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Editorial

Food: The Driver of Sustainable Agriculture

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Sustainable agriculture is just one of the important facets of sustainable food systems which also includes other very important practices such as food distribution, consumption as well as reduction of food wastage. All of these are intricately interlinked. A recent study in 2020 conducted in the European Union attributed 37% of global greenhouse gas emissions to food systems including livestock and crop harvest, their transportation, changing landscapes, and food wastage (McFall-Johnsen & Woodward, 2019). Conventional agriculture depends on the use of large amounts of fertilizers, pesticides, fossil fuels, exploitation of water resources, processing, and packaging. Though this increases productivity, they wreak havoc on both nature as well as human health. It has also resulted in a gradual loss of indigenous food systems and cultures grounded in a harmonious relationship between man and nature. Neglected and Underutilized Species (NUS) of crops, such as various millets in India, which were once primary cereals cultivated because of their adaptability to a particular region and climate, slowly lost to cash crops such as rice and wheat that increasingly formed the mainstay agricultural practices.

There are initiatives galore geared towards restoring man nature equilibrium and promoting sustainable agriculture. Production of NUS crops and bringing them back into the fold of mainstream agriculture is an important initiative (IPGRI, 2002). Besides acting as a nutritious source of food, these crops also have medicinal and industrial benefits. These species are generally climate-resilient and could be the answer to challenges posed by climate change. They have the advantage of having been naturally

selected to a particular niche, and hence are crucial for the local population in fragile ecosystems such as arid and semi-arid regions of the world.

Indigenous knowledge systems and practices are being explored. In many cultures, edible insects were once used as a protein source. People are looking at this with renewed interest as these reduce the chances of transmission of zoonotic diseases and have very less impact on the environment. The insects could be eaten as such or protein can be extracted from them (Belluco et al., 2017). Another traditional practice that has gained wide acceptance is the cultivation of aquatic plants/seaweeds and algae for nutritious food. The practice has been embraced by more than 50 countries worldwide (Cai et al., 2021; Wells et al., 2017).

Other than this, there is also an increase in alternative agricultural practices such as permaculture, urban farming, organic gardening, natural farming, and the practice of aquaponics and hydroponics in urban areas to help grow crops on rooftops, thus shortening the transportation as well as storage time (Clinton et al., 2018). Urban agriculture could be a critical factor in food security and sustainability. Additionally, exploring alternate food sources such as mycoproteins, i.e. proteins obtained from fungal biomass is also a step towards sustainability. Microbial proteins have emerged as potential future food and may be produced from bacteria, algae, yeast, and fungi. They are an alternative to fish meals, and in human food, they can replace meat. In addition, microbial proteins can replace soybean meals which are currently used as animal feed (Herrero et al., 2021).

Nonetheless, the prevalent discourse on sustainability is typically objective, top-down, focused on problem-solving, couched in the scientific terminology, and provides evidence-based scientific justifications for solutions offered, with little attention to the agency of the individual and local cultures. An engagement with the subjectivity of the figure, central to this process: the consumer, the individual is missing. Perhaps another way to examine the issues of a sustainable food system could be by addressing the consumer i.e. a bottom-up approach. One could begin with the finished products at the end of the chain of food production, and understand how and why they are being consumed, or not, and how food and diet are impacting sustainability.

The term ‘food’ is a cultural category. Food choices of the consumer are culturally determined and have implications for the production of food and sustainable agriculture. In 1825, the French gastronome Jean Anthelme Brillat-Savarin wrote, "Tell me what you eat and I will tell you what you are." By implication, this aphorism highlights the fact that the activity of eating or consuming food is not random and instinctive. The food that we eat is closely shaped by our sociocultural location. Food systems evolve as a result of man-nature interactions and mark individual identity and shape the state of mind.

