



## SUMMER SCHOOL

on

### Integrated Farming Systems for Farmers Empowerment and Entrepreneurial Development

(23 June–13 July, 2017)

#### Sponsored by

Indian Council of Agricultural Research,  
New Delhi



#### Course Director

Dr. U.K. Behera, Principal Scientist

#### Course Coordinators

Dr. Anil K. Choudhary, Sr. Scientist

Dr. Anchal Dass, Sr. Scientist

#### DIVISION OF AGRONOMY

ICAR–Indian Agricultural Research  
Institute, New Delhi-110 012

#### Background

To meet the multiple objectives of poverty reduction, food security, competitiveness and sustainability, several researchers have suggested farming systems approach to research and development. A farming system is the result of complex interactions among number of interdependent components where an individual farmer allocates certain quantities and qualities of four factors of production, viz. land, labour, capital and management to which he has access. Farming system research (FSR) is considered as a powerful tool for the management of natural and human resource in developing countries like India. FSR is a multi-disciplinary whole-farm approach for solving the problems of small and marginal farmers. This approach aims at increasing income and employment from small-holdings by integrating various farm enterprises and recycling crop residues and by-products within the farm itself. Under the gradual shrinking of land holding, it is required to integrate the land-based enterprises like fishery, poultry, duckery, apiary, field and horticultural crops etc. within the bio-physical and socio-economic environment of the farmers to make farming more profitable and dependable.

Currently, doubling the farm incomes has become a major focus of Government of India and specifically the vision of our honorable Prime Minister. Besides, attracting and retaining rural youth to agriculture has been a major challenge for the nation. Farmers are leaving agriculture, since it is becoming unprofitable under present scenario due to numerous resource- and production-vulnerabilities besides climate change. Under such scenario, integrated farming systems (IFS) seems to be a ray of hope which has great potential in raising the farmers' incomes and employment generation, minimizing the risks in farming and enhancing the resource use efficiency, thus, leading to sustainable agriculture. IFS also prove as a potential approach for retaining the rural youth in agriculture through ample farm employment under different farm enterprises and better livelihood options in small and marginal farms.

Taking the above into consideration a summer school entitled, "**Integrated Farming Systems for Farmers Empowerment and Entrepreneurial Development**" has been framed for capacity building of NARES Scientists on the

farming system research and various IFS models for varying agro-socio-economic situations which may prove useful in enhancing the farm incomes under small and marginal farms and optimization of scarce resources at farm level with optimization of farm enterprises at farming system level for long-term sustainability.

#### Objectives

Adoption of holistic farming system technology is the need of the hour as a powerful tool for management of natural resources with the small farmers of developing countries so as to achieve agricultural sustainability. The prime objectives of this training are: (i) to provide advanced training to young scientists and improve their skills in the area of farming system research and optimization methodology to design individual integrated farming system in scientific manner, and (ii) to provide a platform to discuss and exchange ideas/knowledge sharing among the academicians, scientists and experts/resource persons who have made notable contributions in this area.

#### Course Content

The course content will broadly cover the following topics: (i) Integrated Farming systems (IFS): Importance & concept; (ii) Procedures and methodologies for IFS; (iii) Economic analysis of different IFS models, (iv) Climate resilient IFS; (v) Indigenous Farming Systems: An economic analysis; (vi) Linear programming (LP) for farming system modeling: concept and practice, (vii) Multi-Criteria Decision Making (MCDM): Concept and rationale, (viii) Development of whole farm system models: Optimizing the mixture of enterprises in FS, (ix) Risk analysis in FS models, (x) Fishery-based IFS business models; (xi) Dairy and piggery-based IFS business model; (xii) Vermi-compost-based IFS business model; (xiii) Hightech Protected Agriculture-for entrepreneurship; (xiv) solar and biogas energy efficient IFS; (xvi) Organic farming; (xvi) Micro-entrepreneurship for small and marginal holding.

#### Course duration

This summer school will be organized for 21 days w.e.f. 23 June to 13 July 2017 at the Division of Agronomy, ICAR-IARI, New Delhi.

