredawa fail to meet the daily recommended caloric requirement, 13% were also far from recommended caloric intake set by the government of Ethiopia on average and 5.9% under severe food insecurity condition. On the other hand, the study by Muche et al (2014) using FGT model demonstrated that 42.9% were living below minimum requirement; 4.4% were far from minimum requirement; and 0.4% were under severe food insecurity situation.

According to Zerihun (2012) the absolute head count index, the normalized calorie deficiency gap index and the square calorie deficiency gap were about 60%, 5.8% and 1.8%, respectively. Whereas, a study by Girma (2012) in Addis Abeba revealed that the incidence, depth and severity of food insecurity was 58%, 20% and 9.4%, respectively.

In addition to the above, the study conducted in Southern Ethiopia by Mitiku and Legesse (2014) evidence reported that 42% of the sampled households were not able to meet the daily recommended caloric requirement which is 2100 kcal/day/AE; 14.67% of food insecure households were far from the recommended daily caloric requirement level and 7.26% of households are the most food insecure groups of households.

### 3.3. CAUSE OF FOOD INSECURITY

The causes of the existing food insecurity problem in Ethiopia are numerous and interrelated (ATA, 2010). Based on the reviewed document, this study point out the following major causes of food insecurity. These are:

#### 3.3.1. BACKWARD AGRICULTURE

Agricultural technology can contribute to increased food production (food availability), increased agricultural and rural incomes (better access to food), and entails positive spillovers to other sectors and contributes to economy wide growth. But in Ethiopia smallholder farming is the dominant livelihood activity and the source of vulnerability to poverty and food insecurity (Kidane et al., 2006).

The performance of agriculture, the sector that makes livelihood for 85% of the country’s population, has been poor over the last few decades, to the extent that the country could not adequately feed its population from domestic production. This has been manifested in the prevailing chronic and transitory food insecurity. Similarly, Ethiopia is currently facing challenging problems that are induced by environmental crises, demographic and socio-economic constraints, which adversely affect people’s production system. This has resulted in agriculture being poor for several years to the extent that the
country could not adequately feed its population from domestic production and prevailing both chronic and transitory food insecurity (Degefa, 2002).

On the other hand, the discussion of Deverux (2000) indicated that dependence on unreliable and low-productivity rain fed agriculture may well be the primary determinant of household food insecurity in Ethiopia.

3.3.2. LAND DEGRADATION

Land degradation, poverty and food insecurity are pervasive and interconnected problems in Ethiopia (Stein and Bekele, 2004). Land degradation coupled with erratic rainfall, drought and poverty problems pose a serious threat on households’ food security in Ethiopia. Among the various forms of land degradation, soil erosion is the most serious problem, which results in soil nutrient depletion and loss of fertility of farm land. Loss of soil nutrient and its productive capacity due to soil erosion leads to low productivity of land, which in turn brings loss in crop yields and results in a vicious cycle of poverty and food insecurity (Genene and Wagayehu, 2010).

Land degradation is seriously affecting the soil fertility, contributing to considerable yield decline, loss in food production, and hence the food security at household and country levels. Food security cannot be achieved without effective planning and improved management strategies of soil and nutrient resources. Land degradation, is recognized as the most critical problem affecting the agricultural growth and causing increased rural poverty in Sub-Saharan Africa (FAO, 1997). Ethiopia loses about 400 tons/ha of topsoil, and it is estimated that the amount of grain lost to land degradation alone can feed more than 4 million people. Thus a condition becomes a cause of economic stagnation and decline, which aggravates poverty and food insecurity (Sisay and Tesfaye, 2003).

3.3.3. DROUGHT

The Eastern part of African Continent was hit by recurrent drought during 1997 – 2000. Around 12 million people were suffering from starvation in the Horn of Africa (Somalia, Ethiopia, northeastern Kenya), stricken by the worst drought in the past 60 years (Albert, 2012). Ethiopia, in addition to existing economic problem, as part of the region, experienced prolonged drought and famine that caused considerable crop failure and livestock damage resulting in severe food shortage (Abraham, 2003). Currently in Ethiopia, there are more than 10 million people who have been affected by drought. Some 4.6 million people are threatened by hunger and malnutrition and require urgent food assistance (WFP, 2009). Furthermore, the problem of food insecurity has continued to persist in the country as many rural households have already lost their means of livelihood due to recurrent drought and crop failures (Bogale, 2002).

Drought and famine have become an everyday reality in Ethiopia. The country has faced three major famines and numerous famines like situations in the past three decades that significantly affected the country’s food production. During the period between 1958 and 1977 over 25 million people were directly...
affected by famine and drought. The number of deaths was estimated between three and five million people. The 1984/85 famine alone had taken the lives of 300,000 people. It was estimated that close to 58 million were affected by famine between 1973 and 1986 (Berhanu, 2001).

3.3.4. POPULATION PRESSURE

Ethiopia, with a population of about 81 million, is the second-most populous country in sub-Saharan Africa. Food insecurity is a major and ever worsening problem. Rapidly increasing population pressure is one of the underlying cause food insecurity (USAID, 2012). Population pressure coupled with droughts and other unfavorable weather conditions is a challenge to famine prevention in Ethiopia (Alexander, 2009).

Most of the countries with the highest numbers of people facing food insecurity also have high fertility rates and rapid population growth. This increases the challenge of adequately meeting nutritional needs. Sub-Saharan Africa has the highest population growth rate in the world (United Nations Population Division, 2009).

Large population reduces income per head, expenditure per head and per capita food consumption. The likely explanation is that in an area where households depend on less productive agricultural land, increasing population results in increased demand for food. This demand, however, cannot be matched with the existing food supply from own production and this ultimately end up with the household becoming food insecure (Robert et al., 2013).

