FFP Success stories

Farmer FIRST Program-Heroes of Rural India

Beacons of farming Innovations













ICAR-Central Plantation Crops Research Institute
Kasaragod, Kerala

ICAR-Indian Institute of Horticultural Research
Bengaluru, Karnataka

Division of Agricultural Extension
Indian Council of Agricultural Research, New Delhi

ICAR Agricultural Technology Application Research Institute
Zone-XI, Bengaluru, Karnataka

ICAR- National Institute of Animal Nutrition and Physiology,
Bengaluru, Karnataka

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Beacons of farming Innovations

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FOREWORD

Indian agriculture is blessed with rich diversity in terms of social, economic, personal, agro-ecological, crops, livestock, fisheries, natural resources, cropping systems, cuisines, local innovations and farming wisdom. Farmers participation and partnership with systems of research, extension and grass root level social institutions like FPOs, FIGs etc., plays an important role in bringing prosperity revolution. The Farmer FIRST (Farm, Innovations, Resources, Science and Technology) programme aims at enriching Farmer-Scientist interface with focus on technology assemblage, application and feedback, partnership and institutional building and content mobilization. It aims to provide a platform to farmers and scientists for creating linkages, capacity development, technology adaptation and application, on-site input management, feedback and institution building. The 'Farmer FIRST' programme has been conceived as farmer centric approach to identify, prioritize and experiment with focus on farm, innovations, resources, science and technology.

The publication "**Farmer FIRST Program- Heroes of Rural India**" encompassing more than 100 success stories of farmers and farming groups of ICAR CPCRI, ICAR NIANP and ICAR IIHR Farmer FIRST Programs, vividly brought out the resilience of rural farmers and documented cases of research put into use, increased cropping intensity, impact in income, augmented technology adoption and the improved relevance and science based responsible extension approaches of ICAR institutes.

The cases presented will surely serves as examples and models to farmers, policy makers, scientists and extension agencies to learn, analyse and follow. Feedback lessons suited for multi location agricultural development pathways is important and this publication serves as a learning point from the feedback of the stakeholders. I compliment the ICAR institutes, FFP team members, communities who partnered and participated in making the Farmers FIRST through approaches of linkages and convergences. Hearty congratulations to Director, ICAR-ATARI, Bengaluru and his team for their worthy efforts in publishing this document.

New Delhi
27.3.2025

(Rajbir Singh)

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Assistant Director General (Agricultural Extension)



MESSAGE

The Farmer FIRST (Farm, Innovations, Resources, Science and Technology) programme aims at enriching Farmers-Scientist interface with focus on technology assemblage, application and feedback, partnership and institutional building and content mobilization. It seeks to provide a platform to farmers and scientists for creating linkages, capacity development, technology adaptation and application, on-site input management, feedback and institution building. The 'Farmer FIRST' programme has been conceived as farmer centric approach to identify, prioritize and experiment with focus on farm, innovations, resources, science and technology. Farmer FIRST Centres viz. ICAR-CPCRI, Kasaragod, ICAR-NIANP Bengaluru and ICARIIHR, Bengaluru, ICAR-ATARI Bengaluru made commendable achievements and documented more than 100 success stories of farmers and farming groups of Programs in the form of publication **"Farmer FIRST Program- Heroes of Rural India".** This publication will be helpful for out-scaling of successful technologies under this programme and preparing exit strategy for benefit of farming community of rural India.

I compliment the authors in bringing out the publication for FFP Centres under ICAR-ATARI Bengaluru and acknowledge the cooperation of participating farmers in FFP villages. I hope, this publication will be of immense value to all the stakeholders engaged in implementation and spread of resilient technologies.

Rajarshi Roy Burman

(Rajarshi Roy Burman)

27 March 2025

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MESSAGE

Indian agriculture is gloriously treading and increased the average productivity of cereals (20.27 %), 21.6 % in pulses, 13.6 % in oil seeds, 29.2 % in fruits, 30.4 % in spices, 7.1 % in vegetables, total milk production by 55.62 %, egg production by 69.63 %, meat production by 78.60 %, and fish production by 62.81 % during the "Amrit Kaal" of the nation. The Farmer FIRST Program (FFP) of ICAR is being implemented in the eleven zones, with the respective ATARI as nodal agencies, since 2016. The FFP centers of Zone XI are ICAR-Central Plantation Crop Research Institute (CPCRI) Kasaragod, Kerala (Regional Station, Kayamkulam), ICAR-National Institute of Animal Nutrition and Physiology, Bengaluru, Karnataka and ICAR-Indian Institute of Horticultural Research, Bengaluru, Karnataka. These FFP centers are implementing the interventions in six modules (Crop, Horticulture, NRM, Livestock and Poultry, Entrepreneurship and Value addition and Integrated Farming Systems) with purposive sincerity creating models of linkages and convergences.

This document **"Farmer FIRST Program- Heroes of Rural India"** highlights more than 100 success stories of "Technology Integration", "Knowledge Enriching" and "Farming Innovations" of farmer groups, women SHGs, small and marginal farmers, rural youths and students. This also add to the vision to impact of FFP interventions. This publication is a case in point of the relevance and uniqueness of Farmer FIRST created as an innovation platform of ICAR to provide participatory, socially engineered micro level answers to farming constraints through FIRST (Farm, Innovations, Resources, Science and Technology) concepts.

I compliment ICAR-CPCRI FFP for coordinating, compiling and putting forward the idea for this important document. Appreciate the three FFP centers Principal Investigators (PIs), Directors of the Institutes, the entire team members and the farming communities for bringing out the success stories of FFP of ATARI, Zone XI.

I acknowledge the support rendered by Secretary (DARE) & Director General (ICAR), Deputy Director General (AE), ICAR and Assistant Director General (AE) to FFP centres of zone XI for their effective service to the farming community.

Bengaluru
27 March 2025

(V Venkatasubramanian)

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MESSAGE

ICAR Central Plantation Crops Research Institute (CPCRI) is implementing the ICAR Farmer FIRST (Farm/Farmer, Innovation, Resources, Science and Technology) Program (FFP) in Alappuzha district, Kerala. The FFP titled 'Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district' is being implemented in six modules (Crop, Horticulture, IFS, NRM, Livestock & fisheries, Value addition) since 2016.

The ICAR CPCRI FFP is unique in terms of success stories documentation, doubling farmers income through farm planning and integrated farming systems empowered with knowledge and adoption of improved technologies enabled by intense farmer scientist interaction/ social process with a range of income of at least 15 to 500 percent. One of the notable achievement is doubling MGNREGS employment days, wages and innovated in ensuring farming income of 450 farm women SHGs (average 50 to 60 members per SHG) enabling technology adoption in convergence (MoU based) with MGNREGS which is unique among the ICAR institutions. This enabled rapid and spatial enhancement of awareness, knowledge and adoption of farming technologies and improved diet diversity of farm families. The FFP started in Pathiyoor panchayat (1644 ha, 1000 farm families) during 2016 is presently up scaled to seven panchayats and one municipality reaching out to 10,020 farm families in an area of 19979 hectare area through social engineering with local self-Governments, Departments, ICAR institutes, Agricultural Universities, NGOs, women SHG s and FPOs.

ICAR CPCRI is very happy to bring out this publication "Farmer FIRST Program- Heroes of Rural India", documentation of success stories of farmers, farm women, rural youths, entrepreneurs, farmer groups of the three FFP centers of ATARI Zone XI. These are cases of vision to impact of ICAR CPCRI FFP among the farming communities showcasing the impact of an array of technologies (Plantation crops (coconut), Integrated Farming Systems (IFS), animal nutrition and Horticulture, value addition and processing) in field level use and application. I hope this will serve as a model and way forward in integrating and customizing research results to success stories of different levels and scales. I compliment the three FFP centers of ATARI Zone XI in forging farmers as technology disseminators, users and innovators. I place on record our acknowledgement for the unstinted support rendered by Director General, ICAR, Division of Agricultural Extension, ICAR, and ATARI, Zone XI (nodal agency)

Kasaragod
27 March 2025

(**K. B. Hebbar**)

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ICAR Central Plantation Crops Research Institute
Farmer FIRST Program (FFP)

Participatory Technology Integration to Empower and Ensure Livelihood Security of Farmers in Alappuzha District

Farmer FIRST

Success Stories...

01

About ICAR Central Plantation Crops Research Institute - Farmer FIRST Program (FFP)

The Farmer FIRST Program (FFP) of ICAR CPCRI titled 'Participatory Technology Integration to Empower and Ensure Livelihood Security of Farmers in Alappuzha District' is being implemented at Pathiyoor, Devikulangara, Krishnapuram, Arattupuzha, Cheppad, Muthukulam, and Kandalloor panchayaths and Kayamkulam Municipality in Alappuzha District, Kerala. The major objectives are as follows.

- To evolve interactive interface modules for participatory technology development for Coconut Based Farming System (CBFS)
- To evolve consortium of farm/farmer innovations in palm health management and CBFS models
- To develop integrated whole village development approaches and income generating farming models (individual and community levels)
- To evolve appropriate up scalable technology modules for farm women and women empowerment
- To develop traditional and ICT based tools and techniques for technology /information dissemination, real time data collection, archiving and content development
- To build up network and linkage

The primary aims of the Farmer FIRST (Farm/Farmer, Innovation, Resources, Science and Technology) Programe are increasing the production and farm income through farm family approach and technology integration. FFP program integrates homestead based farm planning for optimized and effective resource management, integrating farmer innovations, participatory experimentation or technology development, evolving up scalable models for women empowerment and whole village development approaches. Interventions in partnership and participatory mode is in six modules, such as Crop, Horticulture, Livestock and Poultry, Natural Resource Management, Entrepreneurship and value addition and Integrated Farming System (IFS). This was initially implemented in 19 wards or clusters of Pathiyoor panchayat with interventions in coconut and revival of the traditional crop of sesamum, enhancing knowledge and adoption of scientific technologies on various intercrops and establishing value chain models. The FFP is being implemented in Alappuzha district of Kerala State having an average area of 0.14 ha/ holding. Major crops are coconut, paddy, cowpea, pepper, ginger, turmeric, banana, tapioca, elephant foot yam, yam and vegetables. Crops such as millets, maize, pulses such as horse gram, black gram, green gram and oilseeds like groundnut, soybean and sunflower were not cultivated or discontinued, and none of the farmers were aware of or adopted HYV released as per the pre project survey data. The soil type of the district is mainly sandy loam and sandy soil and clayey loam in the Kuttanad paddy area.

The FFP enabled participatory evaluation and experimentation of resource based income models of coconut and livelihood systems in the risk prone location with coconut root (wilt) disease. Up scalable options could be evolved through FFP for doubling the productivity and income to thrive the disease based risks. The lacuna of technology integration for doubling the farmer's income in the small and marginal land holdings under homestead system

through individual and group interventions under different modules were identified. The technologies recommended needs refinement and integration with farmer innovations and the adoption could be enhanced by linkage with the extension agencies/social institutions in FFP. Community or group approach (farmers' organizations, women self-help groups (SHGs), rural youth clubs, and other rural social organizations/ agencies for involving, participating and providing local leadership) needs further impetus in these areas as demonstrated through FFP interventions under various modules. Doubling farmers' income through FFP in the six modules of Crop, Horticulture, Livestock, NRM, Value addition and IFS provides opportunities for technology integration, appraisal, and evaluation, regulating supply chain and involving farmer organizations.



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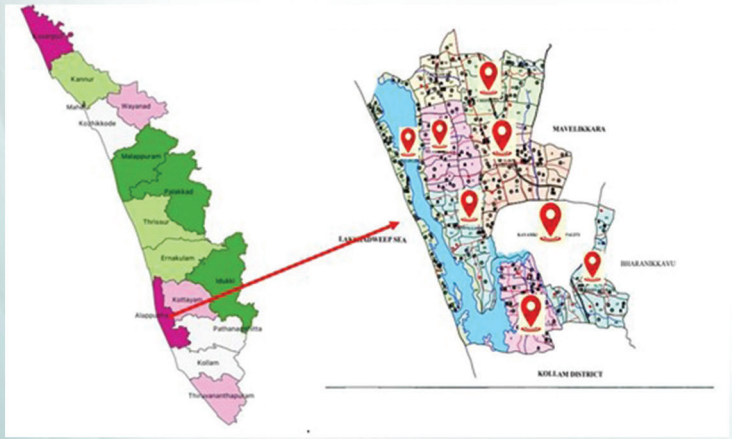


ICAR CPCRI Farmer FIRST Program (FFP) locations and up scaled panchayaths (Pathiyoor (FFP Panchayath), Krishnapuram, Devikulangara, Kandalloor, Kayamkulam Municipality, Muthukulam, Cheppad, Arattupuzha (Up scaled panchayaths)



ICAR Central Plantation Crops Research Institute, Regional Station, Kayamkulam, Kerala

ICAR CPCRI FFP Success Stories- An Overview

Success is the accomplishment of goals or the achievement of something desired, planned or attempted (webster). In simple terms it is degree or measure of succeeding. It may differ with person, society, culture, and history. Analysis of ICAR CPCRI success stories of FFP farmers in farming indicated the following aspects enabling them to be the achievers over the period.

- Adoption of scientific technologies in farming
- Access to knowledge, training and advisory services
- Market innovations
- Diversification farm components and intensification of crops
- Community leadership and participation
- Scalable models of small farms
- Opportunities for social learning for youths and women, collective action
- Linkages and convergences evolved
- Networking ability of farmers

The profile of the success stories indicated that socio-personal economic resource challenges could be bridged up towards growth through knowledge enrichment facilitated by ICAR CPCRI FFP and participatory technology integration at ground level. Some unique cases are of collective actions and social learning among MGNREGS groups, women SHGs and profile of farmers. The average age of documented farmers is 52.5 years, ranging from 33 to 75 years, representing youths also as successful farmers. The age categories of documented cases are 30-40 (2 nos, 6 percent), 41-60 years (14 nos, 39 percent), 51-60 years (13 nos, 36 percent) and above 60 (7 nos, 19 percent). The average land holding size was 0.36 ha with a wide range of 0.1 to 1 ha.

An analysis among FFP farmers also indicated that land holding size is not found to be limiting adoption of scientific technologies and gaining the benefits of higher productivity and income. About 70 percent of these are male and 30 percent are women farmers. All of them are educated such as secondary school (7 nos, 19 percent), higher secondary (10 nos, 28 percent), graduates (15 nos, 42 percent) and post graduation (4 nos, 11 percent).

The average net income per hectare, also furnished a range from Rs. 1.75 lakh to more than 72 lakh, depending on the components integrated.

The average net income per hectare of the cases documented was Rs 7.04 lakh which indicates the income range (income ranged from Rs. 1.74 lakh to Rs. 72.8 lakh) and achieved remarkable income by enabling to change to entrepreneurship in farming. The average B:C ratio also was impressive ranging from 1.72 to 2.89.

Module wise success stories indicated that highest was in integrated farming system module (15 nos, 38.5 %), followed by livestock (7 nos, 18%), crop (6 nos, 15%),

horticulture (5 nos, 13%), enterprises (5 nos, 13%) and NRM (1 no, 2.5%). Livelihood income from small farmers could be earned through IFS and livestock based system. Value addition of crop produces also showed that livelihood income is possible to be attained through efficient use of resources and entrepreneurship skills.

Policy implication and extension challenges

Documenting success stories aid to highlight replicable practices in farming (of various scale), farmer attributes for the success, role of agricultural extension in terms of technology access, training (on and off campus modes), market linkages, input and technical support of ICAR Farmer FIRST Program(FFP), with emphasis to small and marginal farmers, women and youths. The tangible indicators are improvement in agricultural productivity and income from unit area, technology relevance across wider farmer resource base and innovations evolved by farmers. The intangible impact indicators are paradigm shifts in extension approaches, build up of social capital, equity in extension access and financial inclusion of women and landless farmers.

The key points derived are as follows:

1. Strengthening and customizing extension advisory service to suit the FIRST (Farmer/Farm, Innovation, Resources, Science and Technology) for sustainable farming.
2. Farmers' training: Presently most of the farm trainings are class room lectures, discussions, power point presentations, need to design based on training need analysis (TNA), Appraisal and impact analysis of training program, for achieving of the training objectives.
3. Augmenting technology adoption and shifting paradigm to area wide /spatial adoption of technologies for improving scale of economy.
4. Market linkages: the critical success factor in the documented cases are appropriate market linkages - direct marketing of farm produces / value added products, grading for marketing , shifting to produce having more demand, branding etc.
5. Value chain development: FPOs can act as agencies or improving bargaining power of small farmers and offer fair prices to their farm produces.
6. Creating local systems for financial inclusion: The lessons for policy implications are to introduce incentives or subsidies to adopt scientific cultivation in consolidated / leased land areas, ensuring adequate extension support and market linkages.
7. Climate resilient approaches: The introduction and promotion of millet crops, facing challenge of fragmentation of land and paddy land conversions by introducing HYV and new inter crops that thrives climate changes, rain water harvesting through revival of homestead

ponds and diversified cropping/ farming systems for risk cushioning .

8. Gender sensitive extension approaches in farming: Tailored trainings, extension modules, ICT utilization for bridging gender gaps and addressing access to resources and social actors.
9. Community based area wide approaches: Formation of farming clusters, Channeling and empowering women SHG's, knowledge creation and innovations in convergence of women development programs with scientific technology based agriculture through collective action and leveraging economies of scale through land consolidation.
10. Whole development landscape farm planning at local panchayat levels to address and achieve food self-sufficiency, employment, ecology preservation and development, resource efficient farming utilizing internal inputs, inter dependent and co-developing circular farming economy, climate resilient plans, local value chain, rural farm entrepreneurship, FPOs/ farming clusters linkages and convergence of programs and projects. Direct linkage and facilitation of research institutions need to be enforced for farmer oriented service based co-learning and technology integration.





1. ICAR CPCRI FFP and model- Convergence with MGNREGS for doubling income of rural women SHG farmers

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Women and men MGNREGS workers
4.	Phone No	NA
5.	Age	Average age 47 years
6.	Education	SSLC to graduation
7.	Land holding	Average holding size (0.02 ha)
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Programme



a) FFP Interventions

ICAR CPCRI FFP and model- Convergence with MGNREGS for doubling income of rural women SHG farmers, a unique linkage of ICAR research station and MGNREGS for technology transfers



b) Technology adoption

Adoption of technology based agricultural activities is in MGNREGS, and integration of extension services, knowledge, and training, linkage with research and extension system in MGNEGS

c) Farming system and components (before and after FFP)

Land consolidation for farming by women SHGs in convergence with MGNREGS. The fallow inter spaces in coconut garden were consolidated of minimum unit of 1 to 2 acres for cultivation in a continuous manner. The consolidation was done under the leadership of a committee consisted of people representatives, farmers, FFP team and women SHG leaders on a mutual social agreement and organized training program linkage with MGNREGS units for mutual monitoring and evaluation regular field visits, method demonstration, participatory evaluation of crops and various whats app groups for reporting and problem solving. FFP provided critical inputs HYV seeds and 40% of the total cost shared by women SHG.



d) Outcome and impact of FFP interventions:

The convergence of Farmer FIRST program with MGNREGS activities of Pathiyoor Panchayath of Alappuza district by ICAR CPCRI Regional Station Kayamkulam is a social innovation.. The major impact of the convergence intervention of ICAR CPCRI - FFP and MGNREGS was conversion of 350 to 400 acres of fallow land to scientific cultivation of HYV every year since 2017 onwards and creation of 72491 additional man-days/year of which more than 95% were women farmers/laborers contributing to an additional annual wage of Rs 1.965 cores compared to the pre FFP period data. A steady increase in the number of workers, total man-days and total wages earned during the convergence period observed. The average income per woman/year from farming interventions increased from NIL to Rs.13609 in 2017 and subsequently to Rs.20560, while the wages per woman improved from Rs.10239 (2017) to Rs.15456 indicating the impact of convergence.

e) Innovations evolved:

Innovation in social learning and spatial adoption: MGNREGS enabled as a social platform for farm technology transfer. Convergence enabled direct access to research created technology asset to farming community promoted networking for information exchange. This approach enables social learning situation for skill sharpening and evolving micro inventions through experimental learning.The horizontal technology dissemination reduced spread of HYV to two years from 20 to 30 years compared to variety release period.

02. Kera Probio- Citizen science based agripreneurship for youth

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Group of 5 rural youths
4.	Phone No	NA
5.	Age	Average 33 years
6.	Education	Predegree to graduation
7.	Land holding	Average 0.08 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Programme



a) FFP Interventions

IA pioneering initiative in science-based agripreneurship, Kalpakam KeraProbio represents a decentralized laboratory and production unit. This innovative setup integrates citizen science with agricultural practices, ensuring critical inputs of recent development accessible to farming communities and rapid adoption and a model of lab to land through youth involvement.



b) Technology adoption

ICAR Central Plantation Crops Research Institute developed microbial talc based mixture'Kera Probio' and the know how was transferred to 'Kalpakam Kera Probio'unit, managed by rural educated youths as a science based enterprise. The formulation consists of *Priestia megaterium* which promotes plant growth, root development and controls soil borne pathogens. This formulation could be effectively used for coconut seedlings and vegetables. Adopted among 50,000 seedlings including 6 community nurseries(290.7 ha). The bioagent is popularized in Kerala and Tamil Nadu states.

c) Farming system and components (before and after FFP)

The 'Kalpakam Kera Probio' initiative represents a pioneering science-based rural enterprise, designed to accelerate technology adoption and reduce the time gap to 2 years after technology commercialization. Despite its release in 2014, the 'Kera Probio' technology initially faced challenges in gaining widespread acceptance and adoption. A key constraint was the limited availability of the product, hindering its accessibility to a broader audience. However, with the establishment of the 'Kalpakam Kera Probio' production unit, this barrier has been addressed, paving the way for increased adoption and outreach,reducing adoption period to five years of technology release.





d) Outcome and impact of FFP interventions:

- 4 trainings cum workshops on Kera Probio technology resulted in setting up of decentralized Laboratory in FFP Panchayath.
- Capacity building program on skill up gradation, market ready laboratory training to Kalpakam Kera Probio team.
- The technology of Kera Probio was transferred by ICAR CPCRI to FFP FPO based on memorandum of understanding (MoU)
- As an innovative initiative a decentralized laboratory was set up in the FFP Panchayath (Pathiyoor) with facilities such as laminar air flow chamber, lab trolleys, lab consumables and culture media for maximum protection enabling production and enhancing adoption among farming community.
- Quality checking- Microbiology lab at ICAR CPCRI ensued the quality by frequent sampling of Kalpakam Kera Probio produced in the unit.
- A total of 14.8 tons of Kera Probio was produced and marketed branding as "Kalpakam Kera Probio" by ICAR CPCRI Farmer Producer Company(Odanadu Farmer Producer Company).
- The knowledge and adoption increased by 68% among the extension agencies in the state through the intervention.
- Bio primed polybag coconut seedlings produced this technology. Adopted in 300 hectares of coconut area of under/ new planting of seedlings benefiting 51,600 coconut seedlings promoted through input production by FFP FPO in decentralized unit.





e) Innovations evolved:

Decentralized farmer participatory bio enterprise for agrientrepreneurship among rural youth for augmenting technology use.

Rapid dissemination approach through FPO(decentralized critical input production) facilitated by technology generators, extension agencies for awareness building, promotion through demonstration, extension literature, media.

