

**Farmer  
FIRST**

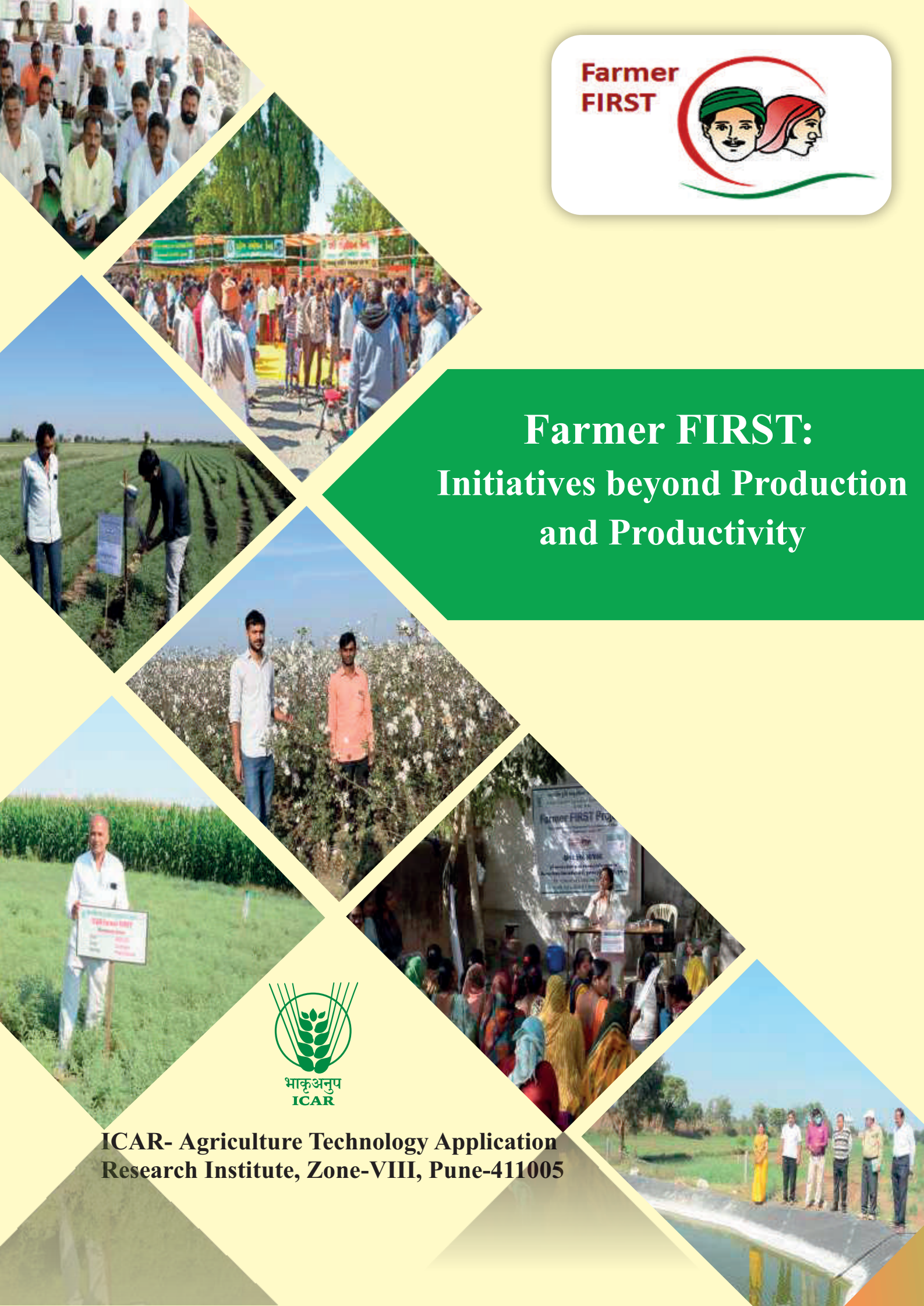


# Farmer FIRST: Initiatives beyond Production and Productivity



भाकृअनुप  
ICAR

**ICAR- Agriculture Technology Application  
Research Institute, Zone-VIII, Pune-411005**



**Farmer  
FIRST**



# Farmer FIRST: Initiatives beyond Production and Productivity



**ICAR- Agricultural Technology  
Application Research Institute,  
Zone-VIII, Pune-411005**



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## Preface

Farmers FIRST Programme (FFP) is one of the prestigious projects of Agricultural Extension Division, ICAR, New Delhi which is being run at 52 different locations under ICAR Research Institutes and State Agricultural Universities in this country. Here, farmers are being placed in the front for addressing problems relating to agricultural production using their innovations, resources available with them and its management at farmers' field conditions. Small and marginal farmers and women were the major target groups.

I feel very happy to share that three such valuable projects for 3 State Agricultural Universities were sanctioned by the Council under ICAR-ATARI Pune since year 2017-18. All the projects were implemented very meticulously in their target villages with justified technology interventions. Through FFP programme, 3272 farm families consisting of 9414 beneficiaries covering more than 2200 ha area, were addressed on various issues related to agriculture. Income of farmers from agricultural produce was increased through introducing a large number of new crop varieties e.g. red gram- Vipula, BDN- 711, Phule Rajeshwari, etc.; chick pea var. Digvijay, Vishal, Phule Vikram, GG-5; rabi sorghum varieties- Phule Suchitra, Phule Anuradha, Phule Revati, Phule Vasudha; Bajra var. Dhanshakti and Adishakti; soybean var. Phule Sangam; rice var. GNR-3; sugarcane var. GNS-10 (Co N 13073) and new vegetables and fruits varieties (e.g. pomegranate var. Bhagwa; drumstick var PKM-1; bottle gourd var. Pusa Navin; cucumber var. Guj. Kakdi-1; ridge gourd var. GRG-2 and so on). Among Livestock, Buffalo (Jaffrabadi), cow (Phule Triveni) and Goat (Samgamneri) were integrated in farming system in the selected villages. Poultry strains viz. Grampriya and Kaveri became very popular for backyard rearing by the rural farm women. Fish based integrated farming system model (Rohu and Cypernus) was very effective mean for augmenting farmers' income. In low rainfall areas, farmers became very aware in rain water harvesting for cultivating off-season vegetables to fetch better remunerative prices.

This document entitled '**Farmer FIRST: Initiatives beyond Production and Productivity**' reflects detailed information about the projects, achievements under various activities, upscalable technology modules, success stories, awards etc. by implementing institutes under ICAR-ATARI Pune. As Director of this institute, I thankfully acknowledge the guidance received from Agricultural Extension Division, Indian Council of Agricultural Research, New Delhi. Thanks are also due to all Principal Investigators of the concerned institutes, scientists and staff of ICAR-ATARI, Pune for their tireless efforts in preparing this publication.

Dated: 24<sup>th</sup> July, 2023

*Subrata Kumar Roy*

(S. K. Roy)  
Director







## EXECUTIVE SUMMARY

Division of Agricultural Extension, ICAR has implemented Farmer FIRST project in India. In Zone-VIII, ATARI, Pune has three centres (Mahatma Phule Krishi Vidyapeeth, Rahuri (MPKV) Rahuri, Navsari Agricultural University (NAU), Gujarat and Junagadh Agricultural University (JAU), Gujarat) were identified for implementing the Farmer FIRST project.

Under farmer FIRST project, MPKV centre, NAU centre and JAU centre, 3553, 3116 and 3458 farmers were covered respectively. Under MPKV centre, on 649.40 hectare, under crop based module, different crops like Red gram, Chickpea, Bajra, Soybean and Rabi Sorghum were demonstrated. A total of 56 training activities were conducted covering 2878 farmers. Under different extension activities, 157 activities were covered and 5054 beneficiaries were benefitted. Under content mobilization different WhatsApp messages (6519), voice calls (11385) were disseminated to 5118 farmers.

Under NAU centre, on 191.46 hectare, under crop based module, different crops like Rice and Sugarcane were demonstrated. A total of 77 training activities were conducted covering 2605 farmers. Under different extension activities, 104 activities were conducted and 2882 beneficiaries were benefitted with different Extension activities. Under content mobilization different WhatsApp messages (1126), voice calls (5370) were disseminated to 3175 farmers.

Under JAU centre, on 520.15 hectare, under crop based module, different crops like Groundnut, Cotton, Wheat, Sesame and Gram were demonstrated. A total of 464 training activities were conducted covering 12541 farmers. Under different extension activities, 4529 activities were conducted and 32141 beneficiaries were benefitted with different Extension activities. Under content mobilization different WhatsApp messages (1929), voice calls (13406) were disseminated to 6970 farmers.



## Chapter 1: Introduction

Indian agriculture embraces diverse actors in its endeavor to feed 1.21 billion people. The small, marginal and landless farmers are extremely vital for ensuring food security as the land holdings are shrinking day by day. The contribution of women farmers is also immense particularly in on farm operations, harvesting, postharvest management, savings and in other activities especially in horticulture and animal husbandry sectors. The ever increasing population, climate change, changing dietary habits are continuously putting pressure on agricultural sector. Farmers tend to get interested in farming when they get profit and regular assured income.



In today's scenario, innovation and technology form the key to address growing challenges in agriculture. Therefore, the innovations/technologies developed by scientists and farmers need to be identified, experimented and integrated. The innovation development process consists of all the decisions, activities, and their impacts that occur starting from recognition of a need or problem, through research, development and its diffusion and adoption by users.

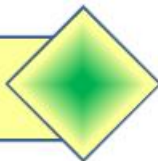
There is a growing perception that the emerging demand of the farmers about the recent technological and institutional needs, are not adequately addressed. Also, many a times, research system is not getting adequate feedback to plan and conduct demand driven research consequently, a gap exists in the quality of research output required at the farm level and that being developed. It is also being perceived that the research system should play a pro-active role in reaching to the farmers for getting first-hand information, farmers' perceptions, feedback on generated technologies and develop new, more appropriate processes, methodologies and technologies for diverse farm environments.

The Farmer FIRST (Farm, Innovations, Resources, Science and Technology) programme aims at enriching Farmers–Scientist interface, technology assemblage, application and feedback, partnership and institutional building and content mobilization has been initiated since October, 2016. 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 (FFP) is an ICAR initiative to move beyond the production and productivity, to privilege the smallholder agriculture and complex, diverse and risk prone realities of majority of the farmers through enhancing farmers-scientists interface. There are concepts and domains that are new in emphasis like resource management, climate resilient agriculture, production management including storage, market, supply chains, value chains, innovation and information systems, etc. The Farmer FIRST as a concept of ICAR is developed as farmer in a centric role for research problem identification,







prioritization and conduct of experiments and its management in farmers' conditions. The focus is on farmer's Farm, Innovations, Resources, Science and Technology (FIRST). Two terms 'enriching knowledge' and 'integrating technology' qualify the meaning of Farmer FIRST in Indian context. Enriching knowledge signifies the need for the research system as well as farmers to learn from each other in context to existing farm environment, perception of each other and interactions with the sub-systems established around. Technology integration is looked from the perspective that the scientific outputs coming out from the research institutions, many times do not fit as such in the farmers' conditions and thus, certain alterations and adaptations are required at field level for their acceptance, adoption and success.

The past efforts brought lot of success in terms of raising production and productivity and addressing issues of the farmers and the technology was considered as a vital factor in the production system and farmer as a recipient of the technology outputs. The knowledge and innovations of the farmers were not valued much and their presence was relegated at most as a participant but not as a partner in the experimentations. The wisdom available with the farmers was also not channelized so much to derive suitable options for different production systems. The participation of multiple stakeholders was also not taken up in perspective for technology development, integration and adoption. Now the situation has changed drastically in terms of increased number of smallholders, growing proposition of women-led agriculture, need for higher return per unit area and addressing the changing socio-economic environment, etc. This necessitates new approach for project development involving innovation and technology development with the strong partnership of the farmers for developing location specific, demand driven and farmer friendly technological options.



Farmers tend to face problems related to production and natural resource management but they might not have found out solutions to overcome them. In such situations, Farmer FIRST is an opportunity for the researchers, extension professionals and farmers to work together and find appropriate ways through assessing different solutions. During the production process, farmers often evolve new ideas to improve their cultivation and natural resource management activities. This creates a space for researchers, extensionists and farmers to design and organize new experiments. Farmer FIRST can be applied not only at household level but also at village and community level as community experimentation. Usually, the experiments are managed at the individual farmer's level who are involved in the project or who are selected by the village as the representatives to conduct experiments. In addition, there are some cases where experiments focus to solve problems of the whole village. Farmer FIRST is a concept in which the farmers participate in the research process with scientists. Research questions are found out together with selected farmers or the whole village and villagers' participation in monitoring experiments with scientists. The aim is to find out new ways of doing and bringing in synergy of the stakeholders. The experiments need to be adapted to specific conditions of a farming system and to have the participation of farmers as well as scientists. Especially they must acknowledge local wisdom as a vital element for the development of useful innovations. The role of extensionists is to ensure implementation. Farmer FIRST will create linkages between farmers-researchers and extensionists to support farmers to conduct appropriate experiments selected by them. It will



help researchers and extensionists understand and know real needs of villages. In this process, priority does not come from researchers or extensionists but from the end users of results of research and technology development.

## Role of Stakeholders

### Farmers

- Actively manage, implement and monitor experiments/trials.
- Use labour and available resources to conduct experiments/trials.
- Closely link with extension and research in the process.
- Share their experiences with other farmers

### Researchers/teachers

- Researchers have responsibilities to implement research and technology development in reality.
- Study local knowledge, analyse issues of farmers together with them, identify and prioritize problems.
- Participate in the whole process together with farmers and extensionists, provide technology information, scientific knowledge to support the implementation.
- Involve farmers in monitoring, documentation and evaluation of experiments.

### Extensionists

- Create farmer-scientist interface, organize farmer to farmer experience exchange, developing literature and extension materials based on experiment results and disseminating results.



## Benefits

### Farmers and villagers

- Farmers get an opportunity to solve their problems or try out new ideas that they themselves could not do without the support of the researchers and extensionists.
- Improve experimenting and technology development capacity.
- Learn and share production experience with outside actors and other farmers.
- Better access to extension programmes, services and information about technologies, markets, prices, etc.





### *Researchers and teachers*

- Learn local wisdom through working with the farmers and extensionists.
- Implement research that suit farmers' conditions.
- Improve research methods and facilitate field based learning.
- Improve knowledge and skills in participatory research approaches.

### *Extensionists (Field Extension Officials)*

- Learn new extension tools and methods which satisfy farmers' needs.
- Improve their capacity through close monitoring of experiments, a learning-by-doing process.
- Better access to scientific and local knowledge.
- Get support of the farmers for better spread of results through "farmer-to-farmer" sharing.

### **Aims and Objectives of FFP**

Farmer FIRST programme aims at enhancing farmer-scientist interface for technology development and application. It will be achieved with focus on innovations, technology, feedback, multiple stakeholder's participation, multiple realities, multi method approaches, vulnerability and livelihood interventions. The specific objectives are:

- To enhance farmer-scientist interface, enrich knowledge and facilitate continued feedback.
- To identify and integrate economically viable and socially compatible technological options as adoptable models for different agro-ecological situations.
- To develop modules for farm women to address drudgery reduction, income enhancement and livelihood security.
- To study performance of technologies and perception of the farmers about agriculture as a profession in the rural settings.
- To build network of linkages of organizations around the farm households for improving access to information, technology, input and market. To institutionalize Farmer FIRST process.





## Components of FFP

### *i) Enhancing Farmer –Scientist Interface*

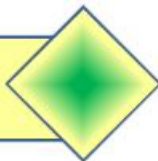
Enabling involvement of researchers for continuous interaction with farm conditions, problem orientation, exchange of knowledge between farmers and other stakeholders, prioritization of problems and setting up of research agenda.

- This component will create a strong farmer-scientist bond for continuous exchange of idea, innovations, resources, feedback for development of appropriate technology and human resource development.
- Identification of farm innovators and grooming them as technology agents for farmer to farmer technology dissemination, up-scaling and out-scaling.
- Regular visits of project team and other scientists to project site for orientation of problems and ground realities.
- Multi stakeholders' participation in building strong farmer-scientist interaction.
- Regular interactions of farmer-scientist at institute and project site through trainings, visits, workshops, interfaces, extension activities, etc.

