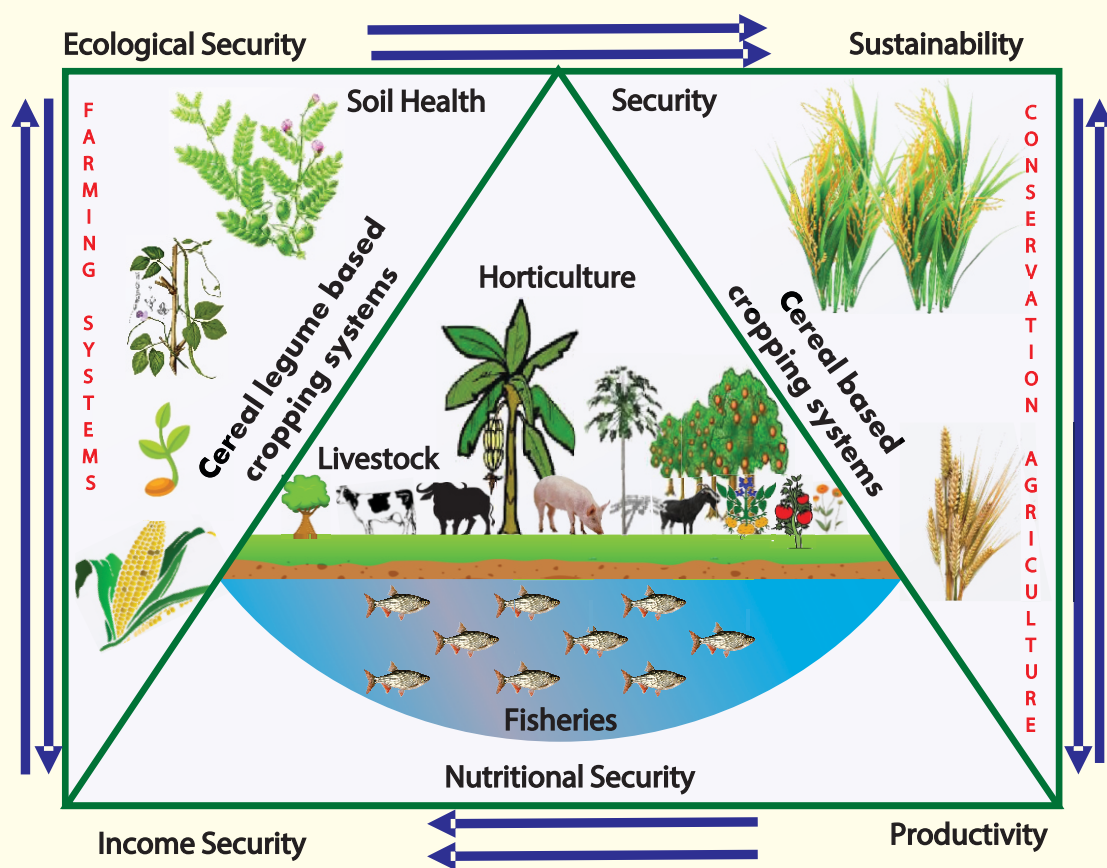


Integrated Farming Systems for Agricultural Diversification, Enhanced Income and Employment



Indian Council of Agricultural Research
New Delhi 110 001



Cover Design and Concept

The cover page graphics depict the inter relations and integrations of agricultural components in achieving sustainable development goals through climate smart farming systems. A scientifically designed integrated farming system can directly or indirectly contribute for achieving the 13 Sustainable Development Goals (SDG's). The concept stands on 4 pillars towards achieving sustainability through productivity, income security and ecological security. Although productivity ensures income security but operates in opposite direction when sustainability is in focus. Productivity along with income security ensures nutritional security which contributes immensely for good health and wellbeing of life on the earth which is one of the major SDG's. Income and ecological securities do operate in opposite directions and to balance these two, science based integrated farming system with cereal-legume rotation systems is very much essential especially for small holder farms. On the other hand, in intensive cereal-cereal cropping systems, conservation agriculture shall become the part of climate smart farming systems to maintain the balance between productivity and sustainability. Whenever, ecological security and sustainability are maintained through proper integrations involving conservation agriculture, soil health security is very much assured. Optimal integration of components is essential in designing the climate smart farming systems.

S. Bhaskar

ADG (Agronomy, Agroforestry and Climate Change)
NRM Division, ICAR



Integrated Farming Systems for Agricultural Diversification, Enhanced Income and Employment



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Indian Council of Agricultural Research
New Delhi 110 001



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Conceived and guided by

Dr. Trilochan Mohapatra, Secretary, Department of Agricultural Research and Education and Director General, Indian Council of Agricultural Research, Krishi Bhavan, New Delhi 110 012

Designed by

AK Prusty, M Shamim, N Ravisankar and AS Panwar, ICAR-Indian Institute of Farming Systems Research, Modipuram – 250 110

Technical Assistance

D Tripathi, B Mohan and Vipin Kumar, ICAR-Indian Institute of Farming Systems Research, Modipuram – 250 110

Contributors

All the developers of Integrated Farming System models presented at the end of the document

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NARENDRA SINGH TOMAR



सत्यमेव जयते

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Minister of Agriculture & Farmers Welfare,
Rural Development and Panchayati Raj
Government of India
Krishi Bhawan, New Delhi

2 Aug. 2019

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हरित क्रांति से पूर्व भारतीय कृषि में, अन्य गतिविधियों के अतिरिक्त, फसलें उगाने, पशु पालन की परंपरा रही है। तथापि, हरित क्रांति के समय देश में खाद्यान्न की मांग पूरी करने के लिए इन्हें अनाज-अनाज प्रणालियों अर्थात् चावल-चावल, चावल-गेहूं, मक्का-गेहूं आदि की अधिक उपज देने वाली किस्मों की उत्पादन अभिमुखी प्रक्रियाओं में परिवर्तित कर दिया गया था। इसमें कोई संदेह नहीं कि जब देशवासियों की भूख मिटाने के लिए भारत जलपोत से पहुंचने वाले खाद्यान्न पर निर्भर था, उस समय ऐसा करना आवश्यक था। उत्पादन-अभिमुखी अनेक प्रणालियों के स्थिरांक तक पहुंच जाने के कारण कुल कारक उत्पादकता कम है और इसके परिणामस्वरूप, किसानों की आमदनी कम है।

संसद में प्रस्तुत किए गए व 2017-18 के आर्थिक सर्वेक्षण में उल्लेख है कि अवधि के दौरान फसल उत्पादन से किसानों की आमदनी में मात्र 1% की बढ़ोतरी हुई है जबकि पशुधन के मामले में यह 7 है। इसे दृष्टि में रखते हुए लघु एवं सीमांत किसान परिवारों की अजीविका में सुधार के लिए फील्ड फसलों, बागवानी, कृषि-वानिकी और पशुधन से जुड़े डेयरी उद्योग, मुर्गी पालन, सुधार पालन तथा मछली पालन पर ध्यान केंद्रित किया जाना आवश्यक है। इसके अलावा, कम भूमि की आवश्यकता वाली मशरूम उत्पादन, मधुमक्खी पालन जैसी गतिविधियों का स्थान-विशिष्ट समेकन करना भी आवश्यक है। माननीय प्रधान मंत्री जी का संकल्प "वर्ष 2022 तक किसानों की आय दोगुनी करने" को पूरा करने के लिए वैज्ञानिक आधार पर तैयार की गई तथा उपयुक्त समेकित कृषि प्रणालियों (आईएफएस) को प्रोत्साहन दिया जाना अत्यावश्यक है।

मुझे हर्ष है कि भाकृअप, समेकित कृषि प्रणालियों पर एआईसीआरपी के माध्यम से 25 राज्य कृषि विश्वविद्यालयों, 6 अनुसंधान संस्थानों और एक केंद्रीय विश्वविद्यालय के साथ भागीदारी कर रहा है। इसी क्रम में अखिल भारतीय जैविक, खेती नेटवर्क कार्यक्रम तथा अन्य संस्थानों द्वारा 25 राज्यों/संघ राज्य क्षेत्रों के लिए उपयुक्त 51 आईएफएस मॉडल विकसित किए गए हैं। ये मॉडल अधिक मात्रा में स्थायी उत्पादन और आय उपलब्ध कराने में उपयोगी साबित हुए हैं। यह प्रसन्नता का विषय है कि कुछ राज्यों ने कृषि के उन्नयन हेतु इन मॉडलों को पहले से ही अपनी योजनाओं में शामिल कर लिया है।

मेरी सभी राज्यों से अपील है कि वर्ष 2022 तक किसानों की आय दुगुनी करने का लक्ष्य प्राप्त करने के लिए वे इन स्थान-विशिष्ट समेकित कृषि प्रणाली मॉडलों को प्रोत्साहन देने हेतु हर संभव उपाय करने का प्रयास करें।

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Office: Room No. 120, Krishi Bhawan, New Delhi-110 001 Tel.: 23383370, 23782691 Fax: 23384129

Resi.: 3, Krishna Menon Marg, New Delhi-110001, Ph.: 011-23794697/98, Fax: 011-23794696

ij'kkke : ikyk
PARSHOTTAM RUPALA



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Ñf'k , oafdl ku dY; k.k
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Minister of State for Agriculture
& Farmers Welfare
Government of India
D.No. 612 MOS(A&FW)/VIP/2019-20

October 21, 2019

MESSAGE

Integrated Farming System (IFS) is crucial for sustaining the income of marginal and small farmers under changing climate. Certain regions of India are practicing traditional farming systems involving crops, dairy, poultry, goatary etc. have been changed to mono cropping based production systems due to mission mode Government schemes on crops for achieving the national food security. However, the current need is to enhance the income of farmers' and their quality of life. IFS practiced in a scientific way can provide round the year income, multiple commodities and reduce the risks due to market price fluctuations and also weather associated factors.

I am happy to note that Indian Council of Agricultural Research through ICAR-Indian Institute of Farming Systems Research, Modipuram have developed 51 tailor made prototype IFS models suitable to various States. I am sure that if these models are implemented by States in large scale, it will contribute for achieving the goal of doubling farmers' income by 2022 as envisioned by the Hon'ble Prime Minister.

(Parshottam Rupala)

Delhi Office : Room No. 322, 'A' Wing, Krishi Bhawan. Dr. Rajendra Prasad Road, New Delhi-110 001

Tel. +91-11-23383975/76 **Fax :** +91-11-23383971, **E-mail :** mosrupala@gmail.com

Gujarat Office : Plot No. 219, Sector-20, Gandhinagar-382 020 **Tele. :** 079-23260013

दशक'क पक्षि
KAILASH CHOUDHARY



नरक , oafdl ku dY; k.k
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Hkkjr l jdkj
Minister of State for Agriculture
& Farmers Welfare
Government of India

MESSAGE

Indian Agriculture has the onus of feeding the growing population with quality commodities such as cereals, pulses, oilseeds, vegetables, fruits, spices, milk, meat etc. In the process , the natural resources such as soil, water and environment also need to preserve for future generations. Therefore, agriculture needs to be diversified with agriculture with allied enterprises including on-farm and off-farm employment generating activities to supply increasing demand for quality commodities. The principles of 3 R's include Reduce, Reuse and Recycle which can be adopted in IFS to produce the required quality agricultural produces in an environment friendly way. This can be achieved by region and location specific integrated farming systems through which recycling of wastes or by-products can act as input for other enterprises.

I am glad to note that the Indian Council of Agricultural Research through ICAR-Indian Institute of Farming Systems Research, AICRP on Integrated Farming Systems, All India Network Programme on Organic Farming in association with other institutions have developed 51 tailor made prototype IFS models suitable to various states. I appeal to all the States to formulate suitable schemes involving these IFS models for popularization among the farmers' especially marginal and small holders.

Dated 04.09.2019
New Delhi

(Kailash Choudhary)

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एफ.एन.ए, एफ.एन.ए.एससी., एफ.एन.ए.ए.एस.

सचिव एवं महानिदेशक

Trilochan Mohapatra, Ph.D.

FNA, FNASc, FNAAS
Secretary & Director General



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Hkkjr; Ñf"k vuq dkku ifj"kn
कृषि एवं किसान कल्याण मंत्रालय, कृषि भवन,
नई दिल्ली 110 001

Government of India

**Department of Agricultural Research & Education
and**

Indian Council of Agricultural Research

Ministry of Agriculture and Farmers Welfare
Krishi Bhawan, New Delhi-110 001

Tel.: 233882629, 23386711; Fax: 91-11-23384773
E-mail: dg.icar@nic.in

FOREWORD

Small farm agriculture holds the key to ensuring food and nutritional security of India and nurturing them in right perspective with sustainable farming systems is key for rural prosperity. These farms are characterized by low income and are more vulnerable to weather vagaries like flood, drought and other natural calamities. Small holder farming remains risky compared to large size farms. Integrated farming systems (IFS) can be classified as natural and intentional integrated systems. Natural integrated system is the one which is practiced by farmers where in linkage among components/enterprises of the system often do not exist. Intentional integrated systems are the one which addresses the multiple objectives of increased production, profit, cost reduction through recycling, family nutrition, sustainability, ecological security, employment generation, economic efficiency and social equity.

