



High End Workshop (Physical Mode)

On

Farming System and Natural Farming for Livelihood Security in Arid ecosystems

(Under the KARYASHALA Scheme – a SERB Initiative)

17 -30th August, 2022

Funded by

**Science and Engineering Research Board (SERB)
Department of Science and Technology
Government of India**

Patron

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Organized by

**ICAR-Central Arid Zone Research Institute
Regional Research Station, Bikaner-334004**

▶ **ABOUT KARYASHALA**

'KARYASHALA' is aimed to improve research productivity of promising PG and PhD students from universities/colleges through high-end workshops on specific themes. This program aims to provide opportunities to acquire specialized research skills and provide knowledge of farming systems in arid ecosystem to the students primarily from universities, colleges, and newly established institutes in handling emerging problems in western hot arid region and such development on themes required for research work. The program is meant to support motivated PG and Ph.D. level students, who are having a strong willingness to get excellence in their scientific research pursuits.

▶ **ABOUT ICAR-CZARI**

Central Arid Zone Research Institute is a constituent of the Indian Council of Agricultural Research (ICAR) - an autonomous organisation of Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India. The institute owes its origin to Desert Afforestation Research Station (DARS) that was established 1952 for undertaking research work on stabilization of sand dunes and establishment of shelterbelts. DARS was reorganized as Desert Afforestation and Soil Conservation Station (DASCS) in 1957 which was renamed as Central Arid Zone Research Institute (CAZRI) in 1959. The institute was brought under the umbrella of Indian Council of Agricultural Research (ICAR) in 1966. The CAZRI operates through Six Divisions, located at the headquarters in Jodhpur. There are five Regional Research Stations located in different agro-climatic zones to work on location-specific problems. CAZRI (<http://www.cazri.res.in>) is the only institute in the country exclusively mandated for conducting research on issues of arid zone ecosystem. The mandates of institute include conducting basic and applied research on sustainable farming systems, to act as repository of information on the state of natural resources and desertification processes, developing livestock-based farming systems and range management practices, and generating and transferring location-specific technologies

▶ **ABOUT THE WORKSHOP**

The Indian hot arid zone, which covers about 12% of the country's geographical area, represents a delicate ecosystem. Traditional farming systems are self-contained and resistant to extreme weather, yet they provide low yields. Amalgamation of the indigenous farming systems

with newer scientific innovations can help achieve higher levels of production, while managing the fragile resource base. Proper utilization of the natural resources, enhancing input-use efficiency and environmental conservation through crop diversification, adoption of integrated farming system models, use of natural products, post-harvest technology and value addition are important areas that need focus to increase livelihood and nutritional security in the arid regions. Integration of different agriculturally allied enterprises with crop production as base would provide ways to reuse and recycle by-products/waste materials of one component as input in the other linked components, and hence to reduce the cost of production, and finally to enhance the net-income of the farm as a whole. To meet the multiple objectives of poverty reduction, food and nutritional security, competitiveness and sustainability, the farming system and natural farming approaches have been recommended for livelihood security in arid ecosystems. ICAR-CAZRI has been the seat for research on farming systems for both hot as well as cold arid regions of India. Extensive research has been conducted on farming systems suited for the local conditions, researching varied aspects like crop/ livestock/ other component selection, management of soil and water, risk management, value addition aspects as well as socio-economic aspects. Research on suitable integrated farming system model has also been going on at the ICAR-CAZRI, Regional Research Station, Bikaner aimed at finding the best components that can improve livelihood security in the region.

▶ **OBJECTIVES OF WORKSHOP**

- ❖ Educating the participants about various farming systems and natural farming in the arid zone particularly western hot arid region/arid ecosystems.
- ❖ Acquainting the participants about existing farming systems and their synergies among various components.

▶ **COURSE CONTENT**

- ❖ Scope, opportunities, methods and concepts of adoption

- of farming systems
- ❖ Soil health management, carbon sequestration, soil biological health
- ❖ Alternate land use systems, efficient agro technologies, precision agriculture
- ❖ Crop diversification – horticulture, medicinal plants, forage, agroforestry, seed spices
- ❖ Farm implements and machinery, value addition aspects
- ❖ Prospects and challenges of natural farming, organic farming, conservation agriculture
- ❖ Crop modelling and physiological approaches for stress management
- ❖ Management of diseases, pests, rodents
- ❖ Role of livestock and small ruminants in farming system
- ❖ Socio-economic aspects of farming system approaches
- ❖ Practical on preparation of *Jivamruta*, *bijamurata*, vermicompost etc.
- ❖ Visits to local farming system sites and other institutes

► **NOMINATIONS**

Interested candidates fulfilling the eligibility conditions may apply through proper channel with the approval of competent authority

25 students will be selected based on the merits/ suitability of the candidates

► **ELIGIBILITY**

- ❖ Students pursuing Master's Degree / Ph.D. in any discipline of Agricultural/Animal sciences or other P.G/Ph.D. students with research specialization in agriculture and allied sciences.

► **IMPORTANT DATES**

- ❖ Last Date for Receipt of Applications: 30th July, 2022
- ❖ Information to Selected Candidate: 8th August, 2022
- ❖ Workshop Dates: 17-30th August, 2022

► **REGISTRATION**

- ❖ Interested eligible candidates can register through google form link "<https://forms.gle/CTG6JvGAnYQwQRCX6>" by uploading application form duly signed by the Recommending Authority / Head of the Department/ Institute

APPLICATION FORM

DST-SERB Sponsored High End Workshop "KARYASHALA"
On

Farming System and Natural Farming for Livelihood Security in Arid ecosystems

(17-30th August, 2022)

1	Full Name (in BLOCK letters)				
2	Highest degree pursuing with specialization				
3	Present Institute Name				
4	Address for Correspondence				
5	E-mail address Telephone Number Mob / O / R:				
6	Date of Birth				
7	Sex (Male/Female)				
8	Education Qualification:				
	Degree	Subject	Year of passing	Class/Division/ Equivalent	University /Institute
	Bachelors Masters Ph.D.				
9	Level of Knowledge in arid ecosystem				
11	Area of present research work				
13	Expectations from the workshop				

Signature of the Applicant with date

CERTIFICATE

It is certified that information furnished above is correct. Travel, Boarding and Lodging allowances will not be paid by this office.

*Signature of the Recommending Authority
/ Head of the Department/ Institute along with Seal*

▶ TRAVEL AND ACCOMMODATION

- ❖ The participants will be provided travel, lodging and boarding as per SERB guidelines.

▶ CERTIFICATES

- ❖ On successful completion of workshop, certificates will be issued by the organizing institute.

Dr. Birbal

Event Organizer

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