



Socratus
The Midwife of Collective Wisdom

Food Systems Change Workshop

Transforming Food Systems: Building
Resilience, Equity, and Sustainability

NADIA West Bengal

12 & 13 December 2024



www.switchon.org.in



Executive summary

India's food systems are increasingly strained by **climate change, unsustainable farming practices, and soil degradation, jeopardizing** productivity and livelihoods. Fragmented interventions have failed to address systemic issues such as inequitable **market access, climate vulnerability, and resource mismanagement**. A shift to sustainable agricultural practices using a landscape approach has become critical.

Hence the workshop aimed to address these challenges by **promoting agroecological practices, enhancing farmer incomes, and building climate resilience**. The initiative serves as a collaborative platform for diverse stakeholders, including farmers, NGO leaders, government officials, funders, financial institutions, and academicians, to co-develop strategies for sustainable food system transformation.

The workshop brought together a diverse group of participants, including local farmers, SHG members, FPO leaders, government representatives, NGO leaders, bankers, academicians and independent researchers. During the workshop participants engaged in four focus groups such as ON Farm, Natural Resource Management, Market Linkages, and Institutions which identified current practices, assessed gaps, and brainstormed bold solutions.

Key Objectives of the Workshop

1. **Reduce Dependence on Purchased Inputs**
2. **Doubling Farmers Income**

Identifying the Top 4 Priorities for Food System Transformation

The themes for four focus group discussions—On-Farm, Market Linkage, Natural Resource Management, and Institutional Enablers—were selected based on applying a systems thinking approach to solving for the food system ecosystem holistically. These categories address the key dimensions of food system intervention including fostering productivity, resource efficiency, community participation, and long-term system resilience.

The top 4 priorities that emerged from the discussions comprised:

1. Cluster Approach based on area
2. Establishing Separate Market Spaces and Creating Local Demand
3. Graded process to phase out chemical fertilizers subsidy and more money to viability gap funding
4. Promoting Integrated Farming Systems (IFS) through Community Participation

Conclusion

The workshop underscored the importance of a holistic, system-based approach to sustainable food systems. By integrating natural farming practices, strengthening institutional frameworks, and promoting market linkages, India can address pressing challenges in agriculture while setting a benchmark for sustainable practices. Collaborative efforts across stakeholders are crucial to achieving a resilient, equitable, and productive agricultural ecosystem.



1. Background

West Bengal's food systems face growing challenges from **climate change, unsustainable farming practices, and soil degradation**, threatening productivity and livelihoods. Fragmented interventions at the landscape level often fail to address systemic issues like **inequitable market access, climate vulnerability, and resource mismanagement**. The urgency to protect topsoil and the need for sustainable agricultural transformation has never been more pressing.

Adopting a landscape approach—using a block as the focal unit for intervention—can provide an integrated framework to harmonize ecological, social, and economic priorities. This strategy **fosters stakeholder collaboration, optimizes resource use, and enhances resilience** across farms, ecosystems, and communities.

The workshop brought together **diverse stakeholders**, including farmers, government officials, NGOs, bankers, funders, academics, and input companies, to co-develop strategies for agroecological practices. The workshop aimed to **reduce chemical input dependence, strengthen farmer incomes, and build climate resilience** by promoting **organic alternatives, equitable market access, and improved productivity**. The initiative seeks to set a benchmark for sustainable food systems transformation in West Bengal and beyond through this inclusive and holistic approach.