Assessment of the income from existing farm systems practiced by the farmers indicates that diversified farms having more than two enterprises are having more than two times the income than the farms having two or less enterprises. Therefore, diversification of one and two component systems (crop alone, dairy alone, crop+dairy, crop+pigry, crop+poultry, crop+fishery, crop+horticulture, crop+goatry, dairy+goatry etc.) on the small farms is very much essential to augment the per capita income and achieve Hon'ble Prime Ministers Vision of " Doubling Farmers Income by 2022". Integration of less land requiring activities such as mushroom, apiary, bio-gas and other agriculturally related off-farm activities hold the key to achieve this vision. Science based design and adoption of integrated farming systems having minimum competition and maximum complementarity is essential to achieve the multiple goals, sustainability and environmental friendly production, profit and employment. I am happy to note that

ICAR - Indian Institute of Farming Systems Research, Modipuram through AICRP on Integrated Farming Systems, All India Network Programme on Organic Farming and other institutions have developed 51 integrated farming systems suitable to marginal and small holders of 25 States/UTs of India. These models have been recommended and included in State plans of many states like Bihar, Karnataka, Kerala, Jammu & Kashmir and Tamil Nadu for their up-scaling. These tailor-made IFS offer scope to provide the sustainable production, profit and employment besides household level food and nutritional security and many of them contribute towards ecosystem services.

Initiation of National Mission on Integrated Farming Systems by converging the schemes of crops, horticulture, livestock and fisheries can give impetus in promoting integrated farming systems among farmers. I am hopeful that this publication would help researchers, extension scientists and small and marginal farmers.



(T. MOHAPATRA)

Dated the 20 th August, 2019
New Delhi

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INTRODUCTION

“A judicious combination of two or more components using cardinal principles of minimum competition and maximum complementarity with advanced agronomic management tools aiming for sustainable and environment friendly improvement of farm income, family nutrition and ecosystem services” is called as Integrated Farming System (IFS). Preservation of agro bio-diversity, diversification of cropping/farming system and maximum recycling is the base for success of the farming systems approach. Realizing the importance of integrated farming systems, Indian Council of Agricultural Research (ICAR) revised the mandate of Project Directorate for Cropping Systems and All India Coordinated Research Project on Cropping Systems to farming systems. Accordingly, ICAR-Indian Institute of Farming Systems Research, Modipuram with component schemes of All India Coordinated Research Project on Integrated Farming Systems (AICRP-IFS) and All India Network Programme on Organic Farming (AI-NPOF) started research on Integrated Farming Systems both at research farm and farmers’ field by partnering with 25 SAUs, 6 ICAR institutes and 1 Central University. Common methodology of area allocation for different components, with specific purpose such as meeting the family and livestock nutrition, soil health and income generation have been made at all locations. As an outcome, 45 IFS models have been developed. Further, the models developed from other ICAR institutes are also included. Thus, 51 integrated farming system models comprising of several modules have been developed which are suitable to marginal and small farm holders of 25 States/ Union Territories. Many of the models are included in the volume VI on strategies for sustainability in Agriculture, 2017 of the report of committee constituted by the Government of India for doubling farmers’ income. These modules and models ensure agricultural diversification, higher income and employment besides other advantages. Land configuration-based models developed for high rainfall and water logged areas ensure production of multiple commodities from the same piece of land. The production from all the components of IFS were converted into rice equivalent yield and expressed as t/year. Similarly, sustainability index which indicates sustainability of net income over the years is also presented for selected models. Boundary plantation and kitchen garden were integrated in most of the models developed under AICRP on IFS and AI-NPOF.



Andaman and Nicobar Islands

Land configuration based IFS (0.75 ha) for waterlogged ecology

Production
29 t/year

Net income
Rs. 2.14
lakhs/year

Employment
365 man days

Rice based cropping systems

- Rice – green gram
- Rice –vegetables
- Rice – maize
- Rice – groundnut
- Rice – sorghum (fodder)

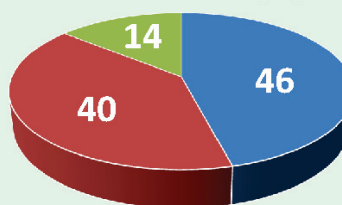
Broad bed and furrow

- Vegetables on beds
- Rice + fish in furrows
- Fodder on slopes of beds

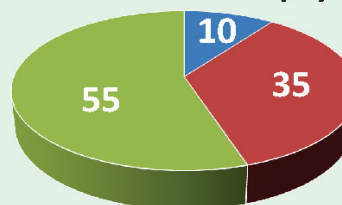
Livestock

- 2 cows

Area share (%)



Income share (%)



- Rice based cropping systems
- Broad bed and furrow
- Livestock

Adoption: Promoted through NABARD and PMKSY





Andaman and Nicobar Islands

Coconut + Pig IFS (1 ha) for mid hills & Nicobar

Production
36 t/year

Net income
Rs. 2.23
lakhs/year

Employment
198 man days

Coconut based multi-tier system

- Coconut sole
- Coconut + tubers
- Coconut + pineapple
- Coconut + spices

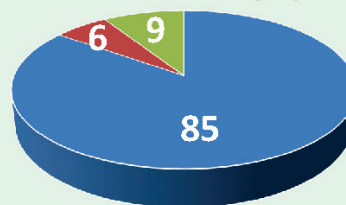
Livestock

- 4 pigs

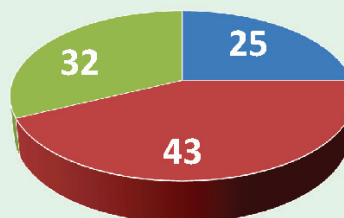
Fish cum poultry

- Composite culture (catla, rohu, mrigal)
- 20 poultry birds

Area share (%)



Income share (%)



■ Coconut based multi-tier system
■ Livestock ■ Fish cum poultry

Adoption: Promoted through NABARD and PMKSY





Assam

Crop + dairy IFS (1 ha) for nutrition and income

Production
39 t/year

Net income
Rs. 3.14
lakhs/year

Employment
479 man days

Cropping Systems

- Rice – toria-cowpea (fodder)
- Rice – toria – greengram
- Rice – oat (fodder) – blackgram
- Rice – potato – okra
- Rice – cabbage–cowpea (vegetable)
- Raised bed: *Rabi* vegetables – blackgram
- Sunken bed: Rice – rice

Multi-tier cropping

- Arecanut, Lemon, Guava, Papaya, Orange, Banana, Pineapple
- Apiary (5 boxes)

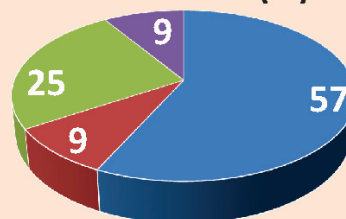
Livestock

- 3 cows

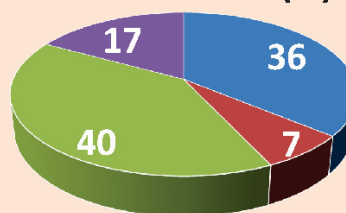
Fish cum poultry

- Composite culture (catla, rohu, mrigal)
- 20 poultry birds

Area share (%)



Income share (%)



■ Cropping Systems ■ Multi-tier cropping
■ Livestock ■ Fish cum poultry

Adoption: Demonstrated through 23 KVKs & adopted by 1000 TSP farmers





Bihar

Crop + goat + poultry IFS (0.40 ha) for marginal farmers

Production
18 t/year

Net income
Rs. 0.89
lakh/year

Sustainability
index
0.74

Employment
405 man days

Cropping Systems

- Rice – wheat – greengram
- Rice – maize – *dhaincha*
- Rice – linseed – maize + cowpea
- Rice – chickpea – *dhaincha*
- Sorghum (fodder) + cowpea – berseem

Horticulture

- Guava, papaya, lemon

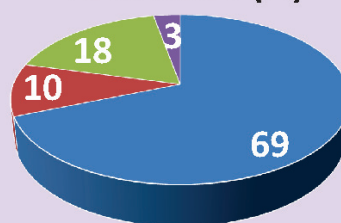
Livestock

- Goat (20 female + 1 male)
- Poultry (broilers 200 broilers/batch)

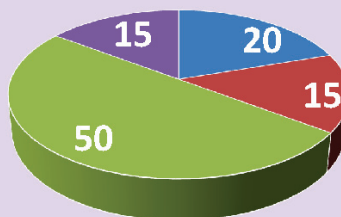
Mushroom

- Oyster

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Mushroom

Adoption: Demonstrated on 1068 farmers' field by State Department of Agriculture





Bihar

Crop + dairy + fish IFS (0.80 ha) for nutrition and income

Production
23 t/year

Net income
Rs. 1.37
lakh/year

Sustainability
index
0.76

Employment
508 man days

Cropping Systems

- Rice – wheat – green gram
- Rice – maize – *dhaincha*
- Rice –linseed– maize + cowpea
- Rice – chickpea – *dhaincha*
- Sorghum (fodder) + cowpea – berseem

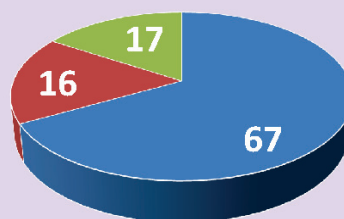
Livestock

- 2 Cows

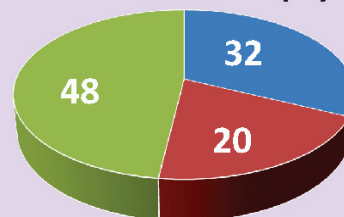
Fish cum duckery

- Composite culture (catla, rohu, mrigal)
- 25 duck
- Guava and papaya on embankments

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock
■ Fish cum duckery

Adoption: Demonstrated on 43 farmers' field





Bihar

Crop + livestock IFS (1 ha) for round the year income

Production
48 t/year

Net income
Rs. 3.32
lakhs/year

Employment
743 man days

Cropping Systems

- Rice – wheat-green gram
- Rice – maize + potato – cowpea (fodder)
- Rice – mustard – maize (grain) + cowpea (fodder)
- Sorghum + rice bean – berseem/oat – maize + cowpea (fodder)

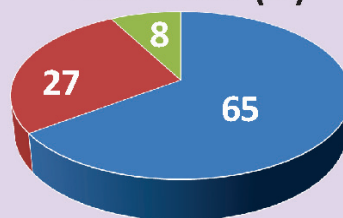
Livestock

- 2 cows
- 11 goat

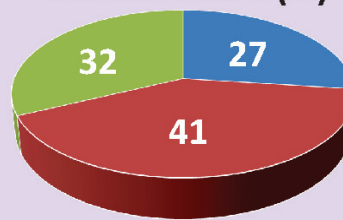
Fish cum duckery

- Composite culture (catla, rohu, mrigal)
- 25 ducks
- Subabul, moringa, guava and papaya on embankments

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock
■ Fish cum duckery

Adoption: Included in State package of practices





Chhattisgarh

Crop + livestock IFS (1 ha) for irrigated plains

Production
22 t/year

Net income
Rs. 3.79
lakhs/year

Employment
386 man days

Cropping Systems

- Rice – potato – radish – greengram
- Rice – chickpea – greengram
- Rice – sweetcorn – greengram
- Rice – pea – greengram
- Sorghum (fodder) – berseem + mustard – maize + cowpea

Horticulture

- Vegetables

Livestock

- 2 cows
- 5 goats

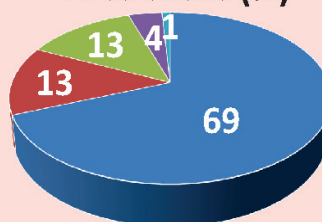
Fish cum duckery

- Composite culture (catla, rohu, mrigal)
- 25 ducks
- Subabul and moringa on embankments

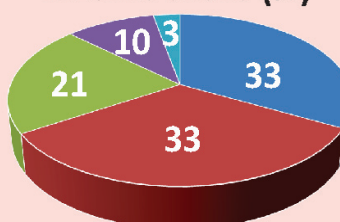
Mushroom

- Oyster

Area share (%)



Income share (%)



■ Cropping Systems
 ■ Horticulture
 ■ Livestock
 ■ Fish cum duckery
 ■ Mushroom

Adoption: 3000 youth farmers and students visited and acquired skills





Delhi

Crop + dairy IFS (1 ha) for sustainable farm income

Production
29 t/year

Net income
Rs. 3.79
lakhs/year

Employment
628 man days

Cropping Systems

- Maize – vegetable pea – okra
- Maize – mustard – green gram
- Cotton – wheat
- Pigeon pea – wheat
- Bottle gourd – onion
- Okra – wheat
- Maize – marigold
- Sorghum (fodder) – berseem

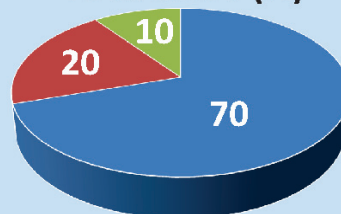
Livestock

- 3 cows

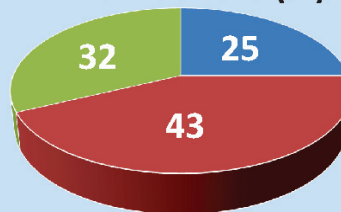
Fish cum Poultry/duckery

- Composite culture (catla, rohu, mrigal)
- 35 ducks
- 50 poultry

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock
■ Fish cum poultry/duckery

Adoption: Demonstrated at IARI for Krishi Unnati Mela plus capacity building through training