Bio-nutri priming Participatory Technology Development (PTD)initiated as the innovation for quality coconut seedling production in hotspots of root(wilt)

3. Revival of Sesamum (GI crop of Onattukara (FFP location) from scratch to scores

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	51 Women SHGs and individual farmers
4.	Phone No	NA
5.	Age	Average age 52 years
6.	Education	Above high school
7.	Land holding	0.2 ha and leased paddy lands
8.	Knowledge sources	ICAR CPCRI FFP, Kerala Agricutural University, Fellow farmers



a) FFP Interventions

Trainings, method demonstrations on spacing, line planting, thinning, nutrition management, field visits and advisory services, Assessed the status/potential of sesamum cultivation in pre FFP, farmer participatory assessment of suitable varieties (Kayamkulam1, Thilak, Thilathara, Thiothama, Thilarani,of KAU & SVPR 1of TNAU), Facilitated seed production, Extension agencies and local governments urged to formulate sesamum projects with technology backstopping of FFP. Area expansion interventions, value addition



b) Technology adoption

Adopted Kayamkulam 1 and Thilak rated as the best suited for the locations, tolerant to phyllody and leaf spot diseases and more than 45 percent oil content. Value addition as sesamum oil and sesamum balls adopted.

c) Farming system and components (before and after FFP)

Sesamum was one of the most discontinued crop of the region. Only 1.6 ha cultivation as catch crop resulting very low yield of 80 kg/ha, no scientific technologies adopted, lack of knowledge, skills. No area under HYV or recommended practices. Area expansion interventions for200 acres and potential yield achieved through participatory revival of the traditional oil crop (GI) fetching high value production.

d) Outcome and impact of FFP interventions:

Total production of sesamum increased from 300 kg to 7000 kg worth 21 to 35 lakh per year. Potential yield of 500 kg/ha achieved leading to area expansion and up scaling to 7 more panchayath in 900 acres. Climate resilient approach for sesamum in terms of scattered sowing and upland cultivation in coconut gardens, in view of paddy land conversion. Value chain improved through local FPO and oil production and marketing through government outlets initiated by them.Knowledge adoption improved more than 70 percent among farmers.Average yield raised from 80 kg to 300 kg and the B:C ration obtained was 2.89.

e) Innovations evolved:

Social model evolved for participatory rejuvenation of traditional and GI crop through FFP approaches.

Innovated cluster based women participation in sesamum cultivation and area spread of HYV, women earning average of Rs.7640 per season for 438 women of 51 SHGs to a total net income of Rs. 33.46 lakh per year

The model replicated by Department of Agriculture, Onattukara Development Agence, FPOs increasing the area of sesamum to 400 acres (162 ha) per year.

4. Retired bank manager turned livestock farmer tripled income showing gritty pathways to prosperity

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mr. Gopalakrishna Pillai M, Kottinattu Bunglow, Kayamkulam
4.	Phone No	8281853351
5.	Age	75 years
6.	Education	M.com
7.	Land holding	1.00 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Program



a) FFP Interventions

Trainings, agricultural advisries and regular field visits, facilitated veterinary advisories and clinical assistance, Milch animals- 47 milking cows and 20 calves including Gir breed, Livestock based integrated farming system (LIFS).demonstrated HYV fodder crops (CO-3, CO-5, Susthira, Taiwan, red grass, hybrid napier, fodder maize), cow mat, mastitis prevention kit, pond fisheries, coconut(48 nos), vermicomposting units, azolla, biogas, hydroponics , cream separator for milk value addition, ornamental plants and HYV vegetable cultivation in 500 grow bags



b) Technology adoption

Full adoption of cow mat for drudgery and fatigue reduction of animals, continued adoption of other intervention such as clean milk production fodder crops and inter crops, coconut, vermicompost, milk value addition, pond fisheries adopted value addition of cowdung (otherwise difficult to manage for farm hygeine) getting Rs 20 per Kg for composted or shade dried cowdung- 5 tons per year. Adopted bio management in cowdung pits/ composite, breeding sites of rhinoceros beetle (major pest of coconut) using *Metarhizium* formulation.

c) Farming system and components (before and after FFP)

Prior to the implementation of the FFP, a significant knowledge gap existed in scientific know-how, skills to effectively manage livestock. Additionally, the marketing of milk was hindered by gaps in the supply chain, resulting in reduced profit. The farmer witnessed fivefold increase (by 8th year) in income compared to the pre-FFP period, due to adoption of innovative practices, technologies, value addition, and direct marketing strategies. Introduction of cow mats in the cattle shed, reduced lameness and foot-and-mouth disease, decreased drudgery in cleaning and maintenance, and enhanced protection of animals from the scorching summer heat. Cream separator and freezer value added as butter, ghee, curd production, chaff cutter from FFP for easy feeding of green fodder, bio gas plants for cooking gas and vermicompost and shade dried cow dung.Adopting metarhizium treatment in compost units and cowdung shed for bio management of rhinoceros beetle in breeding grounds.



d)Outcome and impact of FFP interventions

Prior to the Farmer FIRST Program (FFP), the farmer produced 158 liters of fresh milk per day. The FFP interventions significantly increased milk production to 384 liters per day. This substantial boost in milk production resulted in a notable net income of Rs. 72.88 lakhs per year. Value addition of milk by converting it into curd, ghee, butter and buttermilk yielded 20-22% increase in income. Moreover, by adopting direct marketing, ensuring the milk was unadulterated and produced under good agricultural practices, the farmer was able to command a premium price Rs.52 per litre. This approach resulted in a significant 32percent increase in price for every liter of milk sold. The other innovations are adoption of vermicomposting technology through which he is selling 5 tonnes of vermicompost @ Rs 25/kg. Maintaining hygiene and disposal of cow dung and cow urine in the farm was a challenge. The FFP exercise of the farm planning enabled him to intensify green fodder cultivation, hydroponics, 2 units of vermicomposting and shade drying of cow dung 1 tonne per year @ Rs 15/kg, which is of high demand. The IFS system is purely organic model comprising of organic vegetable cultivation, pond fisheries, biogas plant and supporting organic farmers through supply of vermicompost, enriched compost and liquid fertilizers. The organic residues and the farm waste are effectively recycled for additional income. Mr. Gopalakrishna Pillai, a proud FFP farmer, was felicitated with award as an "Innovative Farmer" on the 45th Foundation Day of the National Academy of Agricultural Research Management (NAARM), Hyderabad besides 28 awards in livestock and IFS category. These recognition and honors showed his urge in adopting innovative farming practices, showcasing his dedication to sustainable and profitable agriculture as a master /model farmer helping livestock farmers with experiential knowledge and tips.The net income is Rs.72.8 lakh and B: C ratio 1.8.





e)Innovations evolved:

The model serving as 'Farm school' supporting more than 1500 visitors per year including students, farmers, women SHGs and officials.

Innovation in increasing income to more than three to five fold with GAP(clean milk production, cowmat, milk value addition) and 32% more price through direct marketing.

Builded trust and reliability of customers by direct marketing of quality produces.

Master expert farmer enabling horizontal information dissemination of his experiential learning over the years.

Innovations in livestock management to optimise feed cost through combination of silage, green fodder, hydroponics and azolla demonstrated reduction in feed cost by 24 to 30 percent.



5. From Homestead farming to Successful Agri- business model through integration of farm components

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Siva Prasad. R, Puthoor Madom, Kareelakulangara
4.	Phone No	9446513616
5.	Age	50 years
6.	Education	B Tech, MBA
7.	Land holding	0.85 acre(0.35 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Need analysis for farm planning, training programs, critical inputs with farmers share, field visits, technology integration. Integrated management of coconut (34 Nos.), HYV intercrops (Vegetables, Ginger, Fodder, turmeric, sesame, tuber crops), Fish (biofloc unit + Aquaponics + homestead pond), Poultry (210 nos. breeds: Aseel, Indbro brown, Kadaknath, Giriraja, Kairali, Gramapriya), Freezer, Aquaponics system, Egg incubator of 120 egg capacity, Cows (3 nos HF and Jersey)

b) Technology adoption

The full adoption of inter crops , fish culture techniques, and poultry farming, organic recycling plan for homestead has revolutionized the agricultural landscape, fostering a thriving and diversified farming ecosystem in small holdings.





c) Farming system and components (before and after FFP)

Prior to the intervention, farmer faced numerous challenges that hindered productivity and profitability. Key issues included low institutional support, inadequate access to credit and extension services, and lack of market linkages, making it difficult to sell produce at competitive prices.The Farmer FIRST Program (FFP) interventions have catalyzed remarkable transformation in his livelihood. By leveraging initiatives in fish farming, poultry farming, integrated root (wilt) disease management, and promoting high-yielding varieties (HYV) of tubers and sesamum, he now enjoys a stable income stream of Rs.12.75 lakh/year, with B:C ratio of 2.1 from 1.25 in initial phase. This success has far-reaching implications, not only enhancing his livelihood but also demonstrating the program's potential for scalable, replicable impact.

d) Outcome and impact

Mr. Siva Prasad initiated his aquaculture venture with a biofloc unit comprising 8 tanks, capable of accommodating 1200 fish fingerlings. Adopting scientific cultivation methods, he successfully raised Assam vaala, Tilapia (*Oreochromis niloticus*), and Anabas (*Anabas testudineus*) with an initial investment of Rs. 28 lakhs and net income of Rs. 6.03 lakh/year. Through the Farmer FIRST programme, he received critical support to overcome initial challenges in marketing and storing

d) Outcome and impact (continued)

his fish produce. A freezer unit was provided, enabling him to better preserve fish harvested and enhance its marketability. Additionally, he received a small aquaponics system, enabling him to cultivate fish and grow organic, vegetables for household consumption. To further diversify farming operations, a well-established poultry unit with breeds Kairali, Kadaknath, Giriraja, Indbro Brown, Gramalakshmi, and Gramapriya, realizing income of Rs.107400/year supported with azolla unit. Under the Farmer FIRST Programme (FFP),an egg incubator with 120-egg capacity, for continuity of venture and supporting fellow farmers was provided

A novel waste management approach was introduced through the "Biopod" system, a low-cost, eco-friendly bio-composting method that utilizes Black Soldier Fly (BSF) larvae to decompose organic waste. These larvae serve as a nutritious, cost-effective alternative feed for fish and poultry, either directly or in dried form, thereby reducing feed expenses by Rs.1 per bird/day. Furthermore,one biogas plant was provided enabling profit of Rs. 32500/year by efficient management and recycling of kitchen waste. This young farmer also embarked on rearing indigenous cattle breeds and HF, ensuring a steady supply of milk and dairy products. Under the livestock module successfully cultivated fodder grasses like Susthira, Super Napier, and CO-5 reducing feed costs by 15 percent. Adopted integrated root (wilt) disease management practices of coconut management practices, as recommended by ICAR-CPCRI. and soil test-based, split applications of chemical fertilizers, yield increased from 1,650 nuts per annum to 2108, improving coconut income from Rs. 34,000 to 54000. Adopted IISR varieties of turmeric and CTCRI tubers such as colocasia and amorphophallus and KAU sesamum as inter crop in coconut garden. This approach not only enhanced s production and income but also contributed to diet diversification. The net income per ha is Rs.7.949 lakh and B:C ratio improved from 1.42 to 1.99 with integration.

e) Innovations evolved:

Innovated the homestead to 'FFP Farm School' in multiple mode of fisheries (Biofloc, aquaponics, pond fisheries, tank fish culture. Awarded as FFP best IFS farmer and recognition from local government.Technology backstopping from multiple sources, shifting to organic farming, maximizing income from diverse components reduced risks and climate resilience obtained, converted as a regular employment provider to three farm labourer.





06. Nutty success from coconut enterprises

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Radhakrishnan, Kareelakulangara, Pathiyoor
4.	Phone No	9446856231
5.	Age	54 years
6.	Education	B.Sc
7.	Land holding	0.37 ha
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme





a) FFP Interventions

Successful unit visits for experience sharing and learning, interface with post-harvest division scientists, established Virgin coconut oil unit, coconut based food products (Theeyal mix, Avalos powder, coconut chutney powder, fried coconut, coconut rice dough), Machinery(CPCRI VCO cooker, turmeric boiler), training, backstopping, visits, problem solving and hand holding.



b) Technology adoption

Successful integration of Virgin Coconut Oil (VCO) unit and coconut based food products unit into his farming operations, enabled to capitalize on the growing demand for coconut-based products. Added millet products along with curry powder(turmeric, ginger, rice procured from FFP farmers),PRAN branding of coconut products.

c) Farming system and components (before and after FFP)

The interventions empowered Mr. Radhakrishnan to establish a Virgin Coconut Oil (VCO) and coconut-based food product unit. These units enabled him to unlock the full potential of coconut crop, enhancing value addition @Rs. 35 per nut and adding his income. HY breeds of poultry and biopod for black soldier fly production initiated and adopted among 20 homesteads



d) Outcome and impact of FFP interventions:

ICAR Farmer FIRST Programme (FFP) interventions have yielded substantial financial gains for Mr. Radhakrishnan, with an additional income of Rs. 1.08 lakh per month. The value-added products marketed in the brand “PRAN”. He could obtain additional value of Rs. 20-40 per nut and total income of 14 lakh per year as a family venture with own shop for direct marketing, with net income of Rs.14.07 lakh and B:C ratio of 1.97. Integrated coconut products unit serves as a model demonstration enterprise managed by farm family, regular employment to two women. Serving as master trainer and farmer consultant in coconut products



e) Innovations evolved:

This unit showcased the utility of farm credit in growing an ordinary farmer to an entrepreneur without any debt converting to assets.Value addition of Rs. 20 to 35 per nut through product diversification. A model which showcased seven-fold increase in income. Products ranged from coconut, millet, turmeric, spices, rice in full-fledged mechanized mode serving as an experiential learning centre of farm entrepreneurship and mode of agricultural credit utilization for growth.

7. Integration in farming - creating wealth and health

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mrs. Indhira B., Kandathiltharayil, Pathiyoor
4.	Phone No	9947722454
5.	Age	60 years
6.	Education	Pre Degree
7.	Land holding	0.28 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Programme





a) FFP Interventions

Milch cows – 3 Nos. (HF &Jersy), Fodder (CO5), azolla and vermicompost units, vegetable gardens, milk products, coconut(40 Nos), pond fishery, HYV mixed crops (spices, pepper, arecanut), inter crops, poultry (80 birds), goat (5 Nos.), rabbit(12 Nos), Value addition of farm produces, Direct marketing

b) Technology adoption



Full adoption of coconut based integrated farming system(Root wilt disease management of coconut+HY inter crops+ Gramasree/-Gramapriya layer poultry+pond fisheries (Anabas+Pearl spot) +milk products, azolla, HYV fodder, HYV sesame (Kayamkulam 1 &Thilak), vermicompost units for recycling and reducing external input in agriculture.

c) Farming system and components (before and after FFP)

ICAR Farmer FIRST Program intervention has empowered the farmer with the knowledge and skills to adopt scientific management practices for cows and poultry rearing. The homestead unit equipped for Good Agricultural Practices(GAP) and reducing external input to the system. Integrated coconut root (wilt) disease management practices increased yield by 94 percent over Pre-FFP (32 to 60 nuts/palm/year), vermicomposting of all farm residues added value to cow dung and 100% organic manure requirement achieved, azolla and HYV fodder(CO-3 & CO-5)reduced feed cost by 15-22% of poultry and livestock, added arecanut(30 palms), intensified pepper (Panniyur & Karimunda) in all live standards, value addition of milk(curd, buttermilk) and direct marketing enabled.



d) Outcome and impact of FFP interventions:

The farmer's annual income from coconut doubled from Rs. 0.23 to0.54 lakh. Significant income derived from daily sales of milk, eggs, and milk products in local neighborhoods, generating Rs. 200-300 per day. Additionally, the farmer earns Rs. 3.6 lakh per year from milk, goat, rabbit sales, Rs. 20,000 per year from fisheries, and Rs. 0.70 lakh per annum from HYV inter-crops and sesamum, supported by the Farmer FIRST Program (FFP) interventions. The net income per ha is Rs.6.85 lakh and B:C ratio improved from 1.27 to 2.05.



e) Innovations evolved:

Innovated in redesigning the homestead garden utilizing ever inch of land with multiple crops regaining bio diversity of 102 crop plants, ornamentals, fruit plants, trees crops and trees, water plants etc.. More than 90 percent resource recycling achieved and awarded as the best women IFS farmer marketing every product and harvest through the farm shop in the plot.

8. Strength of innovations is the mark of sustainable small farmer

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Haridasan, Kannantharayil Puthenveed Karuvattamkuzhi, Kareelakulangara
4.	Phone No	0479 2473869
5.	Age	48 years
6.	Education	SSLC
7.	Land holding	0.32 ha
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Trainings, farm planning, recognition of the farmers as innovator, advisory services, Integrated management of root (wilt) disease of Coconut (26 Nos.), inter crops (banana, amorphophallus, sesamum, tubers, vegetables), introduced HYV of sesamum, biogas, seedling production and support for innovation

b) Technology adoption

Adopted an integration of ITKs and HYV of local vegetable for daily income. Adoption of HYV inter crops such as tubers and bananas, leased land cultivation of HYV sesamum, paddy and turmeric from FFP interventions. GAP for coconut as recommended by ICAR CPCRI.

c) Farming system and components (before and after FFP)

The Farmer FIRST Programme (FFP) proved to be a turning point for the farmer, as it prompted him to transition from traditional farming methods to diversified farming, focusing on 12 vegetables with local demand. With FFP's guidance, he began to manage crop residues effectively and introduced HYV tubers and banana. FFP evolved model with ITKs, local selection of HY varieties of tubers and vegetables, seedling production as terrace mode, direct marketing, betel vine in coconut and vermicompost + biogas plant.





d) Outcome and impact of FFP interventions:

Income sources include organic cultivation of winged beans @ Rs 80/Kg, Rs. 750 /month, a pink stemmed local amaranthus selected and multiplied by farmer himself of great demand and fetching an amount of Rs. 3000 per month. The base crop coconut (25 bearing) yielding average of 1500 nuts/ year generating income of Rs. 42,000. The homestead garden practices recycling kitchen waste, for biogas for cooking and biogas slurry for farming. This farmer evolved an innovation of ratooning of Nendran variety of banana which could not be ratooned usually. Once the mother plant is harvested, the remaining organic content of the rhizome is degenerated by adding salt crystals thus preventing further suckering. He successfully ratooned four sword suckers at a time with uniform growth and health proving the feasibility of his novel idea since Nendran variety is one of the costliest and high demanded variety for chips. He is also getting an additional income of Rs. 1.4 lakhs/year through homestead farming practices. Sesamum (Kayamkulam 1 & SVPR 1Var) providing income of Rs. 90000/annum. The net income per ha is Rs.6.58 lakh and B:C ratio increased from 1.63 to 2.30 doubling the farmer's income.

e) Innovations evolved:

Evolved innovative practice of ratooning of Nendran variety of banana and recycling kitchen waste, crop residues thereby recycling organic wastes, selection and multiplication of HY pink amaranthus from local variety over 12 years, utilizing every inch of land/space and fully family farming model of livelihood farming and direct marketing of farm fresh products with 30% more income. Demonstrated profitable multi crop based organic farming model for marginal land holdings

9. The woman entrepreneur solidified dreams to success

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mrs.Aisha Murali, Aisha Bhavanam, Arattupuzha
4.	Phone No	8547082523
5.	Age	57 year
6.	Education	Pre degree
7.	Land holding	0.07ha
8.	Knowledge sources	CFTRI, ICAR CPCRI Farmer FIRST Program,medical and nutrition experts, other entrepreneurs, Industries Department, Department of Agriculture, Research institutes, Social media



a) FFP Interventions

Trainings, linking with farm producers of FFP, provided LPG roaster, entrepreneurs meet organized, facilitated project proposal for assistance



b) Technology adoption

Processing of millet, rice, coconut, tubers, processing machines, branding, direct and agency based marketing. Punched her mark with high quality products of millet, honey, medicinal rice, sprouted and health mixes suited for various age categories.

c) Farming system and components (before and after FFP)

Processing and value addition activities identified as potential area of income generation. Value addition of coconut, millet, spices to curry powder, health mixes, diabetic health mixes, ready to use curry mixes, rice powder, ayurvedic products, USB in Jack, sweet potato and Nendra banana powders, ready to use and cook coconut based products/curry mixes, Onattukara sesamum(GI crop) special products, Sprouted grains and organic products mainly marketed with good demand from consumers.

d) Outcome and impact of FFP interventions:

The income ranged from Rs.9.8 lakh per year through processing and value addition. Started in 2019, but due to COVID 19 could not proceed as expected and restarted in 2021 and progressing as expected. Product range from various farm harvests are 21 numbers branded as DRUPAGAYA. Providing regular employment directly to three persons and indirect employment to 6 rural women. The net income of the unit is Rs 15.4 lakh per year.

Marketing through kudumbasree home shops, traders, marketing agencies, social media, direct selling, exhibitions, state and national level



e) Innovations evolved

Innovations in premium organic products, millet health mix product, utilization of GI sesamum for unique product formulation development. Major recognition for innovations were Unique product developer award and Selected for the National Jagrithi yatra of entrepreneurs, Saras mela participant.

10. Integrated farming by rural youth- Key to sustainability

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Rajesh. R, Varickolil house, Pathiyoor
4.	Phone No	9447039862
5.	Age	41 years
6.	Education	Diploma
7.	Land holding	2 acre
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Farm planning, training, regular and need based advisory services, Critical input, Market strategies for small farmers, ICAR CPCRI root (wilt) disease management for Coconut (75 Nos.), HYV Intercrops (Vegetables, Ginger, Fodder, turmeric, tuber crops), Dairy unit consists of 7 milch cows, cowdung value addition, 25layer birds (Gramasree, Gramapriya), vermi composting, tender nut farming, pepper

b) Technology adoption

Coconut based integrated farming system, HYV fodder cultivation and sustainable inter crops and adoption of cow mat to reduce drudgery and fatigue in animals, vermi-composting, tender nut coconut varieties, layer birds, pond fisheries, Pepper as spice intercrop



c) Farming system and components (before and after FFP)

Adoption of direct marketing in the homestead for farm and dairy products increased income by 30 percent. The adoption cow mat and mastitis prevention kits managed disease incidence. The IFS components were increased from 6 to 12 with technology adoption. Farm planning based targeted income of Rs. 75000 per month achieved through FFP interventions in 250 pepper standards, doubling coconut income from Rs. 55800 to 1,08,750 (productivity from 32 nuts to 58 nuts/annum/palm), direct marketing, value addition of milk, fodder marketing.

d) Outcome and impact of FFP interventions:

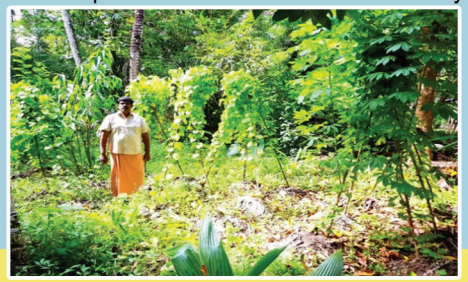
The farmer achieved remarkable financial success, generating an impressive average annual income from diverse enterprises. The dairy unit yielded Rs. 3.16 lakh with HYV fodder cultivation. Additional income streams included Rs. 108750 from coconut, Rs. 20,500 from banana cultivation, Rs. 12,500 from vegetable cultivation, Rs. 10,080 from poultry, and Rs. 55,400 from inter crop cultivation of ginger, turmeric, and other tuber crops. Notably, direct marketing of dairy and farm products boosted income by 30 %, while the adoption of like cow mat, mastitis prevention kit, and fodder cultivation minimized disease incidence and costs. The farmer gained confidence and awarded twice as best farmer of panchayat. The net income per ha is Rs.7.07 lakh and B:C ratio improved from 1.48 to 2.31. High intensification, family labour and low external input leading to threefold increase in income.

e) Innovations evolved:

Innovation in farm planning with targeted income. Selection of crops (pepper, cassava), low external inputs (organic recycling, vermi compost), Scientific cultivation of HYV fodder increased livestock productivity and profitability by 18% and feed cost reduction is 15%. This multi-faceted approach ensured steady income, mitigated risks of monoculture, and created a resilient and dynamic farming system, leading to direct marketing ensuring source credibility and dissemination of technologies and seeds/planting materials to fellow farmers. Introduced 1/3 rd of coconut with tender nut dwarf varieties for earning after two years onwards, reducing the waiting period of coconut yield.

