

International Training on Systems Approach and Tools to Support Investment Decisions for Scaling Climate Resilient and Sustainable Farm and Food Systems



Organized by
International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
under the aegis of
Indian Technical and Economic Cooperation (ITEC)
program of Government of India

20 to 31 January 2025
ICRISAT, Patancheru, Telangana, India

Background

Promoting food security, climate resilience and sustainable livelihood systems within resource-constrained smallholder farming systems is a major priority for governments, development partners, and the Research and Development institutions globally.

Data-driven decision making considering the local resources, context, and markets enables policymakers and stakeholders to promote context-specific innovations and technologies that support the development of resilient and inclusive farming systems and value chains. Despite the efforts to introduce climate-resilient innovations and technologies, ensuring their widespread adoption and integration remains a significant challenge for various stakeholders.

Numerous improved technologies and practices are being suggested to enhance the performance of complex multi-objective smallholder farming systems. However, these systems are highly heterogeneous and need differentiated interventions and strategies. To achieve transformation towards resilient, profitable, inclusive and environmentally sustainable farm and food systems, it is essential to consider the economic, social, environmental sustainability, as well as human wellbeing dimensions of the smallholder farming systems. Additionally, the

inability of the farmers, extension actors, and policymakers to fully visualize the potential impact of different agricultural development strategies on these heterogeneous farming systems hinders decisions on investments. This in turn limits progress towards increasing food production, farm profitability and other related objectives over both the short and long-time horizon. An innovations systems approach can help create the necessary conditions to drive demand for technologies, innovations, while also facilitating the use of knowledge to bring about such changes.

An important component of innovation systems thinking is that innovations most often emerge from systems of actors collaborating and communicating. Key to facilitating this dialogue is the use of systems analysis using computer-based simulation tools. In the context of smallholder resource poor agriculture, common and widely applied tools include climate based- crop risk management tools, household bio-economic models' approach (e.g. optimization, cash-flow budgeting), coupled farm-region-national system dynamic models (e.g. value chain model), whole farm dynamic models, multi-dimensional sustainability assessment tool and integrated assessments to develop climate resilient farm and food systems. These tools can be instrumental in promoting climate-resilient farm and food systems.

The focus of this two-week hands-on training program is on how these tools and approaches are being applied in research for development, particularly in identifying market-led opportunities and developing climate-resilient action plans. Participants will receive practical training on Systems modelling and integrated assessment tools supporting decision making on investments, and technology and enterprise choices across agricultural value chains and food system by various stakeholders including policy makers.

Who should attend?

Participants can be from the National Agricultural Research and Extension System, Government departments such as the department of agriculture, rural development, and animal husbandry, NGOs engaged in agriculture, people from industries related to agriculture, and government policy makers.

Objectives of the course

- To provide skills and hands-on experience on tools and methods to assess climate risk and multidimensional sustainability of farming and livelihood systems
- Design sustainable farming and rural livelihood systems in complex settings and vulnerable regions
- Skills in dynamic modelling and participatory approach to identify leverage points and investment options to improve the performance of agricultural value chains
- To design and scale climate resilient and profitable farming systems and value chains

Outlines of the course

(Topics covered during the course)

- Assessment of climate risk to agriculture and food security at different scales
- Unified approach to design climate resilient farm and food systems (action plans)
- Investment planning for upscaling climate smart agriculture
- Framework and tool for assessing and tracking multi-dimensional (economic, social, environmental) sustainability of farming and livelihoods systems to support transitions to sustainable livelihoods
- Why systems modelling- examples of its application in the real world
- Modelling adaptation strategies for crop-livestock systems in Sub Saharan Africa and Asia
- Tradeoffs and implications for sustainable intensification in dryland agriculture
- Transitioning smallholder farm systems in the semi-arid to cope with climate variability and more frequent extreme events
- Value chain modelling- System dynamics approaches in analyzing and developing inclusive and resilient agricultural value chains in agriculture.

Approach and methodology of training: Experiential learning and two field visits

Number of participants: 30- 35

Application: Prospective applicants from any country except India can be able to apply for the course on the website of ITEC, Govt of India.

[ITEC: Indian Technical and Economic Cooperation](#)

Note: The potential candidate after filling the form online, may need to submit copy of the filled application to Indian Embassy/consulate in their country for funding approval.

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