

Food, Health and Environmental Sustainability: Sustainable Food Systems and Its Impact on Mental Health and Our Environment

Abolade Gloria AGBOOLA

Faculty of Arts and Education

Department of Arts and Social Sciences

Lead City University, Ibadan, Nigeria

gloriaagboola2016@gmail.com

+234 8182940368

Abstract

One of the components of the Sustainable Development Goals (SDG) is: “Good Health and Well Being”, which is goal number 3. Since we inhabit a world filled with environmental disaster and hazards, that pose a threat to our existence as humans and all other living organisms around us; we need to take quick action to save the planet together with the community of lives that live on it. Sustainable development in its real terms entails meeting the needs of the present without compromising the ability of future generations to meet their own needs. Food, health and environmental sustainability therefore explores food being grown or produced with consideration of its health, environmental and social impact. This study focuses on the importance of sustainable food systems, how it relates with mental health of individuals and our environment and what needs to be done at the local, global and national scale in order for us to maintain sustainable food systems, good mental health and a sustainable environment. It further uses the Sustainable Food System model (SFS) to explain how a food system is considered sustainable with respect to the economic, social and environmental dimensions.

Keywords: Sustainable Food System, Mental Health and Sustainable environment.

INTRODUCTION

Food systems in the world of today is at risk considering many factors such as rapidly changing climate, rising hunger, malnutrition and significant social inequities. The need for sustainable food systems; a means that ensures that food systems produce healthy and safe food in equitable ways that promote environmental sustainability cannot be overemphasized.

United Nations (UN), came together in 2021 to make strong commitments towards food system transformation. Global food systems are at a crossroad, where there exists an increased attention to transform food systems so that they benefit nature, ensure healthy and safe diets, provide fair wages and livelihoods and are prosperous. In many parts of the world, global

hunger remain acceptably high in many parts of the world, with every country affected by some form of malnutrition.

The Committee on World Food Security (CFS) Voluntary Guidelines on Food Systems define food systems as “ systems that enable food safety, food security and nutrition of current and future generations in accordance with the 3 dimensions (economic, social and environmental) of sustainable development”.

In addition, sustainable food systems must be inclusive, equitable and resilient. Food systems have to do with everything from food production (and ecological systems that underlie it) to the processing, packaging, distribution, retail and consumption of foods, with many critical outcome vital to sustainable development. Such outcomes include providing diets for nutrition, supporting livelihoods and contributing to environmental and social benefits.

Sustainable Food System

According to Wikipedia free encyclopedia, a sustainable food system is a type of food system that provides healthy food to people and creates sustainable environmental, economic, and social systems that surround food. Sustainable food systems start with the development of sustainable agricultural practices, development of more sustainable food distribution systems, creation of sustainable diets, and reduction of food waste throughout the system. Sustainable food systems have been argued to be central to many or all. This is in line with “ Sustainable development goal 17”. From a global perspective, the Food and Agriculture Organization of the United Nations describes a sustainable food system as follows: A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised. This means that:

- It is profitable throughout (economic sustainability);
- It has broad-based benefits for society (social sustainability); and
- It has a positive or neutral impact on the natural environment (environmental sustainability).

The phenomenon of sustainable food systems, can, therefore, be said to hover around providing safe, nutritious and healthy food for people without impairing the natural environment so as not to compromise the ability of future generations to have access to the same.

Mental Health, Sustainable Food Systems and the Environment

Mental health is a state of mental wellbeing that enables people to cope with the stresses of life, realize their abilities, learn well, and work well and contribute to their community. It is an integral component of health and wellbeing that underpins our individual and collective abilities to make decisions, build relationships and shape the world we live in. Mental health is a vital human right and it is crucial to personal, community and socio-economic development.

World Health Organization (WHO), describes mental health as a state of wellbeing in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make contribution to his or her community.

Sustainable living improves mindfulness. As we examine the environmental impact of our daily activities, we become more aware of the influence our actions have on our mood and emotions.

(Lister et.al,2021) posit that the natural environment is considered as one of the key concerns of mental health.

Also due to the fact that mental health can affect mental wellbeing of individuals, either positively or negatively and vice versa, the effects of changing paradigms, including job insecurity, economic uncertainty, volatile and extreme weather patterns, and displacements, are the triggering factors in mental health deterioration.

Similarly, having a goal to protect the Earth can boost your confidence and self-worth as one joins the world to achieve an important purpose.

Spreading awareness about the environment and adopting sustainable practices will give one a sense of accomplishment. This in turn, makes one to become part of an environmentally conscious community, which provides social support. Furthermore, this gives one a more positive outlook on life and reduces depression symptoms.

