Project 1: Evidence Based Agro-ecological Model of Production to Marketing, with Farmer Organizations on Production and Economics of AE Farming

The agro-ecosystems have been modified for the production of food, fiber and animals in the process they retain many of the characteristics of natural ecosystems, but deteriorating condition of our environment, degradation and pollution of soil and water resources and loss of bio-diversity have drawn the attention of everyone.

Degradation of agro-ecosystem and soil productivity in terms of soil physical condition, nutritional disorders, micro-nutrient deficiencies, salinity, alkalinity, outbreak of pest and diseases which are posing serious threat to Agrifood and livelihood supporting systems.

Under the prevailing environmental and economic constraints, there is a need to develop sustainable integrated soil-crop-animal-environment management system which are productive, stable and climate resilient. Food production systems that are managed by innovative eco-friendly agronomic practices, which could restore soil health, recycle nutrients, conserve and purify water strengthen bio-diversity and produce nutrient rich quality food are need of the hour.

In spite of technological development, the farm productivity has marginally increased over a period of time with an average monthly income per agricultural household is as low as ₹ 10,218 during agricultural year 2018-19. The problem is more serious among small and marginal farmers (117.6 million) with 85 per cent of land holders. Organizing them in a group, empower them through value based technological, economic and social developments will enhance livelihood of the farm families.

There is a gap between what researchers are interested in and what farmers want. Researchers' want long term trials; farmers want results now. There is a need to bridge the gap between two. It is an area where link ecological knowledge with stakeholder's experiences in farmers participatory studies under real farm situations provide results which could be scaled up.

International Competence Centre for Organic Agriculture (ICCOA), an internationally recognized organization actively involved in organic farming promotion activities, with the technical cooperation project commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) Support to Agro-ecological transformation processes in India (SuATI) has initiated this project. Dr. S.V.Patil Foundation, provide a technical guidance for execution of farmers participatory research part of the project.

The project is focused on Agro-ecological research on geographically selective cropping systems in the states of Karnataka and Madhya Pradesh. The research activities aim in planning and conduct of Agro-ecological trials based on regional agro-climatic zones and implementing specific methodologies for conclusive data reporting. Where by the conclusive data reporting provides scientific production evidences for statistical analysis of prime findings on cultivation of crops and economics. The observatory results and research findings are intended to attain chief project objectives that include the following key components:

- To support better AE Production Practices to sustain crop productivity and soil health
- Agro-ecological evaluation for better economics of production systems
- Developing Agro-ecological practices for different crops and cropping systems
- Research findings to support value of production and better agri-business

Strategic Plan Execution

The research programme is being executed as per a well-prepared action plan by the research team comprising of Senior Research Fellows (SRFs) with the guidance of experts.

The team has formulated agro-ecological production system protocol based on the agro-climatic zones of the project regions and the scientific research parameters.

Number of Agro-climatic Zones (ACZ)	**:**	**08 Agro-climatic zones**
		Six (Karnataka); Two (Madhya Pradesh)
Number of research sites in Karnataka	**:**	36
Number of research sites in Madhya Pradesh	**:**	12
Number of research sites at JVK farm	**:**	2

In Karnataka, preliminary visits were conducted by research team in 10 districts of Karnataka done the baseline survey. The interactive meetings were held with farmer groups on project requisites and assessment of field conditions viz. **Dharwad, Yadgir, Haveri, Belagavi, Kalaburagi, Mysore, Uttara Kannada, Ramanagara and Chikkaballapura** during January – March 2024. Based on the preliminary visit findings and research suitability, six districts were finalized during April 2024 and implemented Agro-ecological Trials.

I. Kundagol,Dharwad District: (Zone 8: Northern Transitional Zone)
II. HD Kote, Mysore District : (Zone 6: Southern Dry Zone)
III. Saudatti, Belagavi District : (Zone 3: Northern Dry Zone)
IV. Ranebennur, Haveri District : (Zone 8: Northern Transitional Zone)
V. Chikkaballapur, Chikkaballapura District : (Zone 5: Eastern Dry Zone)
VI. Kalaburgi, Kalaburagi District : (Zone 2: North Eastern Dry Zone)
VII. JVK farm (ICCOA): (**Zone 5: Eastern Dry Zone**)