

THE ROLE OF HOME GARDEN AS EFFECTIVE STRATEGY FOR PROMOTING FOOD SECURITY

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Abstract

This paper examined the role of home garden as an effective strategy for promoting food security. Food security is an essential part of human life because it affects human health and also influence the economy and political stability of a nation. Food security is the persistent concern about access to sufficient and affordable food at all time. Food insecurity set in when there is limited supply of food and this affect the general wellbeing of household members. The paper reviewed the causes of food insecurity, its effect and the role of home garden in promoting food security. As well the benefits of home garden and some challenges faced by home gardening. This paper concluded that home garden is an effective strategy to promote food security as it provide easy and quick access to nutritious, safe and wholesome food offers several other benefit which include improving health and well-being, generate income, provide employment amongst others. It was recommended that household members and unemployed youth should adopt home garden. Sack garden and container garden should be used in urban area where they lack space and food waste and dung should be used to increase the fertility and productivity of home garden.

Keywords: Food Security, Home Garden, Container garden, Sack garden, Food waste

Introduction

Globally food and nutrition adequacy are facing critical challenges, as population increases, demand for food increases, if the level of food production is not at equilibrium with the increase demand for food, food insecurity set in. The world food summit held in 1996 defines food security as a situation that exists when all people at all-time have physical, social and economic access to sufficient, safe and nutritious food that meet their dietary need and food preferences for an active and healthy life (Perez-Escamilla, 2017). Food security is an essential part of human life because it affects human health and also influence the economic and political stability of the nation. Food security has four pillars which are food availability, food accessibility, food utilization and food stability. Several measures have been put in place to alleviate hunger problem, yet food insecurity and under nutrition remain serious problem in many countries. United State Department of Agriculture (2022) defines food insecurity as a household level economics and social condition of limited or uncertain access to adequate food. Food insecurity seems to be influenced by several factors such as Poverty/unemployment, population growth, low productivity and unstable price of food, climate change and natural disaster, urbanization, conflict and insecurity, policies, food insecurity often have serious effect at the household level, state and national level and if not address with several complications such as malnutrition both in children and adult, impaired immune system, social deviant amongst others. Food insecurity remains prevalent and have force many household to adopt destructive strategy for survival like reducing portion sizes, consuming more stable food instead of nutrient dense food. These strategies could have negative impact on nutrition, health and general wellbeing, these consequently necessitated the need for home garden.

Home gardening is a mixed cropping system that encompasses vegetables, fruits, plantain, spices, herbs, ornamental and medicinal plant as well as livestock that can serve as supplementary source of food and

income (Odebole, 2006). Home gardening entails the cultivation of herbs, vegetables, fruits, and shrubs mainly for personal consumption at home (Algert, Diekmann, Renvall & Gray, 2016). Home garden provides quick access to nutritious safe and wholesome food and it could help enhance food security. Despite the many benefits of home garden, a larger number of households are yet to adopt home garden due to lack of awareness and agronomy skills, pest attack and disease infestation, lack of fertile soil, lack of farming inputs, shortage of space, climate and natural disasters and theft of farm produce..

Hence the objectives of the paper is to examine:

- The concept of food security.
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- The causes and effect of Food insecurity.
- The role of home garden in promoting food security and other benefits of home garden

The Concept of Food Security

Food security is defined as the persistent concern about access to sufficient and affordable food at all time (Paslakes, Dimitropoulos & Katzma, 2021). According to Perez-Escamilla (2017) The first world food summit held in 1996 defines food security as a situation that exists when all people at all-time have physical, social and economic access to sufficient, safe and nutritious food that meet their dietary need and food preferences for an active and healthy life. Food security is an essential part of human life because it affects human health and also influence the economic and political stability of the nation Food security has four pillars, which are accessibility, availability utilization and stability (Ahmad, Shahnawaz, Husain, Qamar & Alam, 2021).

