Cosmos Multidisciplinary Research E-Journal
Online Available at www.cmrj.in
Recognized International Peer Reviewed Journal
Impact Factor 5.69
ISSN No. 2456-1665

A Study of Government of India Intiative towards 'Sustainable Agriculture and Organic Farming'

Dr. S. A.Patil
Dept. of Geography,
Ankushrao Tope College,
Jalna (MS)

Introduction:

Sustainable agriculture involves farming practices that meet present food needs without harming the ability of future generations to meet their own. This means farming methods are used that are environmentally sound, financially viable for farmers, and socially fair. Organic farming, a key part of sustainable agriculture, avoids synthetic fertilizers, pesticides, GMOs, and growth hormones. Instead, it uses natural techniques like crop rotation, composting, and biological pest control to nurture soil health and biodiversity.

The benefits of these approaches are numerous and significant: they improve soil structure and fertility, enhance the soil's ability to retain water, and reduce soil erosion. By minimizing the use of synthetic chemicals, organic and sustainable practices reduce water and air pollution, protect water quality, and foster greater biodiversity, including beneficial insects like pollinators. They can also help reduce greenhouse gas emissions and lower energy consumption compared to conventional farming, thus playing a role in mitigating climate change.

For farmers, sustainable agriculture and organic farming can lead to lower reliance on costly chemical inputs and may open up niche markets for organic produce. Organic foods, often perceived as healthier and produced with fewer harmful residues, command a premium price and can boost income for farmers. However, there are challenges to adopting these methods, including high initial costs for setting up organic farms or transitioning from conventional farming, potential risks of lower yields during the transition, and the complexity of managing pests and diseases without synthetic inputs. Despite these challenges, sustainable and organic farming are essential for ensuring long-term food security, protecting the environment, and

building more resilient food systems for current and future generations. The future of agriculture lies in embracing these practices and supporting farmers through education, policy incentives, and technological advancements to build a more resilient and environmentally friendly food system for everyone.

Government initiatives and steps promoting sustainable agriculture and organic farming in India:

1. National Mission for Sustainable Agriculture (NMSA): Launched in 2014-15 to make agriculture more productive, sustainable, and climate-resilient. It focuses on promoting location-specific farming systems, water efficiency, and soil health management. Components include Rainfed Area Development (RAD) and Soil Health Management (SHM), aiming to enhance productivity, especially in rainfed regions.
2. Paramparagat Krishi Vikas Yojana (PKVY): This central government scheme, launched in 2015, promotes organic farming by encouraging farmers to form clusters and adopt organic methods. It provides financial assistance for organic conversion, training, and certification. The goal is to improve soil health and produce healthy food without agro-chemicals.
3. Mission Organic Value Chain Development for North Eastern Region (MOVCDNER): Launched in 2013, this initiative aims to promote organic farming and develop end-to-end value chains in the North Eastern states. It provides support from production to post-harvest management, value addition, and market linkages. The focus is on farmer empowerment through Farmer Producer Companies (FPCs) and access to shared infrastructure.
4. Soil Health Card Scheme (SHC): This 2015 initiative provides farmers with a detailed analysis of their soil's nutrient content and pH levels to improve soil health. It offers recommendations for improving soil health and productivity, helping to reduce fertilizer overuse. Farmers receive a soil card every three years, facilitating informed farming decisions.

5. Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) - Per Drop More Crop (PDMC): This focuses on micro-irrigation technologies like drip and sprinkler systems to enhance water use efficiency and improve water management at the farm level. It provides financial assistance for micro-irrigation systems and promotes efficient water utilization. The scheme also supports micro-level water storage, conservation, and management activities.
6. National Project on Organic Farming (NPOF): Introduced in 2004, this project promotes organic farming through capacity building and the production and promotion of quality organic and biological inputs like bio-fertilizers. It aims to enhance agricultural productivity while maintaining soil health and environmental safety. The project also promotes awareness creation and quality control for organic inputs.
7. Promotion of Farmer Producer Organizations (FPOs): A scheme launched in 2020 aims to form and promote 10,000 new FPOs by 2027-28. The goal is to collectivize small and marginal farmers to improve their access to technology, inputs, and markets. FPOs receive financial assistance, matching equity grants, and credit guarantees, enhancing cost-effective production, productivity, and income for farmers.
8. Training and Capacity Building Programs for Farmers: Government schemes include training programs on organic farming techniques, focusing on skill development, soil management, pest control, and marketing. These programs aim to empower farmers, especially youth, to become entrepreneurs in the organic farming sector. Courses like the 21-day certificate course on organic farming are offered through institutions like the National Centre for Organic and Natural Farming.
9. National Programme for Organic Production (NPOP): Launched in 2001, NPOP focuses on accreditation, organic production standards, and promoting organic farming. It enhances India's global competitiveness in organic farming by aligning with international standards. This includes recognition for organic grower groups and technological advancements like the NPOP Portal and TraceNet 2.0, aiming

to streamline organic farming operations and boost India's position in the global organic market.