2. Participants Details

Participant Name	Participant Organization	Type of Actor
Ms. Swati Agarwal	Oak Foundation	Non-governmental organization
Jaya Prakash	WASSAN	Non-governmental organization
Antim Alok Saraf	Centre for Youth and Social Development	Non-governmental organization
Dr. Sourav Garai	Ramkrishna Mission Vivekananda Educational and Research Institute	Educational institution
Akshay Modi	SATTVA	Non-governmental organization
Mr. Badal Maharana	Tagore Society for Rural Development	Non-governmental organization
Pramod Kumar Pradhan	Nirman	Non-governmental organization
Saralika Ghosh	Access Development Services	Non-governmental organization
YVK Rahul	IAA	Non-governmental organization
Saumya Jain	Socratus	Non-governmental organization
Jacob John	Socratus	Non-governmental organization
Mahendra Singh	Van Jivan Gramin Vikash Samiti	Non-profit organization
Basant Kumar	People's Integration & Union for Society	Non-governmental organization
Mr. Bharat Mansata	Earthcare Books	Academician
Piyush Jha	Mimangsha Foundation	Non-profit organization
Golak Behari Mahata	Lalpur Uttarayan	Non-governmental organization
Falguni Mahato	Kansabati Mahila Kisan Producer Company Ltd	Farmer producer organization
Karthik Soren	Yuva Jagrity Kala Kendra	Non-governmental organization
Pradyut Biswas	Nobokrishi Farmer Producer Company	Farmer producer organization
Sovon Singha Roy	Rahimpur-Ma tara Society	Non-governmental organization
Pramita Mondal	Golap	Self-help group
Jotsna Gain	Swarnalata	Self-help group
Susuma Biswas	Santipur, Kohinoor SHG	Self-help group
Ratna Biswas	Santipur, Sonatori SHG	Self-help group
Soumyadeep Sana	SwitchON Foundation	Non-profit organization
Aditi Kundu	SwitchON Foundation	Non-profit organization
Sayan Sau	SwitchON Foundation	Non-profit organization
Raju Mondal	SwitchON Foundation	Non-profit organization
Deepak Kumar Arya	SwitchON Foundation	Non-profit organization
Bijon Pal	SwitchON Foundation	Non-profit organization
Debabrata Mondal	CTRAN Consulting Private Limited	Agency
Buddheswar Kar	Dept. of Agricultural Marketing	Government department
Niranjan Mondal	ONFarm	Non-profit organization
Mohon Ghane	Bangiya Gramin Vikash Bank	Financial institution
Sonu Tai	Bangiya Gramin Vikash Bank	Financial institution
Silajit Naskar	The Jute Corporation Of India Limited (JCI)	Government department



3. Discussion on Systems thinking

System change is a transformative process that involves more than individual actions within a society. It is connected to contemporary structures, behavioral shifts, cultural transformations, collaboration, and innovation. Systems change in agriculture is essential to ensure sustainability, resilience, and increased productivity. It reduces reliance on harmful inputs, enhances resource efficiency, and supports farmers' economic and social well-being. This shift addresses global food security while protecting the environment.

The discussion centered on developing and implementing **natural farming practices** that **sustain or enhance agricultural productivity** and establish a **robust economic model** that **increases farmers' incomes, doubling farmers' income** and **enhancing production rates** through sustainable agriculture. This approach reduces dependency on conventional agricultural inputs, particularly the use of chemical fertilizers and pesticides while leveraging sustainable practices to boost farmers' earnings. In this aspect, system change can be done through a systematic process and with different techniques.



Highlighting 2 major objectives under our Systems thinking approach-



1. Reduce Dependence on Purchased Inputs

Promote natural farming to reduce reliance on synthetic chemicals, external inputs, and GMOs, lowering cultivation costs.

2. Doubling Farmers Income

Promote organic and natural farming to reduce the cost of cultivation, ensuring better market access through quality certification systems, and encouraging diversification of farmers' income by adopting IFS (Integrated Farming System) models.

Jacob J. from Socrates illustrated systems thinking using the **analogy of a bus**: a bus **cannot function independently**—it relies on interconnected elements like seats, a driver, bus stops, roads, and traffic systems. Similarly, farming is **a holistic process** where multiple components work together. This **interconnected** approach, known as **systems mapping**, highlights that no single element operates in isolation, forming a circular and interdependent system. A food system encompasses all activities involved in **producing, processing, distributing, consuming, and disposing of food**. It includes the interactions between **people, environments, and economies** that influence **food security, nutrition, sustainability, and livelihoods**. A sustainable food system seeks to balance ecological health, economic viability, and social equity.

