Food and Nutritional Security through Sustainable Organic Farming

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Since establishment, the FAO has been dedicated to the crucial goal of ensuring sustainable food security for everyone. This mission was underscored by the World Food Summit (1996) and subsequent meetings and initiatives, including the Right to Adequate Food. Despite significant strides over the past 60 years, the 32nd Session of the Committee on World Food Security in September 2006 acknowledged a sobering reality: the World Food Summit's target of halving the number of hungry people by 2015 would not be met. The number of undernourished individuals has, regrettably, shown little change since 1990-92, even though there has been a decrease in the percentage of undernourished (FAO, 2016).

Food Security in Developing Countries

A substantial majority, specifically 75 per cent, of the 1.2 billion individuals living in poverty globally are concentrated in the rural areas of developing countries. These communities grapple with a myriad of challenges that are intricately tied to subsistence production in geographically isolated and marginalized settings, characterized by a scarcity of advanced technology. The livelihood systems of subsistence farmers and smallholders in these regions are notably susceptible to various risks. Factors such as droughts and floods pose significant threats to agricultural productivity, impacting the ability of these communities to produce enough food for sustenance. Additionally, the prevalence of crop and animal diseases introduces further complications, jeopardizing the health and well-being of both the people and their livestock. Furthermore, the vulnerability of these rural communities extends to market dynamics. Fluctuations in market conditions, including price shocks and unpredictable demand, create additional challenges for those reliant on subsistence and small-scale agriculture. These communities often lack the resilience and resources to navigate such market uncertainties, perpetuating the cycle of poverty. In essence, the complex interplay of

geographical isolation, technological limitations, and environmental and market-related risks underscores the formidable obstacles faced by the rural poor in developing countries striving for sustainable livelihoods. Addressing these multifaceted challenges is essential for fostering resilience and promoting lasting improvements in the quality of life for this vulnerable populations.

Organic Agriculture

Organic agriculture has transcended its origins in developed nations and is now a global phenomenon. Commercially practiced in 120 countries, it encompasses 31 million hectares of certified croplands and pastures, constituting approximately 0.7 per cent of the world's agricultural lands (with an average of 4% in the European Union). Additionally, 62 million hectares of certified wild lands are dedicated to organic collection, including bamboo shoots, wild berries, mushrooms, and nuts. While challenging to quantify, it's noteworthy that non-certified organic systems, exemplified bv indigenous models adhering to organic principles either intentionally or by default, are prevalent among several million small farmers. These systems likely contribute significantly to subsistence agriculture in developing countries, potentially representing an equivalent share to their certified counterparts.

Organic Farming and Benefits

Food Security Dimensions and Organic Agriculture

The multifaceted aspect of food security encompasses dimensions such as food availability, access, stability, and utilization. Organic agriculture presents both advantages and limitations in addressing each of these dimensions, as outlined below. It's crucial to note that the benefits and challenges discussed may vary across different organic farming systems, spanning from non-certified local production to certified systems oriented toward the market, aiming for price premiums.

a) **Food Availability**: Availability in the context of food security involves ensuring an abundant



supply of food with the requisite quality. This encompasses sourcing from domestic production, input channels, and both food aid and net imports. The goal is to maintain a robust and reliable food supply chain that meets the population's needs. It includes a focus on the quality and quantity of domestically produced food, as well as strategic considerations related to external sources, such as food aid and imports, to address any gaps in the supply chain.



Source: https://www.linkedin.com/pulse/8benefits-organic-farming-s-k-ali/

- b) Food Access: The dimension of food access in the context of food security pertains to individuals' ability to acquire sufficient resources and entitlements necessary for obtaining appropriate foods to maintain a nutritious diet. It involves ensuring that people have the means and entitlements to access the food they need for a healthy and well-balanced diet. This dimension recognizes the importance of not just food availability but also the economic and social factors that enable individuals to secure the necessary food resources for their well-being.
- c) **Food Stability**: Achieving food security requires ensuring that individuals, households, or populations consistently have access to sufficient food without the risk of losing this access due to sudden shocks such as

economic or climatic crises, or cyclical events like seasonal food insecurity. In essence, food security means maintaining uninterrupted access to an ample and reliable food supply, even in the face of unexpected challenges or recurring events

d) **Food Utilization**: In context to food security, the utilization dimension pertains to how food contributes to ensuring an adequate diet, clean water, sanitation, and healthcare, ultimately leading to a state of nutritional well-being where all physiological needs are fulfilled.