1. *Availability*: This is the physical, social and economic access to sufficient and nutritive food by all people and at all time. Such food must satisfy the dietary need and preference of the people. To a large extent food availability depends on the level of local production, imports stock levels and net trade in food items.
2. *Access*: These refer to economic, social and physical access to food by all people at all time. That an adequate amount of food is available at the regional, national or international level does not imply accessible and affordable.
3. *Utilization*: Generally, utilization refers to the pattern in which the body makes use and benefits from the various food nutrients. Utilization is determined by food quality, nutritional values, preparation method and storage as well as feeding pattern
4. *Stability*: Stability defines the temporally dimension of food and nutrition security, individually the time frame in which food security is being considered. Stability is assumed when the supply food income and economic resources remain constant in a household level, during the year and in the long term. It is also essential to minimize external risks such as natural disaster, climate change, price, violence conflicts or epidemics and many more

The Concept of Food Insecurity

United States Department of Agriculture (2022) defines food insecurity as a household level economics and social condition of limited or uncertain access to adequate food A food insecure situation is said to exist when there is an imbalance between demand with the supply side .Food insecurity and economic hardships force people to consume less and to settle for food that is of low nutritional quality. Several measures have been put in place to alleviate hunger problem, yet food insecurity and under-nutrition remain serious problems in many countries.

Causes of Food Insecurity at the Household level

1. **Poverty low income/ unemployment:** Poverty is one of the leading causes of food security. Many people suffer from chronic poverty. According to Ahmad et al., (2021) Poverty and food insecurity have a very close relationship, poverty can be due to low income or unemployment. It has been observe that people with low income or unemployment have little access to quality food and that Inability of people to gain access to food due to poverty in developing countries is the root cause of food insecurity. Slimane, Huchet-Bourdon and Zitouna (2016) observed that the unemployed are 8% and more likely to be food insecure when compared to employed persons. Hunger, poverty and disease are interlinked, hunger causes malnutrition and low immune system to poor people who cannot purchase enough food to eat. This makes them to be vulnerable to disease and death.
2. **Low food Productivity/decline in home garden practices :** The agricultural sector have face several challenges and depended too much on primary agriculture system with limited land space, low fertile soils, poor technology, limited research, less external farm inputs utilization and significant loss of foodcrops both before and after harvest, and lack of facilities for storage and preservation of food all of which have cumulatively contributed to low productivity and food price hike which have resulted in food insecurity. Agriculture is mostly practiced by the farmers who cannot access facilities required for optimum food production. Also, the practice of home garden have reduce and its rarely done in urban area due to limited land space and concrete floors.
3. **Unstable food prices:** Nigeria has witness dramatic changes in price of food in recent years, reaching a peak of 20.32% in September 2017 (Central bank of Nigeria, 2018). Increased demand for food due to population growth, low productivity of food and price increase in fuel resulting in high cost of production have affected food distribution, availability and accessibility of food. According to Abimbola and Bolaji in Echebiri, Abode, Andrew, Onoghise and Amolo (2022) Price increase In fuel have made transport operators all over Nigeria to increase the cost of transporting human being and goods in order to meet up with their operational and maintenance cost. Cost of transporting food items and vendors from the point of purchase to the place of business has increased. This leads to poor distribution of food thus compelling food vendors that manage to obtain food items to increase the price of available food items, the increased in price have made the patronage of food dwindled (Echebiri et al., 2022).
4. **Food wastage:** Food waste is said to be pronounced more in developing countries (Thi, Kumar & Lin , 2015) and Nigeria, being a developing country, is not an exception. The major causes of food waste are numerous and mostly occur during production, distribution, processing, retailing, and consumption of food (Umoru, 2021). Food wastage at the farm is due to poor harvest and post harvest handling techniques and lack of infrastructure for proper storage and preservation. Food wastage that occurs at the home is particularly due to lack of food resources management like portion control, poor cooking skills, lack of proper preservation and food storage at the home.
5. **Lack of nutrition education:** Nutrition education improve food utilization, According to Hejazi, Aminzare, Ayatollahi, Mohammad, Hassan and Mehran (2023) nutrition education programs can be an effective and inexpensive method to improve food quality and security. Lack of nutrition education affect individuals food choices and dietary habit. Nutrition education assist individuals to improve their meal planning, interpretation of product nutritional indices and correct preparation methodologies to prevent food nutrient loss before consumption. The provision of nutrition education is also crucial to the efficient use of food resources, proper preservation techniques and portion size control, which help eliminate food wastage.
6. **Lack of consumer education:** Lack of consumer education have made individuals purchase stale, unsafe, unwholesome, expired, mislabeled, and adulterated food product at exorbitant prices. Consumer education according to Giordan (2015), is the preparation of an individual to be capable of making