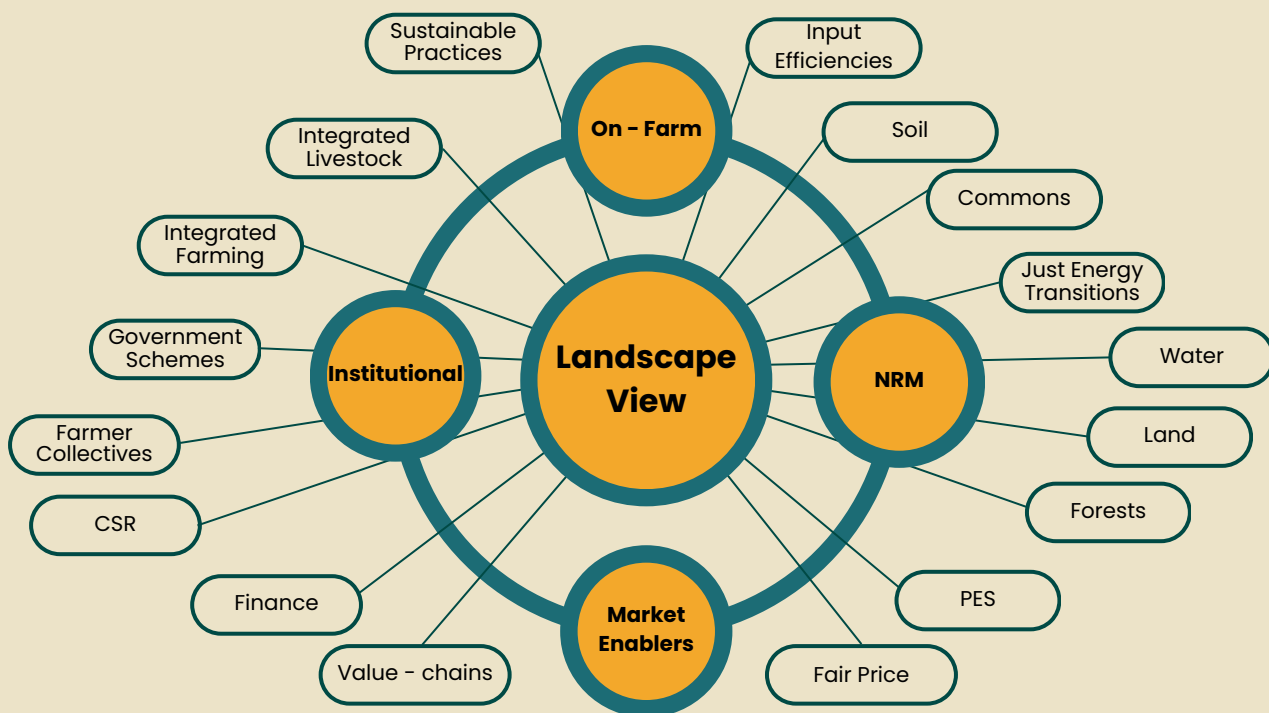
This helped in setting the groundwork for the participants in adopting a holistic thinking lens to their idea of a sustainable food system, which seeks to balance ecological health, economic viability, and social equity.



4. Landscape View

During the workshop, participants engaged in a World Café discussion format divided into four focus groups: **On-Farm Practices**, **Natural Resource Management**, **Market Linkages**, and **Institutions**. Each group explored three key points:

1. Identifying what is already happening in their respective domains,
2. Assessing the gaps and barriers that hinder progress toward achieving goals, and
3. Brainstorming what else needs to happen. This included identifying new opportunities and proposing ambitious, bold, and unconventional solutions. The insights and ideas generated from these discussions were then organized into a prioritization matrix to highlight actionable steps, which were subsequently mapped to relevant actors for effective implementation.