Contribution of Organic Agriculture to Food and Nutritional Security

A nation achieves food security when it possesses a dependable, stable, and safe food supply capable of meeting basic needs and market demands. It's important to note that achieving food security at the national level does not necessarily eliminate hunger in marginalized regions or prevent negative trade balances due to reliance on food imports. Similarly, at the household level, food security is attained when a household can either produce or acquire sufficient food to fulfill the nutritional requirements of all its members.

- a) Contribution to Household Nutrient Intake: Organic farming, through diversification and enhanced productivity on farms, plays a crucial role in alleviating hunger and poverty. By reducing reliance on purchased inputs and fostering a market-oriented approach at the household level, organic systems contribute to income generation. The profitability derived from marketing organic products enables households to shift from traditional staples to high-value alternatives like vegetables. This transition, contingent on factors such as capital investment and agro-ecosystem flexibility, offers substantial returns on both land and labor investments.
- **b) Contribution to Healthy Diets:** While modern food patterns have effectively addressed under nutrition, the specialization of agricultural systems in a few staple foods has intensified



micronutrient deficiencies. Over half of children in developing countries suffer from dietary diversity low and related micronutrient deficiencies, posing a significant public health concern. Traditional approaches, and such as supplementation food fortification, have shown limited efficiency, particularly in reaching vulnerable populations. The promotion of a diverse local food supply accessible to impoverished households has proven a straightforward and successful strategy for tackling malnutrition. Organic farming practices align with this approach, as the viability of an organic field correlates with a diverse agro-ecosystem both spatially and temporally. The cropping diversity in organic fields, featuring rotation crops with high micronutrient and protein content, enriches household diets and health making substantial contribution to addressing "hidden hunger" or dietary micronutrient deficiencies.

- c) Contribution to Food Emergency Situation: Impoverished households face challenges in managing production risks, prioritizing food security over maximizing yields. Organic fields exhibit reduced yield fluctuations, offering a more secure option in the face of single crop failures, environmental challenges, or socio-economic shocks. Given the escalating impacts of weather extremes, enhancing resilience in agro-ecosystems to weather has become a critical necessity, particularly in economies reliant on agriculture.
- d) **Contribution to National Employment:** Agriculture engages 60 per cent of the population in developing countries, a notable contrast to the 1-2 per cent in developed nations. Despite the lower percentage, global social and ecological well-being hinges significantly on agricultural employment. Concerns arise as the adoption of chemicals and machinery in lieu of agricultural labor poses threats to societal stability, including community breakdown, mass migration, and

large-scale urbanization. Additionally, this shift has a profound impact on the natural environment. Transposing the industrial food production system from developed to developing countries, where agriculture supports the livelihoods of 2.5 billion people, may escalate displacement, dispossession, and hunger unless viable alternatives are implemented.

e) Contribution as provider of Global Environment services: The environmental benefits of organic agriculture primarily result from avoiding the use of polluting substances like nitrogen fertilizers and synthetic pesticides. It also contributes to reduced anthropogenic impacts on desertification, biodiversity erosion, and climate change. There is an increasing urgency to foster skilled agricultural labor through organic practices to transition away from current fossil fueldependent agricultural systems while maintaining food production. Organic agriculture holds substantial potential for local sourcing of diverse foods through low-carbon systems and shorter supply chains. Certain food items can be produced more energyefficiently in specific settings, emphasizing the need for comprehensive energy use indicators to inform consumer choices.

Conclusion

Organic farming significantly contributes to food and nutritional security through its environmentally sustainable practices. By avoiding harmful substances like synthetic pesticides and nitrogen fertilizers, organic farming minimizes environmental damage and addresses issues such as land degradation, water pollution, and biodiversity loss associated with conventional agriculture. Its lower environmental costs and potential to reverse natural degradation underscore its crucial role in building a resilient and sustainable global food system. Organic farming also promotes food security by advocating for diversified local sourcing, emphasizing low-carbon systems and shorter supply chains. This approach not only addresses climate



change concerns but also strengthens local communities and economies. The capacity of organic agriculture to enhance food availability and access, particularly in regions facing severe poverty and hunger, highlights its pivotal role in global food security.

Despite its limitations, organic agriculture's positive impact on nutrition, reduced environmental footprint, and support for local economies positions it as an essential component of a comprehensive strategy for achieving sustainable food and nutritional security. In the face of challenges like population growth, climate variability, and globalization, embracing organic farming practices becomes increasingly vital for the well-being of both current and future generations.

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