

Bringing Sustainable Food Production Practices to the Forefront

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Received: January 31, 2021; **Published:** February 27, 2021

Due to its impact on the environment, food production is a major factor in the politics of sustainability. This is particularly the case for the spheres of public health, social integration, and the economy. Numerous important challenges high on current policy agendas all over the World can help exemplify how far-reaching the problem is.

Resulting environmental challenges linked to food production and consumption include climate change, water pollution, water scarcity, soil degradation, loss of habitats and reduced biodiversity [1]. Modern food consumption practices are connected to most of the water utilization worldwide and are responsible for the generation of significant amounts of greenhouse-gas emissions [2].

Therefore discussions about sustainable practices in the global food system are needed to set up technologies and practices that minimize adverse impacts on the environment and are simultaneously accessible to and effective for farmers and other food producers [3]. Hence, novel approaches are required for the integration of biological and ecological processes into global food production practices.

As part of present and future food production systems, synergy will be required to solve common agricultural and natural resource problems, including: pests, watershed, irrigation, inadequate forest and credit management. By looking for ways in which to tackle said problems will likely alleviate the current burdens on existing agricultural systems as well as helping with the development of natural, social, human, physical and financial capital.

A central aim for modern initiatives of sustainable food production is to improve natural capital. Through the optimal utilization of crop and animal genetics, in addition to improving the standard ecological conditions of agriculture and animal husbandry, most initiatives aim for increased outputs without harming the agroecosystem. The optimal administration of agroecosystems that takes into account energy flows, nutrient cycling, demographics and system resilience will drive the redesign of modern agriculture.

The outcomes of modern initiatives of sustainable food production can be positive for food productivity, reduced pollution and overall improving an overall improvement of the global living environment. Championing for national and international policies to support and demand more sustainable agricultural production practices across the World remains a key action point for all [4].

In this context, the social and economic impact of food choices is not to be neglected. To illustrate this point, green beans are a main trading good in Kenya, with approximately 50,000 smallholder farmers earning their income from this crop, as well as from related jobs further down the supply chain of this crop [5]. A reduction in demand for off-season imported foods to countries such as the UK and Germany, because of the growing environmental concerns this practice carries, is likely to have a strong impact on the quality of life of producers [6].

In the process of making a food choice, judging the degree of sustainability of a specific food unveils to be more complex than the average consumer might expect. As a way to illustrate this point, local and imported foods do not always vary significantly in terms of their carbon footprint. The effect on the environment of a particular food is connected to many factors apart from transportation-related emissions; this includes packaging, seasonality and the farming system used for its production, which in turn includes water usage, required heat, fertilisers and other inputs. There is also a wide variation in resource efficiency according to farming practices and a need to consider local environmental conditions when assessing land use. For example, in the UK, most of the land used to raise sheep is unsuitable for other agricultural practices [7].

While the need for diversification of land use is less pronounced for staple crops, including wheat, rice and maize, the environmental impact among different producers may still vary significantly when considering greenhouse gas emissions, land and water use, as well as acidification and eutrophication effects (excessive plant and algal growth affecting aquatic ecosystems).

In today's economically driven world, the paramount question remains whether these practices will be adopted on a microeconomic level. Responding to global issues with practices that will result in lasting improvements is a tall order, yet for companies willing to limit their environmental impact, the rewards can be substantial: a better brand image, stronger consumer trust, increased revenue, and loyal employees who are proud to work for a business actively trying to preserve the planet.

The precise effect on the environment resulting from the current agricultural system is difficult to determine. Sadly, research has consistently shown that under the majority of scenarios strong detrimental effects are to be expected, particularly among economically underdeveloped countries. Modern initiatives for sustainable food production will play a determining part in transforming economic practices in the World's food production, processing and consumption systems to be more sustainable, robust and resistant to any future circumstances.

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Volume 16 Issue 3 March 2021

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