WHICH ONE IS BETTER IN THE INDIAN CONTEXT: ORGANIC OR SUSTAINABLE FARMING?

Climate change poses severe threats to the entire farming community and essential resources for food production. Understanding the risks, people are shifting toward environmentally friendly and cost-effective farming practices. One such method is organic agriculture, a way of producing food that keeps soils, ecosystems, and people healthy.

Rather than using inputs with negative consequences, it relies on ecological processes, biodiversity, and cycles tailored to local conditions. Organic agriculture brings together tradition, innovation, and science to improve the environment while promoting honest relationships and high quality of life across the value chain.

-Akhilesh Jain,
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People often use the terms organic and sustainable farming interchangeably to describe similar approaches. Even though both aim to make agriculture more eco-friendly, they are vastly different. So, let us delve deeper to understand the difference between organic and sustainable farming.

ORGANIC VS SUSTAINABLE FARMING?

Organic farming involves cultivating land without using artificial fertilisers, herbicides, growth regulators, or feed additives. In fact, it includes natural-process-based strategies like crop rotation, compost, biological pest management, mechanical cultivation, etc., to sustain soil productivity and pest control.

Also, organic farming excludes or strictly limits the use of synthetic fertilisers, pesticides, and livestock feed additives. Even though this process is environmentally beneficial and sustainable in certain respects, farming communities worldwide have been sluggish in adopting it because of high input costs and low yields in the early years. Moreover, organic agricultural procedures for an extensive land size are difficult to establish and maintain.

On the other hand, sustainable agriculture refers to farming that follows ecological principles. Unlike organic agriculture, it is concerned with meeting present needs without jeopardising future generations' ability to meet their own. It focuses on natural resource management as well as human resource management. As a result, in addition to artificial fertilisers and pesticides, it prohibits the use of non-renewable resources in agricultural machinery.

Sustainable farming also determines the best energy-efficient and cost-effective way to employ agricultural machines and non-renewable natural resources (i.e. phosphate). Smallholder farmers can benefit from these approaches, for it helps them get the most out of their resources and land. Sustainable farms, for example, can take in chemical agri-inputs if used correctly as long as it does not jeopardise their long-term viability.

WHAT ARE THE ECONOMIC BENEFITS OF SUSTAINABLE FARMING?

Sustainable agriculture has the potential to feed a growing population while also mitigating climate change effects. Farmers may boost yields and earnings by using crop rotation, no-till, and winter cover crops. Furthermore, sustainable agriculture contributes to environmental conservation, future energy savings, public health safety, pollution prevention, soil erosion prevention, and farmer economic benefit.

IS SUSTAINABLE FARMING BENEFICIAL TO CROP PRODUCTIVITY?

Yes, because sustainable farming refers to agricultural systems and procedures that aim to minimise the depletion of natural resources in the ground. Sustainable farming practices focus on preserving higher levels of organic matter, reducing erosion, and keeping more carbon in the soil. These practices increase the soil's resilience and long-term health, resulting in increased yields.

IMPORTANCE OF WATER MANAGEMENT IN SUSTAINABLE FARMING

Undeniably water is one of the most crucial inputs for agriculture. With growing concerns about the depletion of water resources, the demand for sustainable water management in agricultural activities is burgeoning. An affordable and efficient water management method will play a crucial role in producing food and ensuring economic security for sustained livelihoods in irrigated and rain-fed scenarios.

And sustainable farming adopts some of the best irrigation practices that can aid water management. This farming helps in water management by reducing water loss, utilising efficient irrigation systems, implementing innovative irrigation methods, applying fertiliser efficiently, and reusing irrigation waters (saline water, wastewater, and runoff water) for agricultural purposes.

ROLE OF TECHNOLOGY IN SUSTAINABLE FARMING

Technology has the potential to pave the path for a sustainable and frictionless smart agriculture economy, leading to a brighter and more self-reliant future for the country. Incorporating cutting-edge technology such as AI, machine learning, and drones into farming practices will put the power of data in the farmer's hands, allowing them to make timely and informed decisions on what crop to sow, when and what method to use.

Using drones will help capture aerial imagery of crop conditions to assess different aspects of plant health, weeds, and assets. Timely crop surveillance will help the farmers understand and plan for the next farming season. In addition, drones also help in soil and field analysis by measuring soil moisture content, soil erosion, soil nutrients and soil fertility. This helps improve the efficiency

of the processes that will shape the future of agriculture.

THE INDIAN FARMING SCENARIO

The Indian subcontinent is diverse. We have a large population to feed; considering a sustainable agriculture strategy is a good idea, it doesn't mean we have to go all-organic. According to the FAO's revised forecast, worldwide food production should be 60% greater by 2050 than in 2005/2007 to feed a predicted global population of over 9 billion people, which is 2 billion more than the current population. This means there will be greater demand for food and food security.

Given the circumstances, we must focus on producing more. This calls for a balanced approach. Instead of replacing inorganic fertilisers, we should use organic fertilisers as a supplement to retain soil health and help plants reach their maximum potential.

CONCLUSION

Although there are some similarities between sustainable and organic agriculture, we can't use the phrases interchangeably. It's important to remember that organic farming isn't necessarily the most sustainable option. The current situation in Sri Lanka is proof of this. Last year, in April, the Sri Lankan government imposed an immediate ban on chemical fertiliser imports hoping to become a 100% organic food producer. But due to this reckless decision, the country is now facing a food crisis. Hence, taking a lesson from them, India must adopt a balanced approach to make agriculture sustainable and capable of feeding our future generations.