Advancing the Farming Ecosystem: Achievements, Challenges, and Opportunities

4.1 On-Farm Practices:

Sustainable agriculture plays a pivotal role in achieving the twin goals of doubling farmers' incomes and reducing dependency on external inputs. Through targeted interventions and community-driven initiatives, significant strides have been made in fostering resilient farming systems that prioritize economic sustainability. Key achievements underscore the potential of organic farming to enhance productivity while minimizing input costs.

1. Reflecting on the **successes and achievements**:
 - a. Achieving organic certification for numerous farmers.
 - b. Conducting soil testing for numerous farmers.
 - c. Linking farmers to schemes such as Bangla Krishi Swach Yojana (BKSY) and Rashtriya Krishi Vigyan Yojana (RKVY).
 - d. Producing various crops using organic processes, including Black rice, Red rice, Kalonji, White sesame, Radha Tillak rice, and Finger millet.

2. Discussing the **challenges and limitations** that hinder progress toward achieving goals:
 - a. Prevalence of fragmented farmland hindering the implementation of organic farming methods.
 - b. Lack of region-specific models for organic and integrated farming.
 - c. Insufficient water management practices, especially for kitchen gardens.
 - d. Limited knowledge and implementation of fallow land management.
 - e. Challenges in mobilizing community participation for improving economic aspects.

3. Brainstorming the **upcoming opportunities**:
 - a. Developing a Bio Lab to produce organic pesticides for personal use and local distribution (e.g., Trichoderma, Beauveria, COD Bonus, Agustra, Bhombastra, and Nimastra).
 - b. Expanding the production of organic pesticides and fertilizers to support sustainable agricultural practices.
 - c. Developing region-specific models to address local agricultural needs.
 - d. Implementing water reuse and recycling processes in kitchen gardens.
 - e. Introducing proper fallow land management strategies.
 - f. Encouraging active participation from local farmers to gain valuable insights.
 - g. Involving the broader community to enhance economic outcomes of sustainable farming initiatives.





4.2 Natural Resource Management:

The term "natural resources" specifically encompasses **land, water, forests, and energy resources**, with a particular focus on factors such as land slopes, rainfall, soil erosion, and soil fertility. This approach also emphasizes **promoting biodiversity** in various ways. However, during the group discussion on implementing effective watershed management, the primary challenges identified were limited land availability and funding constraints.

1. Reflecting on the **successes and achievements**:

- a. **Land Management:** Successful initiatives such as land leveling, Continuous Contour Trenches (CCT), bunding using the 30x40 model, and check dam construction to enhance land productivity and resilience.
- b. **Water Management:** Construction of farm ponds, implementation of rainwater harvesting systems, and adoption of efficient irrigation techniques to optimize water resource utilization.
- c. **Forest Management:** Plantation drives, horticulture development, avenue plantations, biodiversity conservation, and agroforestry practices to maintain ecological balance.
- d. **Energy Integration:** Use of agroforestry and solar-based models for sustainable resource utilization.

2. Discussing the **challenges and limitations** that hinder progress toward achieving goals:

- a. High government subsidies on traditional fertilizers discourage the adoption of organic farming methods.
- b. Limited policy support to incentivize the shift towards sustainable farming practices.
- c. Insufficient integration of energy solutions like solar-based models and innovative farming approaches.
- d. Barriers in applying energy-based strategies to reduce soil salinity in drought-prone areas.
- e. Gaps in scaling up technologies for improving soil utilization and reducing resource wastage.

3. Brainstorming the **upcoming opportunities**:

- a. Advocate for policy reforms to reduce fertilizer subsidies and promote organic farming practices.
- b. Develop and implement solar harvesting system models to enhance soil and water efficiency, reduce evaporation, and improve ecosystem health.
- c. Integrate energy-based innovations such as solar mulching and energy-efficient irrigation systems to support natural farming practices.
- d. Scale up the use of renewable energy solutions in farmland to ensure sustainable resource use.
- e. Strengthen linkages between natural farming and innovative energy solutions to maximize productivity and environmental benefits.
- f. Provide training and capacity building for farmers on the adoption of advanced NRM practices and energy integration.