10. Zero Budget Natural Farming (ZBNF): Promoted in states like Andhra Pradesh, ZBNF is a no-cost, chemical-free farming model relying on indigenous practices like Bijamrit, Jiwamrita, Mulching, and Waaphasa to enhance soil vitality. It aims to reduce reliance on purchased inputs, making it cost-effective. The method focuses on on-farm biomass recycling, cow dung-urine formulations, and soil aeration.

Benefits of Sustainable Agriculture and Organic Farming

1. Improved Soil Health: Sustainable and organic practices like composting, crop rotation, and cover cropping enhance soil structure and fertility, preventing erosion and boosting microbial activity.
2. Reduced Chemical Usage: Organic farming eliminates synthetic fertilizers and pesticides, minimizing the risk of harmful residues in food and water runoff that can pollute the environment.
3. Increased Biodiversity: Avoiding harmful chemicals and promoting diverse planting methods fosters a richer variety of plants, animals, and beneficial insects on and around farms.
4. Water Conservation: Techniques like drip irrigation, efficient water management, and enhanced soil water retention minimize water wastage and protect water resources.
5. Lower Carbon Footprint: Sustainable methods, particularly organic, reduce greenhouse gas emissions by decreasing reliance on energy-intensive synthetic inputs and by sequestering carbon in healthy soil.
6. Enhanced Food Quality: Organic produce often contains fewer chemical residues and potentially higher levels of nutrients and antioxidants, providing consumers with healthier food options.
7. Economic Resilience for Farmers: Sustainable agriculture can reduce farmers' dependence on costly chemical inputs and diversify their income streams

through varied crops, potentially leading to higher profits, particularly with the premium market for organic products.

8. Climate Resilience: Practices such as improved soil health, water retention, and crop diversification make farms more resilient to the impacts of climate change, such as droughts and extreme weather events.
9. Protection of Ecosystems and Pollinators: By minimizing chemical use and promoting biodiversity, sustainable farming safeguards natural habitats, supports pollinator populations (like bees), and contributes to a healthier overall ecosystem.
10. Community and Social Benefits: Sustainable agriculture often strengthens local economies by promoting local food systems, creating employment opportunities, ensuring food safety, and fostering community engagement

Conclusion:

Sustainable agriculture and organic farming are more than just buzzwords; they represent a fundamental shift towards a healthier, more resilient global food system. By prioritizing soil health and biodiversity, these practices ensure the long-term productivity of our farmlands. Reducing reliance on synthetic chemicals minimizes pollution and safeguards precious water resources and vital ecosystems.

Organic and sustainable methods contribute significantly to mitigating climate change by enhancing carbon sequestration and lowering greenhouse gas emissions. This dual approach ensures food security for a growing global population while lessening the environmental footprint of food production.

Furthermore, these farming models foster economic resilience for farmers through reduced input costs, diversified income streams, and access to premium markets. Challenges like initial transition costs and potential yield fluctuations exist, but ongoing research, technological innovations like precision farming, and supportive government policies are paving the way forward.

Ultimately, embracing both sustainable agriculture and organic farming practices is crucial for ensuring a healthier planet, a more equitable food system, and the well-

being of both farmers and consumers for generations to come. This holistic approach is essential for a future where food production harmonizes with nature and sustains both people and the planet.

References:

1. Francis, C. A. (Ed.). (2009). *Organic farming: The ecological system*. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America.
2. Horne, J. E., & McDermott, M. (2002). *The next green revolution: Essential steps to a healthy, sustainable agriculture*. Haworth Press.
3. Lampkin, N. (1994). *Organic farming*. Farming Press.
4. Lichtfouse, E., Navarrete, M., Debaeke, P., Souchere, V., & Alberola, C. (Eds.). (2009). *Sustainable agriculture*. Springer Netherlands. https://doi.org/10.1007/978-90-481-2666-8
5. Nandwani, D. (Ed.). (2016). *Organic farming for sustainable agriculture*. Springer International Publishing. https://doi.org/10.1007/978-3-319-26803-3
6. Pretty, J. N. (1995). *Regenerating agriculture*. Earthscan.
7. Reddy, P. P. (2012). *Organic farming for sustainable horticulture*. Scientific Publishers (India).
8. Sapolsky, R. M. (2017). *Behave: The biology of humans at our best and worst*. Penguin Books.
9. Schwenke, K. (1991). *Successful small-scale farming: An organic approach* (2nd ed.). Storey Communications.
10. Thomas, S., Chandran, C. S., & Unni, M. R. (Eds.). (2019). *Organic farming: New advances towards sustainable agricultural systems*. Springer