

LEADS DEVELOPMENT MODEL

Sustainable Livelihood Promotion Initiative

MODEL: Promotion of Organic Patch for Better Soil Health and Sustainable Agricultural Practices

Background

Agriculture continues to be the primary source of livelihood for rural households in Jharkhand. However, the increasing dependence on chemical fertilizers, pesticides, and synthetic inputs has resulted in declining soil fertility, reduced biodiversity, increased cost of cultivation, and adverse impacts on human health and the environment. Small and marginal farmers are particularly vulnerable as rising input costs reduce farm profitability while prolonged chemical use gradually degrades the productive capacity of agricultural land.

Growing awareness of healthy food and rising consumer demand for organic produce have created significant opportunities for organic farming as a sustainable and economically viable alternative. Organic farming not only restores soil health but also reduces production costs, conserves natural resources, and promotes climate-resilient agriculture.



Recognising this potential, LEADS has developed a community-based Organic Patch Promotion Model to facilitate the transition from conventional farming to sustainable organic agriculture. Under the project, 150 acres of agricultural land have been developed as organic production clusters across its intervention ensuring systematic expansion and effective technical support.

The model promotes the adoption of indigenous and locally adapted farming practices by reducing reliance on external chemical inputs and encouraging the use of locally available organic resources. This approach supports sustainable crop production while improving soil health, reducing cultivation costs, conserving natural resources, and strengthening the long-term livelihoods of small and marginal farmers.

Concept

The Organic Patch Promotion Model follows a cluster-based approach, where contiguous areas of farmland are collectively brought under organic farming practices. This collective approach enables farmers to share knowledge and experiences, learn from one another, prepare organic inputs collectively, monitor quality, and facilitate potential organic certification in the future.

The model encourages farmers to utilise locally available organic resources, including farmyard manure (FYM), compost, vermicompost, green manure, crop residues, cow dung, cow urine, botanical extracts, and bio-inputs to enhance soil fertility and maintain crop health. The use of indigenous seed varieties and climate-resilient farming practices is also promoted to strengthen agricultural sustainability and conserve local biodiversity.

The approach combines soil health management, water conservation, crop diversification, biological pest management, and active community participation to develop a self-reliant, cost-effective, and environmentally sustainable farming system.

Objectives

The Organic Patch Promotion Model aims to:

- Promote sustainable and environmentally friendly agricultural practices.
- Reduce farmers' dependence on chemical fertilizers and pesticides.
- Improve soil fertility, soil organic carbon, and long-term land productivity.
- Enhance farmers' income through reduced production costs and improved market opportunities.
- Promote production of safe, healthy, and chemical-free food.
- Strengthen climate resilience through sustainable natural resource management.
- Conserve indigenous knowledge and traditional farming practices.
- Develop village-level organic farming clusters for long-term agricultural sustainability.

Steps in Promotion of Organic Farming

Step 1: Identification of Villages and Farmer Selection - Suitable villages and interested farmers are identified through consultations with Gram Sabha, village institutions, Self-Help Groups, and Farmer Producer Groups. Priority is given to small and marginal farmers who are willing to adopt organic farming practices and participate in collective learning. Approximately 10 acres of contiguous land are identified in each village to develop a cluster-based organic production system.



Step 2: Baseline Assessment and Planning - LEADS technical professionals conduct a baseline assessment to understand existing farming practices, soil conditions, cropping patterns, irrigation facilities, availability of organic resources, and farmers' capacities. Based on the assessment, a village-level organic farming plan is prepared, outlining crop selection, seasonal cultivation plans, input requirements, training schedules, and demonstration activities.

Step 3: Community Mobilisation and Formation of Organic Farmer Groups - Farmer meetings are organised to create awareness about the benefits of organic farming and the long-term advantages of reducing chemical dependency. Organic Farmer Groups are formed to facilitate collective planning, input preparation, knowledge sharing, peer learning, and mutual support. The groups also encourage collective procurement of inputs, marketing of produce, and maintenance of quality standards.

Step 4: Capacity Building and Farmer Training - Comprehensive training programmes are organised to build farmers' knowledge and technical skills in organic agriculture.

Training includes:

- Principles of organic and natural farming.
- Soil health management.
- Compost and vermicompost preparation.

- Preparation of Jeevamrit, Beejamrit, Ghan Jeevamrit, Panchagavya, and other bio-inputs.
- Seed treatment using indigenous methods.
- Botanical pest and disease management.
- Crop rotation and mixed cropping.
- Water conservation and moisture management.
- Organic certification awareness and documentation.

Field demonstrations and farmer exposure visits are organised to encourage practical learning.

Step 5: Preparation of Organic Inputs - Farmers are trained to prepare organic inputs using locally available materials, thereby reducing dependence on purchased agricultural inputs.