Our physical health is also improved upon when we practice sustainable living. For instance reducing your carbon print by cycling to work or trekking or taking public transport instead

of one's personal car can relieve stress, improve one's mood and lead to better sleep quality. Furthermore, when we grow our own food, like practicing farming or gardening in our home environment, we tend to be involved in physical activities such as shoveling, hoeing and weeding. This could help to increase the production of serotonin, which boosts one's mood and it is also a neurotransmitter that is targeted by antidepressants.

When our environment is unsafe, this results to poor mental health and wellbeing. Environmental problems such as air pollution, for instance, poses a threat to our lungs and heart; but there is a growing link between some air pollutants and mental illnesses like depression, anxiety, dementia and even suicide. According to a recent London-based research, the risk is particularly high among young people in urban areas, with children three to four times more likely to develop depression by age 18 if they were exposed to dirty air at age 12.

A study by Cincinnati Children's Hospital Medical Center, found a link between high traffic related air pollution and children's anxiety.

Lead, a heavy metal, which is also one of the effluents that cause pollution, negatively affects the nervous system. Low levels of lead in the blood may be associated with behavioral difficulties and learning outcomes in children.

Eating Sustainably also has a gross effect on our mental health. What we put in our bodies in form of food has a direct effect on how it functions both mentally and physically. Nutritional Psychiatry focuses on people's diet and mental health, and researchers have found out that the more processed a diet is, the more those who consume it are at risk of depression and anxiety and also promote cancerous tendencies in the body. Therefore, a sustainable diet is one with less meat and dairy in it. For instance, the Mediterranean diet is not only sustainable, but has been linked to reducing the effects and symptoms of depression. (Shafiei et al.,2019). The diet comprises mainly of fruits, vegetables and grains, with meat and sweets eaten less often. This form of diet has been associated with increased reported happiness and higher levels of mental health and wellbeing. (Emerson and Carbert, 2019).

Deficiency of vitamins, for example, vitamin B12, embedded in sources of food such as vegetables and fruits help to combat mental health conditions such as fatigue, lethargy,

depression, poor memory is associated with mania and psychosis.(Smith et al.,2018; Tangney et al., 2011).

Sustainable environment is a concept that refers to the responsible use and protection of natural resources and ecosystems to support the wellbeing of current and future generations. Environmental sustainability requires a forward looking approach that considers the long-term impacts of human actions on the planet. The environment and especially, climate and obtainability of natural resource, are a precondition for the availability of food as well as the preservation of biodiversity. A sustainable environment can only be attained if everyone globally understands the responsibility to conserve natural resources and protect global ecosystems, so as to support health and wellbeing now and in the future.

Importance of Sustainable Food Systems

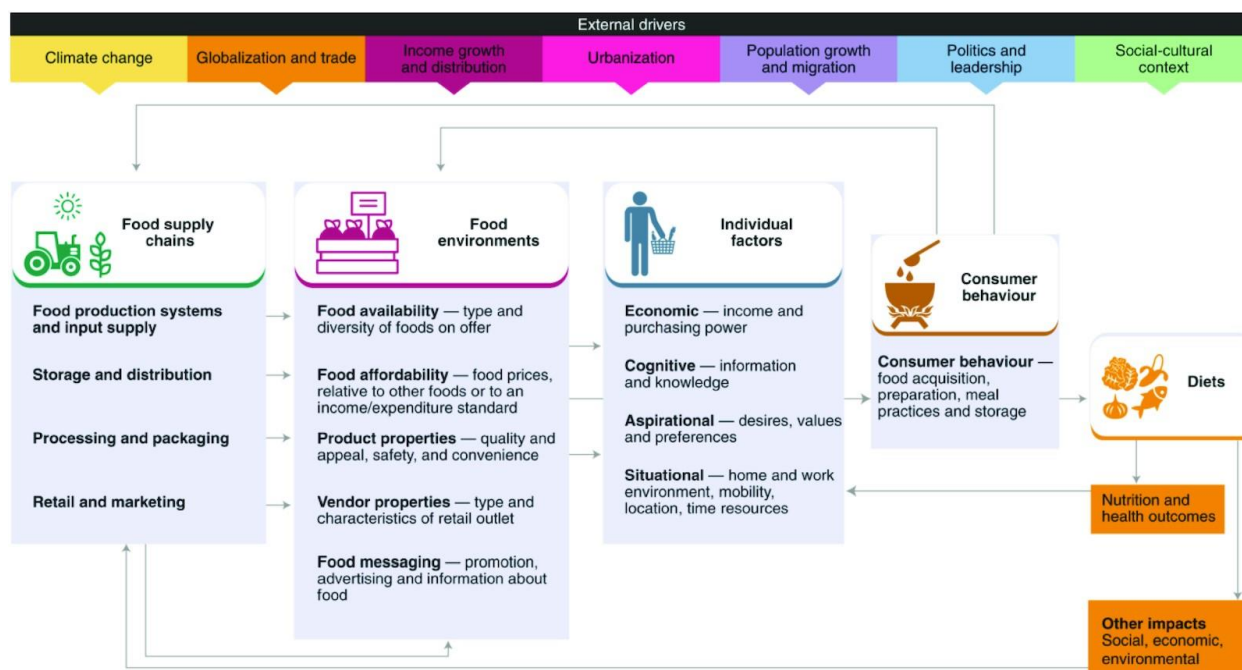
The global population is expected to rise to 9.1 billion by 2050, it is important that we adopt farming and production practices that ensure a sustainable food supply for the future. Most commercial food producers use industrialized agriculture and processing methods for large scale food production, thereby having an adverse effect on the social, economic and environmental aspects. Sustainable food systems will help in holding each link of the food supply chain accountable for its impact on local economies, communities and ecosystems. It will help to conserve natural resources, prevent the destruction of biodiversity, alleviate poverty and reduce the rate at which the earth is polluted. The economy, community and planet all benefit from maintaining sustainable food systems. It is very vital to have and maintain a sustainable food system, this requires action from all people involved. Nevertheless, individual actions like recycling and reducing waste are important. Similarly changes to the way food is being produced, distributed and eaten, as well as changes to policies and infrastructure, also are needed to make lasting change. A sustainable food system will provide nutrition and food security for everyone without compromising the wellbeing of people on the planet earth, now and in the future. Involving in sustainable farming practices can help reduce air, water, soil pollution and protect the biodiversity that sustains human life.