11. Tree crop mix is the trump card (Coconut + Nutmeg + Garcinia)

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Rajesh Ramanujan, Moolasseril House, Pathiyoor
4.	Phone No	9446339922
5.	Age	50 years
6.	Education	Graduate
7.	Land holding	1.98 acre(0.8 ha)
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Programme



a) FFP Interventions

FFP interventions in ICAR CPCRI technology adoption, Trainings, Extension literature, regular advisory services, Integrated nutrient management of Coconut (70 Nos.), Arecanut (75 Nos), Nutmeg (70 Nos), HYV intercrops (Ginger, turmeric, tuber crops), Garcinia (20 Nos)

b) Technology adoption

Successfully adopted tree based cropping system (Coconut+ Nutmeg + Garcinia), integrated high-value crops such as ginger, turmeric, and other tuber crops within the coconut gardens. Integrated root (wilt) disease management adopted gaining health of palms and doubled income.

c) Farming system and components (before and after FFP)

The FFP interventions played a pivotal role in transforming the coconut garden's productivity and profitability by adopting root (wilt) disease management, processing of garcinia and nutmeg products and marketing introduced by FFP. Scientific management practices based on advisories improved yield and reduced yield loss due to nutrient deficiency (Fruit fall).





d) Outcome and impact of FFP interventions:

An average annual farm income of Rs. 1.12 lakhs from Nutmeg, Rs. 0.91 lakh from coconut, Rs. 0.54 lakh from Arecanut, Rs. 0.2 lakh from Banana cultivation, Rs. 0.85 lakh from inter crop cultivation including ginger, turmeric, other tuber crops and garcinia with the net income per ha is Rs.4.521 lakh and B:C ratio of 1.92. The demonstration of tree crop combination is a unique model evolved suitable for the FFP localities ensuring steady income, processing and marketing when optimum price is realized.

e) Innovations evolved:

Coconut based tree crop combination model demonstrated with garcinia and arecanut (border crop) and nutmeg in coconut palms for sandy loam soil Onattukara region. This plot serves as farm school for tree based croping system model FFP coconut farmers. Evolved as a farmer leader (director board member) in FFP FPO.

12. Integrated Farming System – high harvest from small holding

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Muraleedhara Panicker, Ambadiyil, Pathiyoor
4.	Phone No	8281961065
5.	Age	46 years
6.	Education	SSLC
7.	Land holding	1.60 acre(0.65 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme

a) FFP Interventions

Training, regular advisories and technology hand holding, Integrated management of Coconut (110 Nos.), HYV Intercrops (Vegetables, Ginger, Fodder, turmeric, tuber crops), Dairy unit consists of 3 milch cows, Poultry unit (80layer birds), Fish Pond (300 nos)

b) Technology adoption

Full adoption of coconut root (wilt) management practices, HYV fodder and inter crops, pond fishery with Anabas, Gramasree/ Gramapriya layer birds. Revived the IFS components with scientific management

c) Farming system and components (before and after FFP)

Coconut based homestead farming revived to IFS unit with FFP component interventions HYV intercrops, root (wilt) disease management practices for coconut palms, fresh water pond fish culture, market led extension and livestock interventions after FFP implementation





d) Outcome and impact of FFP interventions:

Average annual farm income of Rs. 1.23 lakh from coconut, 1.05 lakh from dairy unit, Rs. 1.44 lakh from poultry unit, Rs. 31250 from Banana cultivation, Rs. 12500 from fisheries, Rs. 30750 from intercrop cultivation including vegetables and tuber crops. Direct marketing of dairy products enabled 25% more income and scientific adoption of cow mat, mastitis prevention kit and fodder cultivation reduced the disease incidence and cost minimization by 10-12 percent. The farmer achieved 2.8 fold increase in farm income with the net income per ha is Rs.5.869 lakh and B:C ratio of 1.89.

e) Innovations evolved:

Adoption of scientific cultivation of fodder crops and intercrops in coconut garden. Introduction of cowmat substantially reduced animal drudgery, providing a more comfortable and hygienic living environment for the cattle.

Innovating time and resource management in terms of recycling, technology adoption and direct marketing are success keys of marginal holdings.

13. Organic farming through integrating coconut based IFS

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Jayakumar.N, PunnoorMadom, Pathiyoor
4.	Phone No	9496535003
5.	Age	61 years
6.	Education	M. Com
7.	Land holding	0.60 acre(0.25 ha)
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Programme



a) FFP Interventions

Trainings, regular field visits, advisory service at doorstep, extension literature, demonstration plots, networking FFP farmers, Good Agricultural Practices in Coconut (35 Nos.), HYV intercrops (Vegetables, Ginger, turmeric, tuber crops), Dairy unit consists of 2 desi milch cow and pond Fish culture

b) Technology adoption

Full adoption of fodder crops and intercrops and organic farming practices in coconut garden. Active participation in FFP training programs and interventions.

c) Farming system and components (before and after FFP)

Through active participation in the Farmer FIRST Programme (FFP) intervention, the farmer successfully adopted organic farming methods and Good Agricultural Practices (GAP) in coconut garden. These strategies doubled yield and income, with additional income from fish cultivation and intercrops. The indigenous cow enabled vermicomposting and recycling of farm residues for low external input agriculture. Demonstrated yield increment in hybrids, dwarfs and west coast tall coconut varieties under GAP recommended by ICAR CPCRI





d) Outcome and impact of FFP interventions:

An average farm income of Rs. 1.08 lakhs from dairy unit and sale of desi calves, Rs. 39200 increased to Rs.52400 from coconut, Rs. 15000 from Banana cultivation, Rs. 1.02 lakhs from intercrop cultivation including vegetables, ginger, turmeric and other tuber crops and Rs.5000 from fish. The adoption of direct marketing strategies for dairy products yielded a substantial increase in income. Concurrently, the scientific adoption of innovative technologies such as Cowmat and mastitis detection kits benefited. Organic coconut tender nuts and mature nuts demand was encouraging with 20% additional price. The coconut yield improved by 92% (post FFP) with coconut root (wilt) disease management. The net income per ha is Rs.5.07 lakh and B:C ratio is 1.83 doubling the total income.

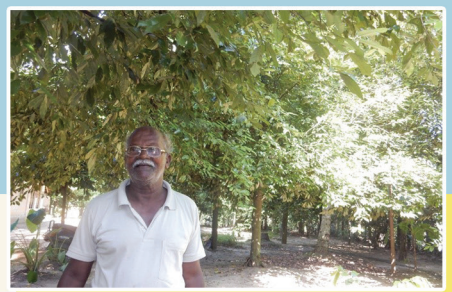
e) Innovations evolved:

Innovation of organic coconut cultivation using resource value addition with indigenous cow, organic tender nut and mature nut marketing and modelled tender nut production in homesteads with dwarf green and orange varieties and hybrids.



14. Diversified Farming: A Woman Farmer's Journey

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mrs. Nisha.S (D/o Mr. Sarasan), Ayyathu House, Pathiyoor
4.	Phone No	9495044311
5.	Age	35 yeras
6.	Education	Degree
7.	Land holding	1.02 acre(0.41 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme





a) FFP Interventions

Field visits, regular advisory services, training programs, selection of mother coconut palms, Coconut (55 nos), Nutmeg (15 nos), Banana (10 nos), Arecanut (28 nos), Poultry 30 nos ,Vegetables



b) Technology adoption

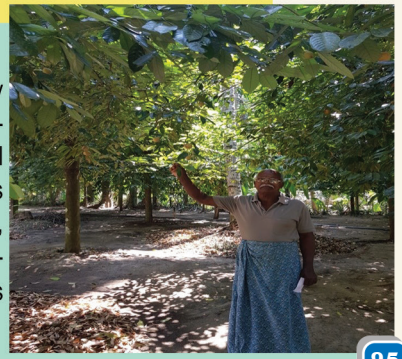
Adoption of tree crops in coconut gardens and customized the nutmeg growing in sandy loam soil and demonstrated. Participated in FFP training programs and adopted integrated root (wilt) disease management, healthy mother palm (WCT) population managed

c) Farming system and components (before and after FFP)

Before FFP, farmer faced concerns of limited access to extension support services, which made it difficult to receive timely guidance on best practices, new technologies, and market trends. Adopted intercropping and coconut root (wilt) disease management. FFP enabled decentralized root (wilt) disease free seedling production, primary processing of nutmeg, HYV intercrops and organic coconut oil preparation and marketing.

d) Outcome and impact of FFP interventions:

With FFP interventions like field visits, advisory service, integrated coconut root (wilt) disease management (IRWDM), FPO linkage, providing critical input, trainings, extension field support, she is getting annual income of Rs. 177532. Additionally, poultry unit, vegetables and other intercrops contribute Rs. 31000/year with the net income per ha is Rs.4.08 lakh and B:C ratio of 1.94.



e) Innovations evolved:

Coconut-nutmeg combination crop suitable to Onattukara sandy loam soil demonstrated.

Good management of WCT coconut reduced root(wilt) disease by 65-90 percent and yield more than 90 percent.

Disease free mother palms seednuts earned 50% more price than ordinary harvest nuts.

Serving social responsibility to fellow marginal land holders as master farmer of coconut nutmeg cropping system..

15. The tender coconut man and model innovator

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Soman.K, Koippallil, Pathiyoor
4.	Phone No	9946639787
5.	Age	62 years
6.	Education	SSLC
7.	Land holding	0.90 acre(0.36 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Documented successful innovations, trainings & FGDs, advisory services, linkage with farmers, Management of Coconut palms (10 nos), intercrops like Pepper (15nos), ginger (100 grow bag), Banana (18nos) turmeric and vegetables. HYV Paddy cultivation is one of the major cultivation practices in leased land

b) Technology adoption

Full adoption intercrops such as tuber crops, vegetable and pepper in coconut gardens, root (wilt) disease management in coconut, HYV paddy, drudgery reduction device refinement in tender nut cutting, awareness building on tender nut consumption, pink coconut selection and popularization, mapping of palms with good quality tender nut and seedling production.

c) Farming system and components (before and after FFP)

The technology access improved quality and quantity. Leased paddy cultivation with HYV (KAU) under group farming initiated. Tender nut cutting machine refined and made women friendly. Pink coconut for tender nut purpose with medicinal qualities mapped in FFP area and seedlings produced for further area spread. CPCRI researchers evolved research studies on this pink perianth WCT palms, based on his inputs.



d) Outcome and impact of FFP interventions:

Coconut cultivation and tender nut marketing provided an annual income of Rs. 265,000, while rice cultivation on both owned and rented land Rs. 1,34,000 per annum. Furthermore, the cultivation of vegetables, poultry, banana and pepper contributes an additional Rs. 13,600 to his annual net income per ha is Rs.4.06 lakh. This diversified income stream has enabled Mr. Soman to achieve a total annual farm income of more than Rs. 10 lakh and earned title of "Tender coconut man of Onattukara"

e) Innovations evolved:

Innovation in changing primary product of coconut to tender nut from mature nut enhanced his income fourfold, enabled mapping of best tender nut palms in block panchayath. Served as technology disseminator to farming community linking FFP, CPCRI and local panchayaths. Innovation in evolving tendernut cutter to reduce drudgery, safety and women friendly at low cost. Mapped tender nut coconut palms of the Muthukulam block Received 12 awards from various organizations.

16. Passionate and profitable family farming

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Bhasuran, Malayilvadakkethil, Pathiyoor
4.	Phone No	9605867519
5.	Age	53 years
6.	Education	ITI
7.	Land holding	0.60 ha(0.25 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Training program, IFS demonstration, terrace based poultry modelling, integrated management of Coconut(40), milch cows (9 Nos.), HYV spices (turmeric, ginger, pepper) tuber crops, vegetables, poultry (40 layer birds), azolla unit, cow mat, HYV fodder crops, betel vine unit

b) Technology adoption

Full-scale adoption of HYV intercrops, high yielding breeds poultry layers (BV 380, Gramasree, Gramapriya), scientific management of coconut palms enabled 2.2fold increased coconut yield. Betel vine adopted in coconut garden, adopted IISR Pragati and Prathibha turmeric varieties and evolved as a turmeric expert farmer and master trainer.

c) Farming system and components (before and after FFP)

Prior to the Farmer FIRST Program, farming practices were rooted in tradition, relying solely on native local poultry breeds and conventional coconut cultivation methods. The introduction of improved poultry breeds and vermicompost production, root (wilt) disease management of coconut, ICAR-IISR varieties of turmeric (Pragathy and Prathibha), cowmat and mastitis prevention kits for livestock, betel vine and arecanut as intercrops.



d) Outcome and impact of FFP interventions:

The integrated farming system has yielded a substantial annual income of Rs. 7.6 lakh. Additional income from HYV turmeric was Rs. 2.5 lakh per annum. Key factors contributing to this increase include the adoption of new breeds of poultry layer birds, expansion of area under spices and tubers, use of cow dung and poultry manure as fertilizers, and scientific management of coconut cultivation. The income improvement was 3.7 fold compared to pre FFP with net income per ha is Rs.8.04 lakh and B:C ratio of 2.18.

e) Innovations evolved:

Through training programs and experience-sharing sessions with fellow farmers, as master farmer in turmeric cultivation.

Demonstrated the potential of ICAR IISR turmeric varieties in Onattukara sandy loam soils.

Enabled area expansion through quality seed/planting material of turmeric facilitated by CPCRI FFP to 68 ha among 482 farmers, within 2 years of introduction.

Quality, source credible turmeric powder value addition achieved for self-sufficiency in convergence with producers, Kudumbasree/FFP, local panchayat.

17. Poultry in house terrace – Customized urban model

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Sasheendran, Ward 16, Pathiyoor
4.	Phone No	8592895244
5.	Age	55 Years
6.	Education	Graduate
7.	Land holding	0.04 ha
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme, Veterinary hospital



a) FFP Interventions

Trainings, advisories, extension literature, Poultry (150 birds) and poultry manure processing



b) Technology adoption

Adopted scientific customized poultry rearing (selection of high-yielding breeds, balanced nutrition and health management), azolla, poultry manure processing

c) Farming system and components (before and after FFP)

Before the project implementation, poultry farming operations were characterized by the rearing of local native breeds, devoid of scientific methods. FFP interventions were azolla production, poultry manure processing/composting.

d) Outcome and impact of FFP interventions:

To overcome the limitations of sub-marginal landholding size, The farmer successfully customized a terrace-based poultry farming system. This innovative approach generated an income of Rs. 2.5 lakh per annum. Key contributors to this growth include the addition of new breeds of layer birds, composting of poultry manure, and the integration of azolla, a nutrient-rich feed supplement. The B:C ratio of 1.79 was obtained in this family venture

e) Innovations evolved:

Customized terrace model cage rearing of layer birds suited for individuals without cultivable land holding, also protection from stray dogs, snakes and other predators. Poultry manure processing fetched additional 25 percent income and growbag vegetable and ornamental crops for home purpose. The innovative model was rated as highly suitable for students and women also to integrate in terrace farming. as a component or sole unit.

18. Coconut value addition-income and nutrition for consumers

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Sasikumar, Panickasseril house, Devikulangara
4.	Phone No	9747105922
5.	Age	61 years
6.	Education	B. Com
7.	Land holding	0.3 ha
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Training program, technology back stopping, field visits for problem diagnosis, networking with coconut enterprises. Modernized existing unit with an electric copra dryer of 1000 nuts capacity and a copra cutter. The products added were virgin coconut oil (VCO), curry powder, coconut chutney powder, coconut rice powder snacks, organic pepper and turmeric powder



b) Technology adoption

Modernized existing unit with an electric copra dryer of 1000 nuts capacity and a copra cutter for hygienic and quality copra production. Adopted Virgin Coconut Oil cooker for technolgy based quality VCO production.

c) Farming system and components (before and after FFP)

The existing unit underwent a significant transformation with the introduction of VCO electric cooker, coconut milk extractor, electric copra dryer and copra cutter, enabling the production of high-quality copra and coconut oils.. The new product line includes virgin coconut oil (VCO), curry powder, coconut chutney powder, coconut rice powder snacks, organic pepper and turmeric powder. These innovations expanded its product portfolio, catering to diverse market demands and increasing revenue potential. The system includes 52 coconut, 60 pepper, vegetables and tubers for home consumption.

d) Outcome and impact

The average monthly income improved to Rs. 1.3 lakh as per the demand of coconut products, since it is a family involved enterprise. The up gradation of machinery and introduction of new value-added products has had a transformative impact on the farm family, leading to a significant enhancement in overall income and well being. Net income is Rs 3.683 lakh/ha from farming components excluding entreprise and B:C ratio improved from 1.04 to 1.72. Procurement of fresh coconut from 50 coconut growers around the unit provided them Re.1 per nut addition in price.



e) Innovations evolved

Shifted coconut coir products to Coconut oil, Virgin Coconut Oil and coconut- based food products in view of the changed scenario of coir processing.

Local procurement added Re. 1 per nut to the farmers and ensured the source of raw material improving the product acceptance among customers.

19. Integrated farming system

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Chandrabhanu, Kaliyikkamadam, Pathiyoor
4.	Phone No	9497176491
5.	Age	37 years
6.	Education	B.Com
7.	Land holding	1 acre(0.4 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme, Veterinary hospital



a) FFP Interventions

Coconut(65 Nos.), Cows (5 Nos.), Nutmeg (30 Nos.), Banana (130 Nos.), HYV turmeric, tuber crops, vegetables and fodder, cow mat

b) Technology adoption

Full adoption a holistic Integrated Farming System (IFS), with coconut cropping system and livestock. Adopted HYV of inter crops, cow mat, tissue culture of banana, nutmeg grafts, fodder maize(CO-3, CO-5) .



c) Farming system and components (before and after FFP)

ICAR Farmer FIRST Program (FFP) interventions have empowered him to scientifically integrate livestock and fodder cultivation with coconut and inter crops, creating a thriving and diverse farming system. HYV fodder, significantly reduced livestock feed expenses. Additionally, FFP- promoted HYV of inter crops like banana, tuber crops, and vegetables. Cow mats reduced drudgery and facilitated animal comfort. Cow dung value addition as shade dried and vermicompost units. Coconut production improved by 82% adopting integrated management of coconut root(wilt) disease.

d) Outcome and impact of FFP interventions:

He earns around Rs. 88,900 from coconut per year through integrated root (wilt) disease management and Rs. 4,98,000 from livestock unit and an average of Rs. 62,000/- from scientific fodder cultivation. He cultivated different HYVs of fodder released from TNAU and KAU as part of the participatory demonstration of FFP. The feedback is high production in fodder cultivation and thereby feed expenses on livestock farming reduced by 28 per cent. Adding to the income were inter crops like banana, tuber crops and vegetables also provides fresh and safe food for the family. The net income per ha is Rs.3.53 lakh and B:C ratio improved from 1.26 to 1.99 and increased his income by 2.3 folds.

e) Innovations evolved:

High income from small farm. Adoption of appropriate technology integration, HYV of inter crops, Integrated root (wilt) disease management of coconut, organic residue value addition and recycling for low external input systems and direct marketing of farm produces are the innovations.

20. The master duck man of FFP – resourceful income generation

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Radha Krishnan, Mannolitharayil, Pathiyoor
4.	Phone No	9562173042
5.	Age	62 years
6.	Education	High school(9th standard)
7.	Land holding	0.19 acre(0.08 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme, Veterinary hospital



a) FFP Interventions

Coconut (8 Nos), Duck- Chara & Chempally (300 Nos),Banana (60 Nos.), egg incubator semi-automatic-500 egg capacity(2 Nos) ginger, turmeric and tuber crops(for home consumption)



b) Technology adoption

Duck based integrated farming system, integrating duck rearing, egg incubator, coconut, banana, tuber crops, and other complementary crops for home.

c) Farming system and components (before and after FFP)

Submarginal land holding technology integration: Duck (Chara & Chempally)- free range, housing near farmer dwelling, utilizing Pathiyoor river and paddy basins, egg incubator for duck(200-300 ducklings per incubation) and homestead crops.

d) Outcome and impact of FFP interventions:

Annual income from direct egg and duckling sales and free ranch duck rearing (500 no.) averages to Rs. 10,28,000. The incubator units provided under the Farmer FIRST Program (FFP) has significantly enhanced his income through quality duckling production, and duck meat. In every year 5 batches of 300 to 350 ducklings of Chara and Chempally which are bird flu disease tolerent are hatched out and the sale of 60 days old ducklings @ Rs. 90 with high demand. The integrated farming system, includes inter crops like turmeric and tuber crops in coconut garden and grow bags provide produces for home consumption. The net income per year is Rs.7.62 lakh and B:C ratio of the unit is 2.41

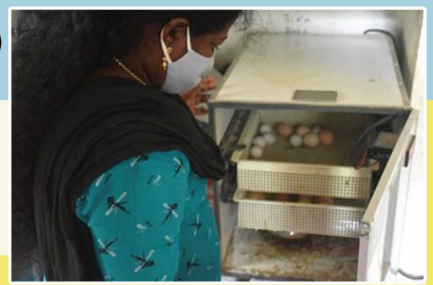
e) Innovations evolved:

Innovative technology option for submarginal land holdings evolved in terms of expertise in duck rearing and duckling production serving 30-50 homestead farmers with ideal resources. The farm family utilizes the paddy fields and open river portions(free range), mutually benefiting paddy farmers also. Developing a master farmer in duck rearing benefiting more than 500 small and marginal homesteads adopting small scale backyard duck rearing.

21. A landless woman agriculture labor turned farm entrepreneur

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mrs.Raji.K, BijuBhavanam, Ramapuram, Pathiyoor
4.	Phone No	8606402141
5.	Age	45 years
6.	Education	Pre - Degree
7.	Land holding	0.12 acre + leased land (2 acres) (0.86 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme





a) FFP Interventions

Vegetables, Ginger, turmeric, tuber crops, poultry along with incubator unit (1 nos).



b) Technology adoption

Full adoption of scientific cultivation practices for HYV of vegetables, turmeric, sesamum, pulses and HY poultry breeds(Gramasree, Gramapriya) with an egg incubator significantly enhanced income and efficiency.

c) Farming system and components (before and after FFP)

Pre FFP intervention, the farm income was meager, relying mainly on agricultural labor and MGNREGS. However, the FFP intervention marked a significant turning point, boosting her income substantially. FFP introduced "Farming as an Enterprise" idea using technologies and leased land farming to overcome the landless status of the farmer, leased land farming with scientific cultivation practices and HYV enabled to harvest 80% of potential yield. Adoption of HYV vegetables, sesamum, turmeric was critical in income improvement. 50 nos of layer birds, semi automatic egg incubatorenabled daily and regular income.



d) Outcome and impact of FFP interventions:

With comprehensive support of FFP, her status changed as farm entrepreneur. Training programs, demonstrations, and marketing linkages provided under FFP empowered her to adopt good practices. Additionally, the introduction of high-yielding varieties (HYVs) of turmeric and ginger, coupled with egg incubator(semi automatic) and expansion of poultry as a micro-enterprise,enhanced the annual income to Rs. 4,23,830. Diversification of farm components, HYV of 28 vegetables, vegetable seed/seedling production, HYV sesame, value added products has yielded impressive results, with a total annual net income of Rs. 4.00 lakh per ha.The B:C ratio was 2.4

e) Innovations evolved:

Landless women farmer entrepreneurship model with integration of HYV crops, technologies, diversified crops, direct marketing is the innovation. The combination of information sources including Department of Agriculture, ICAR FFP, veterinary clinic, farmers social media network, private input providers innovated her technology savvy and confident in technology adoption.

