Food Security And Climate Change Examined By Sustainable Agro-Food Systems

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Abstract

Even though the green revolution has allowed global food production to keep up with population growth, the United Nations State of Food Security and Nutrition in the World 2022 report reveals that 828 million people worldwide face food shortages, with 293 percent of the population living in food insecurity and 22 percent stunted. Many more suffer from poor food quality and micronutrient deficiencies, which worsen diabetes, obesity, and other diet-related noncommunicable diseases. Furthermore, the availability of water and soil, pandemics, and conflicts lead to regular natural disasters that undermine food systems and exacerbate global food poverty. These factors are all significantly impacted by modern Agro-food systems.

In this review, we will discuss the latest developments in alternative agricultural methods that promote long-term viability and regulations and procedures that must be implemented to ensure equitable distribution of food and resources to achieve several goals in the UN 2030 Agenda for Sustainable Development. According to the United Nations Intergovernmental Panel on Climate Change, animal husbandry, notably ruminant meat and dairy, contributes to a considerable amount of agricultural greenhouse gas (GHG) release and utilization of land, but only 18% of total food energy production. Plant-based diets, particularly perennial crops, have minimal environmental impact. Enhancing the cultivation of perennials, particularly herbaceous perennials, to substitute yearly crops, promoting environmentally conscious food choices, enacting policies and subsidies that favor efficient agricultural practices with little impact on the environment, empowering women, and embracing contemporary biotechnological and digital approaches can all help advance global Agro-food systems regarding ecosystem sustainability. There is emerging evidence that climate-smart, sustainable agricultural techniques can accomplish food security and enough nourishment for the world's population while decreasing agriculture's negative environmental impacts, such as GHG emissions.

Key words: agriculture, development, nutrition, biotechnology,farming