Furthermore, climate change can be overcome through sustainable food production, thereby decreasing extreme weather, often leading to food insecurity.

Economically, sustainable food production will enable stakeholders to distribute the profits equally along a sustainable food supply chain, increasing financial stability for farm and

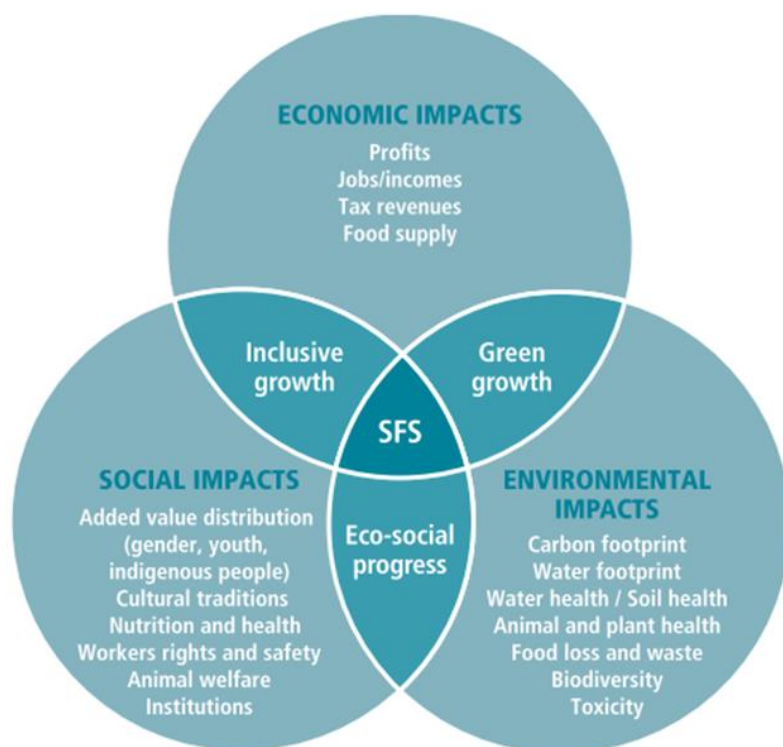
factory workers, distributors, and small scale grocers. When the income increases, money is injected into local economies, creating jobs, reducing poverty, and improving overall wellbeing.

A framework of the sustainable food systems by Fanzo et al is shown in Figure1 below:



When food supply chains such as food production systems and input supply, storage and distribution, processing and packaging, retail and marketing are functioning properly, then the food environment will be sustained. This will manifest through food affordability, whereby every individual in their various level of socio-economic status will have access to food. This will therefore make food available to be of good quality, safe and convenient. In addition, consumer behavior will improve and this will promote positive nutrition and health outcomes. Similarly, global emissions of greenhouse gases would fall by 64% by 2050, if we reduce the production and consumption of animal based foods by 50%. Sustainable food production would prevent deforestation by dedicating less land to livestock.