22. Small farm for sufficient income - Dairy, direct marketing, HYV fodder

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Babu Panicker, Kozhisseril House, Pathiyoor
4.	Phone No	9495776698
5.	Age	63 years
6.	Education	Diploma
7.	Land holding	0.75 acre (0.304 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme, Veterinary clinic



a) FFP Interventions

Farm planning facilitation, training programs, technology backstopping. Coconut root (wilt) disease management (50 Nos.), HYV inter crops (Vegetables, Ginger, Fodder, turmeric, tuber crops), Dairy unit consists of 8 milch cows, cow mat in cowshed, HYV fodder, Pond fisheries.

b) Technology adoption

Full adoption of HYV fodder crops and inter crops in coconut garden. Participated in FFP training programs and adopted IFS concept and farm planning based technology integration.

c) Farming system and components (before and after FFP)

Increased the number of cows, adopted integrated root (wilt) disease management, organic vegetable and fodder cultivation practices. The farmer adopted organic recycling including Good Agricultural Practices using cow mats and HYV fodder cultivation, pond fisheries and sustainable inter crops in coconut garden. Refined marketing strategies with direct marketing and value addition of cow dung and as compost, milk (curd, ghee) adopted.

d) Outcome and impact

An average farm income Rs. 5.81 lakhs from dairy unit, Rs. 44000 from coconut, 21500 from vegetable, fish and seedling production, 35400 from inter crop cultivation including ginger, turmeric and tuber crops. Monthly additional income of Rs. 10000 earned from the sale of dried cow dung. Direct marketing of dairy products made 28 percent income increase and scientific adoption of cow mat, mastitis kit and fodder cultivation reduced the disease incidence and cost minimization respectively. The net income per ha is Rs.7.252 lakh and B:C ratio improved to 2.05 from 1.2.



e) Innovations evolved

Hygiene and income through composting and shade drying of cow dung.. HYV fodder crops as inter crop reduced cost by 18 percent and vegetables seedling production added 20 percent to income. Learning from fellow farmers lead to purposive networking. IFS concept through farm planning reduced external input cost by 47 percent.

23. Silent success of educated rural youth from mushroom and products

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mrs. Minimol, Puthentharayil, Puthuppally
4.	Phone No	9562059449
5.	Age	47 years
6.	Education	B.Sc
7.	Land holding	0.3 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Programme





a) FFP Interventions

Mushroom unit and modernization, Value addition

b) Technology adoption

Adopted mushroom unit and scientific practices(mist facilities), mushroom soup powder and cutlets

c) Farming system and components (before and after FFP)

ICAR Farmer FIRST Programme (FFP) intervention has empowered Mrs. Minimol to establish a mushroom unit with enhanced capacity. The intervention provided critical technical support, enabling her to adopt market-oriented production and value added products. Doubled adoption of beds(200 to 400 nos), modernized facilities, mushroom dryer, food processing, vermicomposting of mushroom residues.

d) Outcome and impact of FFP interventions:

Mrs. Minimol's life took a transformative turn after attending a training program on 'Scientific Mushroom Cultivation'. She initiated her mushroom cultivation journey with a single shed, measuring 8m x 2.5m. The ICAR Farmer FIRST Program (FFP) interventions played a pivotal role in expanding and modernizing her operations, significantly reducing drudgery in the mushroom production process. To boost production, an additional unit measuring 8m x 3m was set up, enabling her to double her output of fresh mushrooms. Moreover, she diversified her products by introducing mushroom cutlets, mushroom powder, soup mix resulting in 38% increase in income. Currently, Mrs. Minimol produces 45-60 kg(Rs. 20,000) of mushrooms monthly, fetching Rs. 400 per kg, and 150 mushroom cutlets at Rs. 20 each monthly. Her monthly earnings range from Rs. 23,000 to Rs. 30,000. To further enhance her products, an electric drier was installed for producing dried mushroom powder, particularly during peak production seasons. The FFP also supported the installation of an automatic misting system, which has reduced drudgery and increased production by 15% in the initial phase. Achieved net income per ha is Rs.6.08 lakh and B:C ratio of 2.2 from 1.7.

e) Innovations evolved:

Rural innovation in mushroom with different substrates(wood shavings, banana, coconut organic parts).

Demonstrated viability of technology based mushroom high income from small area.

Model for educated young women farmers as a master farmer, time and resource management, direct marketing initiatives.

24. Women farmer demonstrated scientific farm planning for coconut based integrated system

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mrs. Sreevidhya. S, Vaishnavam House, Pathiyoor West.
4.	Phone No	9496114968
5.	Age	42 years
6.	Education	Post Graduate
7.	Land holding	1.5 acre(0.61 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Training programs in fields, FGDs, women farmers interface,Integrated root (wilt) disease management for Coconut (85 Nos), HYV Inter crops (Banana, Tuber crops, Vegetables, Pulses, Turmeric etc.), Open precision farming

b) Technology adoption

Full adoption intercrops such as tuber crops, open precision farming vegetable, sesamum and pulses in coconut gardens, coupled with meticulous farm planning, pond fisheries revolutionizes the traditional coconut monoculture system.

c) Farming system and components (before and after FFP)

Prior to the Farmer FIRST Program, the adoption of recommended farming practices was relatively low (23%). The FFP interventions proved to be a game-changer transforming the homestead coconut gardens into scientific farm units. Adopted FFP's evidence-based practices, such as integrated root (wilt) disease management in coconut, open precision farming, pond fisheries, intensive inter cropping which enabled maximum utilization of resources

d) Outcome and impact

An annual average income of Rs. 1.24 lakh from coconut production and Rs. 27,000 from value addition as coconut oil. Adoption of organic recycling reduced cost of INM by 38 percent. An average income of Rs. 50000 could be achieved from banana cultivation and Rs. 40000 from tuber crops, Rs.0.25 lakh have derived from turmeric and Rs. 69000 from open precision vegetable system. The net income per ha is Rs.6.17 lakh and B:C ratio improved to 2.2 from 1.31.



e) Innovations evolved

Farm planning facilitated to evolve customized innovation for small holdings, to maximize agricultural productivity from unit area. Women farmers innovated in terms of groups, clustering expertise to develop and marketed ayurvedic coconut oil preparations and marketing. Direct marketing of fresh vegetables contributed to 25 per cent additional price.

25. Women friendly poultry venture- young lady leading by example

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mrs. Athira, Kommalath House, Karuvattamkuzhi, Pathiyoor
4.	Phone No	9048533703
5.	Age	41 years
6.	Education	B.Sc (Zoology)
7.	Land holding	1.35 acre (0.55 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Trainings, field visits, awards for best women farmer, Poultry birds (48 nos), disease management of root (wilt) affected coconut palms (122 nos), HYV inter crops (vegetables, dioscorea, pulses, tuber crops.), breeds of hen/ Duck (50 Nos each).

c) Farming system and components (before and after FFP)

Prior to participating in the Farmer FIRST Programme (FFP), she relied on traditional farming methods and unscientific backyard poultry practices. Through the Farmer FIRST Programme (FFP), she received critical inputs and adopted management of coconut root (wilt) disease, introduced high-yielding varieties of pulses, tuber crops, and vegetable cultivation, leading to improved productivity and diversification, including 50 HY breeds of poultry layers (Giriraja, Gramasree, Gramapriya) and 50 Chara/Chempally ducks and 10 goats.



b) Technology adoption

TFull adoption- inter crops such as tuber crops, vegetable and pulses in coconut gardens. Women managed poultry based integrated farming system model

d) Outcome and impact

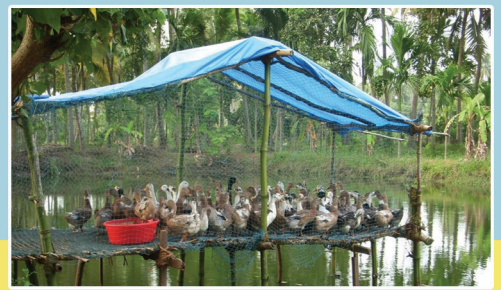
The farmer generated an annual additional income of Rs. 42,000 from coconut (88 percent increase). Poultry and goat rearing is key to sustainable income for the farmer, generates an average annual income of Rs. 108,500 through the sale of eggs, poultry meat, goats. The integrated farming system, which incorporates vegetables, tuber crops, and other inter crops in the coconut garden, added income of Rs.48000 reducing household expenses. The net income per ha is Rs.3.94 lakh and B:C ratio achieved is 2.03 from 1.27.

e) Innovations evolved:

Evolved a self-sufficient, young women-managed integrated farming system that thrives on minimal external inputs, maximum use of resources. Key features include diversified farm components, efficient organic waste utilization, and direct marketing, resulting in enhanced earnings and sustainability.

26. Small holding evolved for high income model

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mr.Babu.M, Thekkekalathattil, Govindamuttam PO, Devikulangara
4.	Phone No	9447505325
5.	Age	60
6.	Education	Degree
7.	Land holding	1.65 acre (0.67 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Integrated Root Wilt Disease Management of Coconut(125 Nos.), bush pepper-Panniyur(250 Nos.), Banana(80 Nos.), Arecanut (60 nos), poultry(40 nos), exotic fruit trees (rambootan, miracle fruit, soursop) tuber crops and vegetables, pond fisheries, protected cultivation of vegetables, stingless bees(7 colonies)

b) Technology adoption

Full adoption of HYV inter crops such as tuber crops, vegetables, exotic fruit trees and bush pepper. Adopted protected cultivation(25x5m), 120 disease free HY coconut seedlings, adopted bee keeping, Gramasree/ Gramapriya layers, pond duck integrated model and vermicomposting.



c) Farming system and components (before and after FFP)

ICAR Farmer FIRST Program intervention marked a significant turning point, as the farmer transitioned to scientific IFS based on farm planning. IFS components customized to suit the resources of the farm family in terms of resources. The system included coconut with Good Agricultural Practices for root(wilt) diseased area, intensive fish farming in pond, HYV and scientific cultivation of exotic fruits, pepper in live standards and bush pepper, sting less bee hives, vermicomposting, protected cultivation of vegetables besides other crops (Arecanut-CPCRI varieties, banana), poultry, duck fish integration.

d) Outcome and impact of FFP interventions:

The farmer's diversified agricultural endeavors yielded substantial annual income. Coconut cultivation generates the highest revenue, contributing Rs. 2,90,000 to the farmer(increased from 5500 to 10000 nuts/year). Additional income from pepper (Rs. 23,500), arecanut (Rs. 15,000), garcinia (Rs. 46,750), and banana (Rs. 15,000). Eggs and meat (Rs. 0.5 lakh) and fisheries(Anabas, pearl spot)- (Rs. 0.25 lakh) other crops and farm activities further supplement the income, adding Rs. 10,000. The introduction of bush pepper to demonstrate a model for earning Rs.1.2 lakh per year from 0.04 ha area, which begins yielding from the very first year of planting and continues to produce for 8-10 years, providing a long-term source of income with less drudgery and expense. the net income per ha is Rs.3.75 lakh and B:C ratio enhanced to 2.3 from 1.4 due to intervention.

e) Innovations evolved:

High income components- 500 bush pepper yielding 0.6 kg/ year(fresh), with no drudgery, low input in an area of easily manageable innovation enabling vertical mode also.

Innovation for earning 1.2 lakhs from 10 cents(0.04 cents) evolved- Duck and poultry over pond, pearl spot(premium price of Rs. 600/kg. Sting less bee enabled 38% more yield in coconut,bigger nut size and reduced nut fall.

Biodiversity intensified

Awarded by Biodiversity Board, local governments, Agro Horti societies

27. Poultry based Agripreneurship- Building resilience in small plots

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mr. Sreekanth, Koikkal house, Evoor, Pathiyoor
4.	Phone No	9061844921
5.	Age	48 years
6.	Education	ITI
7.	Land holding	0.18 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Program



a) FFP Interventions

Good Agricultural Practices (GAP) in coconut (14nos), Poultry (Gramasree, BV 380, Gramapriya (50 nos), Duck - Chara, Chempally (Kuttanad breeds), Intercrops (Turmeric, Tuber crops), Incubator unit (semi-automatic-1000 chicks/year). Training program and fields visit for problem diagnosis and facilitation.

b) Technology adoption

Full adoption of layer poultry, duck and ornamental birds rearing and marketing. Evolved model for sustainable regular income through component combination in marginal land holding



c) Farming system and components (before and after FFP)

Pre FFP the farmer had only 25 layer birds and non-farm daily wage (driver) as income from marginal land holding size of 0.05 ha. He reared 12 types of ornamental birds, indicative of his interest in poultry rearing. In FFP, critical inputs for root (wilt) disease management and training programs, one semi-automatic egg incubator unit of 500 chick production per year. HYV of turmeric and tuber crops introduced and promoted vegetable cultivation in grow bags since water logging problem existed in rainy season

d) Outcome and impact of FFP interventions:

Increase of 92 percent (Rs.67500 increase /year) farm income compared to pre FFP .Income spread from daily basis to fixed frequency could be realized Rs.100-150 daily income from poultry birds, Rs.40000 per year by sale of chicks, Rs.14000 from coconut, Rs.66000 from inter crops vegetables and ornamental birds, besides fresh farm products for home consumption. The B:C ratio is 1.9

e) Innovations evolved:

Farmer participatory trials of combinations in sub marginal holding. Farm component combinations for realizing at least Rs.12000 (ten thousand only) per month from sub marginal holding demonstrated. Poultry layers (vertical bird housing) +semi-automatic egg incubator+ ornamental/fancy birds and HYV of inter-crops/vegetables with good management of existing coconut palms (perennial crop) made it achievable.

28. Coconut based livestock system-Rural youth showing way forward

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mr. Rajeev, Ward 16,Pathiyoor
4.	Phone No	9495776698
5.	Age	42 years
6.	Education	Graduate
7.	Land holding	0.27 ha(67 cents)
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Program



a) FFP Interventions

Trainings, regular field visits and advisory services, farm planning and facilitated credit availability, root (wilt) disease management of coconut (32nos) HYV of assessed varieties of inter crops (Vegetables, Ginger, Banana(tissue culture),Turmeric (ICAR IISR Pragathi), Cassava and diascorea (ICAR CTCRI Vijaya and Sreekeerthy), Coconut + Fodder crops (TNAU-CO3,CO5) in the existing dairy units (19 milch cows and 5 calves) is the homestead + training programs + extension literature /advisories, field visits.

b) Technology adoption

Full adoption of cow mat for drudgery and fatigue reduction of animals, continued adoption of other intervention such as fodder crops and inter crops. Participated in FFP training program and workshop on 'Farm planning 'in IFS and adopted the concept.



c) Farming system and components (before and after FFP)

Pre fFP practiced traditional/ subsistence homestead faming. The farmer attended training programs, FFP offered regular field visits & advisories, provided critical inputs, facilated farm plan implementation. In FFP adoption of 'Good Agricultural Practices' in coconut(Integrated crop management) for doubling coconut yield, cowmat and HYV fodder crops in livestock, duck and fish integration in IFS module (Anabus culture, Kuttanad duck).

d) Outcome and impact of FFP interventions:

The average farm income improved to Rs.16.32 lakh per year mainly from dairy farm and poultry. The major outcome is 100% improvement in knowledge on scientific fodder cultivation, drudgery reduction and mastitis prevention practices in livestock. Direct marketing of milk reduced miscellaneous expenses and source readiness was appreciated by consumers. Another result was 33 percent reduction in feed expenses, through fodder cultivation, which he extended to lease in plots. Additional income of Rs.50000 from fish-duck integration & layer birds and Rs.43200 from coconut to net income of 8.4 lakh per ha with B:C ratio 2.1.

e) Innovations evolved:

Scientific and participatory farm planing of homesteads could upgrade subsistence farming to commercial units. Integrating crops & components for maximising resource flow among & between reduces cost by 37percet and enabled better time mangement. Home level marketing of farm produces reduce food mile and offer fresh products to consumers.

29. Income stabilization through poultry based system

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mr. Biju. T, Idayath Padeettathil Ward- 10. Pathiyoor
4.	Phone No	8547495072
5.	Age	45 years
6.	Education	Graduation
7.	Land holding	0.80 acre (0.324 hs)
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Program



a) FFP Interventions

Introduced" Good Agricultural Practices" in coconut root (wilt) disease management for doubling productivity and sustaining the health of 90 palms, HYV of paddy+-sesamum-pulses in wet land. Intensified inter cropping with HYV of vegetables, banana and tuber crops initiated layer bird unit of 145 birds of BV 380, Gramapriya and Gramasree, income units started with a semi-automatic egg incubator producing 1200 chicks per year



b) Technology adoption

Continuing adoption of GAP in root (wilt) disease management, inter cropping with additional crops HYV of sesamum (Kayamkulam-1, Thilak) and paddy (Jyothi variety). The poultry unit and egg incubator is also being utilized since 2019 onwards

c) Farming system and components (before and after FFP)

Before FPP awareness, knowledge and adoption of recommended practices were only 10-15 percent in terms of chemical fertilizers, HYV of inter crops and breeds of poultry. The FFP interventions enabled to convert the homestead garden to a family unit, and full adoption of coconut management. The unit model of poultry based system was adopted by 112 farmers of the FFP- Pathiyoor panchayat.

d) Outcome and impact of FFP interventions:

The annual farm income improved to Rs.4.06 lakh from 1.72 lakh, from the IFS system. The average income from coconut showed 68 percent improvement (Rs.130500/-) The annual income from poultry unit and egg incubator was Rs.2.37 lakh. Also earning Rs.13100 from inter crops and vegetables, besides family consumption of fresh farm products. Sesamum and paddy provides Rs.18000 to Rs.22, 000 per year seasonally. Balanced distribution of income through different farming components ensures daily, regular and annual income. The net income per ha is Rs.4.138 lakh and B: C ratio of the unit is 2.2 since the labour component met by the family members.

e) Innovations evolved:

Farm family labour, Farm planning and direct marketing of fresh products, earning premium of 25 percent in price. Recycling of farm wastes and poultry manure for vegetables and coconut. Judicious use of recycled water for homestead gardens

30. Self-Promoted farming model of women farmer for livelihood

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mrs. Priya Muraleedharan, Kuruvikkad, Pathiyoor
4.	Phone No	8281309183
5.	Age	43 years
6.	Education	Graduate
7.	Land holding	0.14 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Program



a) FFP Interventions

Trainings, Field visits and regular advisories, farm planning for judicious use of resources, IFS intensified in coconut garden (15 nos) as a woman managed model with low external input Integrated management of root wilt disease, Livestock (6 nos) provided cow mat,Poultry (30 layer birds)Gramasree, Gramapriya, Ducks (20 nos) HYV of inter crops banana, fodder, tubers and vegetables. Initiated vermicomposting unit for value adding cow dung and farm waste.



b) Technology adoption

Full adoption. Evolved low external input women managed IFS unit model with terrace organic vegetable/nutrition gardening

c) Farming system and components (before and after FFP)

Pre FFP, the women farmer adopted traditional farming methods and there was no adoption of cow mat for drudgery reduction and unscientific backyard poultry (10 birds). The farmer adopted integrated root (wilt) disease management in coconut and organic recycling to reduce cost of cultivation. The farm waste such as cow dung, poultry manure and organic residues utilized scientifically

d) Outcome and impact of FFP interventions:

Increase of 88% of farm income realized compared to pre FFP. Supply of poultry birds, HYV seedlings, marketing and processing of organic waste. Knowledge enhancing trainings, cowmat for drudgery reduction and animal health. Area expansion of HYV fodder cultivation enabled to reduce the cost of cultivation by 31.4%.The present annual income from these units is 5.27 lakhs of which majority is by the direct marketing of milk at the rate of Rs.52/ litre. The size of the livestock units increased from 4 to 7. Doubled the annual income from poultry and feed cost managed with scientific fodder /azolla cultivation.The net income per ha is Rs.5.82 lakh and B: C ratio 2.08.

e) Innovations evolved:

Evolved single women managed IFS model with low external input, diversifying farm components with appropriate size manageable by women farmer and organic recycling. Direct marketing of vermicompost, milk and milk products enabled 25-30% additional earnings. This model also innovates gender sensitive farm planning. Awarded by local government, ICAR CPCRI FFP for the creative resource utilization and as model for women of the panchayat.

31. Integrated farming system: Success of a semi urban model

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Abdul Latheef, Valil House, Pathiyoor
4.	Phone No	Not available
5.	Age	60 years
6.	Education	Graduate
7.	Land holding	0.75 acre(0.304 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Trainings, field advisories, networking with IFS farmers, Poultry birds (60 Nos.), Coconut (35 Nos), Inter-crops (Vegetables, Banana, tuber crops.), Goat (22 Nos).

b) Technology adoption

Full adoption of inter crops in coconut garden, actively participated in FFP training programs and adoption of the biopod technology for cost minimization

c) Farming system and components (before and after FFP)

Initially, the adoption of recommended farming practices was limited. The farmer relied solely on traditional knowledge, resulting in lower yields and inefficient cultivation methods. Through FFP intervention successfully adopted integrated root (wilt) disease management of coconut, organic recycling through composting, Biopod technology, achieving cost minimization in two key areas: poultry management and household waste management, which operate in a complementary and sustainable manner.



d) Outcome and impact

Mr. Abdul Latheef successfully integrated diverse farm components into his coconut garden. He earns around Rs. 62000 from coconut per year and Rs. 43000 from poultry unit and Rs. 79000 from the goat rearing. He also adopted Biopod technology, reducing 15 percent poultry feed costs and promoting sustainability. Adopted HYV inter crops of banana, tuber crops, and vegetables, which provide supplementary income of Rs. 38500/annum. He was instrumental in clustering of coconut farmers and community adoption of plant protection benefiting 480 small farmers. The net income per ha is Rs.3.416 lakh and B: C ratio of the unit was 1.95.

e) Innovations evolved:

Innovations are refining biopod unit for feed, organic manure and liquid manure for kitchen garden. Goat rearing in terms of small ruminants demonstrated as suitable IFS component for homestead coconut gardens for self sufficiency in organic manures and organic farming of backyard nutrition gardens.