4.3 Market Linkages:

The discussion on market linkages emphasized the importance of strengthening the organic farming ecosystem to enhance farmers' income and diversify their livelihoods. With the growing demand for organic products in metropolitan cities, there is a clear opportunity to expand the organic food market. However, challenges such as limited food value chains, lack of value addition, and logistical inefficiencies persist. Addressing these barriers, alongside creating internal demand and ensuring quality management, can unlock significant potential for organic farming. By fostering collaborations with the government, raising awareness, and promoting investments, the sector can achieve greater societal and economic impact.

1. Reflecting on the **successes and achievements**:
 - a. Increase in the value of organic products.
 - b. Investment by organic buyers.
 - c. Growth in demand for organic products in metropolitan cities.
 - d. Awareness programs on organic cultivation initiated by the government and promoted through various schemes.

2. Discussing the **challenges and limitations** that hinder progress toward achieving goals:
 - a. Limited presence of existing food value chains.
 - b. Lack of value addition, resulting in fewer market linkages.
 - c. Transportation inefficiencies affecting the delivery of inputs and final products.
 - d. Low credit scores of small entrepreneurs hinder their focus on organic products.
 - e. Insufficient internal demand for organic products to sustain market growth.
 - e. Inadequate emphasis on quality management, affecting the production of superior organic products.

3. Brainstorming the **upcoming opportunities**:
 - a. Expanding the organic food market in metropolitan cities where demand is already high.
 - b. Developing flexible and efficient transportation systems to streamline the delivery process.
 - c. Creating internal demand for organic products through targeted marketing and awareness campaigns.
 - d. Enhancing quality management practices to produce superior organic products.
 - e. Promoting collaborations between farmers and government schemes to foster societal impact and boost organic farming.
 - f. Encouraging private sector investments to strengthen market linkages and scale up organic production.

4.4 Institution:

Institutions such as government bodies, Self-Help Groups (SHGs), and Farmer Producer Organizations (FPOs) play a pivotal role in advancing organic agriculture. They act as facilitators for capacity building, market linkages, financial support, and certification processes, ensuring the sustainable growth of organic farming practices. These institutions also drive awareness, policy advocacy, and community engagement, fostering a robust ecosystem for organic agriculture.

1. Reflecting on the **successes and achievements**:

- a. Model SHGs established at the Panchayat level, serving as inspiration and champion practitioners.
- b. Emergence of a new brand of agripreneurs fostering innovation in organic farming.
- c. Increased awareness of organic farming practices among farmers and communities.
- d. The growing role of philanthropic capital in supporting organic farming initiatives.

2. Discussing the **challenges and limitations** that hinder progress toward achieving goals:

- a. Insufficient government budget allocation for organic products, limiting sectoral growth.
- b. Lack of trust in organic products due to inadequate certification mechanisms.
- c. Limited access to structured programs for cross-learning and guidance in organic farming practices.
- d. Underutilization of community institutions like SHGs, FPCs, and FPOs in promoting organic farming.

3. Brainstorming the **upcoming opportunities**:

- a. Enhancing the role of Krishi Vigyan Kendras (KVKs) in structured planning and cross-learning.
- b. Leveraging community institutions such as Panchayats, ICAR, and NITI Aayog to support organic farming development.
- c. Promoting certification mechanisms through entities like APEDA and NABARD to build trust in organic products.
- d. Strengthening philanthropic and CSR investments to expand organic farming support systems.
- e. Developing policy models and research initiatives on livestock integration, carbon farming, and sustainable practices.
- f. Creating bulk-buying networks, warehouses, and market linkages to boost organic product sales.
- g. Establishing more model SHGs to champion organic farming and inspire widespread adoption.