Goa

Crop + dairy IFS (0.50 ha) for low land ecosystem

Production
43 t/year

Net income
Rs. 1.18
lakh/year

Employment
339 man days

Cropping Systems

- Rice – sweet corn
- Rice – brinjal
- Rice – ground nut
- Rice – cowpea

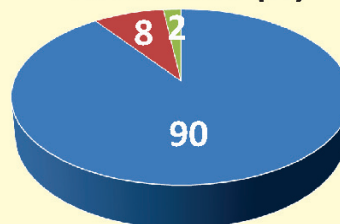
Livestock

- 1 cow

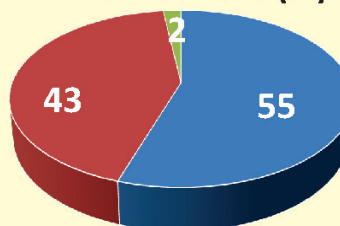
Fish cum poultry

- Composite culture (catla, rohu, mrigal)
- Fish
- 30 poultry birds

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock ■ Fish cum poultry

Adoption: Implemented in 65 farmers' field





Goa

Plantation + pig + poultry IFS (0.80ha) for upland ecosystem

Production
23 t/year

Net income
Rs. 0.89
lakh/year

Employment
508 man days

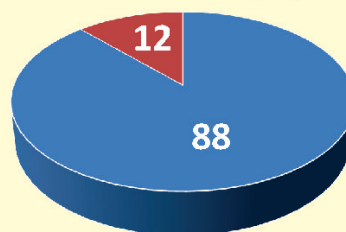
Plantation crops

- Cashew + pineapple
- Coconut + pineapple + papaya + noni
- Arecanut + banana
- Fodder on contours

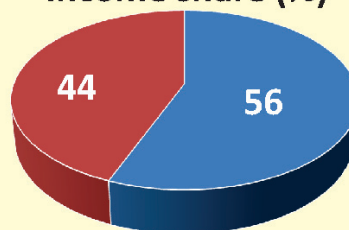
Livestock

- 8 pigs
- 25 poultry birds

Area share (%)



Income share (%)



■ Plantation crops ■ Livestock

Adoption: Implemented in 70 farmers' field





Gujarat

Crop + dairy + boundary plantation IFS (1 ha) for irrigated arid ecosystem

Production
33 t/year

Net income
Rs. 2.07
lakhs/year

Employment
349 man days

Cropping Systems

- Castor + green gram
- Groundnut – wheat– pearl millet
- Greengram – mustard – pearl millet
- Hybrid napier + cowpea – lucerne + chicory (fodder)

Horticulture

- Guava, papaya and lemon

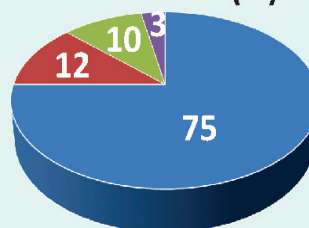
Livestock

- 2 buffaloes

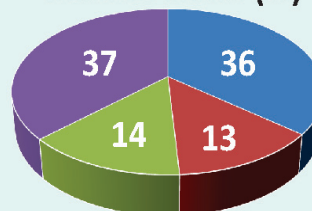
Boundary plantation

- Ardusa (101 plans), Eucalyptus (10 plants), Date palm (10 Plants), Custard apple (10 plants), Jamun (1 plant), Mulberry (3 plants), Drumstick (15 plants), Aonla (1 plant), bamboo (1 plant), Teak (35 plants), Subabul (5 plants)

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Boundary plantation

Adoption: Demonstrated through KVKs





Haryana

Crop + orchard based IFS (1 ha) for sustainable farm income

Production
17 t/year

Net income
Rs. 2.21
lakhs/year

Employment
340 man days

Cropping Systems

- Cotton – wheat
- Green gram – wheat
- Pearl millet – mustard
- Sorghum – wheat
- Sorghum (fodder) – berseem
- Sorghum (fodder) – oat
- Hybrid napier + cowpea – lucerne + fodder chicory
- Bottle gourd – potato – okra
- Okra – palak – bottle gourd

Horticulture

- Guava, papaya and lemon

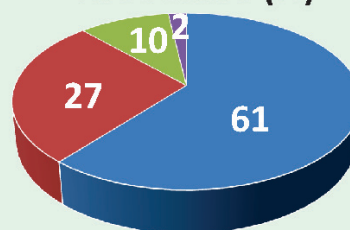
Livestock

- 2 buffaloes

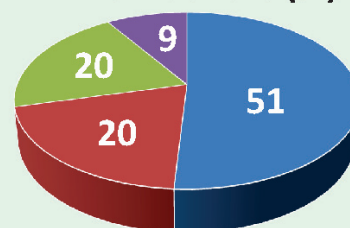
Mushroom

- Button

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Mushroom

Adoption: Demonstrated through 4 KVKs





Himachal Pradesh

Crop + mushroom IFS (1 ha) for Western Himalayas hill ecosystem

Production
18 t/year

Net income
Rs. 1.00
lakh/year

Employment
295 man days

Cropping Systems

- Rice – wheat
- Soybean – pea
- Maize + soybean – potato
- Sorghum (fodder) – lucerne

Multi-tier cropping

- Peach, litchi, pomegranate
- Intercropping with vegetables

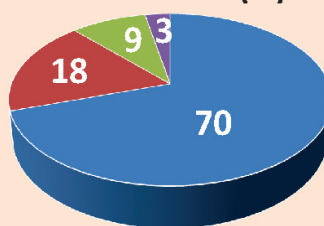
Livestock

- 3 cows

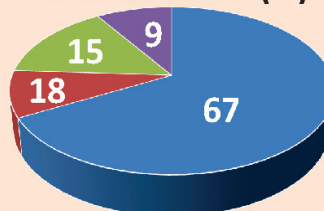
Mushroom

- Button

Area share (%)



Income share (%)



■ Cropping Systems
 ■ Multi-tier cropping
 ■ Livestock
 ■ Mushroom

Adoption: Promoted among farmers' by State





Jammu & Kashmir

Crop + livestock IFS (1 ha) for sustainable livelihood

Production
24 t/year

Net income
Rs. 3.05
lakhs/year

Sustainability
index
0.70

Employment
595 man days

Cropping Systems

- Rice – wheat – green gram
- Rice – potato – black gram
- Rice – mustard – green gram
- Berseem + oat – maize + sorghum
- Hybrid napier on bunds

Multi-tier cropping

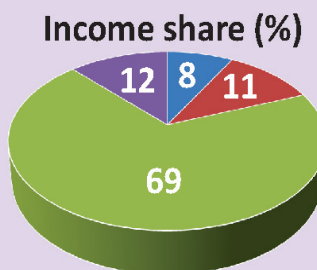
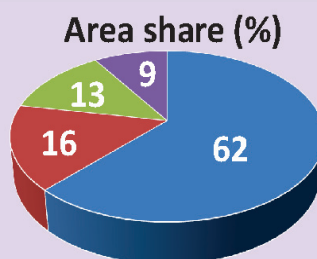
- Guava
- Lemon and mango on boundary
- Intercropping of vegetables

Livestock

- 2 cows + 1 buffalo

Fish cum poultry

- Composite culture (catla, rohu, mrigal)
- 25 poultry birds



■ Cropping Systems ■ Multi-tier cropping
■ Livestock ■ Fish cum poultry

Adoption: 1 model each in 87 assembly constituencies is demonstrated by the State





Jharkhand

Crop + dairy + fish IFS (1 ha) for irrigated regions

Production
24 t/year

Net income
Rs. 1.11
lakh/year

Employment
280 man days

Cropping Systems

- Rice – wheat
- Maize + black gram (1:2) – pea
- Maize + soybean (1:2) – mustard
- Groundnut – mustard
- Maize (fodder) + cowpea (1:1) – oat + berseem

Livestock

- 2 cows

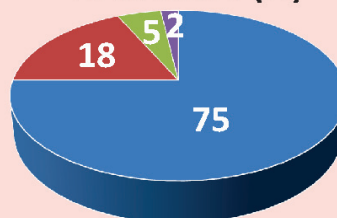
Fish (pond dyke system)/ Boundary

- Composite culture (rohu, catla and mrigal)

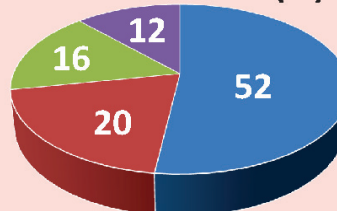
Mushroom and Apiary

- Button/Oyster

Area share (%)



Income share (%)



■ Cropping Systems
 ■ Livestock
 ■ Fish (pond dyke system)/ Boundary
 ■ Mushroom and Apiary

Adoption: Promoted through KVKs





Karnataka

Crop + livestock IFS (1 ha) for sustainable income and employment

Production
10 t/year

Net income
Rs. 1.85
lakh/year

Sustainability
index
0.54

Employment
954 man days

Cropping Systems

- Rice – rice
- Rice-finger millet
- Rice- pulses

Horticulture

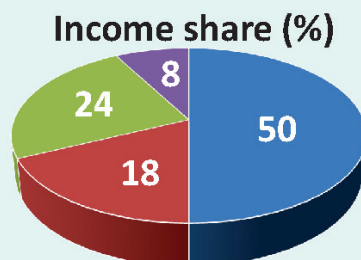
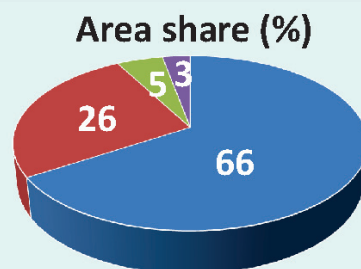
- Coconut + papaya
- Banana
- Vegetables (cluster bean, carrot, okra, drumstick)

Livestock

- 2 cows
- 11 sheep
- Azolla

Fish cum poultry

- Composite culture (catla, rohu, mrigal)
- 25 poultry birds



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fish cum poultry

Adoption: 10 farmers in each panchayat being promoted by the State





Karnataka

Crop + +livestock + orchard IFS (1ha) for enhanced income

Production
20 t/year

Net income
Rs. 2.09
lakhs/year

Employment
556 man days

Cropping Systems

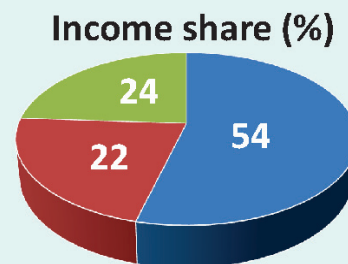
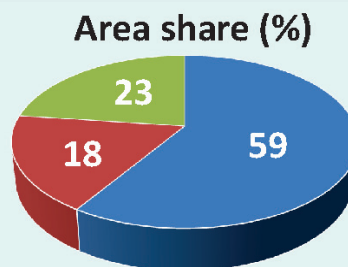
- Rice – rice
- Rice – maize
- Rice – sorghum
- Bt. cotton – *dhaincha*

Horticulture

- Sapota
- Intercropping with vegetables

Livestock

- 2 cows
- 1 buffalo
- 14 goats
- Azolla
- Farm pond



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Popularized among farmers, extension agents and rural youth





Kerala

Coconut + dairy IFS (0.2 ha) for effective utilization of marginal lands

Production
11 t/year

Net income
Rs. 0.57
lakh/year

Employment
127 man days

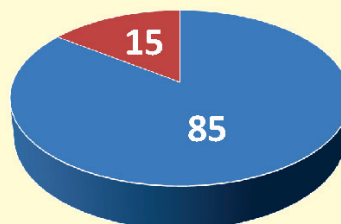
Multi-tier Systems

- Coconut/papaya/jackfruit/ mango
- Teak on boundary
- Composite fish culture in trenches

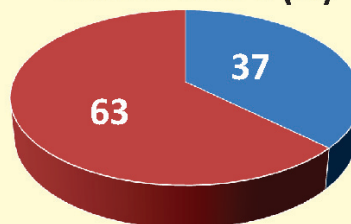
Livestock

- 2 cows

Area share (%)



Income share (%)



■ Multi-tier Systems ■ Livestock

Adoption: 2300 models @ 1-2 in each panchayat promoted by the State





Kerala

Homestead IFS (0.2 ha) for nutrition and income

Production
09 t/year

Net income
Rs. 0.35
lakh/year

Employment
82 man days

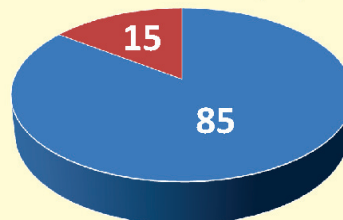
Homestead Systems

- Coconut+ jackfruit/mango
- Teak/medicinal plants/curry leaf plant (Border plants)
- Home terrace garden (vegetables)

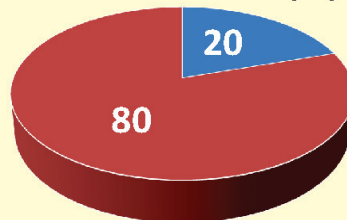
Livestock

- 2 cows
- 5 poultry birds

Area share (%)



Income share (%)



■ Homestead Systems ■ Livestock

Adoption: 2300 models @ 1-2 in each panchayat promoted by the State





Kerala

Rice IFS (0.2 ha) for low lying wetlands

Production
10 t/year

Net income
Rs. 0.39
lakh/year

Employment
124 man days

Cropping Systems

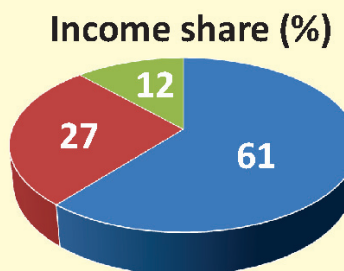
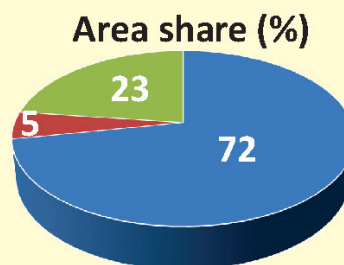
- Rice - rice –vegetables
- Rice - rice - *dhaincha*