32. Livestock management and organic recycling enabled in doubling the farm income

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod,(Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Radhakrishna Pillai, Pathiyoor, Ward 3
4.	Phone No	9895559697
5.	Age	58 years
6.	Education	ITI
7.	Land holding	1 acre(0.4 ha)
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Training programs, frequent field visits, FFP facilitated exchange of HYV planting materials, Gramasree, Gramapriya poultry birds (40 Nos.), Integrated root (wilt) disease management of coconut (120 Nos), HYV inter crops (Vegetables, Banana, turmeric, tuber crops.), Dairy unit (3 milch cows and 2 calves), HYV fodder crops.



b) Technology adoption

Full adoption intercrops such as tuber crops and pulses in coconut gardens, IFS system components.

c) Farming system and components (before and after FFP)

Pre FFP, the farmer had only a few poultry birds and low income from coconut garden. In FFP, critical inputs for coconut root (wilt) disease management and training programs, HYV of turmeric and tuber crops introduced and promoted organic nutrition garden. Increased the milch cows to 5 numbers and HYV fodder cultivation integrated.

d) Outcome and impact

Mr. Radhakrishna Pillai, a model farmer under the FFP program, has successfully built a livelihood solely based on farm activities. Notably, he prioritizes organic recycling through vermicomposting and efficient household waste management using Biopod technology, showcasing his commitment to sustainable agriculture. Improved annual income of Rs 0.85 lakhs from coconut marketing(pre FFP) to Rs.117600, excluding the household consumption of nuts and oil. Through direct marketing of dairy products, including milk, curd, buttermilk and dried cow dung, Mr. Radhakrishna Pillai further augments his farm income of Rs. 3.14 lakh. Additionally, the adoption of vermicomposting technology reduced 21% input costs for inter crop cultivation in his coconut garden, enhancing profitability . The poultry unit has emerged as a crucial component in doubling farm income, yielding an average annual return of over Rs. 42,000, aside from providing essential nutritional benefits to the farm family. Additionally, vegetables and other inter crops contribute Rs. 32000 to the farm's overall income. The net income per ha is Rs.6.3 lakh and B:C ratio improvement from 1.3 to 1.99.

e) Innovations evolved:

Innovated family farming and resource recycling for organic farming. Adoption of scientific cultivation of inter crops in coconut garden, organic recycling through vermicomposting, household waste management is ensured using Biopod technology, minimizing waste disposal issues and promoting a clean and sustainable environment. Through participation in training programs and collaborative experience-sharing sessions with fellow farmers,farmer gained valuable expertise in sustainable management of farm components, further enhancing farmer to farmer knowledge dissemination.

33. Passionate farming, steady income - lived the hope in farming for livelihood

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alapuzha district
3.	Farmer details	Mr. Asokan, Thekkekattoor house, Pathyoor
4.	Phone No	8281282709
5.	Age	59 years
6.	Education	ITI
7.	Land holding	0.6 ha
8.	Knowledge sources	ICAR CPCRI Farmer FIRST Program



a) FFP Interventions

Training, research station visits, interaction with farmers, partner in PTD on nematode management in amorphophallus, Coconut (56 bearing palms and 48 non bearing palms), HYV Turmeric, Tapioca, Ginger, Pepper, Banana, vegetables, sesamum

b) Technology adoption

Adoption of integrated management practices for root (wilt) disease in coconut, combined with scientific cultivation techniques for inter crops in coconut gardens, processing of farm products and direct marketing (coconut oil, turmeric powder, sesamum balls)



c) Farming system and components (before and after FFP)

After spending two decades abroad in a private job, the farmer returned and taking up cultivation on his 0.6 hectare coconut-based plot. However, despite his enthusiasm, he faced significant knowledge gaps in solving field problems. Prior to participating in the ICAR CPCRI Farmer FIRST Program, he lacked scientific knowledge and skills in coconut management, including the adoption of high-yielding varieties (HYV) of inter crops and optimal cultivation practices. FFP enabled him to learn the impact of technology adoption and processing in yield and income realization.

d) Outcome and impact of FFP interventions:

Sri. Ashokan's model cropping system, featuring 56 bearing palms and 48 non bearing palms for sustaining continuous income, yields an annual gross income of Rs.2.43 lakh. @ 70 nuts per palm. The inter cropping system breakdown of earnings from various inter crops is as follows: Turmeric yields Rs. 0.40 lakhs, Tapioca Rs.1.50 lakhs, Ginger contributes Rs.0.60 lakhs, Pepper Rs.0.40 lakhs, and Banana Rs.0.55 lakhs. Cumulatively, these inter crops produce a total annual income of Rs.5.88 lakh, providing to the farmer's overall earnings. He met 70 percent of household use from this plot besides bio happiness and his own labour which comes to Rs. 2.5 lakh/year. The impact is from these income he spent for the education of his daughter for MBBS solely from farming income, of which the farmer is proud of. The net income per ha is Rs.8.00 lakh and B:C ratio of 2.3.

e) Innovations evolved:

Innovation is the planning of crops for every inch of the land accommodating bunch of crops for distributing income at regular and frequent basis, direct marketing of fresh products and processed items earning 3o percent addition earnings.

34. Doubling coconut income through marketing innovation

1.	Institute name	ICAR-Central Plantation Crops Research Institute, Kasaragod, (Regional Station, Kayamkulam) Kerala – 671124
2.	Title of the project	Farmer FIRST project: Participatory technology integration to empower and ensure livelihood security of farmers in Alappuzha district
3.	Farmer details	Mr. Krishnakumar. V, Muttakulathethukizhakkathil house, Ramapuram North, Keerkkad P.O, Kayamkulam
4.	Phone No	8547373608
5.	Age	65 years
6.	Education	Pre degree &ITI
7.	Land holding	0.32 ha
8.	Knowledge sources	ICAR-CPCRI Farmer FIRST Programme



a) FFP Interventions

Training, farm advisories, market led extension, Goats (6 Nos.) poultry (50 layer birds and 15 ducks), coconut (40 Nos.), intercrops (banana, fodder, tubers, vegetables)



b) Technology adoption

Full adoption of HYV inter-crops, innovative marketing strategies to enhance farmers' profitability through sustainable and efficient market linkages in coconut

c) Farming system and components (before and after FFP)

Before FFP intervention the farmer adopted traditional coconut cultivation and marketing, resulting in lower yields and income. FFP enabled integrated disease management in coconut, achieved target income of Rs. 5000 per palm/year. Adopted IFS components- Goat, pond fish culture, vermicomposting and HY vegetable cultivation.





d) Outcome and impact of FFP interventions:

Switching from marketing mature nuts to tender nuts put forward a profitable option to coconut farmers to realize high income.. Previously, each palm yielded an annual income of only Rs 1500. In contrast, tender nut production offers numerous benefits, including improved palm health, reduced button shedding, increased harvest: 150-200 tender nuts per palm per year, up from 60-70 mature nuts. This strategic shift has significantly enhanced the farm's overall efficiency and revenue to Rs. 3750-5000/palm with revenue of Rs.0.93 to Rs.1.48 lakh/year.

Mr. Krishnakumar emphasizes regular and good management practices as per the recommended technologies of ICAR CPCRI. Organic recycling enabled to apply 30 to 50 kg of organic manure per palm per year. Water conservation through mulching and basin irrigation (200 liters in 4 days) could double the tender nut yield as demonstrated. He is getting an additional income of 1.26 lakh from coconut based innovations and an additional income of Rs.70000 from livestock production. He included aquaculture also by taking a natural pond on lease and rearing Anabas (Anabas testudineus) in ponds which he used to grow in tanks with income of Rs. 0.37 lakh/year. The net income per ha is Rs.9.963 lakh and B:C ratio improved from 1.22 to 2.38 doubling the income.

e) Innovations evolved:

Innovative model evolved through FFP realizing income of Rs. 4000 to 5000 per palm/year through tender nut and mature nut.

Sequential harvesting adopting coconut climbing machine and marketing.Customized management practices for increasing tendernut production adopted through participatory facilitation. Horizontal adoption of tender coconut marketing enabled among 120 farmers.

ICAR- National Institute of Animal Nutrition and Physiology
Farmer FIRST Program (FFP)

Improving Livelihood Security of Farmers through Technological Interventions for Sustainable Livestock Farming

Farmer FIRST

Success Stories...

About ICAR NIANP Farmer FIRST Program

The major problems prioritized in the crop based modules were the low level of adoption of high yielding varieties of crops and subsequently low production and income. Soil sample collection was done and samples were analysed, based on which nutrient recommendation and crop planning was done. Accordingly, two improved varieties of ragi variety ML 365 and redgram variety BRG 5 were recommended by experts from NBSS&LUP, RS, Bengaluru and UAS, Bengaluru. The horticultural crops were cultivated mostly as intercrops with main crops and also multiple cropping methods were followed in a contiguous manner. The core hassles identified were about the lack of knowledge about HYV crops and its package of practices. In addition, they were unaware of economic importance in the market about horticulture crops. The technologies introduced were HYV's of tomato(Arka Rakshak), beans(Arka Arjun), ridge gourd(Arka Prasanna), okra(Arka Anamika & Arka Nikita), spinach(Arka Anupama), chilly(Arka Kyathi & Arka Harita), bottle gourd(Arka Bahar) and drum stick(PKM1) along with the scientific method of cultivation. The varieties were evaluated through participatory experimentation IIHR vegetable varieties were ranked as most suitable to the local condition with high yield and acceptability.

The foremost constraints of livestock was green fodder availability all the year around high feeding cost, rural folks were unaware of preservation techniques of green forage, low fat percentage in milk, lameness, repeat breeding and mastitis. Henceforth, the technologies were implemented to combat these issues and raise the income of farmers. Cow mats were distributed to reduce lameness which accounted for 62.5% of reduction in veterinary expenses. while Animal Health & Fertility Management were carried in regular intervals to treat repeat breeders along with normal health check up of animals, 75% of repeat breeding animals were completely cured by regular treatment. Area specific mineral mixture was given to upsurge fat level in milk which attributed for 2.5% increase in milk yield. California Mastitis Kit (CMT) was provided to keep a check on occurrence of mastitis since the first stage along with it tri-sodium and pre & post dip were given to control mastitis as a precautionary measure, where, all these efforts have accrued for 83% reduction in veterinary expenses. 2.5 % of milk yield was A COFS-31 of multi-cut variety fodder seeds was introduced among farmers along with preservative technique like silage and growing of hydroponics using locally available materials and azolla was given to increase the yield of milk. All these collective efforts has aided in complete economic facelift among dairy farmers.

The major problems in this module were unscientific nutrition management in farming, silted or unused ponds in homesteads and water scarcity for drinking purpose or agriculture due to absence of water conservation which is very critical in this clayey mixed, loamy skeletal and rocky land tract of Doddaballapura district. The technologies demonstrated in this module were soil test based nutrition in the whole panchayath, homestead pond reclamation and revival for water conservation and pond fish culture for increased income and quality proteins for diet of households. Soil sample collection was organized for nutrient check in soil. Soil health card were prepared and given to farmers who were not having it. To reduce soil erosion during rainy season soil conservation through bund cultivation method was followed which has abetted to 62 farmers in the area covering 12 ha of agricultural cultivable land.

The enterprise module was introduced to empower rural inhabitants economically and to reduce the drudgery faced while milking and also as an employment opportunity for youth.70 farmers were given mushroom cultivation training at IIHR, out of which 106 families are practicing cultivation of mushroom with economic returns about Rs. 2100 per month and annually about Rs. 25,200. As the area is near to metropolitan city marketing, demand and sales were comparatively good.

Door step delivery services of milking machine were given by youth for which they charge a very subtle fee, it not only reduced the drudgery but also economically empowered youths in the village. By mutual consent of each other farm family milking time was fixed accordingly. It covers around 71 dairy families with monthly income around Rs.9400 per month.

Planned adaptation is essential to increase the resilience of agricultural production to climate change Management practices that increase agricultural production under adverse climatic conditions also tend to support climate change adaptation because they increase resilience and reduce yield variability under variable climate events.

Important lessons from the Farmer FIRST Project

- Identification and prioritization of problems through PRA helps in effective planning and implementation of all suitable technological interventions in the FFP villages.
- Baseline information is highly essential which can be compared with the results after the interventions, so that conclusions can be made of impact of interventions.
- Organizing different capacity building programmes for farmers at regular interval is essential for creating awareness, developing interest, facilitating adoption of technological interventions.
- Documentation of all the information, success stories, time series data of all the enterprises of farm families is

very crucial to identify the impact of technological interventions.

- Continuous monitoring and evaluation of implementation of various activities and technological interventions is required.
- Publicity programmes should be organized to create awareness among non-adopters and to spread the technologies on large scale.
- Regular visit of scientists to the farmers' field and interaction with them helps in understanding the researchable issues in each crop and technologies. This will help in problem identification, prioritization and providing feedback of technologies so that necessary modifications can be done.

ICAR NIANP FFP Success Stories- An Overview

Farmer FIRST programme is a unique concept of directly involving farmers from the planning to implementation of different location specific interventions and it has benefitted the farmers, as the location selected were not covered under any of the earlier schemes. The farmers and their available resources, along with their experiences and knowledge is the most key component in the approach. After the visible impact of many of the interventions, especially in dairy sector, KMF has come forward to take up the interventions to cover the near by villages. Further interventions in post harvest value addition and market linkages will help in further enhancing the farm income and tomake the interventions sustainable over long time. Agriculture waste management need to be worked on for clean environment. Creating linkages for support form the line departments, non governmental organizations and other stakeholders will be key to sustaining the interventions. Efforts are being made to create a few Agri StartUp units of like minded group of youth, so that some of the successful interventions can be taken up by them and sustain for a longer time.

The major issues identified in crop-based modules included the low adoption of high-yielding varieties (HYV), low production, and income. Soil samples were analyzed for nutrient recommendations, and improved varieties like ragi ML 365 and redgram BRG 5 were introduced. Horticultural crops were grown as intercrops, with new HYV of vegetables like tomato, beans, and okra introduced through participatory experimentation, showing high suitability and yield.

In livestock, constraints like green fodder shortage, high feeding costs, and health issues like lameness, repeat breeding, and mastitis were addressed. Cow mats reduced lameness, mineral mixtures increased milk fat, and California Mastitis Kits helped control mastitis. Preser-

vation techniques for green fodder were introduced.

Unscientific nutrition management, water scarcity, and soil erosion were tackled with soil-based nutrient recommendations, pond reclamation, and soil conservation techniques. An enterprise module for mushroom cultivation and doorstep milking services empowered rural inhabitants economically. These efforts collectively enhanced resilience and income among farmers.

Lessons Learnt & Way forward:

Key lessons from the Farmer FIRST Project include the importance of problem prioritization through PRA, baseline data for impact assessment, regular capacity-building programs, comprehensive documentation, continuous monitoring, and publicity to spread awareness. Regular scientist visits enhance problem identification and feedback, aiding in necessary modifications. The program's future focuses on post-harvest value addition, market linkages, agriculture waste management, and creating Agri StartUp units for sustainability.





ICAR- National Institute of Animal Nutrition and Physiology, Bengaluru, Karnataka

35. Mr. Shivakumar

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases, infestation of pest and disease is also more and nutrient deficiency in soil, including micro nutrients. Low milk yield due to less maintenance
d)	Yield of Farmer Practice	Ragi (9 q/ac), Redgram (22.4 q/ac), one cattle (14lit)
e)	Yield of Demo plot	Ragi (16 q/ac), Redgram (31 q/acre) two cattle (25lit)
f)	Change (%)	Ragi (77%), Redgram (38%)
g)	Net Returns (Rs.)	Rs. 2,29,650
h)	B:C Ratio (Overall)	2.04:1





5. Summary

The farmer used to get annual income of Rs.114450 from field crops and live-stock. He faced problems like low milk yield and mastitis. With DFI interventions like field crops, lameness management etc., he is getting annual income of Rs.229650 In addition, there is cost saving of Rs.2700 in the veterinary expenses.

36. Mr. Ramkrishnappa

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (11.4 q/ac), Redgram (27.9 q/ac), one cattle (7lit)
e)	Yield of Demo plot	Ragi (15.4 q/ac), Redgram (30 q/acre) two cattle (25lit)
f)	Change (%)	Ragi (35%), Redgram (7.5%)
g)	Net Returns (Rs.)	Rs. 1,32,850
h)	B:C Ratio (Overall)	2.11:1





5. Summary

The farmer used to get annual income of Rs.56920 from field crops and live-stock. He faced problems like low crop yield and lameness in animals. With DFI interventions like field crops, Cattle for lameness management etc., he is getting annual income of Rs.132850 In addition, there is cost saving of Rs.2600 in the veterinary expenses.

37. Mr. Muniraju

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (11.4 q/ac), Redgram (29.5 q/ac), one cattle (8lit)
e)	Yield of Demo plot	Ragi (15.4 q/ac), Redgram (32 q/acre) two cattle (25lit)
f)	Change (%)	Ragi (35%), Redgram (8.4%)
g)	Net Returns (Rs.)	Rs. 1,37,150
h)	B:C Ratio (Overall)	3.00:1



5. Summary

The farmer used to get annual income of Rs.67260 from field crops and livestock. He faced problems like low crop yield and lameness in animals. With DFI interventions like field crops, Cattle for lameness management etc., he is getting annual income of Rs.137150 In addition, there is cost saving of Rs.2400 in the veterinary expenses.

38. Mr. Anjinappa

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (9 q/ac), Redgram (22.4 q/ac), one cattle (14lit)
e)	Yield of Demo plot	Ragi (16 q/ac), Redgram (31 q/acre) two cattle (25lit)
f)	Change (%)	Ragi (77.7%), Redgram (38%)
g)	Net Returns (Rs.)	Rs. 2,29,650
h)	B:C Ratio (Overall)	3.11:1





5. Summary

The farmer used to get annual income of Rs.114450 from field crops and livestock. He faced problems like low milk yield and mastitis. With DFI interventions like field crops, lameness management etc., he is getting annual income of Rs.229650 In addition, there is cost saving of Rs.2700 in the veterinary expenses.

39. Mr. Govindappa N

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (11.8 q/ac), Redgram (24.4q/ac), one cattle (7lit)
e)	Yield of Demo plot	Ragi (15.4 q/ac), Redgram (33.6 q/acre) two cattle (15lit)
f)	Change (%)	Ragi (30.5 %), Redgram (37%)
g)	Net Returns (Rs.)	Rs. 1,37,550
h)	B:C Ratio (Overall)	1.91:1





5. Summary

The farmer used to get annual income of Rs.64650 from field crops and livestock. He faced problems like low milk yield and mastitis. With DFI interventions like field crops, lameness management etc., he is getting annual income of Rs.137550 In addition, there is cost saving of Rs.2500 in the veterinary expenses.

40. Mr. Roopesh

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (11.8 q/ac), Redgram (24.4q/ac), one cattle (7lit)
e)	Yield of Demo plot	Ragi (15.4 q/ac), Redgram (33.6 q/acre) two cattle (15lit)
f)	Change (%)	Ragi (30.5 %), Redgram (37%)
g)	Net Returns (Rs.)	Rs. 1,37,550
h)	B:C Ratio (Overall)	3.00:1





5. Summary

The farmer used to get annual income of Rs.64650 from field crops and livestock. He faced problems like low milk yield and mastitis. With DFI interventions like field crops, lameness management etc., he is getting annual income of Rs.137550 In addition, there is cost saving of Rs.2500 in the veterinary expenses.

41. Mr. Rajanna

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (11 q/ac), Redgram (23.8q/ac), one cattle (7.8lit)
e)	Yield of Demo plot	Ragi (14.9 q/ac), Redgram (33 q/acre) three cattle (25lit)
f)	Change (%)	Ragi (35 %), Redgram (38.6%)
g)	Net Returns (Rs.)	Rs 1,39,450
h)	B:C Ratio (Overall)	2.74:1



5. Summary

The farmer used to get annual income of Rs.62910 from field crops and livestock. He faced problems like low milk yield and mastitis. With DFI interventions like field crops, lameness management etc., he is getting annual income of Rs.139450 In addition, there is cost saving of Rs.2500 in the veterinary expenses.

42. Mrs. Rathnamma

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables, Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (15.4q/ac), Redgram (26/ac), one cattle (0 lit)
e)	Yield of Demo plot	Vegetables (20.6 q/ac), Redgram (34.9 q/acre) two cattle (16.8 lit)
f)	Change (%)	Vegetables (20.6 q/ac), Redgram (34.9 q/acre) two cattle (16.8 lit)
g)	Net Returns (Rs.)	Rs2,66,300
h)	B:C Ratio (Overall)	3.00:1





5. Summary

The farmer used to get annual income of Rs.112890 from field crops and livestock. She faced problems like low cropyield and repeat breeding of heifeRs.With DFI interventions like field crops, Heifer Fertility management etc., she is getting annual income of Rs.266300 In addition, there is cost saving of Rs.1600 in the veterinary expenses.

43. Mr. Ramakka

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables, Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (14 q/ac), Redgram (23.8q/ac), one cattle (0 lit)
e)	Yield of Demo plot	Vegetables (19 q/ac), Redgram (33 q/acre) two cattle (16.8 lit)
f)	Change (%)	Vegetables (35.7 %), Redgram (38.6%)
g)	Net Returns (Rs.)	Rs 2,54,550
h)	B:C Ratio (Overall)	1.96:1





5. Summary

The farmer used to get annual income of Rs.101400 from field crops and livestock. She faced problems like low cropyield and repeat breeding of heifeRs.With DFI interventions like field crops, Heifer Fertility management etc., she is getting annual income of Rs.254550 In addition, there is cost saving of Rs.1850 in the veterinary expenses

44. Mrs. Kaveramma

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables, Redgram variety BRG 5 and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (14.6 q/ac), Redgram (22.8/ac), one cattle (0 lit)
e)	Yield of Demo plot	Vegetables (20.6 q/ac), Redgram (34.9 q/acre) two cattle (16.8 lit)
f)	Change (%)	Vegetables (41%), Redgram (53%)
g)	Net Returns (Rs.)	Rs 2,26,350
h)	B:C Ratio (Overall)	2.11:1





5. Summary

The farmer used to get annual income of Rs.97860 from field crops and livestock. She faced problems like low crop yield and repeat breeding of heifeRs.With DFI interventions like field crops, Heifer Fertility management etc., she is getting annual income of Rs.226350 In addition, there is cost saving of Rs.1600 in the veterinary expenses.

45. Mr. Raju. C

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables and one HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (25.9q/ac), one cattle (0 lit)
e)	Yield of Demo plot	Vegetables (35.9q/ac), two cattle (16 lit)
f)	Change (%)	Vegetables (41%)
g)	Net Returns (Rs.)	Rs 1,40,300
h)	B:C Ratio (Overall)	1.11:1





5. Summary

The farmer used to get annual income of Rs.35390 from vegetables and livestock. He faced problems like low crop yield and repeat breeding of heifeRs.With DFI interventions like field crops, Heifer Fertility management etc., he is getting annual income of Rs.140300 In addition, there is cost saving of Rs.1500 in the veterinary expenses

46. Mr. Srinivasamurthy

1.	Institute name	CAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of red gram and HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Redgram (26.6 q/ac), one cattle (0 lit)
e)	Yield of Demo plot	Redgram (35 q/ac), two cattle (18 lit)
f)	Change (%)	Redgram (31,5%)
g)	Net Returns (Rs.)	Rs 2,26,000
h)	B:C Ratio (Overall)	2.11:1





5. Summary

The farmer used to get annual income of Rs.100700 from field crops and livestock. He faced problems like low crop yield and pests and diseases, reproductive issues in animals etc. With DFI interventions like field crops, micronutrient management, heifer management etc., he is getting annual income of Rs.2,26,000

47. Mr. Bachegowda

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables, red gram and HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (16.5 q/ac), Redgram (26.6/ac), one cattle (0 lit)
e)	Yield of Demo plot	Vegetables (22.3 q/ac), Redgram (35/ac), one cattle (18 lit)
f)	Change (%)	Vegetables (35%) Redgram (31%)
g)	Net Returns (Rs.)	Rs 2,67,100
h)	B:C Ratio (Overall)	2.87:1





5. Summary

The farmer used to get annual income of Rs.117000 from field crops and livestock. He faced problems like low crop yield and repeat breeding of heifeRs.With DFI interventions like field crops, Heifer Fertility management etc., he is getting annual income of Rs.230200 In addition, there is cost saving of Rs.1500 in the veterinary expenses.