### *ii) Technology Assemblage, Application and Feedback*

- Integrating components of technology for application in different agro-ecosystems will focus on innovations and feedback.
- Crop based modules will focus on intensification and diversification of existing systems with introduction of new varieties and technologies to substantially enhance income. On site input management like seed production by farmers through training, timely supply of quality seeds and resource management may be major activities.
- Horticulture based module will focus on seed production and nursery management, vegetable, fruit production, floriculture, post-harvest management, poly house technology and adoption of new technologies.
- Livestock based module will focus on raising the production and productivity of existing livestock, introduction of new breeds, animal health management, development of viable milk production units, poultry and fisheries. The livestock related different modules are to be developed as per the micro farming situations and socioeconomic status of the farmers.
- Enterprise based module will cover various income generating activities like seed and other inputs production, bee keeping, mushroom production, vermi-compost production, handicraft, processing and value addition, marketing through federating farmer groups etc. The farmers, youth, landless and farm women may be important target groups.





- NRM based module will have the insight to work upon natural resource management, climate resilient agriculture, use of resource conservation technologies, water harvesting and micro irrigation, micro-organisms, land races and bio diversity etc.
- Integrated Farming Systems (IFS) module emphasize different categories of land holders based on resource availability, socioeconomic conditions, risk bearing capacity, market availability etc.

### *iii) Partnership and Institution Building*

Building partnerships involving different stakeholders, development of rural based institutions, agro-ecosystem and stakeholders analysis and impact studies.

- Creation of models of partnerships
- Institution building for bringing professionalism, leadership, marketing ability, organizing capability among farmers, database creation on perception, attitude and agricultural scenario.

### *iv) Content Mobilization*

Project platform having institutions as partners will be used to develop specific contents for e-enabled knowledge sharing.

- Identification and pooling of available transferrable technologies available with different institutions.
- Project outcome to be utilized as part of content.
- Preparation of knowledge models as network representation of agricultural knowledge.
- Content management platform enabling off and online access.

## **Operational Area and Participating Institutions**

52 ICAR Institutes and SAUs has implemented the project at field level. One institute has adopted about 1000 farm families spread over in nearby 2-4 villages. The farmers are major target groups with emphasis on small and marginal farmers and farm women. The four ICAR institutes like NAARM, NCAP, IASRI and DKMA provide support to the project in development of processes and methodologies, content development, database creation and regular assessment and impact evaluation.

### **Major milestones**

1. Institutes to work with 1000 farm-families at one location involving 2-4 villages.
2. Engaging 20% time of scientists for interface and project work.
3. The project team may undertake number of visits as and when required. However, other scientists of the institute to undertake required number of visits of the project site in a year and get involved in different project activities related to problem identification, prioritization, technology assessment, refinement, technology development, input production and management and impact assessment.





4. Participation of project team and institute scientists at institute, village, district and state level interfaces with farmers and other stakeholders.
5. Directory of prioritized problems and development of technology modules with farmers participation.
6. Awareness and capacity building of farmers and other stakeholders in important areas concerning agriculture and allied sectors.
7. Production of farm level technology inputs.
8. Socio-economic development of farm-households.
9. Development of database, information system and rural based institutions for technology, input, market and product management.
10. Creation of network for germplasm collection and characterization.
11. Development of strong linkage of NARS vis-à-vis farmers, development departments and other agencies.

### **Under this project, ICAR-ATARI, Pune has 3 centres as follows:**

1. Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra
2. Navsari Agricultural University, Navsari, Gujarat
3. Junagadh Agricultural University, Junagadh, Gujarat

Farmer FIRST project has been implemented in these centres since 2016-17. Different technological demonstrations have been conducted under various modules and an effort has been taken to empower the farmers technically. Centre wise details of different projects under FFP is given below.

#### **❖ Name of Institute: Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra**

**Title of the Project:** Socio-economic Empowerment of Farmers through Farming System Interventions for Sustainable Agriculture Development in Ahmednagar District

**Name and designation of PI:** Dr. P. B. Kharde, Officer Incharge, Communication Centre & Principal Investigator, ICAR Farmer FIRST program, Mahatma Phule Krishi Vidyapeeth, Rahuri.

#### **Name and designation of Co-PIs with affiliating institute:**

- ❖ Dr. A. G. Durgude, Assistant Professor (SS & AC), MPKV, Rahuri
- ❖ Dr. R. P. Anghale, Assistant Professor (Agron.), MPKV, Rahuri
- ❖ Prof. M. H. Gawade, Assistant Professor (Hort.), MPKV, Rahuri
- ❖ Dr. N. S. Kute, Senior Scientist, Pulse Improvement Project, MPKV, Rahuri
- ❖ Dr. A. B. Kambale, Associate Professor (Agron), MPKV, Rahuri
- ❖ Dr. U. S. Surve, Associate Professor (Agron), MPKV, Rahuri
- ❖ Dr. B. A. Deshmukh, Technical Officer, MPKV, Rahuri
- ❖ Dr. S. S. Mandakmale, Associate Professor (ASDS), MPKV, Rahuri
- ❖ Dr. R. G. Nimse, Assistant Professor (ASDS), MPKV, Rahuri
- ❖ Dr. S. S. Sadaphal, Technical Officer, MPKV, Rahuri
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- ❖ Dr. S. D. Patil, Assistant Professor (Agril. Extn.), MPKV, Rahuri
- ❖ Shri. V. R. Shedge, Senior Research Fellow, MPKV, Rahuri
- ❖ Shri. K. P. Magar, Field Assistant, MPKV, Rahuri
- ❖ Shri. R. D. Korhale, Field Assistant, MPKV, Rahuri





**Name of Institute: Navsari Agricultural University, Navsari, Gujarat**

**Title of the Project:** Ensuring Livelihood Security for Small and Marginal Farmers of South Gujarat

**Name and designation of PI:** Dr. Alpesh Leua, Associate Professor, ACHF, Navsari Agricultural University, Navsari.

**Name and designation of Co-PIs with affiliating institute:**

- ❖ Dr. V. P. Usdadia, Research Scientist, Soil and Water Management Research Unit, NAU, Navsari
- ❖ Dr. H. M. Viradia, Associate Professor (Agronomy), NMCA, NAU, Navsari
- ❖ Dr. L. K. Arvadiya, Associate Professor (Agronomy), N.M.C.A., NAU, Navsari
- ❖ Dr. B. M. Tandel, Associate Professor (Horticulture), ACOHF, NAU, Navsari
- ❖ Dr. N. B. Patel, Associate Professor (Veterinary), Veterinary college, NAU, Navsari
- ❖ Dr. C. D. Chauhan, (Senior Research Fellow)
- ❖ Mr. A. N. Patel, (Field Assistant)
- ❖ Miss. V. J. Ahir, (Field Assistant)

**Name of Institute: Junagadh Agricultural University, Junagadh**

**Title of the Project:** Integrated Resource Management in Agriculture and Allied Fields for Stakeholders under FFP

**Name and designation of PI:** Dr. V. J. Savaliya, Principal Investigator & Training Associate, Junagadh Agricultural University, Junagadh.

**Name and designation of Co-PIs with affiliating institute:**

- ❖ Dr. A. M. Bharadiya, Associate Research Scientist, Main Oilseed Research Station, JAU, Junagadh
- ❖ Dr. P. J. Gohil, Training Associate, DEE, JAU, Junagadh
- ❖ Dr. H. C. Chhodavadia, Associate Extension Educationist DEE, JAU, Junagadh
- ❖ Dr. V. B. Bhalu, Assistant Professor, Department of Agronomy, JAU, Junagadh
- ❖ Dr. S. S. Parikh, Assistant Research Scientist, Cattle Breeding Farm, JAU, Junagadh
- ❖ Dr. I. B. Kapadiya, Assistant Research Scientist, Wheat Research Station, JAU, Junagadh
- ❖ Prof. S. R. Vasava, Assistant Research Scientist, Pulse Research Station, JAU, Junagadh
- ❖ Prof. A. S. Jadeja, Assistant Professor, Department of Agril. Chemistry, JAU, Junagadh
- ❖ Dr. P. B. Raviya, Senior Research Fellow, DEE, JAU, Junagadh
- ❖ Mr. L. K. Mokariya, Field Assistant, DEE, JAU, Junagadh
- ❖ Mr. C. B. Gal, Field Assistant, DEE, JAU, Junagadh

At the time of preparing project proposal, groups of scientists from various disciplines visited their targeted villages, organized many interface meetings with farmers, and conducted baseline survey to finalize/include the required interventions for different modules (e.g. crop based, horticulture based, livestock based, enterprise based, NRM based and IFS based modules). Each project was given a target to cover 500-1000 farm families spread over in nearby cluster of 2-4 villages. Small and marginal farmers and farm women were the major target groups. Various activities including farmer-scientist interface meet, providing capacity building training, inputs distribution, literatures distribution, feedback collection and analysis, technical guidance to the farmers etc. were conducted at the time of implementation of the project. Every year, all the projects were reviewed very critically by the Committee at ATARI level (ZPMC) and at Council level (PMC) for further improvement. Farmers' fields were also visited by the committee time to time. Various activities

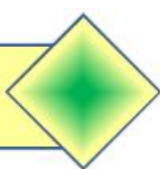


and salient achievements during the year 2017 to 2023 have been discussed under different modules and are presented below

**Table 1. Year wise Number of Farmers benefitted and Area covered under FFP**

Year	No. of Farmers	Area	No. of Animals	Modules
2017-18	1357	515	210	20
2018-19	1569	359.34	110	27
2019-20	1929	408.31	170	30
2020-21	1879	388.39	170	31
2021-22	1484	274.82	120	28
2022-23	1196	266.64	110	23





## Chapter 2: Coverage of different technological interventions in FFP villages

### MPKV Rahuri

**Table 2. Crop Based module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity Produced (q)	No. of farmers covered
2017-18	Red gram	Vipula	Chinchvihire	4	80	10
	Chickpea	Digvijay		27	580	67
	Rabi Sorghum	Phule Suchitra, Phule Anur adha, Phule Revati		80	1464	200
2018-19	Bajra	Dhanshakti and Adishakti	Chinchvihire and Kangar	40	1210	100
	Red gram	BDN- 711		20	380	50
	Rabi Sorghum	Phule Revati and Phule Vasudha		40	732	100
	Chickpea	Digvijay and Vishal		20	430	50
2019-20	Bajra	Dhanshakti and Adishakti	Chinchvihire and Kangar	40	1080	100
	Red gram	Phule Rajeshwari		20	390	50
	Rabi Sorghum	Phule Revati, Phule Vasudha, Phule Suchitra, Phule Anuradha		40	778	100
	Chickpea	Phule Vikram		20	380	50
2020-21	Red gram	Phule Rajeshwari	Chinchvihire, Kangar, Tambhere and Kanadgaon	10	215	25
	Soybean	Phule Sangam		10	245	25
	Chickpea	Phule Vikram		20	380	50
	Rabi sorghum	Phule Revati, Phule Vasudha, Phule Suchitra, Phule Anuradha		40	G- 840 F- 1840	100
	Bajra	Dhanshakti and Adishakti		40	1080	100
2021-22	Red gram	Phule Rajeshwari	Chinchvihire, Kangar, Tambhere and Kanadgaon	20	420	50
	Soybean	Phule Sangam		20	620	50
	Chickpea	Phule Vikram		24	480	60
	sorghum	Phule Rewati		50	1025	125
2022-23	Soybean	Phule Sangam	Chinchvihire, Kangar, Tambhre and Kanadgaon	30	960	75
	Red gram	BDN-711		10	220	25
	Chickpea	Phule Vikram		4.4	92.4	11
	Rabi sorghum	Phule Revati		20	G-420 F-960	50

Under crop based module, different crops like Red gram, Chickpea, Bajra and Rabi Sorghum were demonstrated. In 2017-18, Red gram (Vipula variety) was demonstrated in Chinchvihire village on 4 hectare



for 10 farmers that yielded 80 q. Chickpea (Digvijay variety) was demonstrated for 67 farmers that yielded 580 q on 27 hectare. Similarly the demonstration on Rabi Sorghum (Phule Suchitra, Phule Anuradha, Phule Revati variety) was conducted on 80 hectare for 200 farmers and yielded 1464 q.

During 2018-19, Bajra (Dhanshakti and Adishakti variety) was demonstrated on 40 hectare for 100 farmers (Yield: 1210 q). Under Red gram, BDN- 711 variety was demonstrated for 50 farmers (Yield: 380 q). Rabi Sorghum (Phule Revati and Phule Vasudha variety) was demonstrated in Chinchvihire and Kangar villages on 40 hectare for 100 farmers (Yield: 732 q). Chick pea (Digvijay and Vishal variety) was demonstrated for 50 farmers on 20 ha that provided 430 q yield.

In 2019-20, Bajra, Red gram, Rabi Sorghum and Chickpea were demonstrated. Under Bajra (Dhanshakti and Adishakti variety) was demonstrated on 40 hectare for 100 farmers that provided 1080 q yield. Red gram (Phule Rajeshwari variety) was demonstrated successfully for 50 farmers. Red gram produced yield of 390 q from 20 ha area. Similarly the demonstration on Rabi Sorghum (Phule Revati, Phule Vasudha, Phule Suchitra, Phule Anuradha variety) was conducted on 40 hectare for 100 farmers and yielded 778 q. Chick pea (Phule Vikram variety) was demonstrated for 50 farmers.

In 2020-21, Red gram, Soybean, Chickpea, Rabi Sorghum and Bajra were demonstrated. Red gram (Phule Rajeshwari variety) was demonstrated successfully for 25 farmers. Red gram produced yield of 215 q from 10 ha area. Soybean variety Phule Sangam was demonstrated on 10 ha area for 25 farmers (Yield: 245 q). Chick pea (Phule Vikram variety) was demonstrated for 50 farmers. Similarly the demonstration on Rabi Sorghum (Phule Revati, Phule Vasudha, Phule Suchitra, Phule Anuradha variety) was conducted on 40 hectare for 100 farmers and yielded 840 q grain and 1840 q fodder. Under Bajra (Dhanshakti and Adishakti variety) was demonstrated on 40 hectare for 100 farmers that provided 1080 q yield.

In 2021-22, Redgram, Soybean, Chickpea and Sorghum was demonstrated in Chinchvihire, Kangar, Tambhere and Kanadgaon villages. Red gram (Phule Rajeshwari variety) was demonstrated on 20 hectare for 50 farmers that yielded 420 q. Soybean variety Phule Sangam was demonstrated on 20 ha by 50 farmers that yielded 620 q of soybean. Chickpea (Phule Vikram variety) was demonstrated for 60 farmers that yielded 480 q on 24 hectare of area. Similarly the demonstration on Sorghum (Phule Revati variety) was conducted on 50 hectare for 125 farmers and yielded 1025 q.

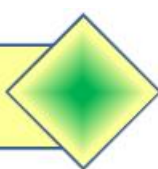
In 2022-23 soybean (Variety Phule Sangam) was demonstrated on 30 ha area for 75 farmers that provided yield of 960 q. Red gram (BDN-711 variety) was demonstrated for 25 farmers on 10 ha area that provided yield of 220 q. Chickpea (Phule Vikram variety) was demonstrated on 4.4 ha area for 11 farmers that provided yield of 92.4 q. Whereas Rabi Sorghum (Phule Revati variety) was demonstrated 50 farmers on 20 ha for that yielded 420 q of grains and 960 q of fodder.

**Table 3. Horticulture Based Module technological interventions**

Year	Crop/ Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Pomegranate Production technology	Bhagwa	Chinchvihire and Kangar	20	3805	50
2018-19	Pomegranate Production technology	Bhagwa		20	3911	50
2019-20	Pomegranate Production technology	Bhagwa		20	3790	50







Year	Crop/ Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2020-21	Pomegranate production technology	Bhagwa		20	3790	50
2021-22	Pomegranate production technology	Bhagwa	Chinchvihire, Kangar, Tambhere and Kanadgaon	20	3200	50
2022-23	Pomegranate production technology	Bhagwa		20	3790	50

Under horticulture module, Pomegranate Production technology was demonstrated in Chinchvihire and Kangar village for Bhagwa variety. From 2017-18 to 2020-21 Bhagwa variety was demonstrated on 20 hectare for 50 farmers. On an average it yielded 3805 q. In 2021-22 and 2022-23, Pomegranate production technology (Bhagwa variety) was demonstrated in Chinchvihire, Kangar, Tambhere and Kanadgaon villages on an area of 20 ha for 50 farmers that provided yield of 3790 q.