Livestock

- 2 cows

Fish cum vegetables

- Composite culture (catla, rohu, mrigal)
- Vegetables on embankments



■ Cropping Systems ■ Livestock
■ Fish cum vegetables

Adoption: 2300 models @ 1-2 in each panchayat promoted by the State





Kerala

Crop + dairy integrated organic farming system (0.40 ha)

Production
19 t/year

Net income
Rs. 1.08
lakhs/year

Employment
410 man days

Crops

- Coconut
- Fodder
- Turmeric

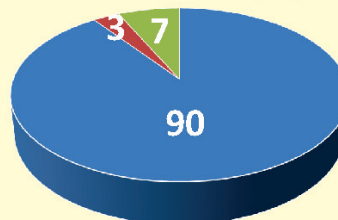
Horticulture

- Banana
- Tapioca

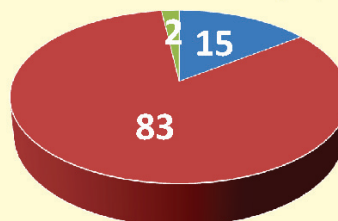
Livestock

- 2 cows

Area share (%)



Income share (%)



■ Crops ■ Horticulture ■ Livestock

Adoption: Being popularized through trainings of extension units





Kerala

Coconut + livestock IFS (1 ha) for sustainable income

Production
61.3 t/year

Net income
Rs. 5.23
lakhs/year

Employment
830 man days

Crops

- Coconut
- Black pepper
- Banana
- Fodder crops
- Vegetables

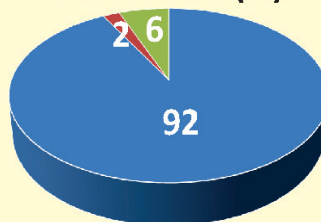
Livestock

- 8 cows

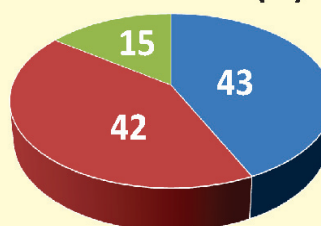
Allied components

- Fish
- Poultry
- Goat
- Japanese quails
- Biogas
- Azolla

Area share (%)



Income share (%)



■ Crops ■ Livestock ■ Allied components

Adoption: Included in State package. Popularized among farmers through 6 KVKs and coconut development board





Madhya Pradesh

Crop + livestock IFS (1 ha) for sustainable income

Production
17 t/year

Net income
Rs. 1.15
lakh/year

Sustainability
index
0.74

Employment
870 man days

Cropping Systems

- Rice – wheat
- Soybean – oat
- Maize – chickpea
- Okra – tomato

Livestock

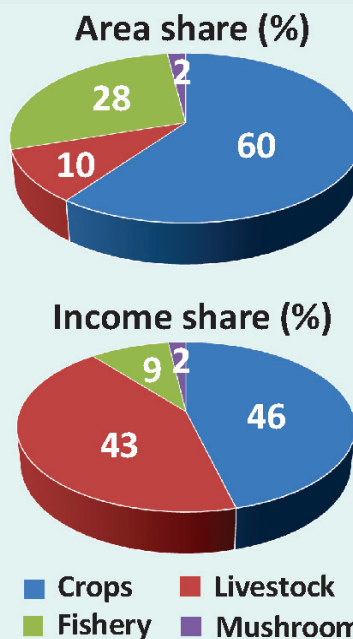
- 2 cows
- 50 poultry birds

Fishery

- Composite culture (catla, rohu, mrigal)

Mushroom

- Oyster



Adoption: Implemented on 120 farmers' field through KVKs





Maharashtra

Goat + crop IFS (1 ha) for rainfed areas

Production
51 t/year

Net income
Rs. 0.67
lakh/year

Employment
951 man days

Cropping Systems

- Cotton + pigeon pea (6:2) – sesame
- Soybean + pigeon pea (5:1)
- Sorghum – wheat
- Soybean – chickpea
- Cowpea – Fenugreek

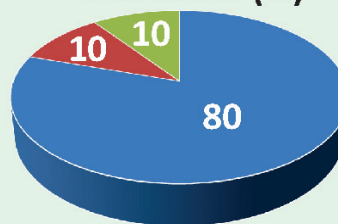
Horticulture

- Custard apple, drumstick

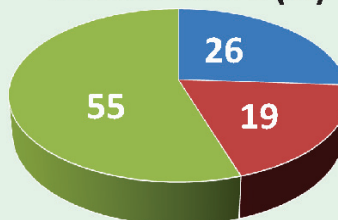
Livestock

- 12 goats
- 25 poultry birds
- 5 rabbits

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Popularized through State by Joint Agresco, 2017





Maharashtra

Crop + livestock IFS (1 ha) for North Konkan coastal area

Production
44 t/year

Net income
Rs. 1.45
lakh/year

Employment
964 man days

Cropping Systems

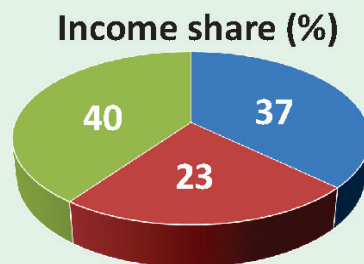
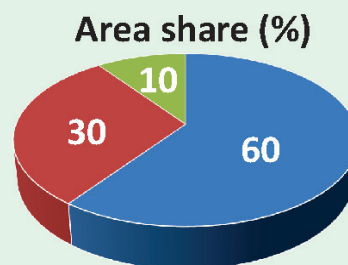
- Rice – brinjal
- Rice – watermelon
- Finger millet – cow pea
- Groundnut – field bean
- Cucumber – sweet corn
- Bajra napier hybrid - cowpea

Horticulture

- Mango, aonla, sapota, coconut
- Intercropping with spices

Livestock

- 3 cows
- 12 goats
- Poultry



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Included in state package during Joint Agresco, 2017





Maharashtra

Crop + dairy IFS (1 ha) for Marathwada region

Production
06 t/year

Net income
Rs. 0.92
lakh/year

Employment
504 man days

Cropping Systems

- Soybean – sorghum
- Soybean – wheat
- Soybean – onion
- Green gram – brinjal
- Green gram – Lucerne
- Bajra hybrid napier

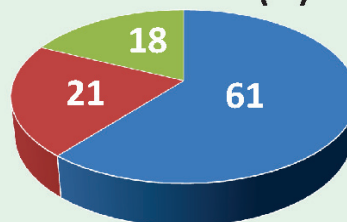
Horticulture

- Lemon
- Intercropping with soybean, cabbage, ginger, turmeric

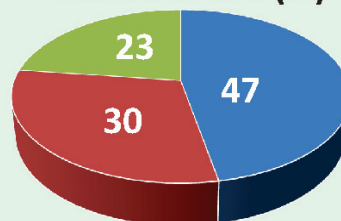
Livestock

- 1 cow
- 1 buffalo

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture ■ Livestock

Adoption: Popularized among 500 farmers by the State





Maharashtra

Crop + livestock IFS (1 ha) for sustainable income

Production
16 t/year

Net income
Rs. 2.42
lakhs/year

Sustainability
index
0.79

Employment
511 man days

Cropping Systems

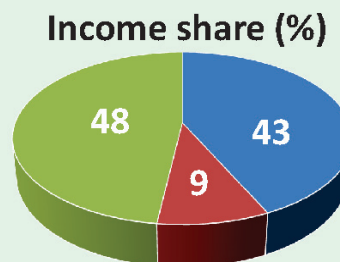
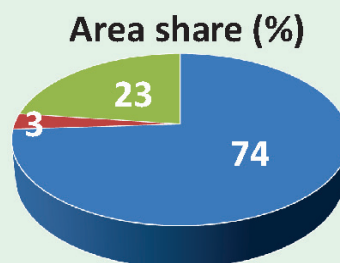
- Soybean– wheat – leafy vegetable
- Maize - onion - green gram
- Pearl millet- chickpea- vegetable
- Lucerne
- Bajra hybrid napier

Horticulture

- Papaya

Livestock

- 2 cows
- 400 poultry birds in 4 batch



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Popularized among 1200 farmers by the State





Meghalaya

Crop + livestock + fish IFS (1ha) for North Eastern hills

Production
32 t/year

Net income
Rs. 1.65
lakh/year

Employment
591 man days

Cropping Systems

- Rice – toria – french bean
- Maize – soybean/ blackgram/ greengram french bean/ toria
- Turmeric + cucumber/bottle gourd/ sponge gourd/squash
- Ginger
- Groundnut – toria
- Vegetables

Horticulture

- Guava, papaya, pineapple, Assam lemon, peach, Khasi mandarin

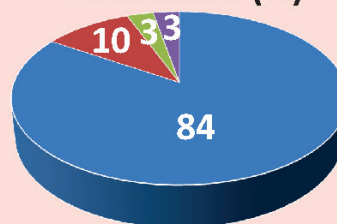
Livestock

- 3 pigs
- 600 poultry birds in 6 batches

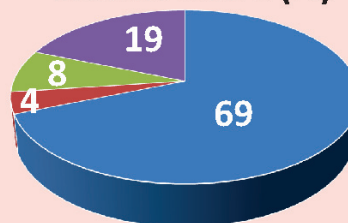
Fishery

- Composite culture (catla, rohu, mrigal)

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery

Adoption: Popularized through MoU with SLRD, Shillong





Meghalaya

Crop + livestock IFS (0.64 ha) for micro-watersheds

Production
17 t/year

Net income
Rs. 1.17
lakh/year

Employment
237 man days

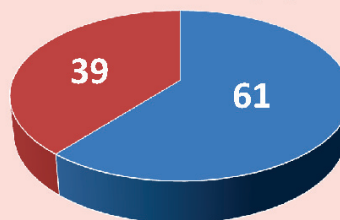
Cropping Systems

- Maize – black gram /greengram/ frenchbean – toria/lentil
- Maize – groundnut/ buckwheat
- Turmeric/ginger
- Vertical cropping (turmeric + pumpkin/ bottle gourd/squash/ridge gourd)

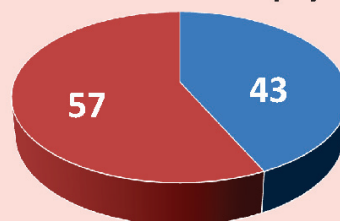
Livestock

- 3 cows

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock

Adoption: Popularized through trainings of extension agencies





Meghalaya

Crop + livestock + fish integrated organic farming system (0.43 ha)

Production
09 t/year

Net income
Rs. 0.73
lakh/year

Sustainability
index
0.87

Employment
265 man days

Cropping Systems

- Rice-lentil/pea
- Maize+soybean-french bean/tomato
- Hybrid napier, guniea and broom grass

Horticulture

- Papaya, Assam lemon, peach, jack fruit
- Intercropping with vegetables

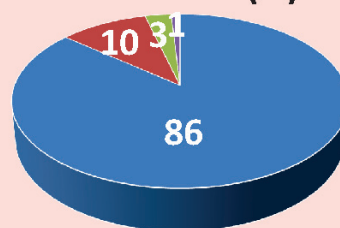
Livestock

- 1 cow

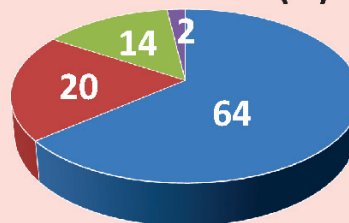
Fishery

- Composite culture (catla, rohu, mrigal)
- Vegetables on embankment

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery

Adoption: Implemented in 3 villages under TSP





Odisha

Crop + fishery IFS (1.25 ha) for enhanced income

Production
29 t/year

Net income
Rs. 1.58
lakh/year

Employment
493 man days

Cropping Systems

- Rice – green gram

Horticulture

- Coconut
- Guava
- Intercropping with vegetables and fodder

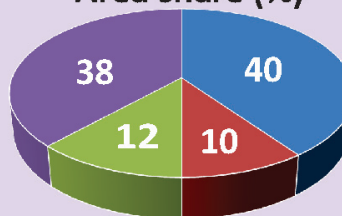
Livestock

- 3 cows
- 1 buffalo
- 500 poultry bird in 5 batches

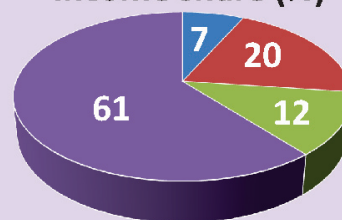
Fishery

- Composite culture (catla, rohu, mrigal)
- Coconut on embankments

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery

Adoption: Popularized among 5000 farmers through KVKs, WALMI, NGOs, pani panchayat, Paradeep Phosphates Ltd.