48. Mr. Chikka Bachegowda

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables and HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (29 q/ac), one cattle (0 lit)
e)	Yield of Demo plot	Vegetables (35 q/ac), one cattle (18 lit)
f)	Change (%)	Vegetables (35%)
g)	Net Returns (Rs.)	Rs 1,36,500
h)	B:C Ratio (Overall)	3.11:1





5. Summary

The farmer used to get annual income of Rs.41900 from field crops and livestock. He faced problems like low crop yield and repeat breeding of heifeRs.With DFI interventions like field crops, Heifer Fertility management etc., he is getting annual income of Rs.136500 In addition, there is cost saving of Rs.1500 in the veterinary expenses.

49. Mrs. Muniyamma

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables and HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (15.4 q/ac), one cattle (8 lit)
e)	Yield of Demo plot	Vegetables (20.6 q/ac), two cattle (11.2lit)
f)	Change (%)	Vegetables (33%)
g)	Net Returns (Rs.)	Rs 1,12,750
h)	B:C Ratio (Overall)	1.98:1





5. Summary

The farmer used to get annual income of Rs.49390 from vegetables and livestock. She faced problems like low crop yield and lameness in animals. With DFI interventions like field crops, lameness management etc., she is getting annual income of Rs.112750 In addition, there is cost saving of Rs.1650 in the veterinary expenses.

50. Mr. Anandamurthy

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables and HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Ragi (11 q/ac), one cattle (8 lit)
e)	Yield of Demo plot	Ragi (17.8 q/ac), two cattle (11.2lit)
f)	Change (%)	Ragi (61%)
g)	Net Returns (Rs.)	Rs 1,23,100
h)	B:C Ratio (Overall)	1.11:1





5. Summary

The farmer used to get annual income of Rs.54410 from field crops and livestock. He faced problems like low crop yield and pests and diseases, reproductive issues in animals etc. With DFI interventions like field crops, micronutrient management, Cattle for flooring etc., he is getting annual income of Rs.123100

51. Mr. Anandappa

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Lakshmidevipura village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Ragi and Redgram
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases.
d)	Yield of Farmer Practice	Ragi (11.4 q/ac), Redgram (25.6)
e)	Yield of Demo plot	Ragi (15.4 q/ac), Redgram (30 lit)
f)	Change (%)	Ragi (35 %), Redgram (17%)
g)	Net Returns (Rs.)	Rs 57,800
h)	B:C Ratio (Overall)	3.00:1





5. Summary

The farmer used to get annual income of Rs.28500 from field crops. He faced problems like low crop yield and pests and diseases. With DFI interventions like field crops, micronutrient management etc., he is getting annual income of Rs.5780

52. Mr. Chethan

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Redgram and mastitis management in cattle
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases.
d)	Yield of Farmer Practice	Redgram (28 q/ac) one cattle (8 lit)
e)	Yield of Demo plot	Redgram (35 q/ac) one cattle (11 lit)
f)	Change (%)	Redgram (25%)
g)	Net Returns (Rs.)	Rs 1,12,050
h)	B:C Ratio (Overall)	1.11:1





5. Summary

The farmer used to get annual income of Rs.49000 from field crops and livestock. He faced problems like low crop yield and mastitis. With DFI interventions like improved ragi variety, Cattle etc., he is getting annual income of Rs.112050 In addition, there is cost saving of Rs.2700 in the veterinary expenses.

53. Mr. Chikkappaya

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of vegetables and animal fertility management
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases and low milk yield
d)	Yield of Farmer Practice	Vegetable (18 q/ac)1.cattle (7.8 lit) 2. cattle heifer (0 lit)
e)	Yield of Demo plot	Vegetable (20.6 q/ac)1.cattle (11.5 lit) 2. cattle heifer (16.8 lit)
f)	Change (%)	Vegetable (14.4 q/ac)
g)	Net Returns (Rs.)	Rs 1,87,800
h)	B:C Ratio (Overall)	1.97:1





5. Summary

The farmer used to get annual income of Rs.35460 from field crops and livestock. He faced problems like low crop yield and heifer fertility issues. With DFI interventions like improved ragi variety, Cattle etc., he is getting annual income of Rs.187800 In addition, there is cost saving of Rs.3700 in the veterinary expenses.

54. Mr. Mahendrababu

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Lameness management in cattle
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low milk yield due to mastitis lameness and low maintenance
d)	Yield of Farmer Practice	1.cattle (13 lit) 2. cattle (7 lit)
e)	Yield of Demo plot	1.cattle (22.5 lit) 2. cattle (11.2lit)
f)	Change (%)	
g)	Net Returns (Rs.)	Rs 2,18,425
h)	B:C Ratio (Overall)	3.11:1





5. Summary

The farmer used to get annual income of Rs.99820 from livestock. He faced problems like lameness and mastitis in animals. With DFI interventions like rubber mat flooring, Cattle etc., he is getting annual income of Rs.218425 In addition, there is cost saving of Rs.3700 in the veterinary expenses.

55. Mrs. Ratnamma

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of fodder, CoFS 31,
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties and low milk yield
d)	Yield of Farmer Practice	Local Fodder variety (6q/ac), Cattle(7 lit)
e)	Yield of Demo plot	Fodder COFS 31 (19 q/ac) Cattle (12 lit)
f)	Change (%)	Fodder COFS 31 (216%)
g)	Net Returns (Rs.)	Rs 1,87,550
h)	B:C Ratio (Overall)	3.11:1





5. Summary

The farmer used to get annual income of Rs.85560 from livestock. She faced problems like less fodder availability and lameness in animals. With DFI interventions like improved fodder variety, lameness management etc., she is getting annual income of Rs.187750 In addition, there is cost saving of Rs.2000 in the veterinary expenses.

56. Mr. Narasimhamurthy

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of fodder, CoFS 31,
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases and low milk yield
d)	Yield of Farmer Practice	Local Fodder variety (11q/ac), Cattle(0 lit)
e)	Yield of Demo plot	Fodder COFS 31 (19 q/ac) Cattle (16 lit)
f)	Change (%)	Fodder COFS 31 (72.72)
g)	Net Returns (Rs.)	Rs 1,92,900
h)	B:C Ratio (Overall)	3.21:1





5. Summary

The farmer used to get annual income of Rs.43400 from livestock. He faced problems like less fodder availability and lameness in animals. With DFI interventions like improved fodder variety, lameness management etc., he is getting annual income of Rs192900 In addition, there is cost saving of Rs.3000 in the veterinary expenses.

57. Mr. Narasimhaiah

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Heifer management protocol, lameness management
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Reproductive issues in heifers and lameness in animals
d)	Yield of Farmer Practice	Cattle(8.4 lit), Cattle Heifer (0 lit)
e)	Yield of Demo plot	Cattle(16.4 lit), Cattle Heifer (16 lit)
f)	Change (%)	Milk yield 95%
g)	Net Returns (Rs.)	Rs 1,68,100
h)	B:C Ratio (Overall)	2.71:1





5. Summary

The farmer used to get annual income of Rs.22010 from livestock. He faced problems like reproductive issues in heifers and lameness in animals. With DFI interventions like heifer management protocol, lameness management etc., he is getting annual income of Rs168100 In addition, there is cost saving of Rs.3000 in the veterinary expenses.

58. Mrs. Lakshmamma

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Thimmajanahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Azolla ponds, fertility management, lameness management
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Reproductive issues in heifers, low fodder availability and lameness in animals
d)	Yield of Farmer Practice	Local fodder availability, Cattle Heifer (0 lit)
e)	Yield of Demo plot	Azolla 10 q/ac Cattle Heifer (8 lit)
f)	Change (%)	Milk yield 95%
g)	Net Returns (Rs.)	Rs 86,800
h)	B:C Ratio (Overall)	1.11:1





5. Summary

The farmer used to get annual income of Rs.12400 from livestock. he faced problems like low fodder availability in summer, reproductive issues in animals. With DFI interventions like azolla ponds, fertility management etc., she is getting annual income of Rs86800 In addition, there is cost saving of Rs.2100 in the veterinary expenses.

59. Mr. Manjunath

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Rubber mats, Mastitis kit
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	lameness and fertility issues and, low milk yield
d)	Yield of Farmer Practice	Cattle (16 lit), Cattle Heifer (0 lit)
e)	Yield of Demo plot	Cattle (19.7) Cattle Heifer (16 lit)
f)	Change (%)	Milk yield 23% and 100%
g)	Net Returns (Rs.)	Rs 1,93,675
h)	B:C Ratio (Overall)	2.37:1



5. Summary

The farmer used to get annual income of Rs.81685 from livestock. He faced problems like low lameness and fertility issues and, low milk yield. With DFI interventions like Cattle and fertility management protocol etc., he is getting annual income of Rs 193675

60. Mr. Nanjegowda N

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Redgram variety BRG 5
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Red gram (23.8) one Cattle (7.8lit)
e)	Yield of Demo plot	Red gram (33) three Cattle (19 lit)
f)	Change (%)	Red gram (38%) Cattle (143 %)
g)	Net Returns (Rs.)	Rs 1,14,050
h)	B:C Ratio (Overall)	2.41:1





5. Summary

The farmer used to get annual income of Rs.52600 from livestock. She faced problems like low lameness and, low milk yield. With DFI interventions like Cattle and improved ragi variety ML 365etc., he is getting annual income of Rs 114050 In addition, there is cost saving of Rs.2100 in the veterinary expenses.

61. Mr. Govindaraju

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Mastitis kit
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	one Cattle (7.8lit)
e)	Yield of Demo plot	Two Cattle (15 lit)
f)	Change (%)	Milk yield (92%)
g)	Net Returns (Rs.)	Rs 1,14,050
h)	B:C Ratio (Overall)	1.71:1





5. Summary

The farmer used to get annual income of Rs.52600 from livestock. She faced problems like low lameness and, low milk yield. With DFI interventions like Cattle and improved ragi variety ML 365etc., he is getting annual income of Rs 114050 In addition, there is cost saving of Rs.2100 in the veterinary expenses.

62. Mr. Ramachandrappa

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of vegetables and HF Breed.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Vegetables (29.6 q/ac) one Cattle (0lit)
e)	Yield of Demo plot	Vegetables (34 q/ac) one Cattle (16lit)
f)	Change (%)	Vegetables (14.8%)
g)	Net Returns (Rs.)	Rs 1,36,500
h)	B:C Ratio (Overall)	3.00:1





5. Summary

The farmer used to get annual income of Rs.90500 from vegetable crops and livestock. He faced problems like low milk yield and fertility issues. With DFI interventions like field crops, heifer fertility management etc., he is getting annual income of Rs.136500 In addition, there is cost saving of Rs.1400 in the veterinary expenses.

63. Mr. Ravikumar

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Ragi ML 365
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties.
d)	Yield of Farmer Practice	Ragi (11.4 q/ac)
e)	Yield of Demo plot	Ragi (15.4 q/ac)
f)	Change (%)	Ragi (35%)
g)	Net Returns (Rs.)	Rs 24,300
h)	B:C Ratio (Overall)	1.11:1





5. Summary

The farmer used to get annual income of Rs.10500 from field crops. He faced problems like low crop yield. With DFI interventions like field crops, he is getting annual income of Rs.24300

64. Mrs. Leelavathi

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Mastitis kit
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low milk yield due to low maintenance
d)	Yield of Farmer Practice	Cattle (11.4 lit)
e)	Yield of Demo plot	Cattle (22.5 lit)
f)	Change (%)	Milk yield (97%)
g)	Net Returns (Rs.)	Rs 1,43,375
h)	B:C Ratio (Overall)	2.61:1





5. Summary

The farmer used to get annual income of Rs.60760 from livestock. She faced problems like low crop yield, reproductive issues in animals and mastitis. With DFI interventions like cow mats for lameness management she is getting annual income of Rs.143375 In addition, there is cost saving of Rs.2300 in the veterinary expenses.

65. Mrs. Narayanamma

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Mastitis kit
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low milk yield due to mastitis
d)	Yield of Farmer Practice	Cattle (7 lit)
e)	Yield of Demo plot	Cattle (11.2 lit)
f)	Change (%)	Milk yield (60%)
g)	Net Returns (Rs.)	Rs 86,800
h)	B:C Ratio (Overall)	1.71:1





5. Summary

The farmer used to get annual income of Rs.26600 from livestock. She faced problems like low yield, reproductive issues in animals and mastitis. With DFI interventions of Cattle she is getting annual income of Rs.75050 In addition, there is cost saving of Rs2100 in the veterinary expenses.

66. Mrs. UMA

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Redgram variety BRG 5
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases. Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	Red gram (11.8) one Cattle (7.8lit)
e)	Yield of Demo plot	Red gram 15.4) one Cattle (11.5lit)
f)	Change (%)	Red gram (30%) Milk yield (47%)
g)	Net Returns (Rs.)	Rs 1,01,550
h)	B:C Ratio (Overall)	2.07:1





5. Summary

The farmer used to get annual income of Rs.73080 from field crops and livestock. She faced problems like low milk yield and mastitis. With DFI interventions like field crops, lameness management, Cattle etc., she is getting annual income of Rs.183600 In addition, there is cost saving of Rs.2600 in the veterinary expenses.

67. Mrs. Sudha

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	Gangasandra village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Mastitis management by mastitis kit
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low milk yield due to less maintenance.
d)	Yield of Farmer Practice	one Cattle (7.8lit)
e)	Yield of Demo plot	one Cattle (18lit)
f)	Change (%)	Milk yield (47%)
g)	Net Returns (Rs.)	Rs 75,050
h)	B:C Ratio (Overall)	3.11:1





5. Summary

The farmer used to get annual income of Rs.32860 from livestock. She faced problems like low milk yield and mastitis. With DFI interventions of kit for Cattle, etc., she is getting annual income of Rs.75050 In addition, there is cost saving of Rs.1600 in the veterinary expenses.

68. Mr. UDAYKUMAR

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	S Nagenahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Mastitis management by mastitis kit, Heifer Fertility management
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	Low milk quality due to mastitis and lameness
d)	Yield of Farmer Practice	Cattle (16.1 lit), Cattle (1 lit)
e)	Yield of Demo plot	Cattle (18 lit), Cattle (6.5 lit)
f)	Change (%)	Milk yield (12.5%),
g)	Net Returns (Rs.)	Rs 132525.0
h)	B:C Ratio (Overall)	3.1:1





5. Summary

The farmer used to get annual income of Rs.81695 from livestock. He faced problems like low yield and reproductive issues. With DFI interventions like cow mats and heifer fertility management., he is getting annual income of Rs. 132525/-

69. Mr. UMESHCHANDRA

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	S Nagenahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Introduced Co FS 31 fodder variety
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	He faced problems like low milk yield and low fodder availability.
d)	Yield of Farmer Practice	Local variety of fodder (11q/ac)
e)	Yield of Demo plot	Fodder COFS 31 (19q/ac)
f)	Change (%)	Milk yield (72%),
g)	Net Returns (Rs.)	Rs 120900/-
h)	B:C Ratio (Overall)	2.7:1





5. Summary

The farmer used to get annual income of Rs.58900 from crops and livestock. He faced problems like low milk yield and low fodder availability. With DFI interventions like Co FS 31 fodder variety, he is getting annual income of Rs. 120900/-

70. Mrs. GEETHA

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	S Nagenahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	Introduced Co FS 31 fodder variety
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	She faced problems like low milk yield and low fodder availability.
d)	Yield of Farmer Practice	Local variety of fodder (9.6q/ac)
e)	Yield of Demo plot	Fodder COFS 31 (16q/ac)
f)	Change (%)	Fodder yield (66%),
g)	Net Returns (Rs.)	Rs 97650/-
h)	B:C Ratio (Overall)	2.0:1





5. Summary

The farmer used to get annual income of Rs.48825 from field crops and livestock. She faced problems like low milk yield and low fodder availability. With DFI interventions like field crops, green fodder etc., she is getting annual income of Rs. 97650/-

71. Mrs. MANJULA

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	LAKSHMIDEVPURA village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	high yielding vegetable crops, mastitis management
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	She faced problems like low yield and mastitis in animals.
d)	Yield of Farmer Practice	Vegetables production (14/ac), Milk yield (7lit)
e)	Yield of Demo plot	Vegetables production (20/ac), Milk yield (11.5lit)
f)	Change (%)	Vegetables production (42%), Milk yield (64%)
g)	Net Returns (Rs.)	Rs 131000/-
h)	B:C Ratio (Overall)	1.81:1





5. Summary

The farmer used to get annual income of Rs.50960 from horticultural crops and livestock. She faced problems like low yield and mastitis in animals. With DFI interventions like high yielding vegetable crops, mastitis management, etc., she is getting annual income of Rs. 131000/- In addition, there is cost saving of Rs. 2600 in the veterinary expenses

72. Mr. MANJESH

1.	Institute name	ICAR-National Institute of Animal Nutrition and Physiology, Adugodi, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Improving livelihood security of farmers through technological interventions for sustainable livestock farming
3.	Area of study	S Nagenahalli village, Doddaballapur Taluk, Banglore Rural District
4.	**Achievements of FFP**	
a)	Technical intervention	cow mats and heifer fertility management.
b)	Micro farming	Rain fed farming, without irrigation. Small animal holdings
c)	Problems addressed	He faced problems like low yield and reproductive issue.
d)	Yield of Farmer Practice	Milk yield before introducing rubber mat (7.6lit/ac)
e)	Yield of Demo plot	Milk yield (9lit/ac)
f)	Change (%)	Milk yield (18.4%)
g)	Net Returns (Rs.)	Rs 65875/-
h)	B:C Ratio (Overall)	1.17:1





5. Summary

The farmer used to get annual income of Rs.15180 from livestock. He faced problems like low yield and reproductive issues. With DFI interventions like cow mats and heifer fertility management., he is getting annual income of Rs.65875/- There is a cost reduction of Rs. 2000/- in veterinary expenses

ICAR-Indian Institute of Horticultural Research
Farmer FIRST Program (FFP)

Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system

Farmer FIRST

Success Stories...

About ICAR IIHR Farmer FIRST Program

ICAR-Indian Institute of Horticultural Research, Bengaluru is a premier institute of ICAR conducting research, extension, education, training and many capacity building programmes. Because of the extensive research for the last six decades, more than 300 varieties and 150 technologies have been developed, which were extensively spread across > 25 states in the country as pper their suitability to various agro-climatic situations and production systems. Keeping in view the Farmer FIRST Project (FFP) was sanctioned by the ICAR since the beginning (2016-17) with the title Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system. FFP of ICAR-IIHR, Bengaluru was conceived with an idea of effectively utilizing all the possible rich technological resources of not only the ICAR-IIHR, but also the other ICAR institutes such as ICAR-NBSS and LUP, SRS, ICAR-NDRI, ICAR-NIANP along with UAS, GKVK, Bengaluru for developing a multi-disciplinary team for planning an implementation of the project in a holistic manner with integrated efforts of multiple research and development institutions along with the complete participation of individual farmers and their groups. The focus of the project is to ensure the dissemination and adoption of the best and suitable technological innovations to different micro-climatic situations under horticulture based farming system to enhance yield, quality, productivity and income of all the farm families in a sustainable manner, which has ultimately brought holistic development of the village.

One cluster of about eight villages were selected in Kanakapura taluk of Ramanagara district of Karnataka in the beginning of the project, which was continued till 2023-24 and again one more new cluster of 4 more villages were added to the project for planning and implementation of many technological interventions, so that farmers will have greater advantage of choosing the most suitable interventions through adopting the technologies in field and horticulture crops, scientific dairy farming and small ruminant management, many entrepreneurial activities, etc. The project started with collection of basic data/ information on existing production system, farmers practices in management of crops, animals and other resources, preparation of the soil inventory through extensive soil survey in all the cluster of villages, and continuing with multiple activities and programmes for technological intervention to disseminate all the technologies, which helped more than 3000 farm families in enhancing the efficiency of resources, to identify, collect and adopt the most suitable crops with specific management practices, to increase the productivity of crops, dairy animals and small ruminants, etc. Due to implementation of such systematic

planned activities / technological interventions of ICAR-IIHR along with all the partner institutions, both R and D as well as many other public and private institutions, there is a direct impact on the socio-economic conditions of all the farm families of the project area, in terms of increased adoption of GAP's and other technologies of various institutions, effective use of income, use of multiple technologies by each and every individual farm families of the project are. These impact was not only assessed through regular monitoring, evaluation and collection of impact of each technological interventions, but also the overall impact after six years of implementation of the project. Another important aspect, which contributed for greater success of the project was synergy programme with all the developmental departments of the block, which have played crucial role in establishment of the infrastructure as well as providing financial assistance for many critical inputs in the form of recurring amounts for adoption of many technologies in all the identified enterprises. On the whole the FFP project of ICAR-IIHR, Bengaluru has become a model programme for many institutions to replicate on how a multi-institution and multi-disciplinary team of scientists and officers of developmental institutions can help the farmers through synergy programme and coordinated efforts to enhance the livelihood of farmers, as well as bring significant socio-economic changes in the farmer's life.





ICAR Indian Institute of Horticultural Research, Hessaraghatta Lake Post, Bengaluru

73. Mr. Krishna Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), new hybrids and precision farming in vegetable crops (Tomato- Arka Rakshak and Chilli- Arka Harita)
b)	Micro farming	
c)	Problems addressed	Low yield due to use of local varieties, susceptible to pest and diseases, infestation of pest and disease is also more and nutrient deficiency in soil, including micro nutrients.
d)	Yield of Farmer Practice	Ragi (10.6 q/ac), Tomato (23.4 t/ac)
e)	Yield of Demo plot	Ragi (22 q/ac), Tomato (46 t/acre), Chilli (16 t/ac)
f)	Change (%)	Ragi (107%), Tomato (96.58%), Chilli (100%)
g)	Net Returns (Rs.)	Rs.6,68,420
h)	B:C Ratio (Overall)	3.11:1







5. Summary

The farmer managed 3.5 acres in which he used local varieties of ragi (Sharavathi) and private hybrid tomato (Shivam) earlier. Upon introduction of high yielding and disease resistant varieties in ragi (ML-365) and triple disease resistant tomato hybrid of ICAR-IIHR (Arka Rakshak) and adoption of mulching, drip irrigation, micro nutrients and fertigation, etc., he is now getting net returns up to Rs.6,68,420 per acre per crop. The other interventions included growing redgram as a border crop giving additional net income of Rs.16,200 and chilli (Arka Harita) giving an additional net income of Rs.2,60,000/Ac/ crop. The overall B:C ratio of 3.11 indicated the impact of these interventions on improving livelihood security of the farmer. From the additional income he has purchased many movable assets – New car and luggage van for transport of vegetables to market, started earning more income and his risk bearing ability (RBA) and investment capacity increased by multiple times.

74. Mr. Mahadevaiah

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Balepura village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of Tuberose (Arka Prajwal), Tomato (Arka Rakshak) and varieties of Ragi (ML-365 and MR-6)
b)	Micro farming	
c)	Problems addressed	Lack of technical guidance on flower cultivation, low income due to use of local varieties, non-availability of quality seeds of vegetables and bulbs for tuberose crop, poor crop production practices with very low inputs
d)	Yield of Farmer Practice	Ragi (9.60 q/ac), Tomato (16.80 t/Ac)
e)	Yield of Demo plot	Ragi (21 q/ac), Tuberose (3t flower, 5t bulbs (after 2.5 years) in 0.5 acres), Tomato (40 t/ac)
f)	Change (%)	Ragi (119%), Tomato (238%) due to adoption of new hybrid and precision farming practices
g)	Net Returns (Rs.)	Rs.8,25,000/ Ac/ Annum
h)	B:C Ratio (Overall)	3.41:1







5. Summary

The farmer managed 3.5 acres in which he used local varieties of ragi (Sharavathi) and private hybrid tomato (Shivam) earlier. Upon introduction of high yielding and disease resistant varieties in ragi (ML-365) and triple disease resistant tomato hybrid of ICAR-IIHR (Arka Rakshak) and adoption of mulching, drip irrigation, micro nutrients and fertigation, etc., he is now getting net returns up to Rs.6,68,420 per acre per crop. The other interventions included growing redgram as a border crop giving additional net income of Rs.16,200 and chilli (Arka Harita) giving an additional net income of Rs.2,60,000/Ac/ crop. The overall B:C ratio of 3.11 indicated the impact of these interventions on improving livelihood security of the farmer. From the additional income he has purchased many movable assets – New car and luggage van for transport of vegetables to market, started earning more income and his risk bearing ability (RBA) and investment capacity increased by multiple times.