**Table 4. Livestock Based Module technological interventions**

Year	Crop/ Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Artificial Insemination	Phule Triveni	Chinchvihire and Kangar	100 families	-	100
2018-19	Artificial Insemination	HF	Chinchvihire and Kangar	100 families	-	100
	Fodder seats	Phule Gunvant		3 ha.	36000 q.	50
2019-20	Goat rearing	Sangamneri	Chinchvihire and Kangar	50 families	Rs. 48000/ family	50
	Fodder seats	Phule Gunvant		3 ha.	37000 q.	50
	Silage preparation	-		65 bags	650 q.	65



Under Livestock Based Module, in 2017-18 Phule Triveni cow breed was demonstrated for Artificial Insemination in Chinchvihire and Kangar villages for 100 animals. In 2018-19, Artificial Insemination programme was conducted for HF cows and a fodder crop demonstration was conducted for Phule Gunvant variety on 03 hectare for 50 farmers. During 2019-20, under goat rearing, Sangamneri breed was demonstrated for 50 farmers and Phule Gunvant variety (03 ha.) along with Silage preparation (65 bags) were also demonstrated.



**Table 5. Entrepreneurship Module technological interventions**

Year	Crop/ Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2018-19	Dal Mill	PKV mini dal mill	Chinchvihire and Kangar	Two Women Self Help Group	4 q.	15
2019-20	Dal Mill	PKV mini dal mill	Chinchvihire and Kangar	Two Women Self Help Group	9.2 q.	15
2020-21	Dal Mill	PKV mini dal mill	Chinchvihire and Kangar	Two Women Self Help Group	9.5	20
2021-22	Dal Mill	PKV mini dal mill	Chinchvihire, Kangar, Tambhere and Kanadgaon	Two Women Self Help Group	10	20
2022-23	Dal Mill	PKV mini dal mill	Chinchvihire, Kangar, Tambhere and Kanadgaon	Two Women Self Help Group	11	20



Under Entrepreneurship Module, in 2018-19 PKV mini dal mill was demonstrated in Chinchvihire and Kangar village for two women Self Help Group covering 15 farmers. Same demonstration was conducted in 2019-20 and 2020-21 also. Similarly in 2021-22 and 2022-23 PKV mini dal mill was demonstrated in Chinchvihire, Kangar, Tambhere and Kanadgaon villages for two women Self Help Group covering 20 farm womens.

**Table 6. NRM Based module technological interventions**

Year	Crop/ Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2019-20	In situ soil moisture conservation	Rabi Sorghum	Chinchvihire and Kangar	40 ha	915 q.	100
	Vermicomposting	Eisenia fetida		15 farmers	8.2 q	15
2020-21	In situ soil moisture conservation	Rabi Sorghum	Chinchvihire and Kangar	40 ha	Increase in yield Up to 25 %	100
2021-22	In situ soil moisture conservation	Rabi Sorghum	Chinchvihire, Kangar, Tambhere and Kanadgaon	50	Increase in yield Up to 25 %	125
2022-23	In situ soil moisture conservation	Rabi Sorghum	Chinchvihire, Kangar, Tambhere and Kanadgaon	20	Increase in yield Up to 25 %	50





Under NRM based module, in 2019-20 and 2020-21 in-situ soil moisture conservation technique on Rabi Sorghum was demonstrated in Chinchvihire and Kangar village for 100 farmers on 40 hectare, also Vermicomposting technology was demonstrated in 2019-20 for 15 farmers. In 2021-22 in-situ soil moisture conservation technique on Rabi Sorghum was demonstrated in Chinchvihire, Kangar Tambhere and Kanadgaon villages for 125 farmers on 50 hectare area and in 2022-23, same technology was demonstrated for 50 farmers on 20 ha area.



**Table 7. Integrated Farming System based module technological interventions**

Year	Crop/ Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Backyard poultry	Grampriya	Chinchvihire	20 families	Eggs – 108000 Male birds selling –480 nos	20
	Farm pond fishery	Rohu and Cypernus	Chnchvihire and Kangar	40 farm ponds	20000 Kg	40
2018-19	Back yard poultry	Grampriya	Chnchvihire and Kangar	100 families	Eggs- 510900 Male birds selling –2300 nos	100
2019-20	Backyard poultry	Grampriya	Chnchvihire and Kangar	100 families	Eggs- 520000 Male birds selling –2380 nos	100
2020-21	Backyard Poultry	Grampriya	Chnchvihire and Kangar	100 families	Eggs- 520000 Male birds selling –2380 nos	100
	Goat Rearing	Sangamneri			-	50
	Vermicomposting	Eisenia fetida			-	35
	Silage preparation	-			-	50
2021-22	Backyard poultry	Kaveri	Chinchvihire, Kangar, Tambhere and Kanadgaon	100 families	7200 nos of birds	120
2022-23	Vermicomposting	Eisenia fetida	Chinchvihire, Kangar, Tambhere and Kanadgaon	100 families	-	20
	Silage preparation	-			-	50
	Goat Rearing	Sangamneri			-	50

Under Integrated Farming System Based Module, in 2017-18 Grampriya breed of Backyard poultry was demonstrated in Chinchvihire village for 20 farm families and it yielded 108000 eggs. Under Farm pond fishery, Rohu and Cypernus was demonstrated in Chinchvihire and Kangar village on 40 farm ponds. In 2018-19 and 2019-20, Grampriya breed of Backyard poultry was demonstrated in Chnchvihire and Kangar village for 100 farmers and it yielded 510900 eggs. In 2020-21 demos like Backyard poultry (Breed Grampriya), Goat rearing (Breed Sangamneri), Vermicomposting and Silage preparation were conducted covering 100, 50, 35 and 50 number of farmers. In 2021-22 Kaveri breed of Backyard poultry was demonstrated in Chinchvihire Kangar, Tambhere and





Kanadgaon villages that provided 7200 number of poultry birds for 100 farm families. In 2022-23 Vermicomposting, Silage preparation and Goat rearing modules were conducted for 120 farmers.



**Table 8. Dairy/Poultry/Goatery/Any other animal farming**

S.No.	Components	Village/ Animals	Area Covered (ha)	No. of farmers covered
1.	Dairy			
	Name of fodder variety	Phule Jayvant and Phule Gunvant	06 ha.	100
		Silage preparation	-	65
2.	Animal health camp	-	-	-
	Deworming	Chinchvihire and Kangar	220 farm families	220
	Vaccination - Poultry			
	Others (Pl. mention) Artificial Insemination	Chinchvihire and Kangar	-	200

Under Dairy/Poultry/Goatery/Any other animal farming, Phule Jayvant and Phule Gunvant fodder variety was demonstrated on 6 hectare for 100 farmers. Silage preparation method was also demonstrated for 65 farmers. Vaccination programme for Poultry was demonstrated for 220 farmers and Artificial Insemination programme was conducted in Chinchvihire and Kangar for 200 farmers.

**Table 9. Production (q) and area (ha): Before and after data on new variety of different crops**

S.No.	Name of crops	2016-17		2017-18		2018-19		2019-20	
		Before	After	Before	After	Before	After	Before	After
1.	Bajra	100 (5 ha)	-	-	-	995 q. (40 ha)	1210 q. (40 ha)	965 q. (40 ha)	1080 q. (40 ha)
2.	Red gram	-	-	56 q. (4 ha)	80 q. (4 ha)	240 q. (20 ha)	380 q. (20 ha)	290 q. (20 ha)	390 q. (20 ha)
3.	Chickpea	-	-	378 q. (27 ha)	580 q. (27 ha)	267.6 q. (20 ha)	430 q. (20 ha)	267 q. (20 ha)	380 q. (20 ha)
4.	Sorghum	-	-	990 q. (80 ha)	1464 q. (80 ha)	478 q. (40 ha)	732 q. (40 ha)	497 q. (40 ha)	778 q. (40 ha)

Before and after effect of different crops were assessed and found that for Bajra crop in 2018-19 a positive difference of 215 q/ha was observed, whereas in 2019-20 it was 115 q/ha. In case of Red gram, in 2017-18 a significant difference of 24 q/ha was observed. During 2018-19 and 2019-20 it was 140





q/ha and 100 q/ha respectively. Chickpea was grown during 2017-18 to 2019-20 and found a significant difference of 202 q/ha to 113 q/ha. In case of Sorghum a positive difference of 474 q/ha was observed on 80 hectare in 2017-18, whereas in 2019- 2020 it was 281q/ha.

**Table 10. Average yield and income of different crops demonstrations in farmers' field.**

S. No.	Name of crops	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
		Before	After	Before	After	Before	After
<b>2017-18</b>							
1	Red gram	14.2	20	63900	90000	34700	61000
2	Chickpea	14.50	21.12	65250	95040	38050	67040
3	Sorghum	Grain-12 Fodder-37.6	Grain-18.6 Fodder-45	45250	62000	20150	35200
4	Pomegranate	135	187.5	755000	1062500	587500	887500
<b>2018-19</b>							
1	Bajra	24	30.5	57888	73200	31888	47200
2	Red gram	13	19	58500	85500	25500	53500
3	Chickpea	14.38	21.50	64710	96750	31710	63750
4	Sorghum	Grain-12.52 Fodder-37	Grain-18 Fodder-44	46040	61000	19040	34000
5	Pomegranate	136.25	190	651307	1002002	500115	853877
<b>2019-20</b>							
1	Bajra	24.12	27	61200	64800	35100	39400
2	Red gram	14.50	19.50	65250	87750	32850	55750
3	Chickpea	14.20	19	67100	85500	33100	52500
4	Sorghum	Grain-12.28 Fodder-38.6	Grain-18.3 Fodder-45.9	45790	61600	17790	34600
5	Pomegranate	133	189.5	798000	1137000	603000	942000
<b>2020-21</b>							
1	Red gram	16.50	21.50	90750	118250	58350	86250
2	Soybean	19.50	24.50	87750	110250	53050	76250
3	Chickpea	14.38	19	63272	83600	31472	52600
4	Sorghum	Grain- 18.28 Fodder- 46	Grain- 21 Fodder- 46	58910	67300	30810	40300
5	Bajra	24.12	27	61200	64800	35100	39400
<b>2021-22</b>							
1	Red gram	16.5	21	90750	115500	58350	81750
2	Soybean	24.5	31	171500	217000	134600	180300
3	Chickpea	15.5	20	82150	106000	48750	73000
4	Sorghum	Grain- 18.50 Fodder-40	Grain- 20.50 Fodder-45	71950	80100	42850	51350
5	Pomegranate	6.2	8	403000	520000	314000	435000
<b>2022-23</b>							
1	Soybean	24	32	132000	176000	94800	139500
2	Red gram	16	22	88000	121000	54000	89000





S. No.	Name of crops	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
		Before	After	Before	After	Before	After
3	Chickpea	15.50	21	85250	115500	52250	83000
4	Rabi Sorghum	Grain- 19 Fodder-42	Grain-21 Fodder-48	77500	86250	49500	59250

The Average yield and income of different crops demonstrations in farmers' field was observed during 2017-18 to 2022-23. During 2017-18, Red gram, Chick pea, Sorghum and Pomegranate was demonstrated and a net income of Rs. 61000, 67040, 35200 and 887500 was observed respectively. In 2018-19 Bajra, Red gram, Chickpea and Sorghum crops were demonstrated with net income of 47200, 53500, 63750 and 34000 Rs. Respectively. During 2019-20, Bajra, Red gram, Chick pea, Sorghum and Pomegranate was demonstrated and a net income of Rs. 39400, 55750, 52500, 34600 and 942000 was obtained per hectare. In 2020-21 Red gram, Soybean, Chick pea, Sorghum and Bajra was demonstrated with net income of Rs. 86250, 76250, 52600, 40300 and 39400 respectively. Red gram, Soybean, Chick pea, Sorghum and Pomegranate was demonstrated in 2021-22 with net income of Rs. 81750, 180300, 73000, 51350 and 435000 respectively, whereas in 2022-23, Soybean, Red gram, Chick pea and Rabi Sorghum was demonstrated that showed net income of Rs. 139500, 89000, 83000 and 59250 respectively.

**Table 11. Capacity building programmes**

S. No.	Thematic Area	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
1.	Capacity building and group dynamics		4						95	14	109
2.	Crop production		2	4	4	5	6	5	1005	346	1351
3.	Entrepreneurship Development										
4.	Farm Implements										
5.	Livestock Production and Management		4	2	1	4	2		685	171	856
6.	Natural Resource Management				1	1		1	145	15	160
7.	Nutrition Security						1		59	21	80
8.	Plant Protection			1					74	9	83
9.	Processing and Value Addition		1	1	1				12	20	32
10.	Production of Inputs at site							2	70	10	80
11.	Soil Health and Fertility Management		1		1			1	103	24	127
12.	Women Empowerment										
	<b>Total</b>	<b>0</b>	<b>12</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>09</b>	<b>9</b>	<b>2248</b>	<b>630</b>	<b>2878</b>





Different Capacity building programmes were conducted for farmers and farm women. During 2017-18, 12 programmes were conducted whereas in 2018-19 and 2019-20 it was 08 and 08 respectively. In 2020-21, 2021-22 and 2022-23, 10, 09 and 09 Capacity building programmes were conducted for farmers and farm women respectively. A total of 2878 beneficiaries were benefitted with different capacity building programmes.

**Table 12. Extension activities**

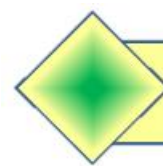
S.No.	Programmes	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
1.	Advisory Services		1	1	1	5	9	5	805	290	1095
2.	Celebration of important days						3	3	155	40	195
3.	Diagnostic visits		4	5	5	5	5	7	472	218	690
4.	Exhibition		3	4	4		1	2	250	155	405
5.	Exposure visits		3	2	1		1	1	282	89	371
6.	Ex-trainees Sammelan										
7.	Farm Science Club					2		1	60	25	85
8.	Farmers' seminar/workshop		2		3	2			156	29	185
9.	Field Day										
10.	Film Show										
11.	Group discussions		6	6	5	7	5	6	617	123	740
12.	KisanGhoshthi		3	3	2	0	1		278	120	398
13.	KisanMela										
14.	Method Demonstrations							7	210	30	240
15.	Plant/animal health camps		3	3	3	3	3		425	225	650
	<b>Total</b>	<b>0</b>	<b>25</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>28</b>	<b>32</b>	<b>3710</b>	<b>1344</b>	<b>5054</b>

Different Extension activities (Advisory Services, Diagnostic visits, Exhibition, Group discussions, Plant/animal health camps etc.) were conducted for farmers and farm women. During 2017-18, 25 programmes were conducted whereas in 2018-19 and 2019-20 it was 24 and 24 respectively. In 2020-21, 2021-22 and in 2022-23, 24, 28 and 32 number of Extension activities were conducted for farmers and farm women respectively. A total of 5054 beneficiaries were benefitted with different Extension activities programmes.

**Table 13. Content Mobilization**

Module	WhatsApp			No. of voice calls		No. of Text message	No. of villages covered	No. of Farmers covered
	No. of chats	No. of videos	No. of clips	Outgoing	Incoming			
<b>Crop based modules</b>								
<b>2017-18</b>	75	4		450	250	-	2	300
<b>2018-19</b>	90	7		500	300	-	2	350
<b>2019-20</b>	150	7		600	300	-	2	300
<b>2020-21</b>	1000	05	02	900	300	0	2	300

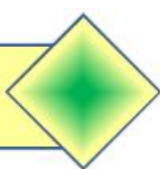




Module	WhatsApp			No. of voice calls		No. of Text message	No. of villages covered	No. of Farmers covered
	No. of chats	No. of videos	No. of clips	Outgoing	Incoming			
2021-22	200	4	0	300	200	0	4	285
2022-23	600	5	2	600	200		4	200
<b>Horticulture based modules</b>								
2017-18	350	3		100	50	-	2	50
2018-19	330	5		120	40	-	2	50
2019-20	340	5		100	50	-	2	50
2020-21	200	03	01	150	250	0	2	50
2021-22	100	1	0	100	50	0	4	100
2022-23	50	3	1	200	150		4	50
<b>Enterprise based modules</b>								
2017-18	45	2		35	20	-	2	20
2018-19	40	3		40	30	-	2	15
2019-20	60	2		50	35	-	2	20
2020-21	50	02	01	100	20	0	2	20
2021-22	50	0	0	50	25	0	4	15
2022-23	50	2	1	50	20		4	50
<b>Livestock based modules</b>								
2017-18	330	5		400	200	-	2	300
2018-19	360	7		450	150	-	2	300
2019-20	360	7		400	150	-	2	300
2020-21	250	06	01	300	120	0	2	300
2021-22	50	1	0	300	150	0	4	170
2022-23	120	6	1	200	120		4	100
<b>NRM based modules</b>								
2017-18	-	-	-	-	-	-	-	-
2018-19	-	-	-	-	-	-	-	-
2019-20	50	2				-	2	100
2020-21	50	01	0	50	20	50	2	100
2021-22	0	0	0	0	0	0	4	0
2022-23	50	1	0	50	20		4	50
<b>Integrated farming System</b>								
2017-18	50	5		80	30	-	2	200
2018-19	70	4		90	40	-	2	200
2019-20	70	5		80	40	-	2	200
2020-21	500	05	02	400	200	0	2	200
2021-22	229	0	214	157	103	0	4	223
2022-23	200	5	2	200	150		4	150
<b>Total</b>	<b>6519</b>	<b>123</b>	<b>228</b>	<b>7602</b>	<b>3783</b>	<b>50</b>	<b>-</b>	<b>5118</b>

Under content mobilization different WhatsApp messages, voice calls and Text messages were disseminated. Under crop based module since 2017-18 to 2022-23 a total of 2151 WhatsApp messages were sent and more than 4900 voice calls were made covering 1735 farmers. Under Horticulture based modules, since 2017-18 to 2022-23 a total of 1392 WhatsApp messages were sent and more than 1360 voice calls were made covering 350 farmers. Under Enterprise based modules, since 2017-18 to 2022-23 a total of 308 WhatsApp messages were sent and more than 475 voice calls were made covering 140 farmers. Under Livestock based modules, since 2017-18 to 2022-23 a total of 1504 WhatsApp messages were sent and more than 2940 voice calls were made covering 1470 farmers. In case of Integrated farming





System module, 1361 WhatsApp messages were sent and 1570 voice calls were made covering 1173 farmers.