4.5 Key Levers for Transforming Food Systems:

On Farm:

1. Behavioural change and sensitization programs
2. Promote multi-cropping and crop rotation
3. Improve access to organic/indigenous seed for cultivation
4. **Cluster Approach based on area**

Market linkage:

1. **Separate Market Spaces in rural areas (haat) along with Creating Local Demand**
2. Quality management, food technology, organized buyer identification for technology
3. Retail shop for organic products

Natural Resource Management:

1. **Integrated farming system using community participation**
2. Land restoration
3. Technology dissemination with NGO

Institution:

1. Create institutional or government structures for knowledge transition and dissemination
2. **Graded process to phase out chemical fertilizers subsidy and move money to viability gap funding**
3. Focus on research using funding from corporations and government funding





5. Identifying the top 4 priorities for Food System Transformation:

An Anchor Map was developed based on inputs from the four core groups, with the primary anchors identified as **Bazar (Market), Sarkar (Government), and Samaj (Society)**. This Anchor Map highlights the interconnections among all actors and serves as a guiding framework for the discussion, steering it toward the final objectives. Ultimately, the process facilitated the selection of **three key actor** priorities from the twelve identified, forming the foundation for system mapping.



The four focus groups—On-Farm, Market Linkage, Natural Resource Management, and Institution—are selected based on their critical role in transforming the food system ecosystem. These categories address key agricultural challenges, market access, sustainability, and governance. Each group ensures a holistic approach, fostering productivity, resource efficiency, community participation, and long-term system resilience.

5.1. Cluster Approach based on area

- a. Building Standards and Guidelines for Cluster Creation
- b. Process Development

5.2. Establishing Separate Market Spaces and Creating Local Demand:

- a. Gram Panchayat Awareness Camps: Organize community awareness initiatives to educate rural populations about the benefits of organic products and available market opportunities.
- b. Promotional Strategies (4P): Employ the 4P framework—Product, Price, Place, and Promotion—to align organic products with local demand effectively.
- c. Certification Awareness: Enhance trust by educating farmers and consumers about organic certification processes, ensuring product credibility and quality assurance.
- d. Mobile Sales and Branding: Introduce mobile sales units and effective branding techniques to increase product visibility and engage a broader audience.

5.3. Graded process to phase out chemical fertilizers subsidy and more money to viability gap funding

- a. Policy and Planning Engagement: Work with government bodies to promote policy changes, including phasing out chemical fertilizer subsidies and reallocating funds to viability gap funding for organic farming.
- b. Empowering Landless Laborers: Develop skill-building and livelihood opportunities for landless workers, integrating them into the sustainable agricultural value chain.
- c. Carbon Market Connections: Link farmers and communities to carbon markets, enabling income generation through carbon credits to support sustainable farming.

5.4. Promoting Integrated Farming Systems (IFS) through Community Participation:

- a. Tailored Solutions and Local Champions: Train local champions or master farmers to implement context-specific solutions, fostering sustainable practices tailored to community needs.
- b. Standards and Quality Control: Establish standards for IFS practices to ensure high-quality outputs, reduce costs, enhance productivity, and improve market access for farmers.



6. Discussions and Conclusions:

The "**Transforming Food Systems: Building Resilience, Equity, and Sustainability**" workshop aimed to develop **actionable strategies** to transform the food system by addressing the challenges of climate change, resource mismanagement, and inequitable market access. The focus was on **reducing chemical input dependence, enhancing farmer incomes**, and building climate resilience by **promoting organic alternatives, improving market access**, and fostering sustainable farming practices.

The four workshop groups explored **existing practices, identified barriers**, and **proposed innovative solutions**, which were then prioritized and mapped to relevant actors for implementation.

The discussions revolved around three key priorities aimed at promoting sustainable agricultural practices. First, it emphasized the creation of **separate market spaces** in rural areas by **educating communities** about organic farming and using strategies like the 4P framework, certification awareness, and mobile sales to boost local demand.

