

# Review on Food in Security Status and Its Major Coping Strategies in Rural Ethiopia

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**Abstract:** The main focus of this review is on Ethiopia's rural households' current food insecurity, including its causes, effects, and coping mechanisms. At the international, regional, national, and local levels, there is a direct correlation between food insecurity and poverty. According to the most recent studies, 842 million people or 12 percent of the world's population were unable to meet their dietary energy needs globally. According to recent studies, Ethiopia is one of the world's poorest nations, with a significant portion of its population living below the poverty line and the majority of the rural population (roughly 9.7 million people) experiencing food insecurity. Coping Strategies against Food Insecurity used by farm households in the rural area of Ethiopia include livestock sales, agricultural employment and, sale of wood or charcoal, small scale trading, selling cow dung and crop residues, reduction of food consumption. Finally, the current food security policy programs in Ethiopia are Sustainable Production & Market Systems, Business & Entrepreneurship, Resilience Nutrition, Cross-Cutting Issues, Small scale irrigation and Policy options to minimize food insecurity based on Strengthen productivity and incomes, Linkages maximizing synergy and Provide direct access to food. Improve the coping mechanism of the rural households by improving their capacity to protect themselves from food insecurity through enhancing their knowledge on preservation and storage of food and credit schemes, diversification of income, and employment.

**Keywords:** Food Insecurity, Food Security, Household, Coping Mechanism, Ethiopia

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## 1. Introduction

At the international, regional, national, and local levels, food insecurity and poverty are closely related [1]. FAO's most recent studies indicate that globally, 842 million people-12% of the global population-were unable to meet their dietary energy requirements [2]. These shows, approximately one in eight people worldwide are likely to have experienced chronic hunger, lacking access to enough food for an active and healthy life. Eighty-seven million of the world's 827 million hungry people reside in developing nations, where the prevalence of undernourishment is currently estimated to be 14.3 percent between 2011 and 2013 [5]. Despite notable progress in economic growth and welfare improvement in

developing countries over the last decades, food security has not been attained in most developing countries [4] A report of the FAO indicates that the number of undernourished in Africa remains high at 279 million [1]. Ethiopia is one of the poorest countries in the world with a large portion of its population were living below the poverty line [7]. According to [6], 41% of the Ethiopian population lives below the poverty line and more than 31 million people are undernourished. Ethiopia is the second-most populous country in Africa with 105 million people [8]. In Ethiopia, the estimated number of food insecure was 9.7 million people around 13% of the rural population in July 2016 [3].

As a part of Africa and the developing world, Ethiopia is one of the most food-insecure and famine-affected countries as a large portion of the country's population has been

affected by chronic and transitory food insecurity [4]. Food security is a multidimensional concept with a multifaceted consequence [7]. Poverty and food insecurity remain the major challenges to achieve economic development in Ethiopia [9]. In the year 2015, 80 million people were facing the crisis of food insecurity [11]. Globally, 108 million people in 2016 were reported as facing the crisis of food insecurity or worse [12]. The main causes of food insecurity of rural households in Ethiopia were Population pressure, drought, and shortage of farmland, deterioration of food production capacity, plant and animal disease, frost attack, shortage of cash income [15]. According to Mohamed [20], households respond to shocks in different ways and many households do not have any means of coping with shocks. Change eating patterns, sold livestock, sold durable assets, sold land, reduce expenditure, search credits, and sent children to live elsewhere were the major strategies employed by households in Ethiopia toward shock-like food insecurity [25]. The food insecurity situation is worsening in southern and southeastern pastoral areas of Somali, Bale lowlands, parts of Guji, and East and West Hararghe zones of Oromia due to delayed, erratically distributed, and below normal cumulative Gu/Genna rainfall [10].

As indicated from different review reports there is a growing consensus that food insecurity and poverty problems are closely related in the Ethiopian context. More than 50% of the total population, of whom the majority reside in rural areas, does not have access to the medically recommended minimum average daily intake of 2100 cal per person per day [12]. In fact, there are considerable numbers of studies conducted before on issues of causes of food insecurity. For instance, Wubetu [19], pointed out population pressure, drought, shortage of farmland, deterioration of food production capacity, plant and animal disease, frost attack, shortage of cash income, poor farming technologies; and pre and post-harvest crop loss.