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**Table 14. Crop Based module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q/ha)	No. of farmers covered
2017-18	Rice	GNR-3	Hansapore, Pathari and Chijgam	40	44	100
	Sugarcane	13073		5	-	20
2018-19	Rice	GNR-3		40	47.68	100
	Sugarcane	13073		5	787	20
2019-20	Rice	GNR-3		40	32.74	100
	Sugarcane	13073		5	910.83	12
2020-21	Rice	GNR-3		40	32.74	100
	Sugarcane	13073		6.32	914.24	15
2021-22	Sugarcane	GNS-10 (Co N 13073)		7.64	917.65	17
2022-23	Sugarcane	GNS-10 (CoN 13072)		Kesali, Vadsangal, Changa	2.5	920.00

Under crop based module, different crops like Rice and Sugarcane were demonstrated. In 2017-18, Rice (GNR-3 variety) was demonstrated in Hansapore, Pathari and Chijgam villages on 40 hectare for 100 farmers yielded 44 q/ha. Sugarcane (13073 variety) was demonstrated for 20 farmers on 05 hectare.

During 2018-19, Rice (GNR-3 variety) was demonstrated in Hansapore, Pathari and Chijgam villages on 40 hectare for 100 farmers yielded 47.68 q/ha. Sugarcane (13073 variety) was demonstrated for 20 farmers on 05 hectare yielded 787 q/ha. In 2019-20, Rice (GNR-3 variety) was demonstrated in Hansapore, Pathari and Chijgam villages on 40 hectare for 100 farmers yielded 32.74 q/ha. Sugarcane (13073 variety) was demonstrated for 12 farmers on 05 hectare yielded 910.83 q/ha. In 2020-21, Rice (GNR-3 variety) was demonstrated in Hansapore, Pathari and Chijgam villages on 40 hectare for 100 farmers yielded 32.74 q/ha. Sugarcane (13073 variety) was demonstrated for 15 farmers on 6.32 hectare yielded 914.24 q/ha. In 2021-22 Sugarcane (13073 variety) was demonstrated for 17 farmers on 7.64 hectare yielded 917.65 q/ha. In 2022-23 Sugarcane (13073 variety) was demonstrated for 08 farmers on 2.5 hectare yielded 920 q/ha in Kesali, Vadsangal and Changa Villages.

**Table 15. Horticulture Based Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Mango	Application of micronutrients, PGR and fruit fly traps	Hansapore, Pathari and Chijgam	20	139	54
	Sapota			20	174	32
2018-19	Mango			75	105.50	152
	Sapota			-	-	-





Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2019-20	Mango			40	126.78	100
	Sapota			20	169.82	50
2020-21	Mango			40	126.78	63
	Sapota			20	169.82	45
2022-23	Mango	Micronutrients and PGR application (NAA) to check fruit drop	Kesali, Vadsangal, Changa	40	-	26
	Sapota	Micronutrients and PGR application (CaNO <sub>3</sub> & Boron) to improve the quality		20	-	40

Under horticulture module, Application of micronutrients, PGR and control of fruit fly using traps was demonstrated in Hansapore, Pathari and Chijgam villages. In 2017-18 on Mango plant it was demonstrated on 20 hectare covering 54 farmers and Sapota fruit on 20 hectare covering 32 farmers. In 2018-19 it was demonstrated on Mango plant on 75 ha area covering 152 farmers. During 2019-20, for Mango it demonstrated on 40 ha for 100 farmers and for Sapota on 20 hectare for 50 farmers, Whereas in 2020-21 horticulture demonstrations were taken on 40 ha for 100 farmers on Mango orchard and 20 ha for 50 farmers on Sapota orchard. In 2022-23 Mango was demonstrated on 40 ha for 26 farmers and Sapota on 20 hectare for 40 farmers



**Table 16. Livestock Based Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Balanced feeding, awareness of livestock health management deworming & preventive measures for common diseases	Provision of mineral mixtures, deworming and Preventive vaccination	Hansapore, Pathari and Chijgam	160 animals	-	90
2018-19	Application of Rubber Mat, supplementation of Mineral Mixture and Deworming	Provision of rubber mate, Mustideep, Mineral mixture and Fenbendazole		60 crossbreed cows	-	60





Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2019-20	Scientific Calf Rearing Practices- Application of Calf Statar feeding , First Aid Kit and Deworming	Provision of calf starter, First aid kit and Deworming		70 crossbreed calf	-	70
2020-21	Scientific Calf Rearing Practices- Application of Calf Statar feeding , First Aid Kit and Deworming			70 crossbreed calf	-	70
2021-22	Scientific Calf Rearing Practices- Application of Calf Statar feeding , First Aid Kit and Deworming			70 crossbreed calf	-	70



Under Livestock Based Module, in 2017-18 balanced feeding, awareness of livestock health management deworming & preventive measures for common diseases was demonstrated for 160 animals for 90 farmers. In 2018-19, Application of Rubber Mat, supplementation of Mineral Mixture and Deworming along with Provision of rubber mate, Mustideep, Mineral mixture and Fenbendazole was conducted for 60 crossbreed cows covering 60 farmers was conducted. During 2019-20, 2020-21 and 2021-22 Scientific Calf Rearing Practices- Application of Calf Statar feeding, First Aid Kit and Deworming was demonstrated for 70 animals for 70 farmers each year.

**Table 17. Entrepreneurship Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Vermi composting	Production and marketing of Vermi composting	Hansapore, Chijgam, Pathari	-	-	30
2018-19	Vermi composting	Providing the like earthworms, training will be given to selected young farmers		-	-	24
2019-20	Vermi composting	Providing the like earthworms, training will be given to selected young farmers		-	-	24



Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2020-21	Vermi composting	Providing the earthworms, training will be given to selected young farmers		-		38
2021-22	Value Added Products form Sapota, Mango and Watermelon			-		51

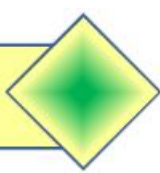
Under Entrepreneurship Module, in 2017-18 Vermi composting was demonstrated in Hansapore, Pathari and Chijgam villages for 30 farmers. Same demonstration was conducted in 2018-19, 2019-20 and in 2020-21 also covering 24, 24, 38 farmers respectively. In 2021-22 Entrepreneurship module on Value Added Products form Sapota, Mango and Watermelon was demonstrated for 51 farmers.

**Table 18. NRM Based module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Banana pseudo sap organic liquid fertilizers	Provide d NOVEL liquid organic fertilizer	Hansapore, Pathari and Chijgam	60	-	50
	Use of Biofertilizers in TP paddy	Provide d NOVEL liquid organic fertilizer		60	-	50
	Improving soil properties through soil amendment	Provided gypsum		40	-	60
2018-19	Improving soil properties through soil amendment	Provided gypsum				60
2019-20	Improving soil properties through soil amendment	Provided gypsum			-	60
2020-21	Improving soil properties through soil amendment	Provided gypsum			-	166
2021-22	Improving soil properties through soil amendment	Provided gypsum				271

Under NRM Based module, in 2017-18 Banana pseudo sap organic liquid fertilizers technique, was demonstrated in Hansapore, Pathari and Chijgam villages for 50 farmers on 60 ha area, Use of Biofertilizers in TP paddy technique demonstrated for 50 farmers on 60 ha and Improving soil properties through soil Amendment technique demonstrated for 60 farmers on 40 ha area. During 2018-19, improving soil properties through soil amendment such as gypsum technology was demonstrated for 60 farmers. During 2019-20, 2020-21 and 2021-22 same demonstration was conducted for 60, 60, 166 and 271 farmers respectively.





**Table 19. Integrated Farming System Based module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Inter cropping Indian bean in fruit crops	NPS-1	Hansapore,	10	4.98	50
	Inter cropping of Lucerne in new orchard	(Anand-2 ) TF		10	-	30
2018-19	IC of Lucerne with young sapota orchard + livestock + Vermicompost	(Anand-2 ) TF				253.50
	IC of green gram with young mango orchard + Vermicompost	Green gram- Meha			7.4	45
	Boundary plantation of drum stick	PKM-1			-	45
2019-20	IC of Lucerne with young sapota orchard + livestock + Vermicompost	(Anand-2 ) TF	Chijgam, Pathari	0.20	258	50
	IC of green gram with young mango orchard + Vermicompost	GM-6		0.11	7.9	42
	Boundary plantation of drum stick	PKM-1		5 plants/ farmer	-	76
2020-21	IC of Lucerne with young sapota orchard + livestock + Vermicompost	(Anand-2) TF		0.28	258	50
	IC of green gram with young mango orchard + Vermicompost	GM-6		0.11	7.9	42
	Boundary plantation of drum stick	PKM-1		5 plants/ farmer	-	76
2022-23	Inter cropping of Indian bean + Lucerne in newly planted and young orchard		Kesali, Vadsangal, Changa	10 ha (Lucerne) + 2 ha (Indian Bean)		99





Year	Crop/Animal/ Enterprise	Variety	Village Name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
	Intercropping of Greengram in orchard			7		89
	Intercropping of Fodder sorghum in orchard			5		79

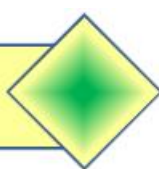
Under Integrated Farming System Based Module, in 2017-18 Inter cropping Indian bean in fruit crops (NPS-1) was demonstrated in Hansapore, Pathari and Chijgam villages for 50 farmers on 10 ha area and it yielded 4.98 q/ha. Intercropping of Lucerne in new orchard was demonstrated on for 30 farmers on 10 ha area. In 2018-19, Inter Cropping of Lucerne with young sapota orchard + livestock + Vermicompost ((Anand-2) TF), IC of green gram with young mango orchard +Vermicompost and Boundary plantation of drum stick were demonstrated for 45 farmers. During 2019-20 and 2020-21 Inter Cropping of Lucerne with young sapota orchard + livestock + Vermicompost ((Anand-2) TF) on 0.20 hectare covering 50 farmers were conducted. IC of green gram with young mango orchard +Vermicompost was conducted for 42 farmers and Boundary plantation of drum stick (PKM-1) was conducted for 76 farmers. In 2022-23 Integrated Farming System Based Module was conducted in Kesali, Vadsangal, Changa villages. Inter cropping of Indian bean (2 ha) + Lucerne (10 ha) in newly planted and young orchard was conducted for 99 farmers, Intercropping of Greengram in orchard was conducted for 89 farmers and Intercropping of Fodder sorghum in orchard was conducted for 79 farmers.

**Table 20. Dairy/Poultry/Goatery/Any other animal farming**

S.No.	Components	Animals/ Village	Animals covered	No. of farmers covered
<b>Dairy</b>				
1	<b>Name of fodder variety</b>	800 animals in 3 villages Hansapore, Chijgam, Pathari	583	153
	Lucerne, (Anand-2) TF			
2	<b>Feeding/Mineral Mixture</b>		583	153
	Amul milk co-gold(mineral)			
3	<b>Animal health camp</b>		280	95
	Deworming		583	153
	Vaccination		-	-
	Check up camp		-	-
	Others (Pl. mention)			
	Mastideep, Dip cup , Rubber mate		120	60
	First aid kit	70	70	
Calf starter	70	70		

Under Dairy/Poultry/Goatery/Any other animal farming, Lucerne, (Anand-2) TF fodder variety was demonstrated for 153 farmers. Amul milk co-gold (mineral) feed mixture was demonstrated for 153 farmers covering 583 animals. Vaccination programme, check-up, Deworming, First aid kit, Calf starter and others was demonstrated in Hansapore, Pathari and Chijgam villages for 800 animals.





**Table 21. Production (q) and area (ha): Before and after data on new variety of different crops**

S. No.	Name of crops	2016-17		2017-18		2018-19		2019-20	
		Before	After	Before	After	Before	After	Before	After
1	Rice	-	-	38.20 (40)	44.00 (40)	42.14 (40)	47.68 (40)	27.40 (40)	32.73 (40)
2	Sugarcane	-	-	69.85 (5)	78.70 (5)	75.75 (4.61)	91.083 (4.61)	-	-
3	Mango	-	-	105 (20)	139 (20)	80.6 (75)	105.50 (75)	99.65 (40)	126.78 (40)
4	Sapota	-	-	132 (20)	174 (20)	-	-	125.45 (20)	169.82 (20)



Before and after effect of different crops were assessed and found that for Rice crop in 2017- 18 a positive difference of 5.8 q/ha on 40 hectare was observed, whereas in 2019-20 it was 5.33 q/ha. In case of Sugarcane, in 2017-18 a significant difference of 8.85 q/ha was observed on 05 hectare. During 2018-19 it was 15.33 q/ha. Mango was grown during 2017- 18 to 2019-20 and found a significant difference of 34 q/ha to 27.13 q/ha. In case of Sapota a positive difference of 42 q/ha was observed on 20 hectare in 2017-18, whereas in 2019-20 it was 44.37q/ha.

**Table 22. Average yield and income of different crops demonstrations in farmers' field**

S.No.	Name of crops	Years	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
			Before	After	Before	After	Before	After
1	Rice	2017-18	38.17	44.00	71100	81660	19585	32502
		2018-19	42.13	47.68	93524	105076	41006	56216
		2019-20	27.40	32.73	67676	80532	11816	28014
		2020-21	27.40	32.73	67676	80532	11816	28014
2	Sugarcane	2017-18	69.85	78.7	188592	212490	92592	118490
		2018-19	75.75	91.083	227250	273249	112250	161249
3	Mango	2017-18	105	139	210000	278040	166455	224262
		2018-19	80.6	105.50	241800	316500	193230	256720
		2019-20	99.65	126.78	249125	316950	205580	267804
		2020-21	99.65	126.78	249125	316950	205580	267804
4	Sapota	2017-18	132	174	198000	261000	140000	182250
		2019-20	125.45	169.82	188175	254730	130175	177025
		2020-21	125.45	169.82	188175	254730	130175	177025



The Average yield and income of different crops demonstrations in farmers' field was observed during 2017-18 to 2019-20. During 2017-18, Rice, Sugarcane, Mango and Sapota were demonstrated and a net income of Rs. 32502, 118490, 224262 and 182250 was observed respectively. During 2018-19 rice, sugarcane and mango crops were demonstrates and a net income of Rs. 56216, 161249 and 256720 was observed respectively. During 2019-20, for Rice (Rs. 28014), Mango (Rs. 267804) and Sapota (Rs. 177025) was obtained per hectare.