Odisha

Multi-tier rice+fish+ horticulture IFS (1 ha) for deep water areas

Production
28 t/year

Net income
Rs. 1.30
lakh/year

Employment
450 man days

Cropping Systems

- Rice – rice+fish
- Rice-rice
- Rice – vegetables
- Rice-greengram
- Rice-groundnut

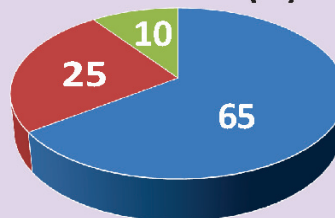
Livestock

- 25 poultry birds

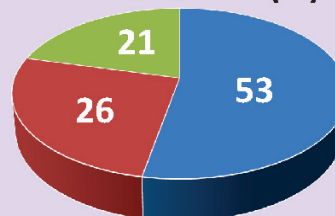
Fishery

- Composite culture (catla, rohu, mrigal)

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock ■ Fishery

Adoption: Popularized through trainings of extension agencies





Odisha

Rice+ fish IFS (1 ha) for rainfed lowlands

Production
25 t/year

Net income
Rs. 1.50
lakh/year

Employment
400 man days

Cropping Systems and fish

- Rice – green gram
- Rice-vegetables
- Rice-rice
- Horticultural system
- Fish + prawn in refugees
- Fodder on bunds

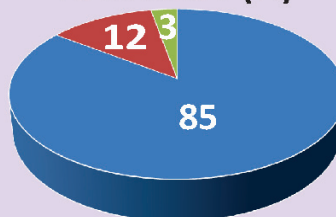
Livestock

- 3 goats
- 100 ducks
- 75 poultry birds

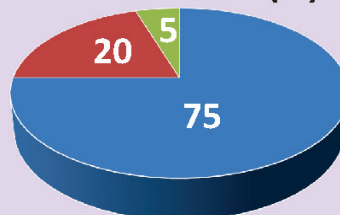
Mushroom

- Oyster

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock
■ Mushroom

Adoption: Popularized through trainings of extension agencies





Punjab

Livestock + crop IFS (1.0 ha) for gangetic plains

Production
50 t/year

Net income
Rs. 4.00
lakhs/year

Sustainability
index
0.74

Employment
616 man days

Cropping Systems

- Maize–wheat –green gram
- Maize – berseem – baby corn
- Rice – potato – onion
- Maize-berseem
- Maize+cowpea – wheat –green gram
- Maize – brassica (gobhisarson) – pearl millet
- Turmeric – onion
- Rice – potato – maize

Multi-tier cropping

- Guava
- Intercropping with vegetables

Livestock

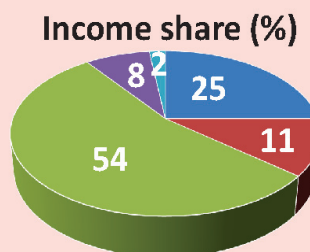
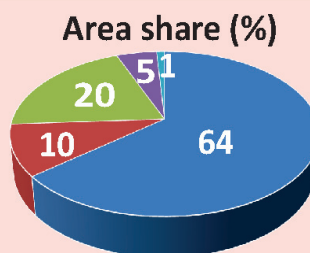
- 2 cows

Fish cum poultry

- Composite culture (catla, rohu, mrigal)
- 50 poultry birds

Mushroom

- Button



■ Cropping Systems
 ■ Multi-tier cropping
 ■ Livestock
 ■ Fish cum poultry
 ■ Mushroom

Adoption: Included in State package. Popularized among farmers through 6 KVKs and NABARD





Rajasthan

Livestock + crop IFS (1.45 ha) for semi-arid plains

Production
47 t/year

Net income
Rs. 3.93
lakhs/year

Employment
1082 man days

Cropping Systems

- Pearl millet – wheat/chickpea
- Cluster bean – green gram/wheat
- Green gram – mustard
- Sorghum (fodder) – lucerne/oat
- Fenugreek – Sorghum (fodder)

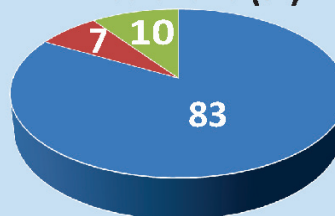
Horticulture

- Mixed orchard of ber, lime, mango, custard apple and guava
- Intercropping with vegetables

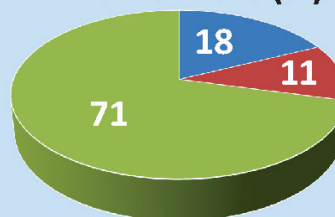
Livestock

- 2 cows
- 6 goats
- 25 poultry birds

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Included in zonal package for popularization among farmers by state





Rajasthan

Agri-horti IFS (2ha) for rainfed farming

Production
15 t/year

Net income
Rs. 1.32
lakh/year

Employment
350 man days

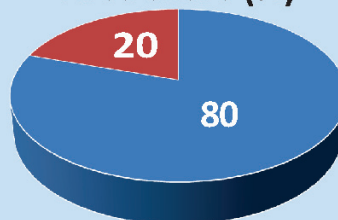
Cropping Systems

- Pearl millet + green gram + dew gram + clusterbean (3:1:1:1)
- Ber (10 m X 5 m)

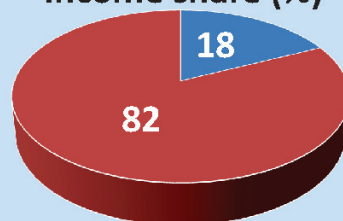
Livestock

- 1 cow
- 10goats/sheep

Area share (%)

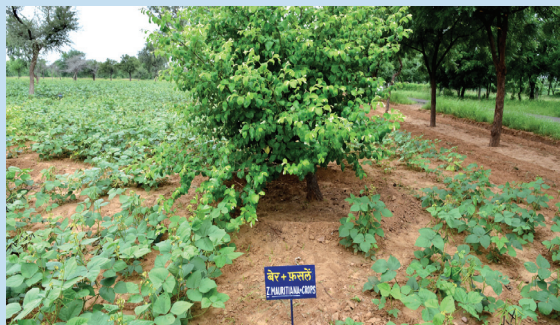


Income share (%)



■ Cropping Systems ■ Livestock

Adoption: Popularized through KVKs





Rajasthan

Crops + trees + grass + livestock IFS (7 ha) for drylands

Production
31 t/year

Net income
Rs. 2.60
lakhs/year

Employment
920 man days

Crops

- Pearl millet + green gram + dew gram + clusterbean (3:1:1:1)

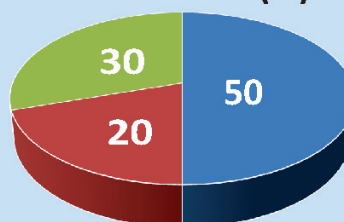
Trees and grass

- Agroforestry: Khejri + crops as above
- Agri- horticulture: Ber + crops as above
- Agri-silvi culture: Anjan tree + crops as above
- Silvi-pasture : Anjan tree + grass (*Cenchrus ciliaris*)
- Agri-pasture: Crops as above in rotation with grass (*Cenchrus ciliaris*) for 5 yrs
- Horti-pasture: Ber + grass (*Cenchrus ciliaris*)
- Farm forestry : Israeli babool (*Acacia tortilis*)

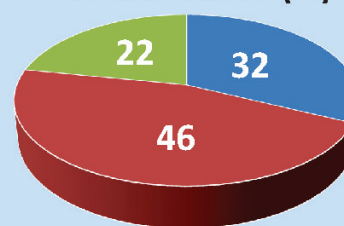
Livestock

- 4 cows
- 15goats /sheep

Area share (%)



Income share (%)



■ Crops ■ Trees and grass ■ Livestock

Adoption: Popularized through KVKs





Rajasthan

Fruits + field crops + medicinal plants IFS (1 ha) for limited irrigation situation

Production
08 t/year

Net income
Rs. 0.97
lakh/year

Employment
225 man days

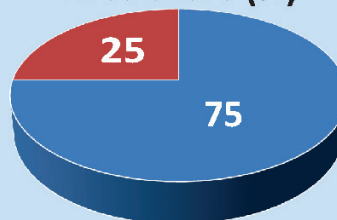
Fruits + crops

- Citrus + clusterbean
- Citrus + dew gram
- Citrus + Aloe vera
- Citrus + Sewan grass (*Lasiurus sindicus*)

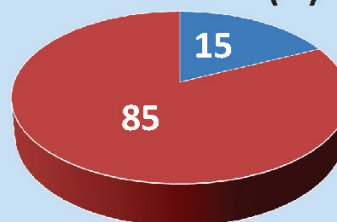
Livestock

- 1 cow

Area share (%)



Income share (%)



■ Fruit + crops ■ Livestock

Adoption: Popularized among farmers through trainings





Sikkim

**Crop + dairy integrated organic farming system (0.5 ha)
for valley and mid hills**

Production
23 t/year

Net income
Rs. 1.37
lakh/year

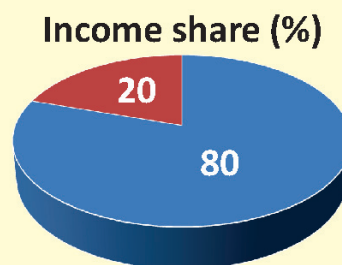
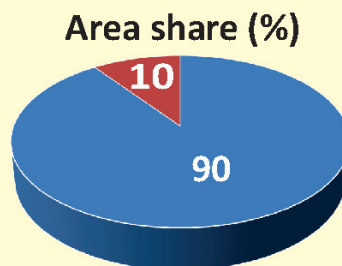
Employment
508 man days

Cropping Systems

- Rice – vegetable pea
- Rice – potato – *dhaincha*
- Rice – toria – *dhaincha*
- Rice – cabbage – *dhaincha*
- Maize – soybean – buckwheat
- Coriander – radish – broccoli – fenugreek
- Cauliflower – pea – beet root – spinach

Livestock

- 2 cows
- 50 poultry birds



■ Cropping Systems ■ Livestock

Adoption: Popularized in 1 village through KVK, East Sikkim





Tamil Nadu

Crop + livestock IFS (1.20 ha) for sustainable income

Production
51 t/year

Net income
Rs. 2.97
lakhs/year

Sustainability
index
0.90

Employment
907 man days

Cropping Systems

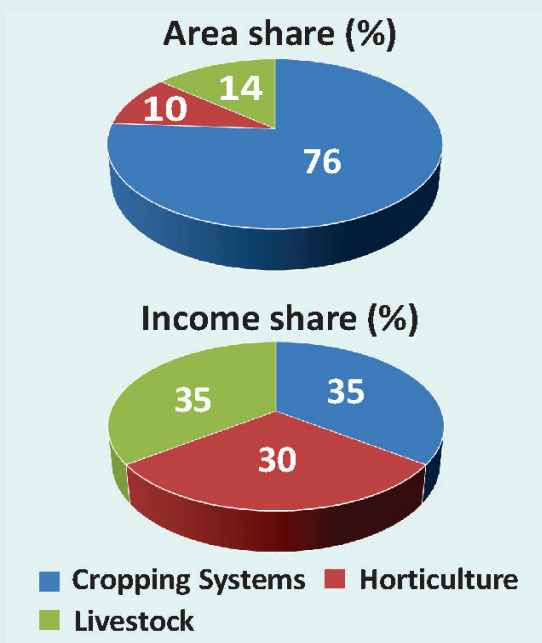
- Maize – cowpea (grain) – radish
- Okra – maize + cowpea (fodder) – sunflower
- Chilli – maize – sunhemp
- Cowpea (vegetable) – cotton – sunflower
- Napier hybrid + desmanthus

Horticulture

- Guava, sapota, aonla
- Boundary (annual moringa, curry leaf, agathi, *Gliricidia*)

Livestock

- 2 cows
- 10 goats
- Biogas



Adoption: 2500 IFS units in five NARP zones promoted by the State





Tamil Nadu

Crop + livestock + fish IFS (0.80 ha) for lowland delta areas

Production
25 t/year

Net income
Rs. 1.80
lakh/year

Sustainability
index
0.77

Employment
414 man days

Cropping Systems

- Rice-rice-blackgram
- Maize-rice-sesame
- Okra-rice-sunflower
- Bajra napier grass

Horticulture

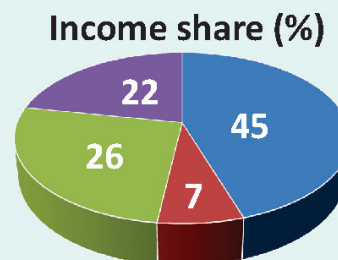
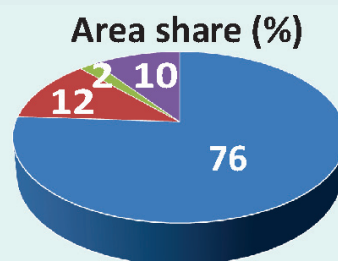
- Banana
- Intercropping with blackgram and marigold

Livestock

- 2 cows
- 50 poultry birds

Fishery

- Composite culture (catla, rohu, mrigal)
- Desmanthus, coconuts, curry leaf, agathi, noni and vegetables on bunds



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery

Adoption: Included in State package. Popularized among 52 farmers





Tamil Nadu

Crop + dairy based IFS (0.40 ha) for nutrition and income

Production
19 t/year

Net income
Rs. 1.12
lakh/year

Sustainability
index
0.72

Employment
464 man days

Cropping Systems

- Sunhemp -okra - maize
- Sunhemp - cotton - pigeonpea
- Bajra napier hybrid, desmanthus
- Pest repellent plants

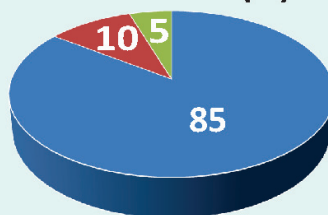
Trees/shrubs

- Neem, pongamia, mahua, jamun, melia, fig, ailanthus, wood apple, bamboo, teak, curry leaf, coconut

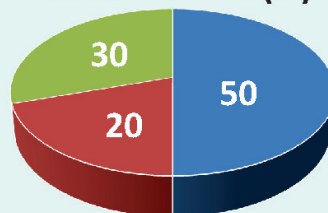
Livestock

- 2 cows

Area share (%)



Income share (%)