These include:

- Farmyard manure (FYM)
- Compost
- Vermicompost
- Green manure
- Jeevamrit
- Beejamrit
- Botanical pesticides
- Cow urine-based formulations
- Neem extract and other herbal pest repellents



The use of local resources significantly lowers production costs while improving soil health and microbial activity.

Step 6: Crop Planning and Organic Cultivation - Based on seasonal suitability and market demand, farmers prepare crop plans for organic cultivation. Priority is given to vegetables, pulses, cereals, oilseeds, spices, and traditional crops suited to local agro-climatic conditions.

Organic farming practices promoted under the programme include:

- Use of indigenous and locally adapted seed varieties.
- Crop rotation.
- Mixed and intercropping.
- Mulching.
- Soil moisture conservation.
- Biological nutrient management.
- Integrated pest and disease management using natural formulations.



Regular technical guidance is provided throughout the crop cycle.

Step 7: Monitoring, Quality Assurance and Farmer Support - LEADS technical staff regularly visit farmers' fields to monitor crop performance, adoption of organic practices, and quality standards. Field observations, farmer records, and technical guidance help ensure compliance with organic farming principles. Farmers receive continuous support in addressing production challenges and improving farm management practices.

Step 8: Harvesting, Value Addition and Market Linkages - Organic produce is harvested using recommended practices to maintain quality. Farmers are encouraged to undertake grading, cleaning, packaging, and value addition wherever feasible. Market linkages are facilitated through local markets, Farmer Producer Organisations (FPOs), institutional buyers, and organic retail outlets to obtain better prices for organic produce. Collective marketing further improves farmers' bargaining power and profitability.

Benefits to Farmers and the Community

The Organic Patch Promotion Model generates multiple benefits across economic, environmental, and social dimensions.

Agricultural Benefits

- Improved soil fertility and soil organic carbon.
- Enhanced soil microbial activity.
- Better water retention and moisture conservation.
- Increased biodiversity.
- Reduced pest and disease incidence through ecological management.
- Improved long-term productivity.

Economic Benefits

- Reduced cost of cultivation.
- Lower dependence on purchased chemical inputs.
- Improved net farm income.
- Premium market opportunities for organic produce.
- Diversified income sources through multiple cropping.



Social Benefits

- Availability of safe and nutritious food.
- Improved household health.
- Strengthened community institutions.
- Enhanced knowledge and skills of farmers.
- Greater participation of women in sustainable agriculture.

Environmental Benefits

- Reduced soil and water pollution.
- Conservation of beneficial insects and biodiversity.
- Improved groundwater quality.
- Reduced greenhouse gas emissions.
- Enhanced resilience to climate variability

Sustainability

The sustainability of the Organic Patch Promotion Model is built around the principles of local resource utilisation, community participation, and continuous capacity building. Farmers are encouraged to produce most organic inputs using locally available materials, thereby reducing recurring production costs and dependence on external inputs. Organic Farmer Groups facilitate continued knowledge sharing, collective planning, and mutual support, helping sustain the initiative beyond the project period. The model also promotes crop diversification, restoration of soil health, water conservation, and enhancement of agricultural biodiversity, contributing to long-term environmental and economic sustainability. Community ownership, complemented by regular technical guidance, further strengthens the continuity and effectiveness of the initiative. As soil fertility improves progressively, farmers' reliance on external inputs decreases, making organic farming more cost-effective, profitable, and resilient over the long term.

LEADS Experience

LEADS has promoted organic farming across its intervention areas by integrating indigenous agricultural knowledge with scientific and ecological farming practices. This approach has enabled farmers to gradually reduce their dependence on chemical inputs while improving soil health, lowering cultivation costs, and increasing household access to nutritious food. The programme has also strengthened community institutions, enhanced farmers' technical knowledge and skills, and encouraged the wider adoption of sustainable farming practices. The cluster-based approach has further supported peer learning, collective preparation and use of organic inputs, and improved opportunities for market access. These experiences demonstrate that organic farming can serve as both an environmentally sustainable and economically viable livelihood option for small and marginal farmers.

Concluding Remarks

The LEADS Organic Patch Promotion Model provides a practical and sustainable pathway towards environmentally responsible agriculture and enhanced rural livelihoods. By integrating indigenous knowledge with scientific organic farming practices and community-based learning, the model supports farmers in reducing cultivation costs, restoring soil health, producing safe and nutritious food, and improving household incomes. The cluster-based approach creates a strong foundation for the sustained adoption of organic agriculture while strengthening farmers' resilience to climate change and promoting responsible management of natural resources. With continued community participation, technical guidance, and institutional support, the model holds significant potential for replication across rural areas, contributing to self-reliant farming systems, improved livelihoods, and sustainable agricultural development.

Photographs