75. Mr. Gopal Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Chilli (Arka Meghana and Arka Harita), Brinjal (Arka Anand) and Ragi (ML-365)
b)	Micro farming	
c)	Problems addressed	Non-availability of good variety and quality vegetable seedlings in vegetable crops, lack of technical guidance on GAP's, more pest and disease infestation in field and vegetable crops, poor feeding and health management of dairy cows
d)	Yield of Farmer Practice	Chilli (7.25 t/ac), Ragi (8.8 q/ac), HF cow (16-18 ltr)
e)	Yield of Demo plot	Chilli (25 t/ac), Ragi (21 q/ac), HF cow (22 ltr per day per cow)
f)	Change (%)	Chilli (245%), Ragi (139%), HF cow (122%)
g)	Net Returns (Rs.)	Rs.7,94,850
h)	B:C Ratio (Overall)	4.47:1







5. Summary

Before the FFP intervention, the farmer cultivated local varieties of ragi (Kari kaddi variety) and disease susceptible private chilli hybrids getting low incomes in his 2 acres farm. He also faced the problem of pest and disease infestation. With introduction of disease resistant and high yielding hybrids of Chilli (Arka Meghana), Brinjal (Arka Anand) and Ragi (ML-365) along with regular monitoring and technical guidance on precision farming, the yield was considerably increased leading to overall net income of Rs.7,94,850. Rearing of HF cows with improved feeding, health and housing management practices also increased the milk yield up to 122 per cent. These interventions improved the B:C ratio to 4.47:1 which is a sign of a successful farm management. He has also cleared old debts, invested in construction of new house for sericulture farming and vehicle for mobility along with increasing his RBA. Because of whole family involvement in many farming activities, round the year, their dependency and cost on labour reduced, income increased.

76. Mr. Sunil Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of Chilli (Arka Harita), Ragi (ML-365), and Field beans (HA-4)
b)	Micro farming	
c)	Problems addressed	Pest and disease infestation in field and vegetable crops and non-availability of quality vegetable seedlings of demand for good hybrids.
d)	Yield of Farmer Practice	Chilli (7.3 t/ac), Ragi (8.5 q/ac), Field bean (0.8q/ac), 2 HF cows (12-14 ltrs/day)
e)	Yield of Demo plot	Chilli (14.5 t/ac), Ragi (20 q/ac), Field bean (3.2q/ac), 4 HF cows (20-24 ltrs/day)
f)	Change (%)	Chilli (98.63%), Ragi (135%), Field bean (300%)
g)	Net Returns (Rs.)	Rs.3,28,630
h)	B:C Ratio (Overall)	2.47:1







5. Summary

The farmer cultivated local varieties of ragi (Sharavathi) and chilli, along with pest and disease infestation, the farmer used to get low yields. After the introduction of improved hybrid of Chilli (Arka Harita), variety of Ragi (ML-365) and Field bean (HA-4) which are disease resistant. With regular monitoring of disease and pests and training on their control measures, the yield of each crops increased leading to higher net income of Rs. 3,28,630. Four HF cows were also reared on the farm for augmenting the income with training on improved animal management and clean milk production technology. The overall B:C ratio was 2.47 after the interventions showing their impact. Due to increased income, he started investing in improving the farm infrastructure, housing and for personal expenditure.

77. Mr. Ramachandra, V.

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru - 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of tomato (Arka Rakshak), French Beans (Arka Sharath), Tuberose (Arka Prajwal) and Capsicum (Indra)
b)	Micro farming	
c)	Problems addressed	Non-availability of good variety, quality seeds and seedlings, pest and disease infestation, poor yield due to use of local varieties
d)	Yield of Farmer Practice	Tomato (8 t/ac), French Beans (7t/ac)
e)	Yield of Demo plot	Tomato (15t/ac), Beans (13t/ac), Capsicum (14t/ac), Tuberose (3.5t/Ac)
f)	Change (%)	Tomato (87.5%), French Beans (85.71%)
g)	Net Returns (Rs.)	Rs.12,65,000/-
h)	B:C Ratio (Overall)	7.62:1







5. Summary

The farmer faced with the constraints of lack of quality seedlings and poor crop management leading to low yields in his farm of 2 acres. To better use the farm resources for flower and vegetable crops like new tuberose variety and capsicum hybrid were introduced to get additional income. With technologies like mulching and fertigation, pest and disease management, the cost on labour was also saved. Yield also improved in Ragi after growing MR-6 variety. The overall net income realized by the farmer after different technological interventions was Rs. 12,65,000. The farmer had almost 450 per cent increase in his income and high B:C ratio of 7.62:1. With increased income, his RBA also increased. He has become a model farmer for cultivation of French beans and other vegetable crops for Hosadurga village.

78. Mr. Lakshman

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of Tuberose (Arka Prajwal), Coriander (Arka Isha) and variety of Ragi (MR-6) and livestock
b)	Micro farming	
c)	Problems addressed	Non availability of improved seeds and lack of knowledge on clean milk production technology improved local breed cows
d)	Yield of Farmer Practice	Ragi (8q/ac), Hallikar Cow (2.5ltr/day)
e)	Yield of Demo plot	Ragi (17q/ac), Tuberose (3t), Coriander (1.7t), milk yield (3.8 ltr/day)
f)	Change (%)	Ragi (112.5%), Cow yield (152%)
g)	Net Returns (Rs.)	Rs.5,16,800
h)	B:C Ratio (Overall)	5.47:1







5. Summary

The farmer cultivated in a small land of 2.5 acres and lacked knowledge on improved production technology on flower and vegetable crops and also clean milk production technology in dairying. After the interventions, which included supply of quality seeds of field crops of ragi and redgram (border crops) and introduction of improved variety of coriander as a short duration vegetable crop, the yield was improved and increased the income. One HF cow was also reared for getting additional income. The farmer was given training precision farming and taught skill on clean milk production. Due to enhanced yield and quality of produce, the farmer increased his total net return to Rs.5,16,800 with very good B:C ratio of 5.47:1. Due to higher net-income from multiple crops and enterprises, his RBA and investment capacity increased, which also enhanced total income.

79. Mr. Rajendra Hegde

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge- Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Kebbedoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of triple disease resistant Tomato (Arka Rakshak), virus resistant French Bean (Arka Arjun) and variety of Ragi (ML-365)
b)	Micro farming	
c)	Problems addressed	Low yield in field crops and tomato and also blast disease in ragi and wilt disease in red gram, low yielding and disease susceptible vegetable varieties
d)	Yield of Farmer Practice	Ragi (10q/ac), Tomato (12 t/ac)
e)	Yield of Demo plot	Ragi (22q/ac), Tomato (23t/ac), French bean (5.8t/ac)
f)	Change (%)	Ragi (120%), Tomato (191%)
g)	Net Returns (Rs.)	Rs.8,05,800/- per annum
h)	B:C Ratio (Overall)	5.49:1







5. Summary

The farmer had an operational land of 4 acres in which he cultivated local varieties of ragi (Indaf-5) and tomato (Shankara) which yielded low income due to pest and disease attack. He could able to earn a net income of Rs.1,14,650 per annum. But, after the introduction of triple disease resistant hybrid of tomato, French beans and field crops like ragi and redgram (grown for border crop), the net income increased to Rs.8,05,800 due to promotion of precision farming in vegetables and through proper management and regular guidance by the scientists. Farmer was also given training and demonstration on pest and disease management in field and vegetable crops due to which he could achieve higher returns with B:C ratio of 5.49:1. This increased net income helped the farmer to increase the area of vegetable production, including leased in land with higher RBA, investing in vegetable nursery for quality seedling production to cater the local needs and enhance his income further.

80. Mr. Ramakrishna Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Honeybee colonies, livestock (HF cows) along with improved hybrids of tomato (Arka Rakshak) and Chilli (Arka Haritha)
b)	Micro farming	
c)	Problems addressed	Low yield in field crops and blast disease in ragi and wilt disease in redgram, other diseases in tomato and low milk production in dairy animals
d)	Yield of Farmer Practice	Ragi (12q/ac), HF cow (60 ltrs/day), Tomato (25.5t ton/ac)
e)	Yield of Demo plot	Ragi (20q/ac), Tomato (41t/ac), Chilli (15.5 t/ac), HF cows (75 ltr/day)
f)	Change (%)	Ragi (66.66%), HF cow (25%), Tomato (60.78%)
g)	Net Returns (Rs.)	Rs.11,35,500
h)	B:C Ratio (Overall)	6.25:1







5. Summary

The farmer cultivated only field crops and reared 6 HF cows in his land of 1 acre and faced the constraints like blast disease in ragi and wilt disease in redgram and low milk production in dairy animals. Introduction of new multiple disease resistant hybrids of tomato and chilli along combined with integrated pest and disease management led to increased yield, quality of the produce and total net-income. Two more HF cows were also introduced along with training on clean milk production technology. A special enterprise of 15 honeybee colonies were installed giving an additional income of Rs.20,000 from honey production and its byproducts. The overall net income realized after all the technological interventions was Rs.11,35,500 with an impressive B:C ratio of 6.25:1. Due to very significant increase net-income, he is able to invest in other activities such as purchase of new transport vehicle, increased family expenditure and investment.

81. Mrs. Puttamadamma

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (MI-365), Redgram (BRG-5), Field bean (HA-4) and HF cow
b)	Micro farming	
c)	Problems addressed	Low yield, blast disease in ragi, wilt in redgram and pod borers in field Beans
d)	Yield of Farmer Practice	Ragi (8q/ac)
e)	Yield of Demo plot	Ragi (20q/ac), HF cow (30 ltrs/day)
f)	Change (%)	Ragi (150%)
g)	Net Returns (Rs.)	Rs.2,77,670
h)	B:C Ratio (Overall)	8.84:1







5. Summary

The woman farmer managed a small farm of 1.5 acres in which she cultivated local varieties of field crops such as ragi, groundnut, redgram and field beans leading to poor yield and income. The improved variety of ragi was introduced along with redgram and field bean as border crops. Two HF cows were introduced along with training on clean milk production to augment the income. Each crop that was introduced yielded more than 100 percent leading to a very good annual net income of Rs. 2,77,670 and a B:C ratio of 8.84:1. This is a clear example of positive impact of the FFP interventions on small landholding woman farmers, who is adopting multiple activities under Integrated Farming System. This model of technology promotion is very useful in changing the income level and their sustainability in farming.

82. Mr. Nagaraju

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of field crops (Ragi-ML-365) and hybrids of flower crops (Tuberose- Arka Prajwal) and introduction of dairy animals (HF cows)
b)	Micro farming	
c)	Problems addressed	Lack of knowledge of flower cultivation, poor management of milk production in dairy animals
d)	Yield of Farmer Practice	Ragi (8q/ac), Cow (Hallikar- 4ltrs/day)
e)	Yield of Demo plot	Ragi (16q/ac), Tuberose (3t bulbs, 2.5 t flowers), Hallikar cow (4.5 ltrs/day), HF cow (14 ltrs/day)
f)	Change (%)	Ragi (100%)
g)	Net Returns (Rs.)	Rs.6,08,900/- per annum
h)	B:C Ratio (Overall)	6.79:1







5. Summary

The farmer cultivated only field crops such as ragi and redgram in his 2 acres along with rearing of two Hallikar cows. New variety of tuberose flower crop (Arka Prajwal) along with demonstration on its integrated crop managment practices and training on clean milk production technologies in two HF cows has increased income by multifold. He earned Rs.3,80,000 from tuberose alone, underlining the impact of high-income generating flower crop, due to its continuous daily production. The milk yield also increased up to 18 litres per day because of proper scientific care and management of both local and cross bred cows. The farmer earned an overall annual net income of Rs.6,08,900 with B:C ratio of 6.79:1 indicating a healthy and sustainable farm. This good high income was very useful in investing in many farm based activities including adoption of more scientific practices, buying of planting materials of tuberose and vegetable seedlings of new hybrids, which again increasing the net-income of farmer, other than increasing investment in new mobile assets.

83. Mr. Thimmaiah

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Dodda Yeremegere village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of Chilli (Arka Harita) and French bean (Arka Arjun), Improved varieties of ragi (ML-365 and redgram (BRG-5)
b)	Micro farming	
c)	Problems addressed	Micronutrient deficiency in soil, pest and disease infestation in field and vegetable crops
d)	Yield of Farmer Practice	Ragi (8q/ac), French Beans (3 t/ac)
e)	Yield of Demo plot	Ragi (20q/ac), Chilli (20 t/ac), French Beans (4.5t/ac)
f)	Change (%)	Ragi (150%), French Beans (50%)
g)	Net Returns (Rs.)	Rs.4,51,200
h)	B:C Ratio (Overall)	6.26:1







5. Summary

The farmer used to get annual income of Rs.26,020 from field crops (Ragi, Redgram) and Tomato from his small land of 2 acres. He encountered many problems like low yield, blast disease in Ragi and wilt in Redgram. With interventions like improved varieties in Ragi, Redgram and new hybrids of ICAR-IIHR in Chilli and French Beans, along with training on precision farming and pest and disease management in these crops, he realized an annual gross income of Rs.3,79,900 and net income of Rs.2,51,200. In addition, B:C ratio was 6.26:1 indicating the significant impact of improved varieties and technologies, training and regular monitoring of the demonstration plots with required technical advice, on increased farm income of the farmer. This has helped them to further adopt many more improved production technologies in all the crops.

84. Mr. Shiva Naga

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Dodda Yeremegere, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of vegetable crops (French Beans- Arka Arjun), improved variety of Ragi (ML-365)
b)	Micro farming	
c)	Problems addressed	Very poor yield due to growing of local varieties which are susceptible to pests and diseases, improper management of dairy animals
d)	Yield of Farmer Practice	Ragi (13q/ac), HF cow 2 Nos. (13 ltrs/day)
e)	Yield of Demo plot	Ragi (21q/ac), Beans (12 t/ac), French Beans- 6.8 t/ac (Arka Arjun variety), HF crossbred cows - 2 Nos. (22 ltrs/day)
f)	Change (%)	Ragi (61.54%), HF crossbred cow (69.23%)
g)	Net Returns (Rs.)	Rs.3,59,760/- per annum
h)	B:C Ratio (Overall)	3.91:1







5. Summary

Before FFP interventions, the farmer in his 1.5 acres land, cultivated field crops such as ragi and redgram and vegetables like tomato. These crops were affected by pest and disease attacks and low yields due to lack of knowledge and poor adoption of scientific cultivation practices. He also had two HF cows but without scientific knowledge of hygienic milk production practices. After the intervention with improved hybrid of tomato, French beans with mulching and fertigation technology, improved variety of ragi and field bean and proper care and management of milch animals, he could realize net income of Rs.3,59,760 with B:C ratio of 3.91:1. In addition, there is also cost saving of Rs.95,000 in production of French Beans. Due to higher income, farmer has started growing new varieties / hybrids with precision farming practices on large scale, which again helped him to increase income and also adoption of scientific farming in his new venture of small ruminant management technologies with sheep and goat rearing.

85. Mr. Naveen Kumar

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Kebbedoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of Ragi (KMR-301) and proper care of milch animals (HF cows) and goat rearing
b)	Micro farming	
c)	Problems addressed	Use of local varieties in field crops with low yield, lack of knowledge on rearing milch animals
d)	Yield of Farmer Practice	Ragi (7-10 q/ac), HF cows (16 ltrs/day), Goat (Rs.1,55,000)
e)	Yield of Demo plot	Ragi (21 q/ac), HF cow (32 ltrs/day), Goat farming (Rs.3,30,000)
f)	Change (%)	Ragi (120%), HF cow (100%), Goat (110%)
g)	Net Returns (Rs.)	Rs.4,65,440/-
h)	B:C Ratio (Overall)	6.77:1







5. Summary

The farmer has only 2 acres land in which he had cultivated field crops like ragi and redgram and also reared HF cows and 20 goats. There was lack of proper management of livestock and also field crops were infested with pests and diseases. With interventions like introduction of improved varieties of ragi, redgram as a border crop, training on care and management of livestock, he could achieve a net income of Rs.4,65,440 with an impressive B:C ratio of 6.77:1. Goat rearing was the standout enterprise for the farmer as he could double the income from this enterprise alone. This kind of integrated approach in managing crops and animals together helped farmer to enhance their family and livelihood security.

86. Mr. Mahesh

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Introduction of tuberose (Arka Prajwal), Coriander (Arka Isha), drumstick (PKM-1) and ragi (KMR-301)
b)	Micro farming	
c)	Problems addressed	Low yield in field crops and pest and disease infestation in vegetable crops
d)	Yield of Farmer Practice	Ragi (8q/ac), Tomato (14t/ac), Chilli (1.2t/ac)
e)	Yield of Demo plot	Ragi (18q/ac), Redgram (12q/ac), Tuberose (3.2 t bulbs, 2.6t flowers), Coriander (7.2 q/ac)
f)	Change (%)	Ragi (125%)
g)	Net Returns (Rs.)	Rs.4,58,900
h)	B:C Ratio (Overall)	5.81:1







5. Summary

The farmer used to get annual income of Rs.1,48,500 from Vegetable crops (Tomato, Chilli) and field crops (Ragi) from his 2.5 acres land. He faced problems like low yield in vegetable crops due to use of local varieties, blast disease in ragi, powdery mildew disease in chilli. Interventions like improved varieties in ragi and new multiple disease resistant hybrids in tomato and chilli along with demonstration on pest and disease management, mulching and fertigation were introduced. Flower crop, Tube rose (Arka Prajwal) was also introduced which accounted for higher return of annual income upto Rs.4,58,900 and a B:C ratio of 5.81:1, showcasing the need for crop diversification.

87. Mr. Shamu Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365) and redgram (BRG-5) and clean milk production technology in dairy animals
b)	Micro farming	
c)	Problems addressed	Low yield of field crops and lack of knowledge of clean milk production technology in dairy animals
d)	Yield of Farmer Practice	Ragi (12q/ac), 2 HF cows (20 ltrs/day)
e)	Yield of Demo plot	Ragi (18 q/ac), 3 HF cows (36 ltrs/day)
f)	Change (%)	Ragi (50%), HF cows (80%)
g)	Net Returns (Rs.)	Rs4,12,400/- per annum
h)	B:C Ratio (Overall)	6.64:1







5. Summary

The farmer used local varieties of ragi (GPU 28) in his 2 acres farm and had less knowledge on clean milk production technology in managing HF cows. With many technological interventions like introduction of improved varieties in ragi and redgram (as a border crop), training on scientific dairy farming practices, including clean milk production technology in HF cows, the farmer earned a net income of Rs.4,12,400/-. The milk yield from HF cows almost doubled after feeding, health care and hygienic milk production technology interventions. The B:C ratio also was significantly improved to 6.64:1 showing the positive impact of the interventions through demonstration and training.

88. Mr. Shivaramu

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365), improved varieties of drumstick, tuberose (Arka Prajwal) and scientific care and management of Hallikar cows
b)	Micro farming	
c)	Problems addressed	Low yield due to non-availability of seeds of improved varieties and hybrids, lack of knowledge on care and management of dairy animals
d)	Yield of Farmer Practice	Ragi (10q/ac), Brinjal (3t/ac), French Beans (4t/ac), 2 Hallikar cows (6 ltrs/day)
e)	Yield of Demo plot	Ragi (16 q/ac), Drumstick (4t/ac), Tuberose (2.25 tons bulbs, 1.5 ton flowers in 0.5 acres), 2 Hallikar cows (8ltrs/day)
f)	Change (%)	Ragi (80%), Hallikar cows (33.33%)
g)	Net Returns (Rs.)	Rs.5,88,000/-
h)	B:C Ratio (Overall)	2.45:1







5. Summary

The farmer cultivated local varieties and hybrids of ragi, French beans, Brinjal in his 3 acres farm but was getting low yields due to more pest and diseases and lack of knowledge on their management. Interventions like improved varieties of ragi, redgram (as border crop), improved variety of drumstick was incorporated along with demonstration of nursery management, mulching and fertigation. New, high yielding tuberose variety Arka Prajwal was also cultivated in a small land of 0.5 acres had earned upto Rs.3,35,000/- Training was also given on clean milk production in crossbred cows. The overall net returns from all enterprises was Rs.5,88,000/- per annum with B:C ratio of 2.45:1, showing the positive impact of FFP interventions. Farmer has not only earned revenue from sale of flowers of tuberose but also earned significant revenue from sale of large quantity of bulbs of tuberose, after two and a half years of flower production. By this farmer has helped in expansion of area under new tuberose variety of the institute in surrounding village.

89. Mr. Puttaswamy

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrid of Tuberose (Arka Prajwal), improved variety of ragi (ML-365) and clean milk production technology in HF cows
b)	Micro farming	
c)	Problems addressed	Low yield in field crops and low milk production in dairy animals, wilt disease in Redgram
d)	Yield of Farmer Practice	Ragi (12 q/ac), 2 HF cows (32 ltrs/day)
e)	Yield of Demo plot	Ragi (20q/ac), Redgram (12q/ac), Tuberose (1.85t bulbs, 1.65t flowers in 10 gunta), 2 Hf cows (40 ltrs/day)
f)	Change (%)	Ragi (80%), HF crossbred cows (25%)
g)	Net Returns (Rs.)	Rs.6,86,600
h)	B:C Ratio (Overall)	6.09:1







5. Summary

The farmer used to get an annual net income of Rs.2,30,450 by cultivating local varieties in ragi, redgram and field bean as border crops, which were yielding less. He also reared 2 HF cows but getting low milk yield. Interventions like improved varieties of ragi, redgram and drumstick were incorporated, improved variety of tuberose was introduced for cultivation in 10 gunta area, yielding a net income of Rs.1,98,000. Training was also given on clean milk production technology in HF cows, resulting in improvement in milk yield by 25 per cent. The overall net income earned from all enterprises was Rs.6,86,000 with B:C ratio of 6.09:1 signifying the positive impact of FFP interventions. Due to higher income from his farm, he increased the adoption of scientific farming practices. Hence, the farmer has not only earned revenue from sale of flowers of tuberose but also earned significant revenue from sale of large quantity of bulbs of tuberose, after two and a half years of flower production. By this farmer has helped in expansion of area under new tuberose variety of the institute in surrounding village.