The second priority focuses on **advocating for policy changes**, such as phasing out chemical fertilizer subsidies, reallocating funds to support organic farming, empowering landless laborers through skill development, and connecting farmers to carbon markets.

The third priority involved **promoting Integrated Farming Systems (IFS)** through community participation by developing tailored solutions, training local champions, and establishing standards to ensure high-quality outputs, increased productivity, and better market access for farmers. These strategies aimed to build sustainable, resilient farming systems that benefit both the environment and the community.

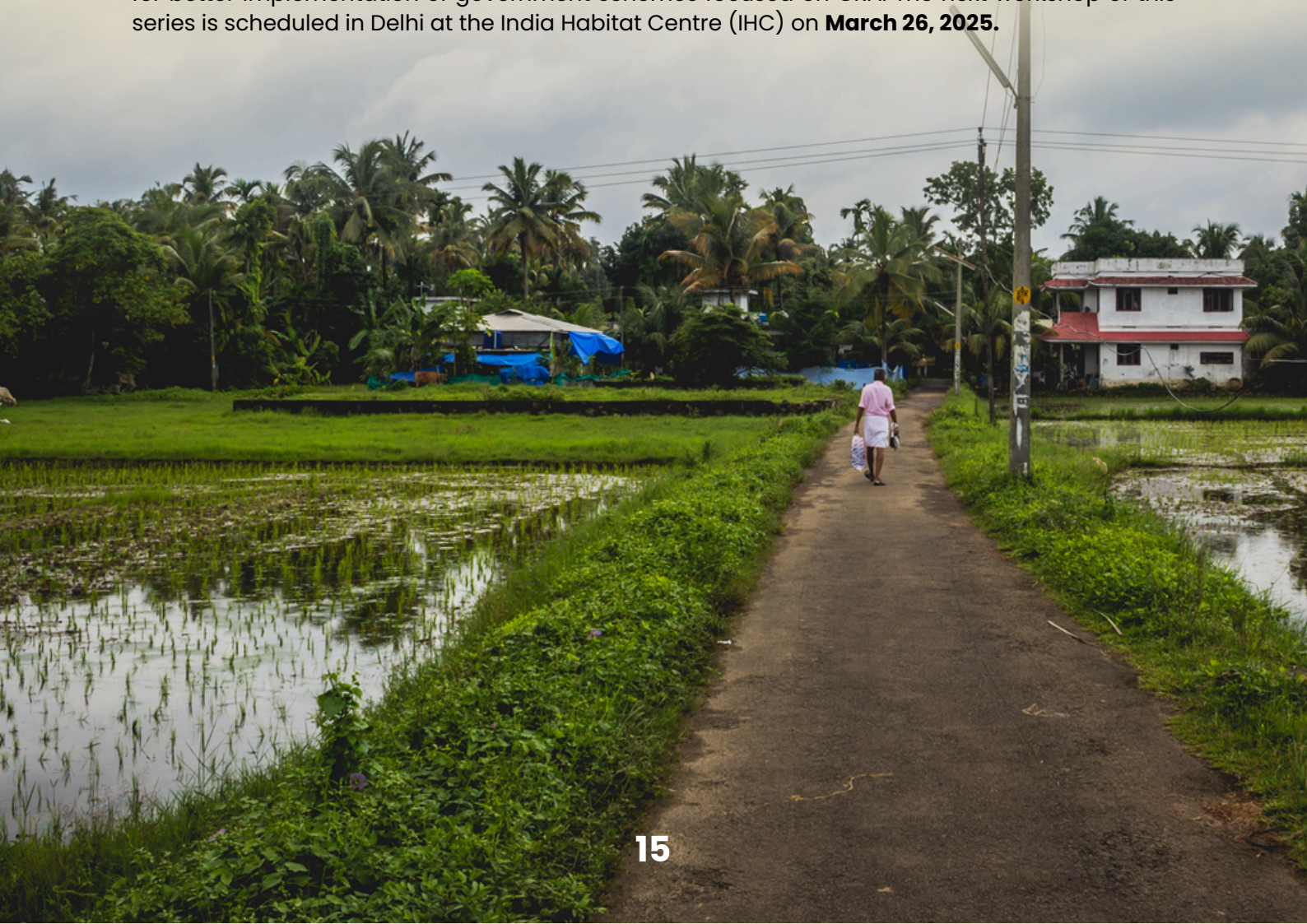
The cluster approach prioritized organizing **farmers, suppliers, and support services** within a geographical area to optimize resources and collaboration. These clusters **reduce costs, enhance productivity, and promote self-reliance** by fostering **resource sharing, knowledge exchange, and farm infrastructure utilization**. This strategy drives innovation, ensures quality, and supports sustainable, area-specific development. Clusters also create competitive advantages, address **local market demands**, and leverage **cooperative networks** to boost economic growth and community livelihoods, enabling farmers to achieve self-sustainability and resilience.