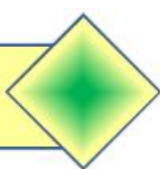
**Table 23. Capacity building programmes**

S. No.	Thematic Area	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
1	Capacity building and group dynamics										
2	Crop production	2	3	2	2	1		1	343	147	490
3	Entrepreneurship Development	1	2	2	2	2	1		0	151	151
4	Farm Implements								0	0	0
5	Livestock Production and Management		2	2	4	3	1		59	480	539
6	Natural Resource Management		2	2	2				419	93	512
7	Nutrition Security			1	2	1			54	207	261
8	Plant Protection	1	2	3	3	1			97	39	136
9	Processing and Value Addition				2	2	1	1	23	129	152
10	Production of Inputs at site					2			0	0	0
11	Soil Health and Fertility Management	1	1	1	3	0			140	74	214
12	Women Empowerment	1	2	2	2	2			0	150	150
	<b>Total</b>	<b>6</b>	<b>14</b>	<b>15</b>	<b>22</b>	<b>15</b>	<b>03</b>	<b>2</b>	<b>1135</b>	<b>1470</b>	<b>2605</b>



Different Capacity building programmes were conducted for farmers and farm women. During 2016-17, 06 programmes were conducted and in 2017-18, 14 programmes were conducted whereas in 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 it was 15, 22, 15, 03 and 02 respectively. A total of 2605 beneficiaries were benefitted with different capacity building programmes.





**Table 24. Extension activities**

S.No.	Programmes	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
1	Advisory Services								-	-	-
2	Celebration of important days								-	-	-
3	Diagnostic visits		2	4	3	2			40	350	390
4	Exhibition							1	-	-	-
5	Exposure visits	1	2	2	2	1			124	68	192
6	Ex-trainees Sammelan								-	-	-
7	Farm Science Club								-	-	-
8	Farmers' seminar/workshop	2	2	1	2	1			330	150	480
9	Field Day	2	4	6	5	5	5		416	150	566
10	Film Show								-	-	-
11	Group discussions	3	6	2	3	2		2	200	110	310
12	Kisan Ghosthi		2	3	1	2	2		216	167	383
13	Kisan Mela								-	-	-
14	Method Demonstrations	1	3	2	3	2			140	120	260
15	Plant/animal health camps		2	2	3	2	1		151	150	301
	<b>Total</b>	<b>9</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>17</b>	<b>8</b>	<b>3</b>	<b>1617</b>	<b>1265</b>	<b>2882</b>

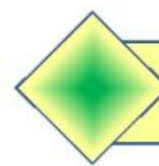
Different Extension activities (Advisory Services, Diagnostic visits, Exhibition, Group discussions, Plant/animal health camps etc.) were conducted for farmers and farm women. During 2016-17 and 2017-18, 09 and 23 programmes were conducted whereas in 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 it was 22, 22, 17, 08 and 03 respectively. A total of 2882 beneficiaries were benefitted with different Extension activities programmes.

**Table 25. Content Mobilization**

Module	WhatsApp			No. of voice calls		No. of Text message	No. of villages covered	No. of Farmers covered
	No. of chats	No. of videos	No. of clips	Outgoing	Incoming			
<b>Crop based modules</b>								
2017-18	65	12	03	180	138	0	3	120
2018-19	78	13	04	205	170	20		120
2019-20	95	15	04	221	183	11		112
2020-21	159	8	57	155	112	6		65
2021-22	223	0	109	89	40	0		17
2022-23	0	0	0	34	14	0		38
<b>Horticulture based modules</b>								
2017-18	35	07	01	162	103	-		86



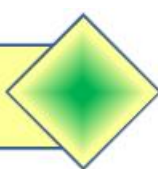




Module	WhatsApp			No. of voice calls		No. of Text message	No. of villages covered	No. of Farmers covered
	No. of chats	No. of videos	No. of clips	Outgoing	Incoming			
2018-19	67	10	05	178	155	-		152
2019-20	85	09	03	202	186	-		150
2020-21	118	5	62	132	112	0		230
2021-22	150	0	121	61	37	0		309
2022-23	0	0	0	27	20	0		22
<b>Enterprise based modules</b>								
2017-18	15	05	-	110	95	-		30
2018-19	25	06	-	123	115	-		24
2019-20	31	06	-	139	128	-		24
2020-21	66	3	27	95	83	0		27
2021-22	100	0	53	50	38	0		30
2022-23	0	0	0	25	12	0		25
<b>Livestock based modules</b>								
2017-18	30	08	01	170	100	-		90
2018-19	35	15	05	190	115	15		60
2019-20	49	19	09	220	135	29		70
2020-21	49	19	9	220	135	29		70
2021-22	114	10	66	173	103	15		74
2022-23	0	0	0	60	12	0		50
<b>NRM based modules</b>								
2017-18	39	-	-	140	88	-		160
2018-19	49	04	-	147	106	-		60
2019-20	58	09	-	168	110	-		60
2020-21	92	5	32	123	80	0		139
2021-22	126	0	64	78	50	0		217
<b>Integrated farming System</b>								
2017-18	40	03	04	190	70	-		85
2018-19	49	08	05	201	89	12		135
2019-20	56	16	10	228	114	28		168
2020-21	28	8	5	140	70	14		106
2022-23	0	0	0	51	26	0		43
<b>Total</b>	<b>2256</b>	<b>204</b>	<b>773</b>	<b>4593</b>	<b>3079</b>	<b>150</b>	<b>3</b>	<b>3175</b>

Under content mobilization different WhatsApp messages, voice calls and Text messages were disseminated. Under crop based module since 2017-18 to 2022-23 a total of 845 WhatsApp messages were sent and more than 1541 voice calls were made covering 472 farmers. Under Horticulture based modules, since 2017-18 to 2022-23 a total of 678 WhatsApp messages were sent and more than 1375 voice calls were made covering 949 farmers. Under Enterprise based modules, since 2017-18 to 2022-23 a total of 337 WhatsApp messages were sent and more than 1013 voice calls were made covering 160 farmers. Under Livestock based modules, since 2017-18 to 2022-23 a total of 663 WhatsApp messages were sent and more than 1474 voice calls were made covering 421 farmers. In case of Integrated farming System module, 232 WhatsApp messages were sent and 1179 voice calls were made covering 537 farmers.





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Under crop based module, different crops like Groundnut, Cotton, Wheat, Gram, Green Gram and Sesame were demonstrated. In 2017-18, Groundnut (GG-20) was demonstrated in Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya villages on 40 hectare for 100 farmers yielded 702.40 q groundnut, Cotton (GTHH-49 variety) was demonstrated for 160 farmers on 64 hectare and produced 1637.76 q/ha. Wheat (GW-496 variety) was demonstrated on 40 hectare covering 100 farmers (Yield 1679.60 q). In case of Gram (GJG-3 variety) it was demonstrated for 50 farmers on 20 hectare (Yield 246.40 q). During 2018-19, 2019-20 and 2020-21 same demonstration was carried out and similar results were obtained. In 2021-22 Wheat, Gram, Green gram and Sesame was demonstrated on 20.23, 10.11, 6.47 and 16.18 ha area benefitting 100, 50, 40 and 100 farmers respectively. In 2022-23 Wheat, Gram, Sesame and Green Gram were demonstrated in Ghantiyan and Rafala villages. Wheat (GW-451 variety) was demonstrated on 10.11 ha for 50 farmers, Gram (GJG-6 variety) was demonstrated on 10.11 ha for 50 farmers, Sesame (GT-3 variety) was demonstrated on 10.11 ha for 50 farmers. Green gram (GG-4 variety) was demonstrated on 16.18 ha for 40 farmers.

**Table 26. Crop Based Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Groundnut	GG-20	Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya	40	702.40	100
	Cotton	GTHH-49		64	1637.76	160
	Wheat	GW-496		40	1679.60	100
	Gram	GJG-3		20	246.40	50
2018-19	Groundnut	GG-20		20	347.00	100
	Cotton	GTHH-49		32	728.64	160
	Wheat	GW-496		20	921.60	100
	Gram	GJG-3		10	121.80	50
2019-20	Groundnut	GG-20		20	346.00	100
	Cotton	GTHH-49		32	662.72	160
	Wheat	GW-496		20	843.40	100
	Gram	GJG-3		10	121.50	50
2020-21	Groundnut	GG-22		20.23	302.64	100
	Cotton	GTHH-49		32.37	771.05	160
	Wheat	GW-366		20.23	858.96	100
	Gram	GJG-6		10.11	229.49	50
2021-22	Wheat	GW-451		20.23	856.74	100
	Gram	GJG-6		10.11	206.74	50
	Green gram	GJ-4		16.18	201.44	40
	Sesame	GT-3		16.18	201.60	100
2022-23	Wheat	GW-451	10.11	481.43	50	
	Gram	GJG-6	10.11	161.25	50	
	Sesame	GT-3	10.11	The results are awaited.	50	
	Green gram	GG-4	16.18	The results are awaited.	40	



**Table 27. Horticulture Based Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2021-22	Brinjal	GJLB-4	Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya	5.31	360.00	34
	Okra	GG-6			125.00	
	Cowpea	AVC-1			73.00	
	Bottle Gourd	Pusa navin			275.00	
	Ridge gourd	GRG-2			90.00	
	Cluster beans	Shanti			20.00	
	Watermelon	Rehaan			440.00	
	Muskmelon	Lyallpur 257			260.00	
2022-23	Brinjal	GRB-7	Ghantiyan and Rafala	9	Nutritional Kitchen Gardening	174
	Okra	GO-6				
	Cowpea	AVC-1				
	Sponge gourd	GJSG-2				
	Bottle gourd	Pusha Navin				
	Ridge gourd	GRG-2				
	Cucumber	Guj. Kakdi-1				
	Indian Bean	GJIB-2				
	Indian Bean	GJIB-11				

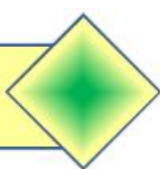


Under Horticulture module different vegetable crops like Brinjal, Okra, Cowpea, Bottle Gourd, Ridge Gourd, Cluster Beans, Watermelon and Muskmelon were taken during 2021-22 covering a total of 34 farmers on 5.31 ha area. In 2022-23 Brinjal, Okra, Cowpea, Sponge gourd, Bottle gourd, Ridge gourd, Cucumber, Indian Bean, Indian Bean were demonstrated on 9 ha for 174 farmers in Ghantiyan and Rafala villages.

**Table 28. Livestock Based Module technological interventions**

Year	Crop/Animal/ Enterprise	Breed	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2016-17	-	-	Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya	Only input were provided in last quarter		50 (One buffalo of each farmer)
2017-18	Buffalo	Jaffrabadi		50 buffaloes	1,17,750 (lit milk)	50
2018-19	Buffalo	Jaffrabadi		50 buffaloes	1,23,150 (lit milk)	50
2019-20	Buffalo	Jaffrabadi		50 buffaloes	1,26,300 (lit milk)	50
2020-21	Buffalo	Jaffrabadi		50 buffaloes	1,28,100 (lit milk)	50





Year	Crop/Animal/ Enterprise	Breed	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2021-22	Buffalo	Jaffrabadi		50 buffaloes	1,28,700 (lit milk)	50
2022-23	Buffalo	Jaffrabadi	Ghantiyan and Rafala	40 buffaloes	1,13,296 (lit milk)	40

Under Livestock Based Module, in 2017-18 a demonstration on Jaffrabadi buffalo was conducted on 50 animals for 50 farmers and produced 117750 litre milk. In 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 same demonstration was carried out and similar result was obtained.

**Table 29. Entrepreneurship Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2016-17	Apiculture	Apis mellifera	Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya	-	-	100
2017-18	Apiculture in sesame	Apis mellifera		50	8.20 (q. honey)	50
		Farmers' local variety			625	
	Apiculture in coriander	Apis mellifera		50	8.20 (q. honey)	50
		Farmers' local variety			725	
2018-19	Apiculture in sesame	Apis mellifera		50	14.72 (q. honey)	50
		Farmers' local variety			582	
	Apiculture in coriander	Apis mellifera		50	14.72 (q. honey)	50
		Farmers' local variety			564.5	

Under Entrepreneurship Module, in 2016-17 Apiculture was demonstrated in Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya villages for 100 farmers. During 2017-18, Apiculture in sesame was carried out and 8.20 quintal of honey was obtained, whereas apiculture in coriander was also conducted and 8.20 quintal of honey was obtained for 50 farmers. In 2018-19, Apiculture in sesame was conducted for 50 farmers and 14.72 quintal honey was obtained, whereas Apiculture in coriander produced 14.72 quintal of honey was obtained.

**Table 30. NRM Based Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Groundnut-	GG-22	Hadala, Deri Pipaliya, Mavjinjava, Nava	20	359.80	50
2018-19	Groundnut+ Pigeon pea	GG-22 + GJP-1		10	231.90	50





Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2019-20	Groundnut+ Pigeon pea	GG-22 + GJP-1	Vaghaniya	10	139.10	50
2020-21	Chickpea with Hydrogel+ Enriched Compost	GG-5		10.11	223.02	50
2021-22	Introduction of high yielding variety (GG-6) of chickpea crop with Enriched compost, Chemical fertilizer (Macro and Micro nutrients) and Bio- fertilizer (Rhizobium +PSB+ KMB)	GJG-6		10.11	215.03	50

Under NRM Based module, in 2017-18, Groundnut (GG-22 Variety) was demonstrated for 20 hectare for 50 farmers. During 2018-19 and 2019-20 Groundnut (Variety GG-22) + Pigeon pea (Variety GJP-1) demonstration was conducted on 10 hectare for 50 farmers in Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya villages. In 2020-21 demonstration on Chickpea (Variety GG-5) with Hydrogel + Enriched Compost was conducted on 10.11 ha area for 50 farmers. In 2021-22 Demonstration on Introduction of high yielding variety (GJG-6) of chickpea crop with Enriched compost, Chemical fertilizer (Macro and Micro nutrients) and Bio-fertilizer (Rhizobium + PSB + KMB) was conducted on 10.11 hectares covering 50 farmers.

**Table 31. Crop Diversification Module technological interventions**

Year	Crop/Animal/ Enterprise	Variety	Village name	Area covered (ha)	Quantity produced (q)	No. of farmers covered
2017-18	Cotton + Black gram	-	Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya	16	446.88	40
2018-19	Cotton + Sweet corn	-		8	220.56	40
2019-20	Cotton + Sweet corn	-		8	144.96	40
2020-21	Coriander + Enriched Compost	-		8.09	160.02	40
2021-22	Summer Crop: Green gram (GG4) + enriched compost	GG4		4.85	47.29	30
2022-23	Coriander+ enriched compost	-	Ghantiyan and Rafala	20.23	-	50

Under Crop Diversification Module, in 2017-18, Cotton + Black gram was demonstrated for 16 hectare for 40 farmers. During 2018-19 and 2019-20 Cotton + Sweet corn demonstration was conducted on 08 hectare for 40 farmers in Hadala, Deri Pipaliya, Mavjinjava, Nava Vaghaniya villages. In 2020-21 Coriander + Enriched Compost was demonstrated on 8.09 ha for 40 ha. In 2021-22 Summer Crop: Green gram (GG4) + enriched compost was demonstrated for 30 farmers on 4.85 ha of area. In 2022-23 Coriander + Enriched Compost was demonstrated on 20.23 ha for 50 ha.





**Table 32. Dairy/Poultry/Goatery/Any other animal farming.**

S.No.	Components	Village/ Animals	Area Covered (ha)	No. of farmers covered
1.	Feeding/ Mineral Mixture	Chelated mineral mixture: 40 g/buffalo/day Calcium supplement: 50 ml/buffalo/day Fenbendazole bolus -3g : one bolus in 3 month interval per buffalo	50 Jaffrabadi buffaloes	50 Farmers (One buffalo of each farmer)

Under Dairy/Poultry/Goatery/Any other animal farming, demonstration on Feeding/mineral mixture with specific technology of Chelated mineral mixture@ 40 g/buffalo/day, Calcium supplement @ 50 ml/buffalo/day and Fenbendazole bolus -3 g: one bolus in 3 month interval per buffalo was recommended for 50 Jaffrabadi buffaloes.