■ Cropping Systems ■ Trees/shrubs ■ Livestock

Adoption: Included in State package. Popularized among farmers through 14 KVKs, 35 research stations and 5 plant clinic centers





Telangana

Crop + livestock IFS (1 ha) for irrigated regions

Production
37 t/year

Net income
Rs. 1.60
lakh/year

Employment
877 man days

Cropping Systems

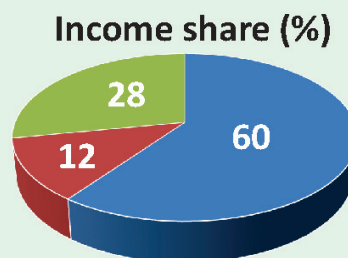
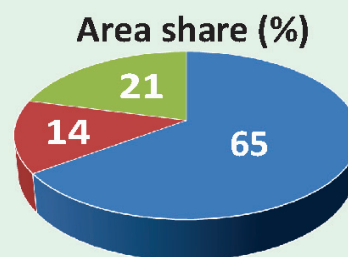
- Rice – maize/castor
- Pigeonpea + sweet corn-pearl millet
- Maize + pigeon pea – sunhemp
- Bt cotton + green gram – fodder sorghum
- Maize – groundnut
- Bajra napier hybrid

Horticulture

- Guava
- Intercropping with vegetables (tomato, carrot, chilli)

Livestock

- 2 buffaloes
- 14 goats
- 50 poultry birds



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Demonstrated to 666 farmers through FTCs and Yuva Rythu Sagu Siksha programme





Uttar Pradesh

Crop + dairy IFS (1 ha) for improved income and employment

Production
35 t/year

Net income
Rs. 2.59
lakhs/year

Employment
501 man days

Cropping Systems

- Rice – wheat – maize + cowpea (fodder)
- Rice – potato – green gram
- Sorghum (fodder) – mustard – black gram
- Rice – lentil – sorghum (fodder)
- Rice – berseem – greengram

Horticulture

- Guava
- Aonla
- Intercropping with vegetables (tomato, cabbage, potato)

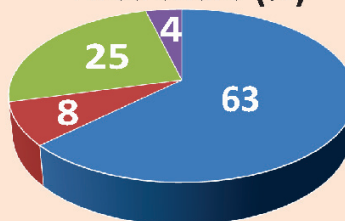
Livestock

- 2 cows

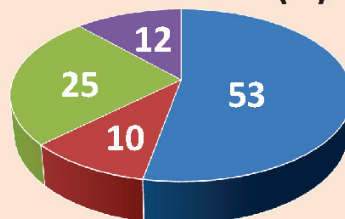
Fishery

- Composite culture (catla, rohu, mrigal)

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery

Adoption: Popularized among farmers through trainings of extension agencies





Uttar Pradesh

Crop + livestock IFS (1 ha) for sustainable livelihood

Production
25 t/year

Net income
Rs. 1.30
lakh/year

Sustainability
index
0.54

Employment
304 man days

Cropping Systems

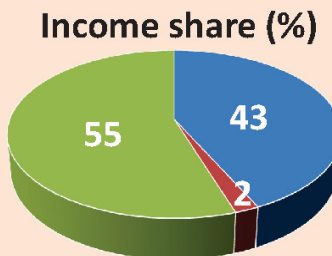
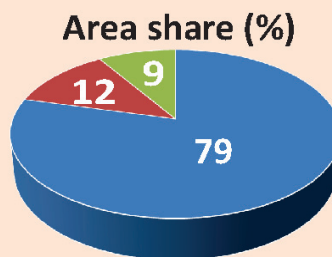
- Rice – wheat – green gram
- Maize – mustard – sorghum (fodder)
- Maize – chickpea
- Maize – potato – green gram
- Maize – garlic – green gram
- Sorghum (fodder) – berseem

Horticulture

- Guava
- Aonla
- Lemon
- Apiary (5 boxes)

Livestock

- 1 cow
- 1 buffalo



■ Cropping Systems ■ Horticulture
■ Livestock

Adoption: Popularized among farmers through trainings of extension agencies





Uttar Pradesh

Horticulture + dairy IFS (0.70 ha) for marginal farmers of Western Plains

Production
23 t/year

Net income
Rs. 2.28
lakhs/year

Employment
595 man days

Cropping Systems

- Sorghum (fodder) – oat – *dhaincha*
- Sorghum (fodder) – chickpea – *dhaincha*
- Rice – mustard
- Maize + pigeonpea – wheat – *dhaincha*

Horticulture

- Banana
- Kinnow
- Intercropping with cereals
- Guava and karonda as boundary crop

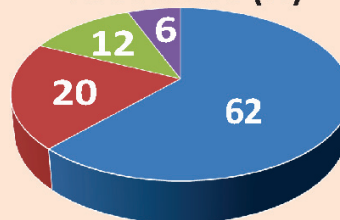
Livestock

- 2 buffaloes
- 1 cow

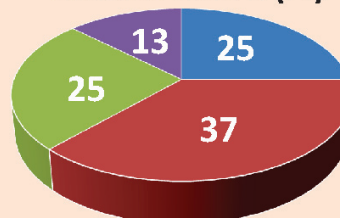
Mushroom

- Button/oyster

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Mushroom

Adoption: Included in DFI document and popularized among farmers through trainings





Uttar Pradesh

Dairy based IFS (1 ha) for improved income and employment

Production
44 t/year

Net income
Rs. 3.80
lakhs/year

Sustainability
index
0.91

Employment
798 man days

Cropping Systems

- Rice – wheat – green gram
- Rice – barley – black gram
- Rice-mustard-green gram
- Bottlegourd – cabbage – spongegourd
- Sorghum (fodder) – berseem + mustard – sorghum (fodder)
- Pigeon pea + pearl millet – sorghum (fodder)

Horticulture

- Papaya, guava, aonla, mango, lemon, orange
- Banana + vegetables

Livestock

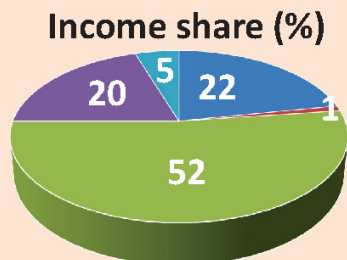
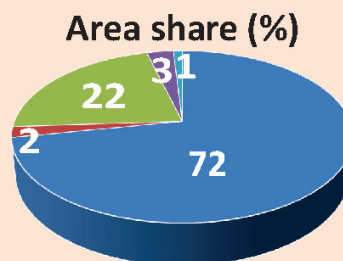
- 4 cows
- Poultry (1200 birds in 6 batches)

Fishery

- Composite culture (catla, rohu, mrigal)

Mushroom

- Oyster and button



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery ■ Mushroom

Adoption: Popularized among farmers through trainings of extension agencies





Uttar Pradesh

Crop + orchard IFS (1.5 ha) for Western Plains

Production
33.30 t/year

Net income
Rs. 4.19
lakhs/year

Employment
833 man days

Cropping Systems

- Rice-wheat
- Sugarcane- S. ratoon- wheat

Horticulture

- Mango (Amrapalli); Intercrops (Onion-okra-pea-brinjal)
- Mango (Dasheri); Intercrops (Turmeric)
- Guava; Intercrops (Turmeric)
- Kinnow; Intercrops (Pea-beans-radish-cauliflower)

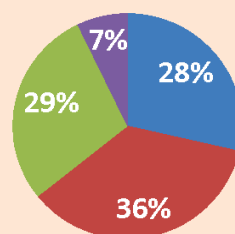
Vegetables

- Brinjal-potato-beans
- Onion-bottlegourd-cauliflower
- Pea-okra-brinjal
- Radish-beans-pumpkin-fenugreek
- Coriander-bottlegourd-lobia-carrot

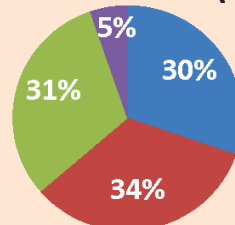
Pond dyke system

- Composite fish culture (catla, rohu, mrigal)
- Vegetables on pond dyke

Area share (%)



Income share (%)



■ Cropping Systems ■ Horticulture
■ Vegetables ■ Pond dyke system

Adoption: Popularized among farmers through trainings of extension agencies





Uttar Pradesh

Exotic vegetables based IFS (0.4 ha) for marginal farmers

Production
20 t/year

Net income
Rs. 2.03
lakhs/year

Employment
367 man days

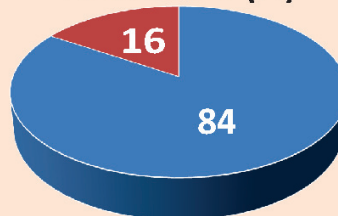
Cropping Systems

- Broccoli – broccoli – maize (fodder)
- Lemon grass – leek
- Lettuce (red) – tomato
- Lettuce (green) – chilli
- Chinese cabbage – okra
- Cherry tomato

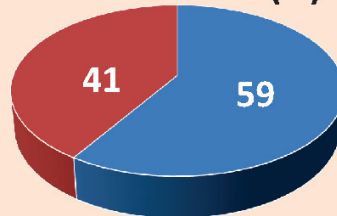
Livestock

- 1 buffalo
- 1 cow

Area share (%)



Income share (%)



■ Cropping Systems ■ Livestock

Adoption: Demonstrated in 2 farmers field





Uttarakhand

Livestock + silvi-horti IFS (1 ha) for Plains and Tarai region

Production
28 t/year

Net income
Rs. 1.30
lakh/year

Employment
450 man days

Cropping Systems

- Rice- vegetable pea- okra
- Rice- vegetable pea- maize
- Sorghum (fodder)-mustard-
blackgram
- Rice- wheat- greengram
- Rice- berseem + oat + mustard- maize
+ cowpea (fodder)

Silvi-horticulture

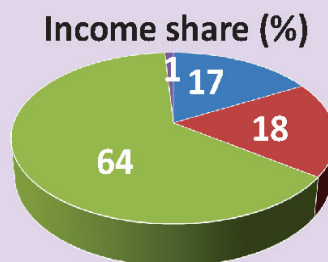
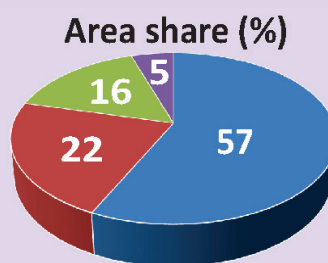
- Guava, lemon
- Poplar, eucalyptus

Livestock

- 3 cows

Fish cum duckery

- Composite culture (catla, rohu, mrigal)
- 20 ducks



■ Cropping Systems ■ Silvi-horticulture
■ Livestock ■ Fish cum duckery

Adoption: Popularized among 500 farmers through 5 KVKs





West Bengal

Land configuration based IFS (0.66 ha) for Lower Gangetic Plains

Production
15 t/year

Net income
Rs. 1.31
lakh/year

Sustainability
index
0.64

Employment
340 man days

Cropping Systems

- Rice-mustard-jute
- Rice-wheat – maize + greengram
- Rice – lentil – sesame
- Amaranthus – brinjal + curry leaf – bitter gourd
- Okra – radish + french bean – ridge gourd
- Raised and sunken bed system (vegetables and flowers in raised beds, rice + fish in furrows, fodder on slopes)

Horticulture

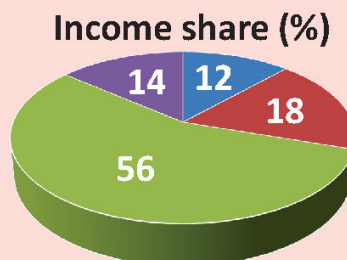
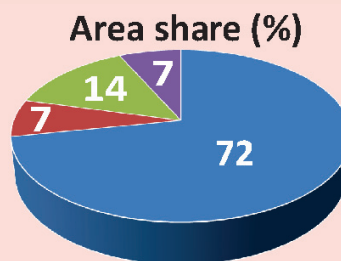
- Guava and banana
- Intercropping with fodder cow pea

Livestock

- 2 cows
- Biogas

Fishery

- Composite culture (catla, rohu, mrigal)



■ Cropping Systems ■ Horticulture
■ Livestock ■ Fishery

Adoption: Popularized among 1600 farmers and 110 extension officials





UPSCALING

UPSCALING OF IFS MODELS

(Reference Documents)

Sl. No.	State	Year	Number of models/ districts/ contituencies	Amount earmarked (Rs. in lakhs)
1.	Jammu & Kashmir	2017-18	84 Assembly Constituencies	462.00
2.	Kerala	2017-18	2300 IFS models	700.00
		2018-19	2170 IFS models	625.00
		2019-20	2570 IFS models	725.00
3.	Tamil Nadu	2018-19	5 districts (2490 farmers)	2564.20
		2019-20	29 districts (7600 farmers)	7600.00

During the period of 2017-20, three states namely Jammu and Kashmir, Kerala and Tamil Nadu have promoted the IFS models developed by ICAR-IIFSR, AICRP on IFS and AI-NPOF programmes with a fiancial outlay of 126.76 crores. Kerala Government developed 7040 IFS models in various Panchayats of the state while Tamil Nadu Government promoted the IFS models in 34 districts involving 10,090 farmers. Similarly, the prototype IFS models developed under AICRP on IFS are being replicated in 84 Assembly Constituencies of Jammu and Kashmir by the State Administration. DAC&FW of Ministry of Agriculture, Gol have also asked all the State Governments to include these 45 IFS /IOFS models in the action plan of Rainfed Farming Systems programme and National Mission on Sustainable Agriculture for promotion at large scale.