Coping strategies 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, [18]. While many of those reviewers are reviewed and also tried to indicate the causes, food insecurity condition, and coping strategies of the rural household, However, food insecurity status and its coping mechanism are complex issues and which are not the same from Household to Household within environment. That's needed to be reviewed in the current driving force of food insecurity, current food security situation, current policy option to minimize food insecurity and enhancing coping mechanism of rural households. During course of reviewing the available materials, previous studies did not adequately address the current food security status, causes, policy option and coping strategies of rural house hold across agro-ecologically distinct setting that the key constraint base. Based on this, the objective of this review was to review food insecurity status and its coping strategies against food insecurity of rural households of Ethiopia.

## 2. Literature Review

### 2.1. Concepts and Definitions of Food in Security

Lack of ability or access to sufficient, safe, and nutritious food by all people to meet their dietary needs and preferences for an active and healthy life is referred to as food insecurity [20, 36]. Food insecurity defined as the shortage food consumption at the household, community, regional, national and international level. Decline in food production and lack of income to purchase adequate food leads to poverty and food insecurity.

Food security is defined as a condition in which people have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for active and healthy life [20].

Food availability relates to the supply of food through making, distribution, and exchange is determined by a variety of factors including land ownership and use; soil management; crop selection, breeding management; livestock breeding, and management and harvesting.

Food access refers to the affordability and distribution of food, as well as the favorites of individuals and households [36].

Food utilization refers to the metabolism of food by individuals once the food is obtained by a household, a variety of factors impact the amount and quality of food that reaches members of the household.

Food stability states to the capacity to attain food over time.

Most of the reviews reported that 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 the global food crisis. The preliminary focus of food security was depend on food supply problems of assuring the availability and to some degree, the price stability of basic foodstuffs at the international and national level [21].

This review concluded that Ethiopia's rural population is highly dependent on both crop and livestock production for their livelihood. However, the contribution of agriculture to food security declined as the growth in food production could not keep pace with population growth. The level of food insecurity also increases as the distinction between transitory and chronic food insecurity has become increasingly blurred [14].

### 2.2. Current Factors Driving Food Insecurity in Ethiopia

According to [30], studied on drought and its impact in Ethiopia, showed that population displacement, political instability, armed clashes, and the prolonged impact of the El Niño drought were the main factor driving food insecurity in Ethiopia. In addition to that review done by [27] [37] reported that, Land degradation, population growth, stagnant technology, and drought in the central highlands of Ethiopia were as the main factors. Shortage of water, poverty, shortage of farmland,

drought, and shortage of rainfall [22, 45, 32].

Agidew and Singh [9] reported that, the majority of the food insecure households were identified by younger household heads, who own less than 1 ha of farmlands.

According to Sani and Kemaw [37] reviewed that foodin security status of the rural households was identified by sex of the household heads, family size, access to irrigation, total farm income, access to credit and distance to market and also, age of household head, total off-farm and non-farm income, and total input cost adversely influenced households food security.

The food insecurity situation is worsening in southern and southeastern pastoral areas of Somali, Bale lowlands, Guji, and East and West Hararghe zones of Oromia due to delayed, erratically distributed, and below normal cumulative Gu/Genna rainfall [46, 33]. WHO reported that, the main areas were households are facing difficulties meeting their minimum food needs include East and West Hararghe, southeastern Oromia including the Bale lowlands and parts of Guji and Borena, northern Amhara, Somali region, and southern Tigray.

According to [25] on this review pointed out livestock and pasture condition were the major determinant of food insecurity in rural area. Example due to the poor Deyr/Hagaya October to December 2018 rainy season, followed by the extended dry and hotter than average period through April 2019, rangeland was dry and degraded and water scarcity for livestock and human feeding was actual limited.

A new generation of desert locusts, flooding, and others are threatened food security in Ethiopia.