7. Upcoming Steps:

The idea of **food system transformation** is to strengthen policy support through Climate-Resilient Agriculture (CRA) practices by redistributing subsidies towards organic farming, promoting viability gap funding, and developing dedicated market spaces through certification, awareness and community-focused promotional strategies. These workshops will facilitate conversation among farmers, policymakers, government, NGO leaders, financial institutions, and other stakeholders, fostering alignment with sustainable development goals (SDGs).

Enhanced awareness and collaboration can drive the adoption of innovative practices, improve policy execution, and strengthen the overall resilience of the food system. The recommendations drawn from this food system change workshop will be worked on and the follow-up step is to organize a series of food system change workshops to understand levers for better implementation of government schemes focused on CRA. The next workshop of this series is scheduled in Delhi at the India Habitat Centre (IHC) on **March 26, 2025**.





About the organizers

EarthON Foundation

The **EarthON Foundation USA**, a 501(c)(3) organization, is redefining climate funding by empowering climate leaders and early-stage entrepreneurs in vulnerable regions. With a mission to **empower 10,000 Climate Leaders in the Global South and impact 1 billion lives**, EarthON addresses the gap in climate finance, where most funding goes to large institutions, leaving local innovators under-resourced. By offering fellowships, grants, mentorship, and global network access, EarthON Foundation equips grassroots leaders with essential tools to scale their impact, fostering a sustainable, resilient ecosystem for transformative climate action.

SwitchON Foundation

SwitchON Foundation, established in 2008, is a leading not-for-profit organization focused on promoting **Climate Resilient Agriculture (CRA)** powered by **Distributed Renewable Energy (DRE)**. Our mission is to empower smallholder farmers through sustainable farming practices, Clean technologies for sustainable production and post-harvest processing, reducing greenhouse gas emissions, and improving livelihoods. We work with farmer collectives to ensure market access and support the transition to sustainable value chains. Through partnerships with government bodies like the Department of Agriculture, SFAC, NABARD, and WBSRLM, we have impacted over 50,000 farmers, promoted 60+ Farmer Producer Companies (FPCs), and facilitated over ₹100 crore in sales.

Socratus Foundation

The **Socrates Foundation** is dedicated to fostering a society where collective wisdom drives meaningful change. The foundation creates innovative solutions for complex social challenges by uniting diverse stakeholders. The initiatives empower communities, nurture critical thinking, and promote sustainable development, ensuring a brighter future for all.





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SwitchON Foundation, established in 2008, is a leading non-profit organisation focusing on Environment Sustainability and Equal Opportunities. Operating in 10 Indian states. It leads initiatives in Clean Energy Access, Sustainable Agriculture, Skilling, Clean Air and Sustainable Cities. Key strengths encompass innovative project implementation, capacity building, field support, awareness and advocacy.