F. No. 2-1/2018-RFS-III
Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation & Farmers Welfare
(Rainfed Farming System Division)

Shastri Bhawan, New Delhi - 110 001
Dated: 29th August, 2019

To,

Director (Agriculture)
Government of Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh, West Bengal, Arunachal Pr., Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura

Sub: Prototype Integrated Farming System (IFS) models developed for different States of India- regarding

Sir,

This has reference to discussions held during PSC meeting for implementation of Rainfed Area Development (RAD) Component of NMSA which was held on 06.08.2019 under Chairpersonship of Joint Secretary(RFS) at Krishi Bhawan, New Delhi. During discussion, the ICAR-IIFSR, Modipuram representative informed that detailed models has been developed the Statewise based on studies for different regions of country. The models are in consonance with the aim of RAD programme. Besides, most of the farming practices can be adopted under RAD programme. The models are developed clearly indicates the area of land allotted for different activities and the tentative income of the farmers in percentage terms.

The booklet on these models is attached herewith for its adoption under RAD programme and also its wide publicity among farmers through various awareness programmes.

Encl.: As above


(Dr. Ramarand)
Deputy Commissioner (RFS)

Copy to: Principal Secretary/ Secretary (Agriculture), Government of Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh, West Bengal, Arunachal Pr., Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura

Copy for information and necessary action to :

1. Dr. A.S.Panwar, Director, ICAR-IIFSR, Modipuram, Meerut
2. Dr. N Ravisankar, Programme Facilitator, Coordination Unit, ICAR-IIFSR, Modipuram, Meerut


(Yogesh Raundal)
Assistant Commissioner (RFS)

**Department of Agriculture
Himachal Pradesh**

Dated Shimla-5 the

No.Agr.SC-H (H) 6/27-2014-VII (NMSA)

From: Director of Agriculture
Himachal Pradesh

To: All the Deputy Director of Agriculture
Himachal Pradesh

Subject: **Regarding Prototype Integrated Farming System (IFS) models developed for different States of India.**

Memo;

Please find enclosed copy of letter No. F.No.2-1/2018-RFS-III, dated 29th Aug., 2019 received from Deputy Commissioner (RFS), Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Co-operation & Farmers Welfare on the subject cited above. Vide which, it is informed that various Integrated Farming System (IFS) models have been developed by ICAR-IIFSR, Modipuram, which are in complete consonance with the objectives of RAD programme. Booklet comprising IFS models for different states is also enclosed.

In the light of above, you are requested to adopt the IFS model developed for Himachal Pradesh. And, wherever possible it could be added in the annual work plan proposals for the financial year 2020-21.

Encls: As above

Director of Agriculture
Himachal Pradesh

Endst. No.Agr.SC-H (H) 6/27-2014-VII (NMSA)

Dated Shimla-5, the

Copy to the Principal Secretary (Agriculture) to the Govt. of Himachal Pradesh w.r.t his letter No.Agr.B-F(1)-9/2019, dated 21st September, 2019 on the above cited subject for favour of information, please

CP/Hours

10/09/19

Director of Agriculture
Himachal Pradesh

Government of Jammu & Kashmir
General Administration Department
Civil Secretariat, Jammu

Subject: Constitution of Committees to formulate a Scheme to promote Integrated Farming System.

Government Order No: 114 - Agri of 2017
Dated: 12-04-2017

In pursuance of Budget Announcements 2017 (Bgt. Ann. No. 109), sanction is hereby accorded to the constitution of the following Committee under the chairmanship of Vice Chancellor SKUAST- Kashmir to promote Integrated Farming System (Establishment of one demonstration unit- private sector in every constituency during 2017-18 involving progressive farmers) :-

- a. Vice Chancellor SKUAST- Kashmir Chairman
- b. Registrar, SKUAST -Jammu
- c. Director Horticulture Jammu/ Kashmir.
- d. Director Agriculture Jammu/ Kashmir.
- e. Director Animal Husbandry Jammu/ Kashmir.
- f. Director, Fisheries, J&K.

The terms of reference of the Committee shall be as under:-

- i. The committee shall formulate a Scheme for immediate implementation, on the integrated Farming System and suggest ways and means for establishment of demonstration units(one in every block). The Scheme will include incentive for the new farming system and work out modalities for coordinated extension support to the selected beneficiaries from SKUAST, KVK and development Departments;
- ii. The chairman shall co-opt any other Officers, progressive farmer/expert, if required;
- iii. The chairman shall also act as Convenor of the Committee.
- iv. The Committee shall submit the Scheme within one month of constitution of the Committee.

By order of the Government of Jammu & Kashmir,

Sd/-

(Pramod Jain) IAS
Financial Commissioner
Agriculture Production Department

No: Agri/ PC-211/2016-17

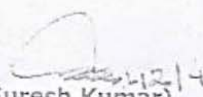
Dated: 12-04-2017

Copy to the:-

1. Financial Commissioner, Planning, Development and Monitoring Department
2. Vice Chancellor, SKUAST- Kashmir.
3. Commissioner/ Secretary to Government Finance Department.

Govt. Order 102708

4. Commissioner/ Secretary to Government, Animal/Sheep Husbandry Department.
5. Secretary to Government Horticulture Department.
6. Registrar, SKUAST- Jammu.
7. Director Horticulture Jammu/ Kashmir.
8. Director Agriculture Jammu/ Kashmir.
9. Director Animal Husbandry Jammu/ Kashmir.
10. Director Fisheries Department, J&K.
11. Private Secretary to the Hon'ble Minister for Agriculture for information to the Hon'ble Minister.
12. Private Secretary to the Hon'ble Minister of State for Agriculture for information of the Hon'ble Minister.
13. Private Secretary to Financial Commissioner, Agriculture Production Department for information of the Financial Commissioner.
14. Government order file (w.3.s.c.)
15. Coordination Section (w.3.s.c.)
16. S.O. Adm. for website.


(Suresh Kumar)

Assistant Director (Planning)
Agriculture Production Department

Shor-e-Kashmir
University of Agricultural Sciences and Technology of Jammu
Farming System Research Centre (AICRP on IFS), Main Campus,
Dr. Dileep Kachroo
Chief Scientist & Head, AICRP-IFS

No: AUJ/FSR/2018-19/F-20/819,
Dated: 16/01/2019

The Registrar,
SKUAST-J Chatha.

Sir,

May please refer your letter vide no. AUJ/Secy./2018-19/18th UCM/2356-57 dated 19-09-2018 regarding the action taken of Eighteenth Meeting of University Council. The farming system Research Centre under AICRP-IFS is continuously promoting and publicizing among the farmers. Govt. functionaries including the policy planners of the State for adoption of income generating Integrated Farming System model developed by this University under AICRP-IFS. The centre imparted several on spot field training and arranged field visits of about 607 farmers for motivating for its adoption.


An IFS template vide no. AUJ/Est/17-18/F-G563/3242-46 dated 11-10-2017 has been sent to Assistant Director Planning, APD, J&K Govt. Civil Secretariat containing detailed guidelines and template for establishment the IFS model for 84 constituencies of J&K State. Govt. of Jammu & Kashmir has framed a committee vide No. Agri/PC-211/2016-17 dated 12-04-2017 wherein Dr. Dileep Kachroo, Chief Scientist & Head, FSR and (Registrar) being the member of the committee has submitted the proposal for funding for its adoption in 84 electoral constituencies of J&K state, which was to be popularised by the state Agriculture Department in consultation with Dr. Dileep Kachroo.

Besides, under the OFR scheme of AICRP-IFS 160 farmers of District Samba and Jammu are being provided critical inputs leading to establishment of IFS model in participatory mode.

Under TSP Programme, a 1200 birds Poultry unit entrepreneur involving tribal youths has been established, which is profit making enterprise.

A rainfed farmer Mr. Blouchdin of Bari khad village of Samba district has been activated for promotion and adoption of IFS model. Besides, the IFS model of 1 ha has been scaled down to 0.5 ha on the basis of data generated for the last seven years and submitted to Directorate of Extension for establishment of the model at each KVK of Jammu region.

Yours faithfully


Chief Scientist & Head

Visit us at: www.skuast.org
Email: dkachroo94@gmail.com



KERALA AGRICULTURAL UNIVERSITY
DIRECTORATE OF RESEARCH

Fax No. : 91-487-2370019
Phone : 91-487-2371302 &
2370497 (Off.)
E-Mail : research@kau.in

Main Campus, Vellanikkara
KAU (P.O.) - 680 656, Thrissur - Kerala

No.R3/ 65700/2017

Dt 30.10.2017

Sub: Scaling up of IFS Models- Implementation in Kerala-reg

Ref: Your e-mail dtd 28.10.2017

With reference to above, I wish to inform that the IFS models developed through on station and on farm programmes of AICRP at our Integrated farming Systems Research Station, Karamana is being upscaled by the Dept. of Agricultural development and farmers welfare, Govt. of Kerala during this year. Around 2300 IFS models are proposed to be developed in various Panchayaths of the state with a total financial outlay of Rs 700 lakhs. The technical support for this project will be provided by IFSRS, Karamana and IIFSR, Modipuram. This is for your kind information.

With high regards,

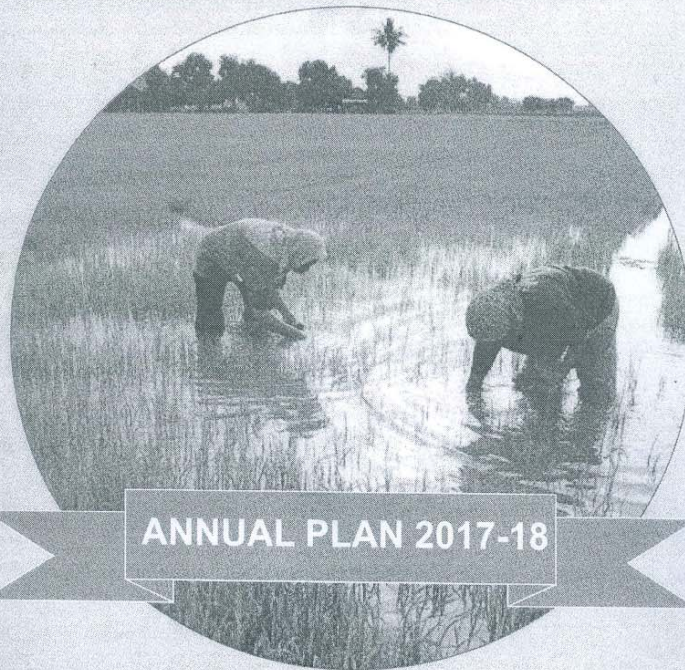
Associate Director of Research (Farms)

To
The Director
ICAR-IIFSR
Modipuram

For Director of Research



GOVERNMENT OF KERALA



AGRICULTURE DEVELOPMENT & FARMERS'
WELFARE DEPARTMENT

DR. JACOB JOHN
PROFESSOR & HEAD
Kerala Agricultural University
Integrated Farming System Research Station
Nedumcaud, Karamana, P.O
Thiruvananthapuram 695 002



19) Establishment of Integrated Farming System Models (IFSM)

Because of the micro size of land holdings in Kerala and the homestead nature of farming, it is absolutely necessary to develop such holdings into model farms which provide major or subsidiary income to the farmer. This is very important because another reason that most agricultural development schemes focus on land holdings with more area. In order to achieve production in a holistic and sustainable manner, it is necessary to establish and popularise Integrated Farming System Models in the state. An Integrated farming System Model comprises of components from Agriculture, animal husbandry, poultry, fisheries and other allied sectors, co- existing in a mutually complementary and self sustainable manner for optimum utilisation of land and providing maximum returns to the farmer. The Cropping Systems Research Centre, Karamana, under the Kerala Agricultural University has standardised viable integrated farming system models from 3-5 cents to 50 cents and above.

It is proposed to popularise Integrated Farming System Model units in the state in the next 5 years utilising the expertise of KAU. During the current year, it is proposed to set up 2300 numbers of IFSM across the state @ 1 to 2 no.s/panchayat, providing 100 % assistance @ Rs.10000/- per 10 cents on an average and upto a maximum of Rs.50000/- for 50 cents and above.

Sl. No.	Unit size	Number of units proposed	Assistance proposed/unit (Rs.)	Total amount required (Rs. in lakhs)
1	3-10 cent	500	10000	50.00
2	20 cents	500	20000	100.00
3	30 cents	400	30000	120.00
4	40 cents	400	40000	160.00
5	50 cents and above	500	50000	250.00
7	Trainings, reviews and workshops at district level and HQ			20.00
	Total	2300		700.00

It is proposed to popularise Integrated farming System Model units by encouraging the farmer to integrate at least 3 additional enterprises selected from allied sectors of agriculture with agriculture as the base. Training programmes will be arranged to selected farmers for successful implementation of the programme utilising the expertise of KAU and department.

An amount of **Rs.700.00 lakhs** is proposed for this component.