THE SUSTAINABLE FOOD SYSTEMS MODEL (Figure 2)



In sustainable food system development, sustainability is examined holistically. In order to be sustainable, the development of the food system needs to generate positive value along three dimensions simultaneously: economic, social and environmental (Figure 2). On the economic dimension, a food system is considered sustainable if the activities conducted by each food system actor or support service provider are commercially or fiscally viable. The activities should generate benefits, or economic value-added, for all categories of stakeholders: wages for workers, taxes for governments, profits for enterprises, and food supply improvements for consumers. On the social dimension, a food system is considered sustainable when there is equity in the distribution of the economic value added, taking into account vulnerable groups categorized by gender, age, race and so on. Of fundamental importance, food system activities need to contribute to the advancement of important socio-cultural outcomes, such as nutrition and health, traditions, labor conditions, and animal welfare. On the environmental dimension, sustainability is determined by ensuring that the impacts of food system activities on the surrounding natural environment are neutral or positive, taking into consideration biodiversity, water, soil, animal and plant health, the carbon footprint, the water footprint, food loss and waste, and toxicity.

Conclusion

Sustainable Living is an experience that starts from “You and I”. When we re-organize our mindset and are intentional about living a sustainable lifestyle in our own immediate environment, by developing and maintaining food sustainability, with everyone playing their part at all levels (family, school, workplace government and all other organizations /institutions); then we will all be able to work towards a life of low wastage and maintain a sustainable lifestyle through sustainable food production. This will in turn, promote food security at all levels.. This will also help in meeting the needs of the present without

compromising the ability of future generations to meet their own needs, especially in the area of sustainable food production. Furthermore, this will enhance good mental health, sustainable diets and nutrition, together with a sustainable environment.

Recommendations

For us to make the world a better place for ourselves and for us to achieve sustainable food systems, good mental health and a sustainable environment void of sicknesses, diseases, mental disorders and untimely deaths, the following steps at local, national and global levels are recommended.

1. Zero tolerance for food wastage in order to promote food security.
2. Reducing meat intake by making personal choices of plant based food.
3. Eating local foods produced by local farmers or better still, grow your own home garden with the use of natural fertilizers..
4. Individuals should make effort not to depend totally on eating out, but rather cook their own food at home.
5. Government of countries should support farmers in the agricultural sector to focus more on crops / plant based food production and less practice of pastoral farming. This is because animals like cattle emit methane compounds from their bodies which in turn pollute the environment.
6. Farmers should also be enlightened and encouraged to involve in sustainable farming practices such as crop rotation, mulching and so on, in order to keep the soils fertile and enriched.
7. Government of countries and stakeholders in the agricultural sector should make ample effort to support the food supply chains such that at the consumer level, food can be made affordable for every individual at minimal cost, as it is been practiced in developed societies such as the United States of America.
8. The use of social media to propagate awareness is very vital. Many people globally have contacts with social media platforms such as Face book, Twitter, Linked in, You tube to mention but a few. All these platforms must be used to create awareness especially by those who value sustainable living, thus enlightening people, primary producers and livestock farmers inclusive, the more about the benefits of avoiding additives, synthetic fertilizers and pesticides, but rather using organic fertilizers instead.
9. Similarly, entertainment industries, radio and television stations could develop drama skits, soap operas, jingles and advertisements that will tend to promote the he reasons why people need to live sustainably by contributing to achieving food sustainability..
10. In terms of agricultural efforts, which will in turn help to boost food supply, everyone at local, national and global levels must be encouraged to be involved in farming; at best organic farming, by planting and farming primarily at subsistence level and then possibly commercial. This will help to sustain food supply and improve the physical and mental wellbeing of individuals or people living in a country. *“If three out of every five homes has a garden where flowers, fruits, vegetable and crops are planted, or animal farm or poultry farm, or plant trees; how sustainable, that would be!”*

11. The government of countries, especially developing countries for example, Nigeria,, must put in ample effort in the aspect of improving the quality of life for the populace. This includes providing good and quality infrastructures such as good roads and transport network cum sustainable means of transportation. When good transport networks connect the rural areas, then more people are encouraged to live in the county side or outskirts of towns and cities where there is more space and the quality of air is cleaner and the environment is greener. As a result of this they can easily commute daily to the urban centers which include the towns and inner cities, for the purpose of economic activities.
12. Furthermore, encouraging afforestation schemes and enlightening the people about the need to plant trees around them. This will help to reduce the amount of carbon dioxide in the atmosphere, and this will in turn improve greatly the environmental air quality, hence a sustainable environment.

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