

LEADS DEVELOPMENT MODEL

Sustainable Livelihood Promotion Initiative

MODEL: FARMERS' FIELD SCHOOL (FFS)

Background

Agriculture remains the primary source of livelihood for the majority of rural households in Jharkhand. Most farmers are small and marginal landholders, cultivating less than two hectares of land. Farming systems are predominantly dependent on rainfall and people are largely engaged in rain-fed farming activities. Farmers face several challenges due to declining soil fertility, erratic rainfall, low productivity, pest infestations, and limited access to scientific farming practices. Most farmers continue to depend on traditional cultivation methods with little exposure to improved technologies, resulting in low farm productivity and unstable incomes.

To address these challenges there is a need for village-level learning platforms that provide farmers with practical knowledge, hands-on experience, and opportunities to observe demonstrations of successful farming practices. Such platforms enable farmers to understand, adopt and apply climate-resilient agricultural technologies and improved farming techniques. The Farmers' Field School (FFS) serves as an effective platform that combines practical demonstrations, skill development, and peer learning. The training and shared learning approaches enable farmers to improve productivity, diversify livelihood options, and strengthen household food and nutritional security.



Concept

The Farmers' Field School (FFS) is a community-managed agricultural learning and demonstration centre established on the principle of "Learning by Doing." Each FFS is managed by a Farmer Interest Group (FIG) of 5–10 progressive farmers, each owning approximately 1–2 acres of agricultural land. The demonstration unit is set up on land voluntarily contributed by the FIG and is managed collectively by elected office bearers, with continuous technical facilitation from LEADS.



The FFS serves as a practical training centre where farmers learn scientific agriculture through demonstrations, field observations, season-long learning sessions, exposure visits, and peer-to-peer knowledge sharing. Rather than one-time classroom training, farmers build practical skills by directly participating in field activities and comparing improved technologies with conventional practices.

Each Farmers' Field School is developed with integrated demonstration units, including a Polyhouse, Nursery Unit, Azolla Production Unit, Vermicompost Pit, NADEP Compost Tank, Plastic Fish Pond, Drip Irrigation System, Organic Pest Management Unit, Annapurna Nutrition Model, Mango Orchard Demonstration, Kitchen Garden Model, Training Space, Store Room, and Meeting Area. Together, these facilities demonstrate climate-smart agriculture, integrated farming systems, organic input production, water-efficient irrigation, and diversified livelihood models.

The model promotes the adoption of High Yielding Variety (HYV) seeds, organic farming, Integrated Nutrient Management (INM), Integrated Pest Management (IPM), natural farming practices, crop diversification, multi-cropping, efficient water management, and integrated farming systems. Trained farmers subsequently replicate these technologies on their own farms and mentor neighbouring farmers, creating a sustainable community-based agricultural extension system.



Steps of Implementation

Step 1: Formation of Farmer Interest Group (FIG) — 5–10 small and marginal farmers are organised into a Farmer Interest Group, and a centrally located demonstration site of approximately 1–1.5 acres is identified based on land availability, irrigation facilities, accessibility, and farmers' willingness to contribute land.

Step 2: Development of Demonstration Unit — The Farmers' Field School is established with essential infrastructure, including a Polyhouse, Nursery Unit, Azolla Tanks, Vermicompost Pit, NADEP Compost Tank, Plastic Fish Pond, Drip Irrigation System, Organic Pest Management Demonstration Unit, Annapurna Model, Mango Orchard Demonstration, Kitchen Garden Model, Meeting Hall, Store Room, and sanitation facilities.

Step 3: Capacity Building — Regular practical training is conducted on scientific agriculture, nursery management, organic farming, compost preparation, natural pesticide preparation, integrated farming systems, climate-resilient agriculture, efficient irrigation, fish farming, and enterprise development.



Step 4: Practical Demonstration — Improved agricultural technologies are demonstrated, including nursery raising, seed treatment, Azolla cultivation, vermicomposting, NADEP composting, drip irrigation, integrated nutrient management, integrated pest management, fish culture, multi-cropping, and protected cultivation.

Step 5: Exposure and Cross Learning — Exposure visits to successful farms are organised, along with interactions with progressive farmers. Orientation with the support of agricultural experts, and research institutions are organized to support continuous learning.

Step 6: Enterprise Promotion — Diversified livelihood enterprises are promoted, such as vegetable nursery production, kitchen gardens, the Annapurna Nutrition Model, fish farming, mango orchards, medicinal plants, and organic input production.

Step 7: Farmer-to-Farmer Extension — Trained FIG members are encouraged to replicate technologies on their own farms and provide practical demonstrations to neighbouring farmers, widening technology dissemination.

Step 8: Monitoring and Sustainability — Adoption of technologies, crop productivity, income enhancement, and replication of demonstration models are regularly monitored. The FIGs are strengthened for the long-term management of the Farmers' Field School.

Outcome for Sustainability

1. Farmers adopt climate-smart and scientific agricultural practices through continuous practical learning and field demonstrations.
2. Crop productivity improves by 20–30% through better crop management, quality inputs, and improved cultivation practices.
3. Adoption of Azolla, Vermicompost, NADEP Compost, organic fertilizers, and natural pesticides improves soil health while reducing dependence on chemical inputs.
4. Diversified farming through vegetables, fruits, fisheries, nursery raising, and integrated farming systems enables households to generate an additional annual income of approximately Rs. 50,000–1,00,000, depending on enterprise adoption.
5. The Annapurna Nutrition Model and Kitchen Garden improve household food and nutritional security through year-round production of vegetables, fruits, pulses, and cereals.
6. Efficient water management through drip irrigation, mulching, and climate-resilient technologies improves water-use efficiency and reduces production risks.
7. Farmer-to-farmer knowledge sharing accelerates the adoption of improved technologies, creating a sustainable community-led agricultural extension system.
8. Farmer Interest Groups evolve into self-managed village resource centres capable of providing continuous technical guidance and promoting sustainable agriculture beyond the project period.

LEADS Experience

LEADS has established 25 Farmers' Field Schools (FFS) across rural communities in Jharkhand as village-level agricultural learning and demonstration centres. These FFS have enabled small and marginal farmers to adopt climate-smart agriculture, integrated farming systems, organic cultivation, efficient water management, and improved crop production practices through hands-on learning and peer-to-peer knowledge sharing. The initiative has strengthened farmers' technical capacities, enhanced crop productivity, diversified livelihood opportunities, and promoted community-led replication of sustainable agricultural practices.

Concluding Remarks

The Farmers' Field School (FFS) is more than a demonstration farm; it is a community-managed centre for agricultural innovation, capacity building, and technology transfer. By integrating scientific agriculture, climate-resilient farming, organic practices, and diversified livelihood models, the FFS strengthens farmers' knowledge, improves productivity, enhances household incomes, and builds resilient farming communities. The model provides a scalable platform for sustainable agricultural development through convergence with Government programmes, research institutions, and development partners.