informed decisions when it comes to purchasing products in a consumer culture. Individuals have bought expired food product and food product that contains unsafe additives without reading labels on food product. Some buy food product that are not fresh because they do not know the qualities to watch out for, for instance one has to be very observant when buying fresh fish and egg. Failure to do so could result in purchasing product that could easily go bad leading to food wastage. People lack budgeting skills which help prevent impulse buying, also bulk buying of food especially food in season and storing for future use through proper preservation help save cost and makes food available all year round.

7. **Population Growth:** Rapid increase in population causes food insecurity. The global population exceeded 7.6 billion people in 2018 (Food and Agricultural Organization, 2020) and it is predicted to reach 9.2 billion by 2050. Food production is currently below the population requirement resulting in food insecurity. Population growth exacerbates pressure on environmental degradation social causes, climate change and these further causes food insecurity (Ahmed et al, 2021)

Effect of Food Insecurity

Food insecurity has serious effect at the household level, state and national level and if not addressed, it could lead to the following;

1. **Malnutrition:** Lack of nutritious food causes malnutrition, undernutrition results in low productivity; reduce physical and mental capacity, low immunity diseases and morbidity. Malnutrition increases the risk of low birth, weight, childhood stunting and anemia in women of reproductive age among others. Food insecurity can result in child stunting, wasting and micro-nutrient deficiencies by negatively affecting the sufficient intake of vitamins, protein, calories, and minerals will also obstruct fetal, infant and child growth and development (World Health Organization, 2018).
2. **Poverty and Hunger:** Food insecurity causes hunger and poverty. A hungry person will be less productive and will continue to be poor. Hunger reduces immunity against most diseases and makes them prone to illness. Hunger, poverty, and diseases are interlinked. Poor people often cannot produce or purchase enough food to eat which makes them to be more vulnerable to diseases. (Ahmed et al., 2021).
3. **Increase in Crime Rate and Low Self Esteem:** People who are food insecure tend to engage in criminal activities. Kitenge (2023) opines that lack of food and its affordability can result in higher crime rate in impoverished neighborhood. Some people could resort to stealing in order to meet their needs, other end up being beggars. Food insecurity could increase crime rate. Other effect of food security is the development of low self-esteem. Insufficient food supply could make people to scramble for food in parties. This could result in low self-esteem.
4. **Chronic Diseases:** Food insecurity increases the risk of developing chronic diseases such as cardiovascular diseases, arthritis and other infectious disease. One's immune system drops due to food shortage. Food insecurity makes it difficult for individuals to manage existing health problems and this can worsen the condition. Food insecure individuals may struggle to adhere to therapeutic diets and forgo necessary medication because of the cost.
5. **Depression:** Food insecure people are prone to mental health problems. Zahid et al, (2021) in their study found out that poverty and mental health problems have a great linkage, basically depression, anxiety and stress.
6. **Poor Economic Growth:** Food insecurity impedes economic growth and national development. According to Ayinde (2019) no country can achieve economic development without addressing food insecurity. Food security and its derivatives are used as indicators because of the relationship that exists between the two (Otekinrin, Momoh & Ayinde, 2019). Food security must be sustained, for a nation to develop.

