International ITEC Training Program on
"Climate Smart Agriculture in Dairy and Related Value Chain"
at MANAGE, Hyderabad
(14 Days Program)

Rationale and justification for the ITEC program at MANAGE, Hyderabad

The agriculture sector globally is facing twin challenges: ensuring food and nutritional security for a growing population and addressing the impacts of climate change. The dairy sector, being a vital component of rural livelihoods and nutrition, is particularly vulnerable to climate-induced risks such as heat stress, fodder scarcity, water shortages, and increased incidence of diseases in livestock. Moreover, the sector is also a significant contributor to greenhouse gas (GHG) emissions, particularly methane, necessitating urgent interventions for sustainability.

In this context, Climate Smart Agriculture (CSA) offers a holistic approach to transform and reorient agricultural systems, including the dairy value chain, to support food security under the new realities of climate change. CSA in dairy aims to improve productivity and resilience while reducing emissions intensity through scientifically backed practices and innovations.

Uganda's economy is largely agrarian, with agriculture contributing over 70% to employment and a significant share to GDP. Livestock, especially dairy, is a vital sub-sector that supports livelihoods, nutrition, and income security for millions of rural households. However, climate variability and change—in the form of erratic rainfall, rising temperatures, droughts, and disease outbreaks—pose severe threats to dairy production, sustainability, and rural resilience.

India, with its vast experience in managing dairy farming in diverse agro-climatic zones has evolved various climate-resilient dairy farming models, provides deep insight and platform for capacity building.

The National Institute of Agricultural Extension Management (MANAGE), is an autonomous institution under the Ministry of Agriculture and Farmers Welfare has lead the ways in formulating the extension strategies and capacity development in India. These strengths of Indian agricultural extension system facilitated by the education, research and extension organizations such as MANAGE, National Dairy Development Board (NDDB), National Dairy Research Institute (NDRI), State Veterinary Universities, network of dairy cooperatives and the research organization focusing on Veterinary and Animal Husbandry. The experience gained through these

organizations are helping policy makers, administrators, researchers and field level officials from other countries.

The MANAGE, Hyderabad, recognized for its excellence in agricultural extension and climate-smart practices to organize this program for Ugandan stakeholders. Besides sharing the India's experiences in dairy development and technological competence through the ITEC program, we stand to gain from the mutual cooperation with other countries in terms of cross learning and their good will.

Aims and Learning Objectives

- To understand Climate Smart Agriculture (CSA) Concepts
- To apply Climate Resilient Dairy practices
- To manage Climate-Smart value chains
- To integrate renewable energy and ICT tools
- To suggest the mitigation measures for climate change
- To strengthen institutional and policy frameworks
- To design and implement CSA interventions

Tentative program dates

- August 06-19, 2025

Tentative Program Schedule

Time	**Day – 1**
09:30 -11:00	Registration and Distribution of training kits About MANAGE
11:00 -11:30	Tea Break
11:30 -13:00	Knowledge pre testing of participants
13:00 -14:00	Lunch Break
14:00 -15:30	Participants socialization through ice breaking sessions
15:30 -16:00	Tea Break
16:00 -17:30	Participants socialization through ice breaking sessions
Day- 2	
10:00 -13:00	Inaugural Function
13:00 -14:00	Lunch Break
14:00 -15:30	Overview of Indian Dairy Sector
15:30 -16:00	Tea Break
16:00 -17:30	Overview of management of dairy supply chain in India
Day- 3	
09:00 -17:30	Visit
Day -4	
09:30 -11:00	Concept of climate smart agriculture in dairy farming
11:00 -11:30	Tea Break
11:30 -13:00	Contribution of dairy sector in climate change