**Table 33. Production (q) and area (ha): Before and after data on new variety of different crops**

S.No	Name of crops	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
1	<b>Crop based module</b>												
	Groundnut	-	-	619.20 (40)	702.40 (40)	304.20 (20)	347.00 (20)	304.00 (20)	346.00 (20)	264.00 (20.23)	302.64 (20.23)	-	-
	Cotton	-	-	1363.84 (64)	1637.76 (64)	644.48 (32)	728.64 (32)	554.88 (32)	662.72 (32)	631.01 (32.37)	771.05 (32.37)	-	-
	Wheat	-	-	1540.80 (40)	1679.60 (40)	842.20 (20)	921.60 (20)	770.20 (20)	843.40 (20)	780.87 (20.23)	858.96 (20.23)	752.55 (20.23)	856.74 (20.23)
	Gram	-	-	212.40 (20)	246.40 (20)	102.90 (10)	121.80 (10)	102.30 (10)	121.50 (10)	187.13 (10.11)	229.49 (10.11)	172.98 (10.11)	206.74 (10.11)
	Green gram	-	-	-	-	-	-	-	-	-	-	168.67 (20.23)	201.44 (20.23)
	Sesame	-	-	-	-	-	-	-	-	-	-	165.68 (10.11)	201.60 (10.11)
2	<b>NRM Based module</b>												
	Groundnut	-	-	315.40 (20)	359.80 (20)	-	-	-	-	-	-	-	-
	Groundnut+ Pigeon pea	-	-	-	-	192.30 (10)	231.90 (10)	105.70 (10)	139.10 (10)	-	-	-	-
	Chickpea with Hydrogel+ Enriched Compost	-	-	-	-	-	-	-	-	187.74 (10.11)	223.02 (10.11)	-	-
	Chickpea+ Enriched Compost+ Chemical fertilizer	-	-	-	-	-	-	-	-	-	-	181.17 (10.11)	215.03 (10.11)



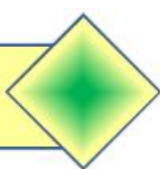
S.No	Name of crops	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
		Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
	<b>and Bio fertilizers</b>												
<b>3</b>	<b>Crop diversification</b>												
	<b>Cotton + Black gram</b>	-	-	367.04 (16)	446.88 (16)	-	-	-	-				
	<b>Cotton + Sweet corn</b>	-	-	-	-	143.20 (8)	220.56 (8)	97.12 (8)	144.96 (8)				
	<b>Coriander + Enriched Compost</b>	-	-	-	-	-	-	-	-	356.20 (8.09)	160.02 (8.09)	-	-
	<b>Green gram + Enriched Compost</b>	-	-	-	-	-	-	-	-			207.72 (4.85)	47.28 (4.85)
<b>4</b>	<b>Horticultural based Module</b>												
	Brinjal	-	-	-	-	-	-	-	-	-	-		360.00
	Okra	-	-	-	-	-	-	-	-	-	-		125.00
	Cowpea	-	-	-	-	-	-	-	-	-	-	<b>Sesame</b> 10.24	73.00
	Bottle Gourd	-	-	-	-	-	-	-	-	-	-	<b>Green gram</b> 10.47	275.00
	Ridge gourd	-	-	-	-	-	-	-	-	-	-		90.00
	Cluster beans	-	-	-	-	-	-	-	-	-	-		20.00
	Watermelon	-	-	-	-	-	-	-	-	-	-		440.00
	Muskmelon	-	-	-	-	-	-	-	-	-	-		260.00

Before and after effect of different crops were assessed and found that for Groundnut crop in 2017-18 a positive difference of 83.2 q/ha on 40 hectare was observed, whereas in 2019-20 it was 42 q/ha. In case of cotton, in 2017-18 a significant difference of 300.9 q/ha was observed on 64 hectare. During 2019-20 it was 107.9 q/ha. Wheat was grown during 2017-18 to 2019-20 and found a significant difference of 34 q/ha to 19.2 q/ha. In case of Gram a positive difference of 34 q/ha was observed on 20 hectare in 2017-18, whereas in 2019-20 it was 19.2 q/ha.

**Table 34. Average yield and income of different crops demonstrations in farmers' field**

Name of crops	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
<b>Crop based Module</b>						
<b>Groundnut</b>						
2017-18	15.48	17.56	78,029	88,833	46,779	61,807
2018-19	15.20	17.35	69,032	79,119	37,782	51,640





Name of crops	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
2019-20	15.21	17.30	68,382	78,280	37,132	51,378
2020-21	13.05	14.96	60,292	69,712	29,032	35,284
<b>Cotton</b>						
2017-18	21.31	25.59	1,17,222	1,40,721	44,422	75,546
2018-19	20.14	22.77	1,10,763	1,25,208	37,963	60,033
2019-20	17.43	20.71	95,881	1,13,924	23,081	48,749
2020-21	19.53	23.82	1,07,427	1,31,012	61,304	77,264
<b>Wheat</b>						
2017-18	38.52	41.99	65,476	71,375	34,743	45,642
2018-19	42.11	46.08	77,487	84,778	46,754	59,045
2019-20	38.51	42.17	74,141	81,177	43,408	55,444
2020-21	38.60	42.46	74,305	81,726	49,254	54,976
2021-22	37.2	42.35	73,470	83,641	40,782	50,391
2022-23	47.62	51.10	101193	127750	68749	92070
<b>Gram</b>						
2017-18	10.62	12.32	42,512	49,216	20,156	29,958
2018-19	10.29	12.18	41,184	48,752	18,828	29,494
2019-20	10.23	12.15	40,920	48,639	18,556	29,493
2020-21	18.51	22.70	74,040	90,788	41,700	56,173
2021-22	17.11	20.45	68,466	81,820	34,965	45,700
2022-23	15.95	18.89	85085	100766	50042	63078
<b>Coriander</b>						
2022-23	46.56 (Wheat)	20.36 (Coriander)	102607	126356	54286	81538

The Average yield and income of different crops demonstrations in farmers' field was observed during 2017-18 to 2022-23. During 2017-18, Groundnut, Cotton, Wheat and Gram were demonstrated and a net income of Rs. 61807, 75546, 45642 and 29958 was observed respectively. In 2018-19 net income of Rs. 51640, 60033, 59045 and 29494 was obtained for Groundnut, Cotton, Wheat and Gram respectively. During 2019-20, for Groundnut (Rs. 51378), Cotton (Rs. 48749), Wheat (Rs. 55444) and Gram (Rs. 29493) was obtained per hectare. In 2020-21 Groundnut, Cotton, Wheat and Gram were demonstrated and a net income of Rs. 35284, 77264, 54976 and 56173 was observed respectively. In 2021-22 net income of Rs. 50391 and 45700 was obtained for wheat and gram crops respectively. During 2022-23 Wheat, Gram and Coriander were demonstrated and a net income of Rs. 92070, 63078 and 81538 respectively was obtained.



**Table 35. Average yield and income of NRM Based Module:**

Year	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
2017-18	15.27	17.99	80,025	94,206	40,268	57,527





Year	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
(Groundnut + Pigeon pea)						
2018-19 (Groundnut + Pigeon pea)	19.23	23.19	76,932	92,751	37,175	56,078
2019-20 (Groundnut + Pigeon pea)	10.57	13.91	52,850	69,500	13,093	32,871
2020-21 (Chickpea)	18.57	22.06	1,06,460	1,26,097	73,200	88,457
2021-22 (Chickpea)	17.92	21.27	98,534	1,16,984	63,894	80,844

During 2017-18, 2018-19 and 2019-20 Groundnut+ Pigeon pea was demonstrated and a net income of Rs. 57527, 56075 and 32,871 was observed respectively. During 2020-21 and 2021-22 a net income of Rs. 88457 and 80844 was obtained per hectare respectively.

**Table 36. Average yield and income of Crop diversification: Cotton + Sweet corn**

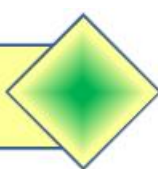
Year	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
2017-18	22.94	27.93	1,03,219	1,25,695	62,462	94,938
2018-19	17.90	27.54	80,564	1,23,943	39,807	1,04,436
2019-20	12.14	18.12	60,688	90,588	19,931	65,956
2020-21 (Coriander)	44.03	19.78	1,01,156	1,26,666	55,235	81,848
2021-22 (Green gram)	42.83	9.75	91,475	98,156	44,535	56,875

During 2017-18, Cotton + Sweet corn was demonstrated under crop diversification module and a net income of Rs. 94,938 was observed. During 2018-19 and 2019-20, a net income of Rs. 1,04,436 and Rs. 65,956 was obtained per hectare for Cotton + Sweet corn. In 2020-21 Coriander demonstration provided net income of Rs. 81848 and in 2022-22 Green Gram demonstration provide net income of Rs. 56875.

**Table 37. Average yield and income of Enterprise based module**

Year	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
<b>Honey bee Hives in Sesame</b>						
2017-18	11.25	12.50	1,01,250	1,12,500	60,940	78,420
Honey		0.041		1230		
<b>Honey bee Hives in Coriander</b>						
2017-18	12.00	14.50	60,000	72,500	24,690	43,420





Year	Avg. yield (Qtl/ha)		Gross Income (Rs/ha)		Net Income (Rs/ha)	
	Before	After	Before	After	Before	After
Honey		0.04		1230		
<b>Honey bee Hives in Sesame</b>						
2018-19	9.65	11.64	1,11,038	1,33,862	64,533	94,565
Honey		0.073		2208		
<b>Honey bee Hives in Coriander</b>						
2018-19	9.98	11.29	74,880	84,690	39,570	56,588
Honey		0.04		2208		

Average yield and income of Enterprise based module was assessed. In 2017-18, Honey bee Hives in Sesame was conducted and a net income of Rs. 78420 was obtained and in coriander it produced a net income of Rs. 43420. During 2018-19, Honey bee Hives in Sesame was conducted and a net income of Rs. 94565 was received, whereas in coriander it was Rs. 56588.

**Table 38. Average yield and income of Livestock module**

Year	Name of crops	Avg. milk yield (litre/day)		Gross Income		Net Income		
		Before	After	Before	After	Before	After	
2016-17	50 buffaloes	Only input were provided in last quarter						
2017-18	50 buffaloes	Yield: 12.30% milk yield increased Economic return: Additional net return Rs. 7740/buffalo/year						
2018-19	50 buffaloes	Yield: 14.82% milk yield increased Economic return: Additional net return Rs. 11069/buffalo/year						
2019-20	50 buffaloes	Yield: 16.30% milk yield increased Economic return: Additional net return Rs. 13695/buffalo/year						
2020-21	50 buffaloes	7.41	8.54	355.68	409.92	Additional net return Rs. 13050/ buffalo/year		
2021-22	50 buffaloes	7.42	8.58	356.16	411.84	Additional net return Rs. 13478/ buffalo/year		

In case of livestock module, 50 buffaloes were taken for demonstration and after intervention produced 8.54 Litre/day and produced a net income of Rs. 13478 per buffalo per year was obtained in 2021-22.

**Table 39. Capacity building programmes**

S. No.	Thematic Area	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
1	Capacity building and group dynamics	2	13	18	11	2	4	02	1392	190	1582
2	Crop production	3	27	38	28	12	15	15	3127	429	3556
3	Entrepreneurship Development	2	12	10	7	1	2	01	661	358	1019
4	Farm Implements	1	2	3	1	1	1	01	228	12	240



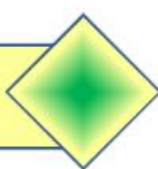
S. No.	Thematic Area	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
5	Livestock Production and Management	2	9	12	7	4	3	05	388	756	1144
6	Natural Resource Management	1	9	8	6	2	2	04	671	57	728
7	Nutrition Security					2	3	04	57	128	185
8	Plant Protection		13	17	22	11	9	16	2137	447	2584
9	Processing and Value Addition		1	2	1	1	2	03	146	81	227
10	Production of Inputs at site					1	3	02	41	17	58
11	Soil Health and Fertility Management		8	10	7	2	4	02	930	51	981
12	Women Empowerment		1	2	1	1	1	03	0	237	237
	<b>Total</b>	<b>11</b>	<b>95</b>	<b>120</b>	<b>91</b>	<b>40</b>	<b>49</b>	<b>58</b>	<b>9778</b>	<b>2763</b>	<b>12541</b>

Different Capacity building programmes were conducted for farmers and farm women. During 2016-17, 11 programmes were conducted whereas in 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 it was 95, 120, 91, 40, 49 and 58 respectively. A total of 12541 beneficiaries were benefitted with different capacity building programmes.

**Table 40. Extension activities**

S. No.	Programmes	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
1	Advisory Services	239	1167	1075	780	68	62	65	14867	1203	16070
2	Celebration of important days	1	4	4	3				344	40	384
3	Diagnostic visits	10	119	146	123	30	32	45	3566	381	3947
4	Exhibition		1	2	1		01	01	826	612	1438
5	Exposure visits	3	21	4			01	02	850	146	996
6	Ex-trainees Sammelan		1	2	2				138	27	165
7	Farm Science Club								0	0	0
8	Farmers' seminar/workshop	1	4	4	3		01		284	60	344
9	Field Day		13	20	23	14	05	15	837	109	946
10	Film Show								0	0	0
11	Group discussions	2	18	20	13	18	21	57	1800	115	1915
12	Kisan Ghosthi	2	17	13	7	5	07	13	892	89	981
13	Kisan Mela		1	2	1		01	01	504	267	771





S. No.	Programmes	Number of Programmes							Number of beneficiaries		
		2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Male	Female	Total
14	Method Demonstrations	2	6	7	4	15	14	11	941	138	1079
15	Plant/animal health camps								0	0	0
16	Any other	8	42	37	28	18			2502	603	3105
	<b>Total</b>	<b>268</b>	<b>1414</b>	<b>1336</b>	<b>988</b>	<b>168</b>	<b>145</b>	<b>210</b>	<b>28351</b>	<b>3790</b>	<b>32141</b>

Different Extension activities (Advisory Services, Diagnostic visits, Exhibition, Group discussions, Plant/animal health camps etc.) were conducted for farmers and farm women. During 2016-17, 268 programmes were conducted whereas in 2017-18, 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 and it was 1414, 1336, 988, 168, 145 and 210 respectively. A total of 32141 beneficiaries were benefitted with different Extension activities programmes.

**Table 41. Content Mobilization**

Module	WhatsApp			No. of voice calls		No. of Text message	No. of villages covered	No. of Farmers covered
	No. of chats	No. of videos	No. of clips	Outgoing	Incoming			
<b>Crop based modules</b>								
2016-17	18	-	2	425	378	112	4	410
2017-18	171	5	5	780	750	430	4	520
2018-19	192	8	8	592	680	577	4	633
2019-20	122	4	4	660	577	713	4	577
2020-21	120	5	3	545	400	28	4	435
2021-22	105	0	7	72	225	10	4	487
2022-23	162	11	15	378	321	22	02	572
<b>Enterprise based modules</b>								
2016-17	7	-	1	412	480	27	4	150
2017-18	31	1	6	480	420	67	4	230
2018-19	42	2	5	477	356	78	4	289
2019-20	33	1	2	318	347	45	4	278
<b>Livestock based modules</b>								
2016-17	12	-	1	98	72	37	4	63
2017-18	75	3	2	78	86	152	4	75
2018-19	108	2	3	82	92	178	4	72
2019-20	62	1	2	107	112	203	4	77
2020-21	32	2	2	100	120	30	4	85
2021-22	40	0	2	28	32	8	4	135
2022-23	38	02	03	126	42	07	02	172
<b>NRM based modules</b>								
2016-17	8	-	1	68	66	32	4	59
2017-18	63	3	3	79	73	143	4	81
2018-19	75	2	2	82	78	165	4	77
2019-20	47	1	1	98	96	177	4	93
2020-21	45	2	3	48	52	25	4	80
2021-22	36	5	7	10	23	10	4	115
<b>Crop diversification based module</b>								





Module	WhatsApp			No. of voice calls		No. of Text message	No. of villages covered	No. of Farmers covered
	No. of chats	No. of videos	No. of clips	Outgoing	Incoming			
2016-17	8	-	2	52	56	27	4	53
2017-18	45	3	3	64	68	112	4	72
2018-19	37	2	4	76	80	128	4	93
2019-20	32	1	1	81	86	157	4	78
2020-21	12	-	-	50	62	10	4	65
2021-22	30	0	1	12	40	0	3	98
2022-23	31	02	01	65	46	03	02	102
<b>Horticulture based modules</b>								
2021-22	48	2	8	100	50	18	3	246
2022-23	42	05	10	315	82	25	02	398
<b>Total</b>	<b>1929</b>	<b>75</b>	<b>120</b>	<b>6958</b>	<b>6448</b>	<b>3756</b>	<b>122</b>	<b>6970</b>

Under content mobilization different WhatsApp messages, voice calls and Text messages were disseminated. Under crop based module since 2016-17 to 2022-23 a total of 967 WhatsApp messages were sent and more than 6783 voice calls were made covering 3634 farmers. Under Enterprise based modules, since 2016-17 to 2022-23 a total of 131 WhatsApp messages were sent and more than 3290 voice calls were made covering 947





## Chapter 3: Success Stories

### Effect of DFI intervention

Name of FFP Centre: MPKV, Rahuri (MS)



**Name of farmer** : Mrs. Manda Laxman Kangle  
**Address** : Chinchvihire, Tal – Rahuri,  
 Dist- Ahmednagar (Maharashtra)  
**Mobile Number** : 7517548113  
**Age (year) (Years)** : 45  
**Education** : 4<sup>th</sup>  
**Size of landholding (in acre)** : Landless

### 1) Before Intervention

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Livestock 1	Goat	3	2 goats	14000	11000
<b>Total</b>				<b>14000</b>	<b>11000</b>

### 2) Status in 2020

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Livestock 1	Goat (Sangamneri)	5	4 goats	29200	22100	100	100.90
Enterprise 1	Dal Mill	1	100 q	34000	30000	-	-
<b>Total</b>				<b>63200</b>	<b>52100</b>		<b>373.63</b>

**Brief:** The farmer used to get annual net income of Rs.11000 from Livestock. She faced problems like low income, high input cost, market facilities. With DFI interventions like Goatary, feed management and Dal mill, she is getting an annual net income of Rs.52100. In addition, there is cost saving of Rs. 8600 as left over from dal mill is used as fodder for goats.