90. Mr. Srinivas Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Kebbedoddi, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved hybrids of tomato (Arka Rakshak), papaya (Arka Prabhat), beans (Arka Arjun) and improved variety of ragi (KMR-301)
b)	Micro farming	
c)	Problems addressed	Low yield in field and vegetable crops, wilt disease in redgram, blast disease in ragi
d)	Yield of Farmer Practice	Ragi (8q/ac), Tomato (7t/ac), Chilli (2.8t/ac), French Beans (2.9t/ac)
e)	Yield of Demo plot	Ragi (18.5q/ac), Tomato (22t/ac), Papaya (14t in 10 gunta), French Beans (10t/ac), 2 HF cows (18ltrs/day)
f)	Change (%)	Ragi (131%), Tomato (214%)
g)	Net Returns (Rs.)	Rs.8,50,050
h)	B:C Ratio (Overall)	5.46:1







5. Summary

The farmer used to get annual income of Rs.2,02,400 from field crops (Ragi, Redgram, Field bean) and vegetable crops (tomato, chilli and French beans) etc. He encountered many problems like low yield in field and vegetable crops, wilt disease in redgram, blast disease in ragi etc. With interventions like improved varieties in ragi, redgram as a border crop, triple resistant hybrid in tomato (Arka Rakshak), disease resistant varieties in chilli and French bean, and Papaya a fruit crop, he is getting annual income of Rs.8,50,050/- He has also incorporated rearing of wo HF cows for additional income. The overall B:C ratio of the enterprises stood at 5.46:1. This has greatly given big confidence, RBA and net-income to the farmer, which helped in investing more in adoption of scientific management practices in crops and animal management as well as in purchase of new mobile vehicles and new farm equipments, which not only used by him, but also given to other farmers of the village on hiring basis. This has helped large number of farmers in all the FFP villages.

91. Mr. Balappa Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365) and redgram (BRG-5), rearing of sheep and goat
b)	Micro farming	
c)	Problems addressed	Low yield in field crops, lack of knowledge on scientific rearing of sheep and goats
d)	Yield of Farmer Practice	Ragi (9 q/ac), Redgram (2q/ac)
e)	Yield of Demo plot	Ragi (19 q/ac), Redgram (6q/ac)
f)	Change (%)	Ragi (210%), Redgram (200%)
g)	Net Returns (Rs.)	Rs.4,14,700
h)	B:C Ratio (Overall)	11.22:1







5. Summary

The farmer used local varieties of ragi and redgram leading to low yields from his land of 1 acre. He also practiced rearing of 40 goats for meat purpose, but did not know the proper care and management. Interventions were made in the form of improved varieties of ragi and redgram (border crop), incorporated rearing of 70 sheep on his farm along with training on proper care and management of sheep and goats. Together, these interventions helped farmer to achieve a net income of Rs.4,14,700. The gainful impact of FFP interventions can be clearly seen by the B:C ratio of 11.22:1. After practicing the improved management practices in small ruminant management, he also started spreading these scientific management practices among his fellow farmers, which helped in horizontal spreading of innovations.

92. Mr. Shankare Gowda

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Chiklegowdanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (ML-365), French bean (Arka Sharath), Chilli (Arka Harita), HF cows
b)	Micro farming	
c)	Problems addressed	Low yield due to use of local varieties and pest and disease infestation in field and vegetable crops
d)	Yield of Farmer Practice	Ragi (7.5q/ac), Redgram (Border crop- 0.6q), French bean (2.5 q/ac)
e)	Yield of Demo plot	Ragi (20q/ac), Redgram (Border crop- 1.9q), French beans (7.2 q/ac), Chilli (13t/ac)
f)	Change (%)	Ragi (166%), Redgram (216%), French bean (188%)
g)	Net Returns (Rs.)	Rs.3,89,900/-
h)	B:C Ratio (Overall)	10.07:1







5. Summary

The farmer used to get annual net-income of Rs.31,450/- from field crops (Ragi, Redgram) and about Rs.55,000/- per acre of French beans by using local varieties. He faced problems like low yield, blast disease in Ragi and wilt in Redgram. With FFP interventions like improved varieties in Ragi, Redgram and New hybrids in Chilli and French Beans along with precision farming in these crops, he is getting annual gross income of Rs.4,32,870 and net-income of Rs.3,89,900. In addition, there is cost saving of Rs.1,50,000 in the production of field crops, Chilli and French Beans. He also reared 2 HF cows which were giving 22ltrs/day, increasing the income. The overall B:C ratio was 10.07:1. Due to good additional increased net-revenue the farmer also started adopting many scientific management practices, which were again spread among his peer farmers and in surrounding villagers.

93. Mr. Govinda Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (KMR-301), improved hybrid of tomato (Arka Rakshak), French bean (Arka Sharath)
b)	Micro farming	
c)	Problems addressed	Non-availability of quality seeds and planting materials of new varieties, pest and disease infestation in field and vegetable crops
d)	Yield of Farmer Practice	Ragi (10q/ac), Tomato (12.80 ton for 0.75 ac)
e)	Yield of Demo plot	Ragi (19q/ac), Tomato (24 ton for 0.75 ac), French beans (38t/ac)
f)	Change (%)	Ragi (90%), Tomato (87.5%)
g)	Net Returns (Rs.)	Rs.4,95,570/-
h)	B:C Ratio (Overall)	7.40:1







5. Summary

The farmer cultivated his 2 acres land with field and vegetable crops using local varieties and hence got low yield. He faced the problem of pest and disease infestations in both field and vegetable crops. FFP interventions like improved variety of ragi and redgram (as border crop) was introduced, which led to significant increase in yield and income. The farmer also adopted improved hybrids of tomato and French beans along with precision farming, which helped to reap higher yields and enhanced income. He also reared one HF crossbred cow along with crops for additional income. The overall net income from all the enterprises was Rs.4,95,570/- with B:C ratio of 7.40:1, which clearly showed the profitable enterprise of the farmer. He is one of the first farmer to adopt new tomato hybrid Arka Rakshak in the entire FFP villages. By adopting new hybrids in vegetables and field crops along with precision farming practices, farmer got all the benefits such as higher yield, better quality produce and enhanced income, which helped him to meet all the expenditure of the family, farm, children education and health of the family, in addition to improvement of farm infrastructure.

94. Mr. Naveen Kumar

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (KMR-301), French beans (Arka Arjun) and tuberose (Arka Prajwal)
b)	Micro farming	
c)	Problems addressed	Non-availability of improved variety seeds, severe micro nutrient deficiency, poor plant nutrition and health management
d)	Yield of Farmer Practice	Ragi (10q/ac), French beans (13 q/ac)
e)	Yield of Demo plot	Ragi (15.5q/ac), French bean (32 q/ac), tuberose (3.8 t flowers)
f)	Change (%)	Ragi (55%), French bean (146%)
g)	Net Returns (Rs.)	Rs.4,27,620
h)	B:C Ratio (Overall)	8.21:1







5. Summary

The farmer used to get annual net-income of Rs.60,430 from field crops like Ragi, Redgram and Field Beans, French Beans and from local breed milch cows (Hallikar). He faced problems like low yield, blast disease in Ragi and wilt in Redgram. With interventions like improved varieties in Ragi, Redgram and hybrid of tuberose (Arka Prajwal) and powdery mildew resistant French Beans varieties along with precision farming; new cross breed cow with good nutrition and health management, he got annual net-income of Rs.4,27,620 and saving cost of about Rs.1,70,000. The overall B:C ratio was 8.21:1 indicating the high impact of interventions. After obtaining flowers for two and a half years of crop, he also sold bulbs after removal of the crop, which fetched him additional income. Through this he has spread Arka Prajwal tuberose hybrid among more number of farmers in neighboring villages.

95. Mr. Soma Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru – 560089.
2.	Title of the project	Farmer FIRST project: Enriching Knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi village, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved variety of ragi (KMR-301), redgram (BRG-2) and improved hybrid of chilli (Arka Harita)
b)	Micro farming	
c)	Problems addressed	Pest and disease infestation in both field and vegetable crops and lack of knowledge on precision farming in vegetables
d)	Yield of Farmer Practice	Ragi (10q/ac), redgram as border crop (0.8q), Chilli (3.6t/ac), tomato (11.2t/ac)
e)	Yield of Demo plot	Ragi (19q/ac), redgram as border crop (2.1q), Chilli (6.4t/ac), 2 HF cows (26 ltrs/day)
f)	Change (%)	Ragi (90%), Redgram (162%), Chilli (77%)
g)	Net Returns (Rs.)	Rs. 3,11,390/-
h)	B:C Ratio (Overall)	4.77:1







5. Summary

The farmer cultivated local varieties of ragi, redgram, chilli and tomato in his land of 1.5 acre receiving a net income of Rs.41,040. He faced the problems of pest and disease infestation and lack of knowledge on precision farming in vegetable crops. Interventions such as improved varieties of field crops and demonstration of disease resistant hybrids with precision farming in chilli led to increase in higher yields and income. He also reared two HF cows, giving milk yield od 26 ltrs/day, adding to his income. The overall net income from all the enterprises was Rs. 3,11,390 with a B:C ratio of 4.77:1 indicating a positive impact. Higher income has helped him to expand his farm activities through installation of drip irrigation system to entire land, fulfilling his family financial requirements and to buy a new vehicle, which replaced his cycle, for selling vegetables, particularly leafy vegetables, in surrounding villages, which further increased his family income.

96. Mr. Girish

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Chiklegowdanadoddi, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (KMR-301), redgram and field bean, as border crop, precision farming in French bean (Arka Sukomal)
b)	Micro farming	
c)	Problems addressed	Non-availability of quality seeds and seedlings, pest and disease infestation in both field and horticulture crops, lack of proper and timely guidance on IPM and IDM
d)	Yield of Farmer Practice	Ragi (12q/ac), Redgram (0.8q), French bean (3.4t/ac)
e)	Yield of Demo plot	Ragi (20/ac), Redgram (1.4q), Field bean (1.6q), French bean (7.5t/ac)
f)	Change (%)	Ragi (66.66%), Redgram (75%), French bean (214%)
g)	Net Returns (Rs.)	Rs.4,18,340
h)	B:C Ratio (Overall)	5.21:1







5. Summary

The farmer cultivated local varieties of ragi, redgram and French beans on his farm of 2 acres, which gave very low yield with net income of only Rs.48,310/- per acre per annum. Demonstration was conducted on precision farming in vegetable crops along with GAP's like raised bed cultivation, mulching and fertigation. He incorporated Arka Sukomol hybrid of French bean (pole type, disease resistant) which gave him very high yield and returns. Redgram and field beans were incorporated as border crops in ragi plot for additional income and total use of farm resources. After the interventions the farmer could earn net income of Rs.4,18,340/- per annum with B:C ratio of 5.21:1 showing their positive impact on yield, quality of the produce, market demand and farm income and livelihood security of farmer. He developed very high confidence on the institute varieties and technologies, due to use of all GAP's including like raised beds, mulching and fertigation with foliar nutrition, IPM, IDM, good PHM practices, etc. in French beans, as well as in field crops. Now he is a good ambassador of ICAR-IIHR FFP programme.

97. Mr. Jagadeesh

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365) and redgram (BRG-4) and clean milk production technology in dairy animals
b)	Micro farming	
c)	Problems addressed	Lack of knowledge on clean milk production technology in dairy animals and their scientific method of care and management
d)	Yield of Farmer Practice	Ragi (12q/ac), redgram as border crop (0.6q), 2 HF cows (14 ltr./ day)
e)	Yield of Demo plot	Ragi (19q/ac), redgram as border crop (2.30q), 3 HF cows (42ltrs/day)
f)	Change (%)	Ragi (58%), redgram (283%), HF cow (200%)
g)	Net Returns (Rs.)	Rs.2,42,910/- per annum
h)	B:C Ratio (Overall)	4.27:1





5. Summary

The farmer used to cultivate local varieties of ragi and redgram which were infested by pest and disease, leading to poor yield. He also reared two HF cows but without proper care and management. Improved varieties of ragi and redgram as a border crop were incorporated, which lead to higher yield and income. The farmer was also given training on clean milk production technology in HF cows and demonstration on scientific method of care and management of milch animals, which led to doubling the milk yield from the three HF cows. He purchased and started rearing of one more HF cow after earning good income due to our technological interventions. The overall net income he obtained due to the technological interventions was Rs.2,42,910/- per annum with a very good B:C ratio of 4.27:1. He also started advocating the scientific crop and milch animal management practices among other farmers of his and surrounding villages.



98. Mr. Raju

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Dodda Yerumgere, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365) and Redgram (BRG-5). Precision farming in Tomato (Arka Samrat) and Chilli (Arka Harita)
b)	Micro farming	
c)	Problems addressed	Low yield due to use of local varieties, poor adoption of good crop production practices and lack of awareness of precision farming in vegetable crops
d)	Yield of Farmer Practice	Ragi (6q/ac), Redgram as border crop (0.5q), field bean as border crop (0.8q), Tomato (10.52t/ac), French bean (8.8q/ac)
e)	Yield of Demo plot	Ragi (18q/ac), redgram as border crop (1.9q), tomato (23t/ac), chilli (9.3t/ac)
f)	Change (%)	Ragi (200%), Redgram (280%), Tomato (218.63%)
g)	Net Returns (Rs.)	Rs.2,85,250/- per annum
h)	B:C Ratio (Overall)	8.79:1





5. Summary

The farmer used to get annual net- income of Rs.71,240 from field crops (Ragi, Redgram and Field bean) and vegetable crops (Tomato and French beans). He faced problems like low yield, blast disease in Ragi and wilt in Redgram, many pest and disease problems in Tomato and French Beans. With interventions like improved varieties in Ragi, Redgram and new disease resistant hybrids in Chilli and Tomato along with precision farming, he got annual gross income of Rs.3,21,840 and net-income of Rs.2,85,250 per annum. In addition, there is cost saving of about Rs.1,20,000/- in the production of field crops, Chilli and Tomato. The final B:C ratio of all the enterprises was 8.79:1 indicating the positive impact of technological interventions, which not only resulted in significant enhancement of yield and quality but also gave him very good increase in total net-income.



99. Mr. Santhosh

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of Ragi (KMR-301) and Redgram (BRG-4) and precision farming of Tuberose (Arka Prajwal)
b)	Micro farming	
c)	Problems addressed	Pest and disease infestation in field crops leading to poor yield and lack of awareness of precision farming of flower crops, particularly nutrient, pest and disease management
d)	Yield of Farmer Practice	Ragi (12q/ac), Redgram as border crop (0.6q), tomato (5.4t/ac)
e)	Yield of Demo plot	Ragi (14q/ac), redgram as border crop (2.3q), Tuberose (3t flowers in 0.5 acres)
f)	Change (%)	Ragi (16%), Redgram (283%)
g)	Net Returns (Rs.)	Rs.2,66,050
h)	B:C Ratio (Overall)	8.92:1







5. Summary

The farmer used to get low annual income of Rs.48,930/- from cultivation of local varieties of ragi, redgram and tomato in his 2 acre farm. He also lacked knowledge of precision farming of flower crops. Through FFP, he was given tuberose planting materials (bulbs of improved variety – Arka Prajwal, for cultivation along with demonstration on precision farming technologies like good nutrition with fertigation, IPM, IDM and PHM, by which farmer increased the yield of field crops and tuberose due to proper care and management and he could get net return of Rs.2,66,050/- per annum. The incorporation of flower crop helped the farmer achieve a very high B:C ratio of 8.92:1.

100. Mr. Srinivas

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365), field bean (HA-4) and clean milk production technology in HF cows
b)	Micro farming	
c)	Problems addressed	Low yield, blast disease in ragi, wilt in redgram and pod borers in field bean; low milk yield in local breed (Hallikar)
d)	Yield of Farmer Practice	Ragi (8q/ac), field bean as border crop (2q), redgram as border crop (0.7q), 2 Hallikar cows (2ltr/day), HF cows (12.5 ltr/day)
e)	Yield of Demo plot	Ragi (17q/ac), field bean as border crop (2.22q), redgram as border crop (2q), 2 HF cows (32ltr/day)
f)	Change (%)	Ragi (212.5%), field bean (11%), redgram (185%), Cow (256%)
g)	Net Returns (Rs.)	Rs.2,54,916
h)	B:C Ratio (Overall)	5.69:1







5. Summary

The farmer used to get annual net income of Rs.27,520 from his farm of 2 acres with field crops like ragi, redgram, field beans, and local breed of cow. He faced problems like low yield, blast disease in ragi, wilt in redgram and pod borers in field beans; low milk yield in local breed. With interventions like improved varieties and production technology in ragi, redgram and field beans and with new cross breed cows (HF) with good nutrition and health management, he got annual net-income of Rs.2,54,916/- and is saving cost of about Rs.1,00,000/- in cultivating new varieties in field crops. The B:C ratio of 5.69:1 shows the positive impact of interventions.

101. Mr. Puttaraju

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Kebbedoddi, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365), redgram (BRG-5), field bean (HA-4) and new hybrids of French beans (Arka Arjun)
b)	Micro farming	
c)	Problems addressed	Low yield, blast disease in ragi, wilt in redgram and pod borers in field beans,
d)	Yield of Farmer Practice	Ragi (12q/ac), redgram as border crop (1q), field bean as intercrop (1q)
e)	Yield of Demo plot	Ragi (21q/ac), redgram (2.20q), field bean (1.9q), French Beans (5t/ac)
f)	Change (%)	Ragi (75%), redgram (120%), field bean (90%)
g)	Net Returns (Rs.)	Rs.2,25,870
h)	B:C Ratio (Overall)	3.2:1







5. Summary

The farmer used to get annual net-income of Rs.22,140 from his 1acre farm growing field crops like Ragi, Redgram, Field Beans, and raring local breed cow (Hallikar). He faced problems like low yield, blast disease in ragi, wilt in redgram and pod borers in field beans; low milk yield in local breed. With interventions like improved varieties and production technology in Ragi, Redgram and Field Beans he is getting annual net-income of Rs.2,25,870 and saving cost of about Rs.60,000 in cultivating new varieties in field crops. The B:C ratio was 3.2:1 indication of a healthy and remunerative farming enterprise.

102. Mr. Dodde Gowda

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Kebbedoddi, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365), redgram (BRG-5), and new hybrids of tomato (Arka Samrat), French beans (Arka Arjun)
b)	Micro farming	
c)	Problems addressed	Poor availability of seeds of improved varieties in field and vegetable crops, Lack of knowledge of precision farming technologies in vegetable crops
d)	Yield of Farmer Practice	Ragi (8q/ac), Redgram as border crop (0.6q), Tomato (17.2t/ac)
e)	Yield of Demo plot	Ragi (19q/Ac), Redgram (1.6q), Tomato (27t/Ac), French Bean (2.8t/Ac)
f)	Change (%)	Ragi (137%), Redgram (166%), Tomato (159%)
g)	Net Returns (Rs.)	Rs.3,50,330
h)	B:C Ratio (Overall)	7.38:1







5. Summary

The farmer used to get annual net-income of Rs.64,940 from his 2 acres farm cultivation local varieties of field crops (Ragi, Redgram) and Tomato. He faced problems of pest and disease infestation in crops and lack of knowledge of precision farming technology in vegetables. With interventions like improved varieties in Ragi, Redgram and new triple disease resistant new hybrids in Tomato along with one milch crossbred cow (HF), he got annual net income of Rs.3,50,330. In addition, there is cost saving of Rs.1,40,000 from use of improved varieties. The B:C ratio of all the enterprises was 7.38:1 which shows successful interventions.

103. Mr. Putte Gowda

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Chiklegowdanadoddi, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of ragi (ML-365), Redgram (BRG-4), new hybrid of Tomato (Arka Samrat)
b)	Micro farming	
c)	Problems addressed	Low yield due to use of local varieties and lack of knowledge of scientific care and management of dairy animals
d)	Yield of Farmer Practice	Ragi (10q/ac), Redgram as border crop (0.6q), Tomato (12.4t/ac), HF cow (12 ltrs/day)
e)	Yield of Demo plot	Ragi (19q/ac), Redgram as border crop (1.8q), Tomato (21t/ac), HF cow (18 ltrs/day)
f)	Change (%)	Ragi (90%), Redgram (200%), Tomato (69%), HF cow (50%)
g)	Net Returns (Rs.)	Rs.2,63,360
h)	B:C Ratio (Overall)	6.90:1







5. Summary

The farmer used to get annual net-income of Rs.88,960 from field crops (Ragi, Redgram) and Tomato. He faced problems like low yield, blast disease in Ragi and wilt in Redgram. With interventions like improved varieties in Ragi, Redgram and New hybrids in Tomato along with one milch cow, he is getting annual gross income of Rs.3,07,960 and net-income of Rs.2,63,360. In addition, there is cost saving of Rs.1,10,000 from use of improved varieties in Ragi, Redgram and multiple disease resistant hybrid in Tomato in the production of all these crops and from dairy animal.

104. Mr. Ramakrishna

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Hosadurga, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of Ragi (ML-365), Redgram (BRG-5), Field bean (HA-4) and care and management of dairy animals
b)	Micro farming	
c)	Problems addressed	Low yield due to use of local varieties and lack of knowledge of scientific care and management of dairy animals
d)	Yield of Farmer Practice	Ragi (6q/ac), redgram as border crop (1.2q), Field bean as intercrop (0.8q), 2 Hallikar cows (2 ltrs/day)
e)	Yield of Demo plot	Ragi (20.5q/ac), redgram as border crop (1.2q), Field bean as intercrop (0.8q), 2 Hallikar cows (2 ltrs/day)
f)	Change (%)	Ragi (6q/ac), redgram (6q/ac), Field bean as intercrop (2.8q), 2 HF cows (32 ltrs/day)
g)	Net Returns (Rs.)	Rs.3,00,240
h)	B:C Ratio (Overall)	7.5:1





5. Summary

The farmer cultivated in 2 acres of land and used to get annual net income of Rs.29,330 from field crops like Ragi, Redgram, Field Beans and two local breed cow (Hallikar). He faced problems of low yield due to use of local varieties and lack of knowledge of scientific care and management of crops and also dairy animals. With interventions like improved varieties and production technology in Ragi, Redgram and Field Beans and scientific management practices in cross breed (HF cows) cows with good nutrition and health management, he got very good returns - net income of Rs.3,00,240 with B:C ratio of 7.5:1.



105. Mr. Muniswamy Naik

1.	Institute name	ICAR-Indian Institute of Horticultural Research, Hesaraghatta Lake Post, Bengaluru
2.	Title of the project	Farmer FIRST project: Enriching knowledge – Integrating technology and institutions for holistic village development in horticulture-based farming system
3.	Area of study	Vasappanadoddi, Kanakapura taluk, Ramanagara district
4.	**Achievements of FFP**	
a)	Technical intervention	Improved varieties of Ragi (ML-365) and new hybrids and precision farming in Tomato (Arka Samrat) and Chilli (Arka Harita)
b)	Micro farming	
c)	Problems addressed	Low yields in field and vegetable crops, lack of knowledge on clean milk production technology
d)	Yield of Farmer Practice	Ragi (13q/ac), Redgram as border crop (0.9 q), Tomato (19t/ac), French bean (6t/ac), 5 HF cows (43 ltrs/day)
e)	Yield of Demo plot	Ragi (21q/ac), Redgram as border crop (3 q), Tomato (36t/ac), Chilli (12t/ac), 6 HF cows (60 ltrs/day)
f)	Change (%)	Ragi (62%), Redgram (233%), Tomato (189%), HF cows (18%)
g)	Net Returns (Rs.)	Rs.12,75,100
h)	B:C Ratio (Overall)	6.35:1





5. Summary

The farmer used to get annual income of Rs.7,47,700/- per annum from different crops (Ragi, Redgram, Chilli and Tomato) and dairy animals. He faced problems of low yields in field and vegetable crops, lack of knowledge on clean milk production technology. With interventions like improved varieties in Ragi, Redgram and disease resistant and high yielding hybrids in Chilli and Tomato along with precision farming and better nutrition and health management in dairy animals, he is getting annual net income of Rs.12,75,100 with B:C ratio of 6.35:1 indicating the positive impact of FFP interventions.



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