According to [23], pointed out the Afar region's coordinator of desert locust operations, about 10 million head of livestock in the region are currently affected by the scarcity of natural pasture. The reason is that pastoralists rely on the rain fall and environment to secure livestock feed for their livestock, but in now day they are heavily impacted by the damage desert locusts have caused on pasture.



**Figure 1.** Hussein: maize field was destroyed by desert locust.

In general many studies have established that food insecurity of rural household where from Shortage of farmland, poverty, recurrent drought and climate change, shortage of rainfall, having a larger family size, distance from the market and land degradation are determining factors for such food insecurity (Abebe, 2018; Asrade, 2018; Mota et al., 2019; Yehuala et al., 2018).

### 2.3. Mechanisms and Coping Strategies Against Food Insecurity

Some studies (Dube, et al., 2018; Agegnehu, 2015; Tolera, 2016) they pointed out Coping mechanisms used by farm households in rural Ethiopia include livestock sales, agricultural employment, and certain types of off-farm employment and migration to town, ask for grain loans, treeor charcoal, small trading like chat, dependence on relief assistance, waiting on remittance from relatives, selling of clothes, and dismantling of parts of their houses for sale.

According to [16], reviewed that, migration seeking for a job opportunity, petty trading, cultivating more of cash crop, sale of charcoal and firewood, getting remuneration from migrated household members, using the local saving mechanism, neighborhood resource exchange. According to [17, 20] the coping mechanisms are like reducing the number and size of the meal, purchasing grains, borrowing cash or grains, eat unpalatable vegetables, engage in the off-farm works, sale of animals, and eat less preferable food.

According to World Health Organization, 2018, Sustainable Production & Market Systems (Productivity and Diversification; Access to Markets; Natural Resource Management), Business & Entrepreneurship (Business Enabling Environment; Employment and Entrepreneurship), Resilience (Improved Risk Reduction, Mitigation, and Management; Improved Adaptation to and Recovery from Shocks and Stresses), Nutrition (Increased Consumption of Nutritious and Safe Diets; Strengthened Health and Nutrition Service Delivery; More Hygienic Household and Community Environments) [26, 28, 29].

The government has been developing and putting into action long-term strategies (such as Agricultural Development Led Industrialization, Growth & Transformation Plan I, and Growth & Transformation Plan II) that have as their primary goal ensuring food security [20]. Also, to reduce the incidence of food insecurity households use different kinds of coping mechanisms to improve their livelihood.

Many method and privately-led agriculture commercialization efforts have been supported by the Ethiopian government [24]. Additionally, private-led commercialization frequently runs in resource-rich regions and is primarily focused on connecting smallholder farmers to markets. Although private-led agricultural investment may have some beneficial macroeconomic effects, it has been criticized for failing to include resource-poor smallholder farmers in the business initiatives and for marginalizing family farmers.

The government of Ethiopia made significant changes to its existing food security program, scaling up its level of intervention toward food security problems. In 2003, the government launched a large scale consultation process called the New Coalition for Food Security (NCFS) by incorporating with a large Productive Safety Net Program (PSNP) [2]. PSNP is a component of the Ethiopian government Food Security Program (FSP) and is an essential

feature of the food security investment strategy for chronically food insecure Woredas, launched in 2005. The goal of the PSNP is food security status for chronically food insecure household's members through direct grants to labor-poor, elderly, or incapacitated individuals, and payments to able-bodied members for participation in labor-intensive Public Works activities [31].

To improve the residents' conditions for food security, the Ethiopian government and other development partners have developed a number of policy interventions and programs. For instance, since 2005, the Productive Safety Net Program (PSNP) has provided assistance to eight million people who experience chronic food insecurity. However, without the aid of strategies for boosting a household's assets, households who regularly receive food assistance are unable to create long-term food insecurity resilience [43, 35, 13]. Additionally, additional research indicated that the development of social capital, credit services, and infrastructure finally improved the position of household food security.