Dal Mill



Goatary Unit



**Effect of DFI intervention**



**Name of farmer**

**Address**

**Mobile Number**

**Age (year) (Years)**

**Education**

**Size of land holding (in acre)**

**Name of FFP Centre: MPKV, Rahuri (MS)**

: Mrs. Najma Gulab Pathan

: Chinchvihire, Tal – Rahuri,  
Dist- Ahmednagar (Maharashtra)

: 8390101402

: 55

: 7<sup>th</sup>

: Landless

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Others	Farm Labour	-	-	-	22000
<b>Total</b>				<b>-</b>	<b>22000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Livestock 1	Poultry (Kaveri)	102	40 male birds 10730 eggs	89110	58400	-	-
<b>Total</b>				<b>89110</b>	<b>58400</b>		<b>165.45</b>

**Brief:** The farmer used to get annual net income of Rs.22000 from farm labour. She faced problems like low income, unawareness about employment opportunities. With DFI interventions like Backyard poultry, feed and pest management, she is getting an annual net income of Rs.58400. In addition, there is cost saving of Rs.4000 in production of poultry as locally available material is used for shed.



**Poultry Unit**







**Effect of DFI intervention**

**Name of FFP Centre: MPKV, Rahuri (MS)**



**Name of farmer** : Shri. Dattatray Haribhau Musmade  
**Address** : Kangar, Tal –Rahuri,  
 Dist-Ahmednagar, MS  
**Mobile Number** : 9767458466  
**Age (year)** : 62  
**Education** : 9<sup>th</sup>  
**Size of land holding (in acre)** : 2

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Bajra	1	7.5 q	18000	9100
Field Crop 2	Sorghum	1	Grain-6.2 q Fodder-15.4 q	20100	9700
Field Crop 3	Maize	1	12.5	18750	10000
Livestock 1	Dairy	2cow	1200 lit/year	30000	16200
<b>Total</b>				<b>86850</b>	<b>45000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Soybean	1	8.5 q	38250	29500	-	-
Field Crop 2	Chickpea	1	7 q	30800	21100	-	-
Field Crop 3	Fodder (Phule Gunwant)	0.20	155 q	28200	21000	-	-
Livestock 1	Dairy	3 cow	1800 lit/year	45000	25000	50	54.32
Livestock 2	Goat	8	3 goats	18000	12000	-	-
Other	Vermicompost	2 beds	20.00 q	16000	11000	-	-
<b>Total</b>				<b>176250</b>	<b>119600</b>		<b>165.77</b>

**Brief:** The farmer used to get annual net income of Rs.45000 from field crops and livestock. He faced problems like low yield and high production cost, pest and disease attack, nutrient management. With DFI interventions like Soybean (Phule Sangam) production technology, Chickpea (Phule Vikram) production technology, goat and dairy management, INM, IPM, he is getting an annual net income of Rs.119600. In addition, he prepared vermicompost which save cost of Rs.11000 on chemical fertilizer.



**Vermicompost unit**



**Fodder-Phule Gunwant**





**Effect of DFI intervention**

**Name of FFP Centre: MPKV, Rahuri (MS)**



**Name of farmer** : Shri. Navnath Ashok Dhanvate  
**Address** : Kangar, Tal –Rahuri,  
 Dist-Ahmednagar, MS  
**Mobile Number** : 9545652223  
**Age (year)** : 33  
**Education** : 9<sup>th</sup>  
**Size of land holding (in acre):** landless

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Other	Farm labour				55000
<b>Total</b>					<b>55000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Livestock 1	Goat (Sangamneri)	35	20 goats	120000	95000	-	-
Livestock 2	Poultry (Kaveri)	51	20 birds Egg-5365	44555	29200	-	-
<b>Total</b>				<b>164555</b>	<b>124200</b>		<b>125.81</b>

**Brief:** The farmer used to get annual net income of Rs.55000 from farm labour. He faced problems like low wages and unavailability of continuous work. With DFI interventions like Goat breed improvement and Backyard poultry, he is getting an annual net income of Rs. 124200. He used Kaveri breed of poultry gives 180 to 210 eggs. In addition there is cost saving of Rs. 3000 in production of goats and poultry and locally available material is used for shed.



**Backyard Poultry**



**Goat unit**





**Effect of DFI intervention**



**Name of farmer**

**Address**

**Mobile Number**

**Age (year)**

**Education**

**Size of land holding (in acre) : 4**

**Name of FFP Centre: MPKV, Rahuri (MS)**

: Shri. Babasaheb Govind Musmade

: Kangar, Tal – Rahuri,  
Dist- Ahmednagar

: 9763985712

: 40

: 9<sup>th</sup>

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Cotton	1	16 q	63000	37000
Field Crop 2	Maize	1	12 q	19750	11000
Livestock 1	Dairy	3 cows	5500 lit/year	137500	67000
<b>Total</b>				<b>220250</b>	<b>115000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Sorghum (Phule Vasudha)	1	Grain- 8 q Fodder- 16 q	26050	16200	-	-
Field Crop 2	Chickpea (P. Vikram)	1	6.5 q	30550	20900	-	-
Field Crop 3	Bajra (Adishakti)	1	9.5 q	22800	13000	-	-
Field Crop 4	Fodder P. Gunwant)	0.20	150 q	28000	20000	-	-
Livestock 1	Dairy	8 cows	10800 lit/year	259200	151600	96.36	126.26
Livestock 2	Goat	3	2 goats	13000	9500	-	-
<b>Total</b>				<b>379600</b>	<b>231200</b>		<b>101.04</b>

**Brief:** The farmer used to get annual net income of Rs.115000 from field crops and livestock. He faced problems like low yield and high production cost. With DFI interventions like Five-point rabi sorghum production, Chickpea production, Bajra production, fodder, Dairy Management and goat, he is getting an annual net income of Rs.231200. In addition, there is cost saving of Rs.6500 in production of sorghum, chickpea, bajra, fodder, dairy and goats.



**Dairy**



**Fodder- Phule Gunwant**



**Effect of DFI intervention**



**Name of farmer**

**Address**

**Mobile Number**

**Age (year)**

**Education**

**Size of land holding (in acre)**

**Name of FFP Centre: MPKV, Rahuri (MS)**

: Shri. Dnyaneshwar Annasaheb Shete

: Chinchvihire, Tal – Rahuri,

Dist- Ahmednagar

: 9975905965

: 45

: 8<sup>th</sup>

: 6.5

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Onion	2	195 q	294500	195500
Field Crop 2	Bajra	2	14 q	33200	19000
Field Crop 3	Cotton	2	21 q	94500	55500
<b>Total</b>				<b>422200</b>	<b>270000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Bajra (Phule Adishakti)	2	19 q	45600	25280	35.71	33.05
Field Crop 2	Soybean	2	18 q	90000	64000	-	-
Horti. Crop 1	Pomegranate (Bhagwa)	2.5	140 q	530000	380000	-	-
Livestock 1	Dairy (HF)	8 cows	10200 lit/year	234600	137300	-	-
Other enterprise	Farm-pond fishery	6000 fish fingerlings	5 q	50000	32000	-	-
<b>Total</b>				<b>950200</b>	<b>638580</b>		<b>136.51</b>

**Brief:** The farmer used to get annual net income of Rs.270000 from onion, bajra and cotton. He faced problems like low yield and high production cost, poor quality produce, pest and disease attack. With DFI interventions like Bajra production, Soybean (Phule Sangam) production, Pomegranate production, farm pond fishery and Dairy management, improved varieties, IPM, he is getting an annual net income of Rs.638580. In addition, there is cost saving of Rs.14500 in production of bajra, soybean, pomegranate, dairy and fishery..



**Pomegranate**



**Farm-pond**







**Effect of DFI intervention**

**Name of FFP Centre: MPKV, Rahuri (MS)**



**Name of farmer**

: Shri. Jayram Rambhau Gade

**Address**

: Kangar, Tal- Rahuri,  
Dist- Ahmednagar

**Mobile Number**

: 8975718172

**Age (year)**

: 45

**Education**

: 5<sup>th</sup>

**Size of land holding (in acre) : 4**

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Groundnut	1	5.5 q	21000	12000
Field Crop 2	Bajra	2	16 q	44400	21900
Field Crop 3	Maize	2	24 q	48000	26400
Livestock 1	Dairy	3 cows	3900 lit/year	89700	47000
<b>Total</b>				<b>203100</b>	<b>107300</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Sorghum	1	Grain- 8.5 q Fodder- 17 q	27000	16900	-	-
Field Crop 2	Chickpea	1	7 q	36600	22900	-	-
Field Crop 3	Bajra	2	22 q	46900	24700	37.5	12.78
Field crop 4	Fodder	0.20	100 q	29000	20000	-	-
Livestock 1	Dairy (HF)	6 cows	7200 lit/year	165600	87800	84.61	86.80
Livestock 2	Poultry (Kaveri)	50	21 birds, Eggs - 4995	41300	26900	-	-
Livestock 3	Goat	5 female	3 goats	20500	14500	-	-
Other	Silage	3 bag	30 q	24000	16000	-	-
<b>Total</b>				<b>390900</b>	<b>229700</b>		<b>114.07</b>

**Brief:** The farmer used to get annual net income of Rs.107300 from field crops and livestock. He faced problems like low yield and high production cost. With DFI interventions like Five-point rabi sorghum (Phule Suchitra), Chickpea (Phule Vikram) production technology, Bajra (Adishakti), Fodder (P. Gunwant), Dairy Management, Goat, Silage and poultry, IPM, he is getting an annual net income of Rs.229700. In addition, there is cost saving of Rs.13900 in production of sorghum, chickpea, bajra, fodder, dairy, poultry, goats and silage making.



**Goat**



**Fodder- Phule Gunwant**



**Effect of DFI intervention**

**Name of FFP Centre: MPKV, Rahuri (MS)**



**Name of farmer** : Mrs. Parvin Chandbhai Shaikh  
**Address** : Kangar, Tal – Rahuri,  
 Dist- Ahmednagar  
**Mobile Number** : 9119571492  
**Age (year)** : 21  
**Education** : 12<sup>th</sup>  
**Size of land holding (in acre)** : 1

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Sorghum	1	Grain- 6.2 q Fodder- 15.4 q	20100	9700
Field Crop 2	Bajra	1	6 q	14400	7800
<b>Total</b>				<b>34500</b>	<b>17500</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Horti. Crop 1	Pomegranate	1	40 q	160000	79000	-	-
Livestock 1	Poultry (Kaveri)	50	18 birds Eggs-5365	43200	26100	-	-
Other	Farm-pond fishery	4000 fish fingerlings	4 q	40000	21000	-	-
<b>Total</b>				<b>243200</b>	<b>126100</b>		<b>620.57</b>

**Brief:** The farmer used to get annual net income of Rs.17500 from sorghum and bajra. She faced problems like low yield and high production cost, pest and disease attack, pest and disease attack. With DFI interventions like Pomegranate production, Poultry and Farm-pond fishery, she is getting an annual net income of Rs.126100. In addition, there is cost saving of Rs.4800 in production of pomegranate as own poultry and fishery manure is used.



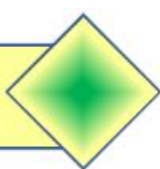
**Backyard poultry**



**Farm-pond**







**Effect of DFI intervention**

**Name of FFP Centre: MPKV, Rahuri (MS)**



**Name of farmer** : Shri. Dipak Bhausaheb Ghadge  
**Address** : Kangar, Tal – Rahuri,  
 Dist- Ahmednagar  
**Mobile Number** : 7498444653  
**Age (year)** : 26  
**Education** : 10<sup>th</sup>  
**Size of land holding (in acre)** : 2

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre) /No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Sorghum	1	Grain- 6 q Fodder- 14 q	19500	11000
Field Crop 2	Maize	1	16 q	32000	20000
Livestock 1	Dairy	3 cows	4200 lit/year	96600	51500
<b>Total</b>				<b>148100</b>	<b>82500</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Chickpea	1	7.2 q	32000	21750	-	-
Field Crop 2	Soybean	1	9 q	44100	30100	-	-
Livestock 1	Dairy	5 cows	6250 lit/year	150000	82000	48.80	59.22
Other	Silage	6 bag	60 q	48000	33000	-	-
<b>Total</b>				<b>274100</b>	<b>166850</b>		<b>102.24</b>

**Brief:** The farmer used to get annual net income of Rs.82500 from sorghum, maize and livestock. He faced problems like low yield and high production cost, pest and disease attack. With DFI interventions like Soybean (Phule Sangam) production, Chickpea (Phule Vikram) production, Dairy Management and Silage, IPM, he is getting an annual net income of Rs.166850. In addition, there is cost saving of Rs.5700 in the production of dairy as he is using own silage.



**Silage**



**Dairy**



**Effect of DFI intervention**



**Name of farmer** : Mrs. Elaxiben Jayeshbhai Patel  
**Address** : Hansapore, Navsari, Gujarat.  
**Mobile Number** : 9979943220  
**Age (Years)** : 45  
**Education** : H.S.C.  
**Size of land holding (acre)** : 1.25

**Name of FFP Centre: NAU, Navasari (GJ)**

**Name of farmer** : Mrs. Elaxiben Jayeshbhai Patel  
**Address** : Hansapore, Navsari, Gujarat.  
**Mobile Number** : 9979943220  
**Age (Years)** : 45  
**Education** : H.S.C.  
**Size of land holding (acre)** : 1.25

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Paddy (Jaya)	0.375	7.10 q (grain) +8.0 q (straw)	13670	7670
Hort. Crop 1	Mango (Kesar)	0.875	5 q	15000	12000
<b>Total</b>				<b>28670</b>	<b>19670</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Paddy (GNR-3)	0.375	9.3 q (grain)+ 11.0 q (straw)	23760	13760	30.98	79.40
Hort. Crop 1	Mango (Kesar)	0.875	8.6 q	30100	24100	72.00	100.83
Livestock 1	Cow (Gir)	1	1120 lit/year	33600	11760	-	-
Livestock 2	Buffalo Surti)	1	1550 lit/year	77500	23250	-	-
Enterprise 1	Vermicompost	2	20 q	10000	8600	-	-
Livestock 3	Poultry	20	450 birds	4500	3500	-	-
<b>Total</b>				<b>179460</b>	<b>84970</b>		<b>331.97</b>

**Brief:** The farmer used to get annual income of Rs.19670 from paddy and mango. She faced problem like low yield and degradable land, soil nutrient availability, pest and disease attack. With DFI intervention like High yield variety of Paddy, adding Dairy enterprise, Poultry and Vermicompost, INM, IPM, she is getting annual income of Rs.84970. In addition, there is cost saving of Rs.3300 in production of paddy, mango and livestock.