13:00 -14:00	Lunch Break
14:00 -15:30	Impact of climate change on dairy sector
15:30 -16:00	Tea Break
16:00 -17:30	Principles of climate smart agriculture
Day -5	
09:30 -11:00	Climate change adaptation measures for sustainable dairy farming
11:00 -11:30	Tea Break
11:30 -13:00	Climate change mitigation measures in dairy farming
13:00 -14:00	Lunch Break
14:00 -15:30	Housing and shelter design for climate resilience dairy farming
15:30 -16:00	Tea Break
16:00 -17:30	Dairy animal manure, waste, and emission management
Day-6	
09:30 -11:00	Nutritional management of dairy animals in various climatic condition
11:00 -11:30	Tea Break
11:30 -13:00	Climate-resilient breeds and breeding techniques
13:00 -14:00	Lunch Break
14:00 -15:30	Climate Risk Management & Finance
15:30 -16:00	Tea Break
16:00 -17:30	Safe guarding dairy animal health in a changing climate
Day -7	
09:00 -17:30	Visit
Day- 8	
09:30 -11:00	Climate Smart Approaches in the Dairy Value Chain
11:00 -11:30	Tea Break
11:30 -13:00	Technological options to mitigate climate change for sustainable livestock production
13:00 -14:00	Lunch Break
14:00 -15:30	Role of infrastructural development in mitigation of impact of climate change in dairy sector
15:30 -16:00	Tea Break
16:00 -17:30	Role of ICT in adaptation and mitigation measures of adverse effect of climate change
Day- 9	
09:30 -11:00	Weather forecasting and climate advisory services for dairy farmers
11:00 -11:30	Tea Break
11:30 -13:00	Promotion of agri-entrepreneurship for sustainable development of dairy sector
13:00 -14:00	Lunch Break
14:00 -15:30	Organised production, processing, marketing – the Indian dairy sector development model for climate smart agriculture
15:30 -16:00	Tea Break
16:00 -17:30	Integrated Crop-Livestock Systems way towards climate smart agriculture
Day-10	
09:00 -17:30	Visit

Day-11	
09:30 -11:00	Preparation of Farm-level climate action plans
11:00 -11:30	Tea Break
11:30 -13:00	Learning from the developing countries to combat the climate change- Case studies
13:00 -14:00	Lunch Break
14:00 -15:30	National Initiative on Climate Resilient Agriculture (NICRA)
15:30 -16:00	Tea Break
16:00 -17:30	Policy options and actions-way forward for sustainable climate resilient dairy development
Day-12	
09:30 -11:00	Soft Skill
11:00 -11:30	Tea Break
11:30 -13:00	Soft Skill
13:00 -14:00	Lunch Break
14:00 -15:30	Soft Skill
15:30 -16:00	Tea Break
16:00 -17:30	Soft Skill
Day-13	
09:30 -17:30	Public Private Partnership for climate resilient agriculture
11:00 -11:30	Tea Break
11:30 -13:00	Post Training Evaluation
13:00 -14:00	Lunch Break
14:00 -15:30	Participants presentation on back at work plan
15:30 -16:00	Tea Break
18:00 -20:30	Cultural Exchange
Day-14	
09:30 -11:00	Summing up program
11:00 -11:30	Tea Break
11:30 -13:00	Summing up program
13:00 -14:00	Lunch Break
14:00 -15:30	Feedback
15:30 -16:00	Tea Break
16:00 -17:30	Valedictory program

Expected learning outcomes from the course

- Enhanced knowledge and understanding of participants about India's experiences in Climate Smart Agriculture in Dairy.
- Improved practical knowledge of participants on Climate Smart Agriculture in Diary and Related Value Chain.
- Help in making effective Climate Smart Dairy and Value Chain strategies for participating countries.

Eligibility conditions of the participants

1. Reasonable level of experience in Public/ Private/ Civil Societies in Dairy/Veterinary/Animal Husbandry/Agricultural sector in the training theme area.
2. Applicant shall possess physical and mental skills and abilities for successfully completing the program.
3. Working knowledge of English is mandatory to understand the training content.

Dr. Shahaji Phand
Centre Head, Centre for Extension in Agri-allied Sector (EAAS),
MANAGE, Hyderabad