Food has meaning beyond nourishment. According to Levi-Strauss (1975/1964), “food is good to think about and, therefore, good to eat, to the extent that foods must first be considered edible by our mind and accepted for their social meanings before being digested by the body. First, we consider it and if it is fit for our spirit, we eat it.” (de Almeida, 2017). Culinary habits and practices are not inborn, they are rather acquired over time.

What is edible or not, when to eat, what to eat, and what type of food to eat, is all determined by social convention. The human stomach can digest almost anything. The categories of edible and inedible are cultural, which explains the existence of diverse food palettes, distinguishing the edible from the non-edible world over, and which vary from place to place and time to time shaped by and shaping varied conventions. Each culture has its own criteria for the categorization of food, for example, ‘what is digestible, adequate, good, toxic, healthy, poisonous, nutritious, rotten, heavy, light, spicy, raw, cooked, dry, fresh, acidic, salty, sweet, bitter, repugnant, tasty, bland, etc.’ (Jesús & Serra, 2016). Ecological, biological, and economic conditions affect our choice of food, but it is the cultural understanding and categorization that structures food as edible or inedible.

Furthermore, as is well demonstrated by the contemporary narratives on healthy eating, with a multitude of diets promising good health, what is edible is not necessarily good for health. Contemporary discourse on food is increasingly structured around nutrition and healthy life. Food is increasingly categorized by scientists in accordance with its nutritional value striving for long and healthy life. Today, with the development of food technologies, it is possible to alter the foods we eat and create new combinations

to make our diet healthier. This is the new food narrative which is also determined by the prevalent sociocultural factors, an acknowledgment of which is crucial.

The process of indigenization, the turn towards indigenous practices and knowledge systems, is significant to understand the agency of man to restore the lost quality of life. Indigenization does not mean a revival of authentic original practices and rediscovery of food in its original form. It is a process that adapts and incorporates outside culinary influences (Fernandez, 1997). Talking about this process in the context of the Philippines, Fernandez looks at how food becomes Filipino, i.e. indigenized, in that 'Filipino food reflects Chinese, South Asian, American, Arab, Spanish, Mexican, and indigenous practices. From Fernandez's perspective cuisines are dynamic, emergent, fluid, evolving, momentary, and improvised' (Dusselier, 2009). Further, "indigenous practices are not always acts of cultural preservation but also signal cultural fluidity, agency, and adaptability. As new ingredients, plants, and farming become available, indigenous cuisines are adapted to incorporate these changes" (Fernandez, 1997: iv).

The producer, distributor, and consumer lie at the heart of a sustainable food system. Promoting equity, social well-being, and ensuring the dignity of the rural producer are important steps towards realizing the goal of sustainable agriculture. Furthermore, according to the Food and Agriculture Organization (FAO), we need a food system that can provide nutrition to everybody, and also ensure adaptability to meet the challenge of climate change. Agricultural systems that are biologically diverse including food crops, trees, and animals are fundamental to promoting sustainability. It acts as natural insurance when market prices fluctuate due to natural calamities like drought, floods, pests, etc. This helps to stabilize the income of the producers. Moreover, having crops that flower at different times of the year ensures pollination and in some cases also increases the biological pest control.

Government policies need to be framed that support both the producer as well as the consumer. These policies should have a local context, incorporate the inputs of all stakeholders, and address local challenges and opportunities. The adoption of a bottom-up approach, where there is active collaborative participation of the consumer, an

engagement with his world view, and in which a connection is established between the producers and the consumers, is necessary and could be beneficial to all.

The endeavor of the sustainability debate is the restoration of health and well-being of man and nature. All the methods and initiatives need to be based on the perception that sustainability is not an abstraction divorced from the social realities of the consumer. Engagement with it has to begin with, or go back to the consumer, who is at the center of the entire debate around sustainability. Without an understanding of the social, cultural, economic, political, and other multifarious contexts and processes within which the consumer is located, various theories of sustainability run the risk of becoming mechanical, superficial, and meaningless.

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