### Travel, Boarding and Lodging

The boarding, lodging, TA and DA expenses of the selected participants will be met from ICAR fund as per norms and operational guidelines for organization of Summer School. Participants will be paid to and fro fare for journey by train (II<sup>nd</sup> AC) or bus or other means of transport in vogue as the case may be. Actual TA will be paid on production of a certificate by the participants. The participants will be provided shared accommodation in the **Sindhu Scientists' Home** of the Institute.

### About IARI

Indian Agricultural Research Institute, popularly known as 'Pusa Institute', is the country's premier institution for research and higher education in the field of agricultural sciences. The primary mission of the Institute is to explore new frontiers of science and knowledge and develop human resources to provide leadership to the country in technology development and policy guidance. IARI conducts basic and strategic research, serves as a centre for academic excellence, and provides national leadership in agricultural research, education and extension through development of new concepts, hypotheses and technologies.

The Division of Agronomy is one of the oldest divisions of the IARI, and is engaged in teaching, research, extension and training activities since pre-independence times. It has contributed significantly in developing improved production technologies which ushered green revolution in Indian agriculture. The division is adequately equipped with modern infrastructure for carrying out high quality teaching and research leading to development of environmentally-sound and economically-viable agronomic technologies for sustainable high productivity of cropping systems involving cereals, pulses, oilseeds and vegetables.

### How to reach IARI

Indian Agricultural Research Institute popularly known as "Pusa Institute" is located at Pusa Campus in East Patel Nagar about 10 kms from 'Maharana Pratap-ISBT', 8 kms west of New Delhi Railway Station, and about 16 kms east of Indira Gandhi International Airport. Pre-paid taxi/auto can be availed at railway/airport/bus stations to reach at IARI, Pusa Campus, New Delhi.

### Who can participate?

This Winter School is meant for active researchers / teachers/ Scientists in SAUs /ICAR Institutes in the field of Agronomy/Soil Science/Agricultural Physics /Agricultural Extension/Plant Physiology/Agricultural Economics/ Agricultural Engineering/ Soil Water Conservation/Horticulture or any other related disciplines like Agroforestry, Fishery Science, Animal Science and Home Sciences. The total number of participants shall be strictly limited to 25. The application will be considered on the basis of first-come-first serve till last date.

### How to apply?

Application for participation in the Summer School may be made in the prescribed format as given herewith and forwarded by the competent authority of the SAU/ICAR Institute where the candidate is employed. Applicants may send an advance copy if they anticipate delay in forwarding through proper channel. However, the final selection will be made only if the application duly recommended by the competent authority is received, which must not be later than one week before the commencement of the training.

*After the candidates are intimated of their selection, they should immediately reply with firm acceptance. Cancellation at the last moment for casual reasons after acceptance will deprive other eager candidates who could have availed of the opportunity.*

### Application form for Participation in Summer School

*(To be sent to the Course Director/Coordinator of Summer School concerned and not to the Indian Council of Agricultural Research)*

### APPLICATION FORM

Institute \_\_\_\_\_ at \_\_\_\_\_.

1. Full name (in block letters):
2. Designation:
3. Present employer and address:
4. Address for correspondence (Give E-mail, Tel. / Mobile No.):
5. Permanent address:
6. Date of birth:
7. Sex: Male/Female
8. Marital status: Married/unmarried
9. (a)Teaching/research/professional experience (Mention posts held in last 5 years):

(b) Present area of research and no. of publications:

10. Mention if you have participated in any Summer/ Winter School/Short Course etc. during previous years under ICAR / any other organization (Give details of course, organizers, duration/dates/year etc.):
11. Registration fee of Rs. 50/- (DD/Postal Order No..... dated..... (in favour of Course Director) (Non-refundable)
12. Academic record (Indicate in tabular form examinations passed from B.Sc. degree onwards, Main subjects, Year of passing, Class/rank/distinction, University/ Institution, Other information):
13. Relevance of training to applicant's present academic and research activities:
14. Signature of applicant (indicate name of place and date):
15. Recommendation of the forwarding Institute (Signature with date, designation/address):

### CERTIFICATE

It is certified that the above information was furnished as per the office record and was found correct.

(Signature and Designation of the sponsoring authority)

### Applications may be sent to:

**Dr. U.K. Behera**  
**Course Director**

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ICAR-IARI, New Delhi-110 012  
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### For further information please contact:

#### Course Coordinators:

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