Despite some improvements in recent years, poverty and food insecurity remain widespread, and the main challenges in Ethiopia [47, 44]. Climate shocks like droughts, which have a negative impact on agriculture and related activities, the main source of income for the rural population, worsen these problems further. Poverty persistence had long been recognized as a major contributing factor for the continuing vulnerability of the food insecure groups and this has led the government, jointly with development partners, to implement a social safety net program (PSNP) since 2005 (Esquivel and Kaufmann, 2017). This program aims at smoothing consumption, reducing risks the poor face, and protecting their assets [46, 42]. A household asset-building program (HABP), which offers food-insecure households financial services and technical support to strengthen their production systems by diversifying their income sources and increasing productive assets to improve their productivity, was added to the PSNP in 2012, reaching over 7.6 million people [47].

Evidence in the literature indicates that food insecurity and coping strategies were more related. For instance, income diversification adds to household income and relieves some of the pressure on household finances to solve the problem of food insecurity. As a result, households spend more money on necessities like food, clothing, healthcare, and education. Thus, multiple sources of income with reliable amounts are essential to ensuring food for households [38, 40, 41].

#### **2.4. Policy Options to Minimize Food Insecurity**

In order to solve food insecurity problem and enhancing coping strategies household incomes, have to be diversifying and expand. Low-cost, straightforward technology can also be used to manage water resources, rotate crops, and practice agroforestry [39]. Links that maximize synergy Democratic Leadership thriving civil society Effective "Fourth Estate" purchasing local food for safety nets, assistance for rural organizations; primary healthcare and services related to reproductive health; Asset redistribution (including land reforms), prevention, and

treatment education, particularly for women and girls potable water for drinking [39]. Give people easy access to food feeding mothers and babies; providing pregnant women and children with supplemental nutrition (such as midday meals in schools); Pension benefits and unemployment Food in exchange for attendance at work or school; targeted conditional cash.

### **3. Conclusion**

Generally, Food insecurity of the country was explained by shortage food consumption at the household, community, regional, national and international level. Decline in food production and lack of income to purchase adequate food leads to poverty and food insecurity. The main causes of food insecurity of rural households in Ethiopia were Population pressure, drought, and shortage of farmland, deterioration of food production capacity, plant and animal disease, frost attack, shortage of cash income. Ethiopia's rural population is highly dependent on both crop and livestock production for their livelihood. However, the contribution of agriculture to food security declined as the growth in food production could not keep pace with the population growth and the level of food insecurity also increases as the distinction between transitory and chronic food insecurity has become increase. The current food insecure status in rural households of Ethiopia where determined by Household Dietary Diversity Score, Seasonal progress, Livestock and Pasture Conditions, Markets and Trade, A new generation of desert locusts, flooding. Coping Strategies against Food Insecurity in rural household of Ethiopia can be concluded as Non-food based coping strategies like Savings, Liquidating assets and Food-based strategies for coping with food insecurity were, Reduced dietary diversity, Poor people's foods, Fasting, or going hungry, and also others like reducing the number and size of the meal, purchasing grains, borrowing cash or grains were revised in this review.

Finally, even many review were reviewed this review concluded from the current food insecurity enhancement policy programs in Ethiopia were included Sustainable Production & Market Systems Business & Entrepreneurship, Resilience Nutrition, Small scale irrigation, Provide direct access to food.

### **4. Recommendation**

Creating sufficient awareness and Training for the rural household on factors driving food insecurity and Improve the access and control of strategic resources such as land, cattle, cash crops, and other household assets.

Improve Current Food Security Policy Programs on Sustainable Production & Market Systems, Business & Entrepreneurship, Resilience, Small scale irrigation.

Improve the coping mechanism of the rural households by improving their capacity to protect themselves from food insecurity through enhancing their knowledge on preservation and storage of food and credit schemes,

diversification of income, and employment.

Policy makers, planners, governmental and non-governmental organizations are working in the areas of the food security program to modify and re-plan food security program interventions and take measurements on causes of food insecurity.

Enhancing Participation of rural households to plan and implementation of Policy options to minimize food insecurity through Strengthen productivity and incomes, Linkages maximizing synergy, Provide direct access to food.

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