DR. JACOB JOHN
PROFESSOR & HEAD
Kerala Agricultural University
Integrated Farming System Research Station
Nedumcaud, Karamana. P.O
Thiruvananthapuram 695 002



Kerala Government policy promoting Integrated Farming Systems

REBUILD KERALA DEVELOPMENT PROGRAMME



A Resilient Recovery Policy Framework and Action Plan
for Shaping Kerala's Resilient, Risk-Informed Development and Recovery
from 2018 Floods

Rebuild Kerala Initiative



Activities	0-6 months	0-18 months	18 months & beyond	Expected Outcomes
				Act and other related Acts, leading to reduced burden on Krishi bhavans ²³³ Masterplans for integrated development & management of Kuttanad and Kole regions completed and under implementation.
Strengthen policy framework for promoting sustainable, ecology-friendly and integrated development of agriculture and allied sectors in Kole and Kuttanad wetlands	X			Restructuring of existing institutions and or establishment of Kuttanad Transformation Council and Kole Transformation Council for focused development in addition to redeployment of the existing skeletal staff to the new agencies completed. External expertise engaged to support and guide activities of the agencies. Policies developed and implemented for responsible livestock management practices, including biowaste management and animal carcass disposal
Strengthen policy framework to promote integrated farming systems specific in specific agroecological zones for risk mitigation, resilience and soil health enhancement	X			Schemes incentivizing / promoting integrated farming techniques including inter-cropping, multi-cropping, rice-cum-fish farming, off-season duck rearing, calf rearing etc. designed Improve planning of investments in consultation and coordination with other allied agencies

Kerala Government provides financial incentives for farmers to adopt Integrated Farming Systems



**Department of
Agriculture Development
and Farmers' Welfare**

The ongoing component of Integrated Farming System Models will be strengthened and restructured with additional enterprises and technical support. A special plan will be prepared for reviving damaged units with loss of cattle and poultry in addition to crops. An amount of ₹ 750.00 lakh is set apart for IFSM during 2019-20.

An amount of ₹75.00 lakh is set apart for meeting the operational expenses for the implementation of social audit in the department.

The component wise breakup of the scheme is shown below.

Sl. No.	Component	Amount (₹ in lakh)
1	Upgradation of RATTCS and FTCs	400.00
2	Kerala Agricultural Innovation Extension Project (KAIEP) (New)	1820.00
3	SAMETI	25.00
4	Strengthening Project Directorate of ATMA including hiring of office space	65.00
5	Award for best performers	325.00
6	HR support to project directorate and Extension wing	200.00
7	Training to FAs and BTMs on regular basis	10.00
8	Operational Support and Hiring of vehicles for ATMA	100.00
9	Public participation	775.00
10	Establishment of Integrated Farming System Models (IFSM)/Projects	750.00
11	Operational expenses for implementation of social audit	75.00
	Total	4545.00



121202 7723/19
RFS2

வேளாண்மை - தேசிய வேளாண்மை வளர்ச்சித் திட்டம் மற்றும் நீடித்த நிலையான வேளாண்மைக்கான தேசிய இயக்கத்தின் கீழ் ஒருங்கிணைந்த பண்ணையத் திட்டத்தினை செயல்படுத்துவதற்கான வழிகாட்டு நெறிமுறைகள் - ஆணை வெளியிடப்படுகிறது.

வேளாண்மை (வே.உ.5) துறை

அரசாணை (2டி) எண்.191

நாள் 24.09.2019
திருவள்ளூர் ஆண்டு 2050,
விகாரி, புரட்டாசி-7,
படிக்கப்பட்டது

வேளாண்மை இயக்குநர் கடித எண்.RFS2/7723/2019, நாள் 1.07.2019

ஆணை:-

2019-20 ஆம் ஆண்டில் ஒருங்கிணைந்த பண்ணையத் திட்டத்தினை பரவலாக்கம் செய்வதற்கு, பயிர் சாகுபடி, கால்நடை வளர்ப்பு, தோட்டக்கலை மற்றும் வேளாண் காடுகள் ஆகிய திட்ட இனங்களுடன் தேசிய வேளாண்மை வளர்ச்சித் திட்டம் மற்றும் நீடித்த நிலையான வேளாண்மைக்கான தேசிய இயக்கத்தின் கீழும், ஒருங்கிணைந்து செயல்படுத்தப்பட உள்ளது.

2. 2019-2020 ஆம் ஆண்டில் ஒருங்கிணைந்த பண்ணையத் திட்டத்தினை, இவ்வாணையின் பிற்சேர்க்கையில் காணப்படும் வழிகாட்டு நெறிமுறைகளின்படி செயல்படுத்துமாறு வேளாண்மை இயக்குநர் மற்றும் தோட்டக்கலை மற்றும் மலைப் பயிர்கள் துறை இயக்குநர் கேட்டுக் கொள்ளப்படுகிறார்கள்.

(ஆளுநரின் ஆணைப்படி)

ககன்தீப் சிங் பேடி,
வேளாண்மை உற்பத்தி ஆணையர்
மற்றும் அரசு முதன்மைச் செயலாளர்.

பெறுநர்

வேளாண்மை இயக்குநர், சென்னை-5 (இணைப்புடன்)
தோட்டக்கலை மற்றும் மலைப் பயிர்கள் துறை இயக்குநர், சென்னை 5 (இணைப்புடன்)
கால்நடைப் பராமரிப்பு, பால்வளம் மற்றும் மீன்வளத் துறை, சென்னை-9 (இணைப்புடன்)
கால்நடைப் பராமரிப்பு மற்றும் மருத்துவப்பணிகள் இயக்குநர், சென்னை-6 (இணைப்புடன்)
சம்பளம் மற்றும் கணக்கு அலுவலர், சென்னை-8 (இணைப்புடன்)
சம்பந்தப்பட்ட கருவூல அலுவலர்கள் (இணைப்புடன்)
மாண்ட்மிசு-வேளாண்மைத் துறை அமைச்சர் அலுவலகம், சென்னை-9 (இணைப்புடன்)
வேளாண்மை உற்பத்தி ஆணையர் மற்றும் அரசு முதன்மைச் செயலாளர் அவர்களின் முதுநிலை தனிச் செயலர், சென்னை-9 (இணைப்புடன்)
வேளாண்மை (அநமு3) துறை, சென்னை-9 (இணைப்புடன்)
இருப்புக் கோப்பு / உதிரி

/ஆணைப்படி அனுப்பப்படுகிறது/

கா. செல்வராணி
24/9/2019
பிரிவு அலுவலர்

24/9/19

CONTRIBUTORS

Sl. No.	State	Name of Chief Agronomist / Agronomist/Principal Investigator	SAU/ICAR institute	Page No.
1	Andaman and Nicobar Islands	Dr N. Ravisankar, Dr (Mrs) T.P. Swarnam*	ICAR-Central Island Agricultural Research Institute, Port Blair	1-2
2	Assam	Dr Ajit Baishya, Dr K.K. Sharma*	Assam Agricultural University, Jorhat	3
3	Bihar	Dr Sanjeev Kumar*	ICAR Research Complex for Eastern Region, Patna	4-5
		Dr R.P. Sharma, Dr S.K. Pathak, Dr Sanjay Kumar*	Bihar Agricultural University (BAU), Sabour	6
4	Chhattisgarh	Dr Alok Tiwari, Dr G.P. Pali, Dr M.C. Bhambri*	Indira Gandhi Krishi Vishwa Vidyalaya, Raipur	7
5	Delhi	Dr V K Singh, Dr R K Singh, Dr P K Upadhyay, Dr S L Meena, Dr M C Meena	Indian Agricultural Research Institute, New Delhi	8
6	Goa	Dr B.L. Manjunath, Dr V. Paramesha*	ICAR-Central Coastal Agricultural Research Institute, Goa	9-10
7	Gujarat	Dr B.S. Patel, Dr A.M. Patel, Dr L.J. Desai*	Sardarkrushinagar Dantiwada Agricultural University, SK Nagar	11
8	Haryana	Dr S.K. Yadav, Dr R.K. Nanwal, Dr Pawan Kumar*	CCS Haryana Agricultural University, Hisar	12
9	Himachal Pradesh	Dr S.C. Negi, Dr S.K. Sharma*	CS Himachal Pradesh Krishi Vishwa Vidyalaya, Palampur	13
10	Jammu & Kashmir	Dr Dileep Kachroo*	Sher-E-Kashmir University of Agricultural Sciences & Technology-Jammu	14
11	Jharkhand	Dr Raghav Thakur*, Dr M.S. Yadava	Birsa Agricultural University, Ranchi	15
12	Karnataka	Dr H. Chandrappa, Dr Obnaik Kumar*	Agricultural Research Station, Kathalagere under University of Agricultural & Horticultural Sciences, Shivamoga	16
		Dr M.A. Basavanappa*	Agricultural Research Station, Siruguppa under University of Agricultural Sciences, Raichur	17

Sl. No.	State	Name of Chief Agronomist / Agronomist/Principal Investigator	SAU/ICAR institute	Page No.
13	Kerala	Dr Kuruvilla Varghese, Dr (Mrs) P. Sukumari, Dr Jacob John*	Farming Systems Research Centre, Agricultural Research Station, Karamana under Kerala Agricultural University, Thrissur	18-20
		Dr C. K. Thankamani*, Dr V. Srinivasan	ICAR- Indian Institute of Spices Research, Calicut	21
		Dr P. Subramanian, Dr H.P. Maheshwarappa, Dr Ravi Bhat	ICAR-Central Plantation Crops Research Institute, Kasargode	22
14	Madhya Pradesh	Dr V.K. Shukla, Dr P.B. Sharma*	Jawaharlal Nehru Krishi Viswa Vidyalaya, Jabalpur	23
15	Maharashtra	Dr (Mrs) Mangla Ghanbhadur, Dr B.V. Saoji*	Dr Punjabrao Deshmukh Krishi Vidhyapeeth, Akola	24
		Dr L.S. Chavan, Dr S.B. Bhagat*	Dr Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli	25
		Dr WN Narkhade, Dr AS Karle*	Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani	26
		Dr B.S. Raskar, Dr M.B. Dhonde, Dr U.S. Surve*	Mahatma Phule Krishi Vidyapeeth, Rahuri	27
16	Meghalaya	Dr A S Panwar, Dr Ramakrushna, Dr Subash Babu*, Dr Anup Das, Dr. M. Thoithoi Devi, Dr N Prakash, Dr K.P. Mahapatra	ICAR Research Complex for North Eastern Hill Region, Umiam	28-29
		Dr Jayanta Layak*, Dr Anup Das, Dr Utpal Dey, Dr N. Prakash, Dr Subash Babu	ICAR Research Complex for North Eastern Hill Region, Umiam	30
17	Odisha	Dr L. M. Garnaik, Dr Dilip Kumar Bastia, Dr R. K. Paikaray, Dr A.K. Patra*	Odisha University of Agriculture and Technology, Bhubaneswar	31
		Dr Annie Poonam, Dr P K Nayak, Dr B S Satapathy, Dr P K Sahu, Dr G A K Kumar, Dr A K Nayak	ICAR-National Rice Research Institute, Cuttack, Odisha	32-33
18	Punjab	Dr S S Walia*	Punjab Agricultural University, Ludhiana	34
19	Rajasthan	Dr A.K. Gupta, Dr Rakesh Sammauria*	Sri Karan Narendra Agricultural University, Jobner	35
		Dr. S. P. S. Tanwar, Dr. Akath Singh, Dr. M. Patidar, Dr. B. K. Mathur	ICAR-Central Arid Zone Research Institute, Jodhpur	36-38
20	Sikkim	Dr. R. K. Awasthi*, Dr Raghavendra Singh, Dr Subash babu, Sh. Baniface Lepcha, Dr J K Singh, Ms. Pallabi Phukan	ICAR-National Organic Farming Research Institute, Sikkim	39
21	Tamil Nadu	Dr K. Siddeswaran, Dr E. Somasundaram, Dr K.R. Latha*	Tamil Nadu Agricultural University, Coimbatore	40

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		Dr S. Porpavai*	Soil & Water Management Research Institute, Kattuthottam under Tamil Nadu Agricultural University, Coimbatore	41
		Dr E. Somasundaram*, Dr K. Ganesan, Dr R. Subashini, Dr A. Bharani, Dr R. Jansirani, Dr R. Parimaladevi, Dr R. Sunitha	Tamil Nadu Agricultural University, Coimbatore	42
22	Telangana	Dr M. Venkatarammana, Dr Govardhan*	Professor Jaysankar Telangana State Agricultural University, Hyderabad	43
23	Uttar Pradesh	Dr N. B. Singh, Dr Gajendra Singh*	ND University of Agriculture and Technology, Kumarganj	44
		Dr M.P. Yadav, Dr Karam Husain*	CS Azad University of Agriculture and Technology, Kanpur	45
		Dr J.P. Singh, Dr Anil Kumar, Dr Suresh Malik, Dr N. Ravisankar*, Dr P.C. Ghasal, Dr D. Dutta, Dr A.K. Prusty, Dr Poonam Kashyap, Dr Amit Nath, Dr M. Shamim	ICAR-Indian Institute of Farming Systems Research, Modipuram	46
		Dr J.S. Bohra*	Banaras Hindu University, Varanasi	47
		Dr. Poonam Kashyap, Dr A K Prusty, Dr A.S. Panwar	ICAR-Indian Institute of Farming Systems Research, Modipuram	48
		Dr Poonam Kashyap, Dr A K Prusty, Dr A.S. Panwar, Dr M. P. Singh, Dr S. Malik, Dr M. Shamim, Dr Nisha Verma, Dr Sunil Kumar	ICAR-Indian Institute of Farming Systems Research, Modipuram	49
24	Uttarakhand	Dr Bharadwaj, Dr Rohitashav Singh*	Govind Ballabh Pant University of Agriculture & Technology, Pantnagar	50
25	West Bengal	Dr M. Pramanick, Dr S.K. Mukhopadhyay*	Bidhan Chandra Krishi Viswa Vidyalaya, Kalyani	51

*Chief Agronomist / Agronomist / Principal Investigator as on December, 2019





गणतंत्र दिवस परेड 2018 में “मिश्रित खेती-खुशियों की खेती”
झांकी का प्रदर्शन किया गया