Overview of Home Garden

Home garden is a garden close to the home, used for the cultivation of crops that are consumed by the household. Sometimes livestock are also reared alongside. Home garden is also called kitchen garden, back yard garden, rooftop garden and compound garden. According to Odebole (2006) Home gardening is a mixed cropping system that encompasses vegetables, fruits, plantain crops, spices, herbs, ornamental and medicinal plant as well as livestock that can serve as supplementary source of food and income. Common crop grown in home garden include yam, cassava, potato, plantain, Banana, maize, vegetables like bitter leaf, water leaf, pumpkin leaf, tomato, garden egg, pepper, garden egg, trees like mango, pear, pawpaw, orange, guava, herbs like curry and scent leaf etc. Common animals raise in home garden include goat, poultry, snail, rabbit, grass cutter, cattle, sheep, fish, pig etc. Home garden requires little or no resources, waste from animals can be use as manure. Kitchen waste, animal manure, and other organic residues help to increase the productivity and fertility of these gardens.

The beginning of modern agriculture can be dated back to subsistence farming that started in small garden farm around the home. Home garden can be found in rural and urban area. Sack gardening, container gardening and vertical garden exist in urban area due to limited land space, most of the land have been covered with concrete. The practice of farming in sack involves growing seedlings in large sacks filled with soil (Kamadi, 2012). Container gardening is growing crops in containers filled with soil. Vegetables are most commonly grown in container food gardens, but many small fruit trees are also common. Several form of vertical farming exist which serve as good substitute. They enable urban farmer manage spaces and cultivate their crops in places unsuitable for in ground production.

Home garden employ family labor. Women, children, and elders are of particular importance in their management but, depending on the economic capacity and affordability, households may hire wage laborersto cultivate and maintain the home garden that in turn affect the composition and intensity of home garden activities. Home garden other than promoting food security offer several benefits such as economic benefitof income generation, improve mental wellbeing, promote health, preserve indigenous culture and knowledge as well as social and environmental benefits

The Role of Home Gardening in Promoting Food Security

Globally, home gardens are important supplementary source contributing to food and nutritional security and livelihoods. A previous study by Rezai, Shamsudin and Mohamed in (2016) showed that the availability and accessibility of fresh food among households in Putrajaya improved when they grew gardens. Developed home garden contributes significantly to daily food needs, supplying households with all their daily food need (Nwaneke & Chude, 2017). Suri (2020) states that any action that promote nutrition garden that can ensure improved income, food access and dietary diversity will also provide sustainable nutrition for families and that any of such actions should be encouraged. Home garden promote food security in the following way:

- Home gardening provides access to nutritious, safe, diverse and healthy diet. Food product from home garden are mostly safer, fresher, healthier and more nutrient dense than the ones sold at the market which are grown with chemicals. Some farmers speed up growth, maturation and ripening with chemicals which may not be too safe for human consumption.
- Home garden help saves cost of transportation and time because it gives easy and instant access to fresh produce. This prevent forceful visit to the market.
- Homestead gardens serves as an avenue for making food available to the most vulnerable low income population.
- Home garden provides access to fresh medicinal herbs and spices, growing your own medicinal herbs save you money in the long run. Store-bought remedies can be expensive and their quality and effectiveness is not certain.
- Home gardens have been proposed as an option for food and nutritional security in disaster, conflict,

pandemic and other post-crisis situations. Home garden played a significant role in ensuring food security during the Covid 19 pandemic lockdown, findings by Lal (2020) stated that home gardening ensures food security for urban households during period of crisis.

- Home garden give households added immunity against fluctuating global food prices

Conclusion

Home garden is an effective strategy to promote food security, it provide easy and quick access to nutritious, safe and wholesome food, it offers several other benefit which include improving health and well-being, generate income, provide employment to the unemployed, preserve indigenous culture and knowledge, improve mood and self-esteem, home garden provide multiple environment and ecological benefit .The implication for this work is for individual and household to adopt home garden and learn how to manage home garden for sustainable food security.

Recommendations

The following recommendations were made;

1. Household members and unemployed youth should adopt home garden to provide sufficient food for consumption, excess food can be sold out to generate income for the family. Unemployed youth should be encourage to adopt home garden as a means of livelihood, they should acquire the necessary knowledge and skills required to manage a home garden as well as marketing skills needed to sell their product.
2. Sack garden and container garden should be used in urban area where they lack space for farming
3. Food waste should be process into compost manure to improve the fertility of the soil and increase yield. Dung and other organic residues can help to increase the fertility and productivity of home garden.

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