3.3.5. POOR INFRASTRUCTURE FACILITY

Infrastructure in terms of adequate energy and water/irrigation supplies, high-speed communications, and seamless transportation systems connecting areas of high production with centers of high consumption, all play a crucial role in safeguarding food security. But much of that food loss occurs during or after harvest in developing countries due to inadequate infrastructure, lack of proper storage facilities, lack of education on grain storage and lack of efficient markets to ensure grains move through the supply chain. This food loss reduces incomes of smallholder farmers, raises food prices and contributes to hunger and malnutrition. Some regions in Ethiopia produce surplus, while people in other regions face famine threats. There are of course infrastructural problems in the country to link the surplus producing regions to the food-deficit ones (Alexander, 2009).

The weak system of marketing and transport operations to procure and collect agricultural products from widely dispersed rural producers and to distribute essential agricultural inputs on time contributes not only to the fall in production in some years, but also to the problems caused by failure to move the available food itself to needy areas (Gezahegn, 1995).
3.3.6. LOW LEVEL OF OFF-FARM/NON-FARM ACTIVITIES

Although rural households tend to turn to off-farm activities to meet their needs and offset income shortfalls, participation appears to be constrained by capital assets: human, social, financial, and physical (Mintewab et al., 2010).

Income from the agricultural production may not be the only source of income for the rural household. The success of households and their members in managing food insecurity is largely dependent on their ability to get access to off-farm/non-farm job opportunities, which could serve as livelihood diversification strategies. Smallholders who solely depend on farm activities have inadequate income to purchase farm inputs and fulfill family needs and thus, they are found to be food insecure (Beyene and Muche, 2010).

In Ethiopia, agriculture is the main source of income and employment but it has been highly constrained by various constraints and thus leaves the country to remain food insecure especially in drought prone and degraded areas. As a result, focusing in agricultural production alone is not enough to combat the food insecurity problem; therefore, engaging in non-agricultural or nonfarm activities is crucial to sustain the people’s livelihoods (Bereket and Zenebe, 2011).

3.4. COPING MECHANISM OF FOOD INSECURITY

Coping mechanisms exercised by disaster victimized communities are not similar everywhere due to variation in the socio-economic, socio-cultural, demographic and geophysical conditions of an area. The responses are always determined by the nature of the crisis: its speed, knowledge, intensity and duration, and household livelihood resilience (Alemtsehay, 2002).

Coping mechanisms used by farm households in rural Ethiopia include livestock sales, agricultural employment, and certain types of off-farm employment and migration to other areas, requesting grain loans, sale of wood or charcoal, small scale trading, selling cow dung and crop residues, reduction of food consumption, consumption of meat from their livestock, consumption of wild plants, reliance on relief assistance, relying on remittance from relatives, selling of clothes, and dismantling of parts of their houses for sale. Some of them are likely to be implemented only after the possibilities of certain other options have been pursued. In addition, households who have diversified source of income are often able to cope with crisis than others (Frehiwot, 2007).

Households employed different mechanisms but the most commonly practiced ones are six short term coping strategies: consuming less preferred food was used by 94% of the households, which is the most commonly used coping strategies. Following consuming less preferred food, about 84.7% and 83.2% of the households used meal reduction and small animal sale as coping mechanisms respectively. Moreover, 67.1%, 64.3% and 63.8% of the households employed sale of productive assets, borrowing grain from relatives or friends and livelihood adjustment (replanting of crops, replacing long cycle crops by short cycle crops) as coping strategies at the time of food shortage (Adane, 2008).
A range of coping mechanisms are reported which includes: minimizing the number of meals and amount of food consumption (55.5%), using buffer stock (47.3%), diversifying livelihood (37.7%), seasonal migration to neighboring community during peak season (34.4%), inter cropping (49.7%), wage labor (41.5%), food aid (36.9%), local saving mechanisms (28.7%), petty trading (28.2%), migration of household members (27.6%), and cultivating more crops (20.8%) (Eden et al., 2009).

Study done by Nigatu (2011) identified as migration seeking for job opportunity, petty trading, cultivating more of cash crop, sale of charcoal and fire wood, getting remuneration from migrated household members, inter-cropping, using local saving mechanism, neighborhood resource exchange mechanism, food aid, wage labor, seasonal migration to neighboring community during peak season, diversifying livelihood, using buffer stock, minimizing the number of meals and amount of food consumption are coping mechanisms practiced in the southern part of Ethiopia.

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4. CONCLUSION

Ethiopia has experienced long periods of food insecurity. Among Sub-Saharan countries, Ethiopia is the worst of all regions in prevalence of undernourishment and food insecurity. Nearly 33 million people are suffering from chronic undernourishment and food insecurity. This indicates that Ethiopia has one of the highest levels of food insecurity in the world, in which more than 35% of its total population is chronically undernourished.

Ethiopia is characterized by extreme poverty, high population growth rate, severe environmental degradation and recurrent drought. Ethiopia is currently facing challenging problems to achieve food security. These are: drought, poor health, erratic rainfall, backward agriculture, poor infrastructure facility, natural disaster, land degradation, population pressure and low level of technology were the major factors for the cause of food insecurity.

In response to the problem, households vulnerable to food insecurity have developed different coping mechanisms. The responses are always determined by the nature of the crisis: its speed, knowledge, intensity and duration, and household livelihood resilience. Sale of livestock, agricultural and non-agricultural employment, livelihood adjustment, reducing size and frequency of meal, consumption of wild plants, borrowing grains from relatives, migration and livelihood diversification were coping mechanisms of food insecurity caused by seasonal and disaster related problems.
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