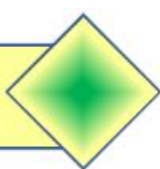
**Paddy field**



**Vermicompost bed**







**Effect of DFI intervention**



**Name of farmer** : Mr. Mukeshbhai Dahyabhai Ahir  
**Address** : Ahirwas, Pathari, Navsari, Gujarat.  
**Mobile Number** : 6354135332  
**Age (Years)** : 46  
**Education** : S.S.C  
**Size of land holding (acre)** : 5+23.5Acre on lease

**Name of FFP Centre: NAU, Navasari (GJ)**

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Sugarcane (707)	3	1200 q	276000	186000
Hort. Crop 1	Sapota (KaliPatti)	1.75	106 q	159000	71500
Livestock 1	Cow (HF)	2	3360 lit/year	94080	37632
<b>Total</b>				<b>529080</b>	<b>295132</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Sugarcane (CoN-13073)	3	1500 q	435000	315000	25.00	69.35
Hort. Crop 1	Sapota (Cricket ball)	1.75	140 q	245000	113750	32.07	59.09
Livestock 1	Buffalo	2	4200 lit/year	126000	44100	--	--
Enterprise 1	Vermicompost	2	20 q	10000	8600	-	-
Hort. Crop 2	Sapota (Kalipatti)	12.5	1000 q	1750000	812500	-	-
Hort. Crop 3	Mango (Kesar)	10.6	280 q	980000	715000	-	-
<b>Total</b>				<b>3546000</b>	<b>2008950</b>		<b>580.69</b>

**Brief:** The farmers used to get net annual income of Rs.295132 from filed crops, Horticultural crops and livestock. He faced several problems like low yield of crops and poor milk production. With DFI intervention like vermicompost and fruit crops, improved variety, IPM, he is getting annual income of Rs.2008950. In addition, there is cost saving of Rs.14700 in the production of sugarcane, mango and sapota as own vermicompost is used.



**Buffalo Shed**



**Sugarcane Field**



**Effect of DFI intervention**

**Name of FFP Centre: NAU, Navasari (GJ)**



**Name of farmer** : Mrs. Pushpaben Digeshbhai Patel  
**Address** : Hansapore, Navsari, Gujarat  
**Mobile Number** : 9099457085  
**Age (Years)** : 47  
**Education** : Primary  
**Size of land holding (acre)** : 1

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Paddy (Jaya)	0.75	10.00 q	17000	5750
Hort. Crop 1	Sapota (Kalipati)	0.25	6.00 q	10200	3950
Livestock 1	Buffalo (Surti)	2	1860 lit/year	83700	29295
<b>Total</b>				<b>110900</b>	<b>38995</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Paddy (GNR3)	0.75	13.2 q	28864	13864	32.00	141.11
Hort. Crop 1	Sapota (Kalipati)	0.25	10.00 q	20000	11250	66.66	184.81
Livestock 1	Buffalo (Surti)	2	2480 lit/year	124000	37200	33.33	26.98
Enterprise 1	Vermicompost	1	10 q	5000	4300	100.00	100.00
Livestock 2	Poultry	15	2000 birds	20000	15000	100.00	100.00
<b>Total</b>				<b>197864</b>	<b>81614</b>		<b>109.29</b>

**Brief:** The farmer used to get net annual income of Rs.38995 from Field crop, Horticultural crop and livestock. She faced several problems like low yield of crops and poor milk production. With DFI intervention like high yielding variety and IFS intervention, she is getting annual income of Rs.81614. In addition, there is cost saving of Rs.2400 in production of paddy and Sapota as own vermicompost is used.

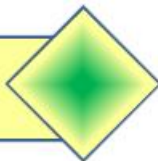


**Livestock**



**Poultry**





**Effect of DFI intervention**

**Name of FFP Centre: NAU, Navasari (GJ)**



**Name of farmer** : Mr. Sudhirbhai Natvarbhai Naik  
**Address** : Desai Faliya, Hansapore, Navsari, Gujarat  
**Mobile Number** : 9925462138  
**Age (Years)** : 62  
**Education** : 6<sup>th</sup>  
**Size of land holding (acre)** : 1.5

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Paddy (Masuri)	1	12.00 q	20400	5400
Hort. Crop 1	Sapota (Kali Patti)	0.375	25.00 q	37500	16875
Livestock 1	Cow (HF, Gir)	5	4200 lit/year	117600	56448
<b>Total</b>				<b>175500</b>	<b>78723</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre) /No	Production (Q/Litre/ No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Paddy (GNR-3)	1	16.00 q	35200	10200	33.33	88.88
Hort. Crop 1	Sapota (Kali Patti)	0.375	40.00 q	68000	41750	60.00	147.40
Livestock 1	Cow (Gir, HF)	6	5040 lit/year	201600	84000	20.00	48.80
Hort. Crop 2	Cucumber (Gujarat Kakadi-1)	0.5	100.00 q	80000	40000	-	-
Enterprise 1	Vermicompost	1	10.00 q	5000	4300	-	-
<b>Total</b>				<b>389800</b>	<b>180250</b>		<b>128.96</b>

**Brief:** The farmers used to get net annual income of Rs.78723 from Field crop, Horticultural crop and livestock. He faced several problems like low yield and quality of crops and poor milk production. With DFI intervention like high yielding variety and IFS intervention, IPM, he is getting annual income of Rs.180250. In addition, there is cost saving of Rs.5700 in production of paddy, sapota and cucumber as own vermicompost is used.



**Paddy Field**



**Sapota Field**





**Effect of DFI intervention**



**Name of farmer**  
**Address**  
**Mobile Number**  
**Age (Years)**  
**Education**  
**Size of land holding (acre)**

**Name of FFP Centre: NAU, Navasari (GJ)**

: Mrs. Parvatiben Jayeshbhai Patel  
: Patel Faliya, Hansapor, Navsari, Gujarat  
: 9726696989  
: 50  
: S.S.C.  
: 1.5

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Paddy (Jaya)	0.5	8.60 q	14620	7120
Hort. Crop 1	Mango (Kesar)	1	8.00 q	22000	12000
Livestock 1	Cow (Jersey)	1	960 lit/year	15680	5488
<b>Total</b>				<b>52300</b>	<b>24608</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Paddy (GNR-3)	0.5	11.00 q	24200	13200	27.90	85.39
Hort. Crop 1	Mango (Kesar)	1	12.00 q	42000	30000	50.00	150.00
Livestock 1	Cow (HF)	1	1340 lit/year	25200	7560	39.58	37.75
Hort. Crop 2	Onion (Pilipatti) Intercrop	0.25	4.00 q	6000	3000	-	-
Hort. Crop 3	Brinjal (Mukta round)	0.2	8.00 q	16000	15000	-	-
<b>Total</b>				<b>113400</b>	<b>68760</b>		<b>179.42</b>

**Brief:** The farmer used to get annual income of Rs.24608 from Field crop, Horticultural crop and Livestock. She faced problems like Low yield and poor milk production, pest and disease attack. With DFI interventions like high yielding varieties and IFS intervention, IPM, INM, she is getting annual income of Rs.68760. In addition, there is cost saving of Rs.2700 in production of paddy, Mango, onion, brinjal and cow.



**Mango Field**



**Paddy Field**





**Effect of DFI Interventions**



**Name of farmer**  
**Address**  
**Mobile Number**  
**Age (Years)**  
**Education**  
**Size of land holding (in acre)**

**Name of FFP Centre: NAU, Navasari (GJ)**

: Mrs. Neetaben Dharmendrabhai Patel  
: Pitambarfaliya, Chijgam, Navsari, Gujarat  
: 6355872151  
: 45  
: H.S.C.  
: 3.5

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field. Crop 1	Paddy (Jaya)	0.5	9.60 q	16320	8820
Field. Crop 2	Sugarcane (411)	2.5	900 q	225000	125000
Livestock 1	Cow (HF)	1	980 Litre/year	27440	9604
Livestock 2	Buffalo (Surati)	1	1240 Litre/year	55800	19530
<b>Total</b>				<b>324560</b>	<b>162954</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field. Crop 1	Paddy (GNR-3)	0.5	11.00 q	24200	14200	14.58	60.99
Field. Crop 2	Sugarcane (CoN-13073)	2.5	1250 q	412500	262500	38.88	110.00
Livestock 1	Cow (HF & Jersey)	2	1400 Litre/year	42000	12600	42.85	31.19
Livestock 2	Buffalo (Surati)	1	1860 Litre/year	93000	32550	50.00	66.66
Hort. Crop 1	Brinjal (Surati Ravaiya)	0.5	14.00 q	21000	11000	100.00	100.00
Enterprise 1	Vermibed	1	10.00 q	5000	4300	100.00	100.00
<b>Total</b>				<b>597700</b>	<b>337150</b>		<b>106.89</b>

**Brief:** The farmer used to get annual income of Rs.162954 from Cow, buffalo, Paddy and Sugarcane. She faced problems like low yield and poor milk production, pest and disease attack. With DFI interventions like High yielding variety, IPM, INM and IFS intervention, she is getting annual income of Rs.337150. In addition, there is cost saving of Rs.7200 in production of Brinjal, Cow, buffalo, Paddy and Sugarcane



**Brinjal plant**



**Livestock**





**Effect of DFI Interventions**



**Name of farmer** : Mr. Arvindbhai Vasrambhai Parmar  
**Address** : Vill: Bagasara, Ta. Bagasara,  
 Dist. Amreli, Gujarat  
**Mobile Number** : 9426999624  
**Age (Years)** : 34  
**Education** : Graduation  
**Size of land holding (in acre)** : 1

**Name of FFP Centre: JAU, Junagadh**

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Brinjal	1	120 q	25000	15000
Field Crop 2	Ridge guard	1	30 q	20000	11000
Field Crop 3	Cluster bean	0.5	22 q	25000	15000
<b>Total</b>				<b>70000</b>	<b>41000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Rose	0.5	7.5 q	75000	50000	-	-
Field Crop 2	Galleria	0.5	12.5 q	31250	20500	-	-
Field Crop 3	Daisy	0.5	10.0 q	30000	16000	-	-
<b>Total</b>				<b>136250</b>	<b>86500</b>		<b>110.9</b>

**Brief:** The farmer was getting an annual net income of Rs.41000 from cultivation of different vegetables. He was facing problems of market and low quantity of production, pest and disease attack. With DFI interventions like changed crops pattern with floriculture crop like rose, galleria and daisy, he is getting annual net income of Rs.86500. In addition, there is cost saving of Rs.7000 in production of Rose, Galleria and Daisy.

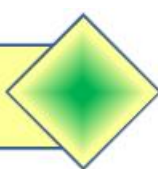


**Cultivation of Daisy**



**Cultivation of Rose**





**Effect of DFI Interventions**

**Name of FFP Centre: JAU, Junagadh**



**Name of farmer** : Mr. Madhubhai Nanjibhai Babariya  
**Address** : Village: Nava vaghaniya, Ta.: Bagasara, Dist.: Amreli, Gujarat  
**Mobile Number** : 9825416317  
**Age (Years)** : 50  
**Education** : 12<sup>th</sup> Std.  
**Size of land holding (in acre)** : 8

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Cotton	6.4	41.6 q	176800	96800
Field Crop 2	Maize (Fodder)	0.8	29.2 q	5548	2348
Field Crop 3	Sorghum (Fodder)	0.8	46 q	9200	5600
Field Crop 4	Sesame	1.6	9.6 q	48000	32000
Livestock 1	Buffalo (Jaffarabadi breed)	1	1600 litre/year	67200	55200
<b>Total</b>				<b>306748</b>	<b>191948</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Soybean	4	28 q	133000	75000	-	-
Field Crop 2	Groundnut	3	21 q	99750	71250	-	-
Field Crop 3	Wheat	4	46 q	80500	50500	-	-
Field Crop 4	Sorghum (Fodder)	1.2	54 q	13500	8700	17.4	55.4
Field Crop 5	Maize (Fodder)	1.2	48 q	10320	7070	64.38	201.11
Field Crop 6	Green gram	2.8	18.2 q	91000	65000	-	-
Livestock 1	Cow	2	2300 litre/year	103500	69500	-	-
Livestock 2	Buffalo (Jaffarabadi breed)	1	1700 litre/year	91800	73800	6.25	33.70
<b>Total</b>				<b>623370</b>	<b>420820</b>		<b>119.24</b>

**Brief:** The farmer was getting net annual income of Rs. 191948 from cotton, maize, sorghum, sesame crop as well as dairy farming. He faced problems like pest and disease attack in crops and low plant population, low yield and market quality of crops. With DFI interventions like improved practices and varieties, feeding of mineral mixture and calcium supplement, water management, IPM, IVF in cattle, he is getting annual net income of Rs. 420820. In addition there is cost saving of Rs. 11000 in production of soybean, groundnut, wheat, sorghum, maize, green gram and cattle.



**Buffalo**



**Green Gram Field**





**Effect of DFI Interventions**

**Name of FFP Centre: JAU, Junagadh**



**Name of farmer** : Mr. Ashvinbhai D. Korat  
**Address** : Village: Halariya Ta.: Bagasara Dist.:  
 Amreli Gujarat  
**Mobile Number** : 9879030273  
**Age (Years)** : 43  
**Education** : 12<sup>th</sup> Std.  
**Size of land holding (in acre)** : 3.2 acre

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Cotton	2.4	19.2 q	95040	58540
Hort. Crop 1	Turmeric	0.4	6 q	132000	102000
<b>Total</b>				<b>227040</b>	<b>160540</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Hort. Crop 1	Turmeric (Rajapuri)	1	17.5 q	437500	345000	191.67	238.24
Field Crop 1	Groundnut (GJG-32)	2	14 q	63000	30500	-	-
Field Crop 2	Pigeon pea	0.8	4.8 q	22080	9580	-	-
<b>Total</b>				<b>522580</b>	<b>385080</b>		<b>139.87</b>

**Brief:** The farmer was getting annual net income of Rs. 160540 from cotton and turmeric. He was facing pest problems in cotton crop, low yield and quality and poor market price, flower drop in cotton. With DFI interventions like improved variety of turmeric (Rajapuri), groundnut and pigeon pea, relay cropping, recommended practices advised by scientists, use of PGR, he is getting annual net income of Rs. 385080. In addition there is cost saving of Rs. 36000 in production of turmeric, groundnut and pigeonpea.



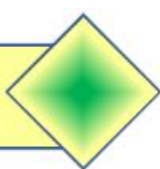
**Turmeric field**



**Pigeon pea field**







**Effect of DFI Interventions**

**Name of FFP Centre: JAU, Junagadh**



**Name of farmer** : Mr. Rajeshbhai Jivarajbhai Rank  
**Address** : Village, Nava Vaghaniya, Ta. Bagasara,  
 Dist. Amreli, Gujarat  
**Mobile Number** : 9978156725  
**Age (Years)** : 45  
**Education** : 7<sup>th</sup> Std.  
**Size of land holding (in acre)** : 3.2 acre

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Cotton	3.2	20.8 q	83200	35200
Field Crop 2	Sesame (Summer)	1.6	11.2 q	56000	41000
Field Crop 3	Green gram	1.2	7.2 q	37800	22800
<b>Total</b>				<b>177000</b>	<b>99000</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Cotton	2.8	22.4 q	106400	70400	7.69	100
Hort. Crop 1	Watermelon (BASF- Rehaan)	1.6	184 q	202400	82400	-	-
Hort. Crop 2	Brinjal (GJLB-4)	0.4	40 q	40000	15000	-	-
Field Crop 2	Sesame (GT-10)	0.8	6.4 q	44800	35300	-	-
Hort. Crop 3	Glue berry (gunda)	1 Tree	2.8 q	2000	1600	-	-
Hort. Crop 4	Tamarind	1 Tree	1 q	6000	5300	-	-
<b>Total</b>				<b>401600</b>	<b>210000</b>		<b>112.12</b>

**Brief:** The farmer was getting annual net income of Rs. 99000 from cotton, sesame and green gram. He was facing pest problems in crops. He was not getting remunerative price of crop produce and so net income was less. With DFI interventions like improved variety of cotton, sesame (GT-10) and brinjal (GJLB-4), drip irrigation, mulching in watermelon (BASF- Rehaan), soil nutrient management, border trees like tamarind and glue berry (gunda), he is getting annual net income of Rs. 210000. In addition there is cost saving of Rs. 12000 in production of cotton, watermelon, brinjal, sesame, glue berry and tamarind.



**Brinjal cultivation plot**



**Sesame cultivation with drip irrigation**



**Effect of DFI Interventions**

**Name of FFP Centre: JAU, Junagadh**



**Name of farmer** : Mr. Gaurangbhai Hansrajbhai Vaghasiya  
**Address** : Village: Kadaya, Ta.: Bagasara, Dist.: Amreli, Gujarat  
**Mobile Number** : 9586760250  
**Age (Years)** : 27  
**Education** : 12<sup>th</sup> Std.  
**Size of land holding (in acre)** : 3.2 acre

**1) Before Intervention**

Component Description		Benchmark (Baseline period 2016-17)			
Components	Names	Area (Acre)/No.	Production (Q/Litre/No.)	Gross income (Rs.)	Net Income (Rs.)
Field Crop 1	Cotton	3	18 q	79200	24700
Field Crop 2	Green gram	2	14 q	63000	40500
<b>Total</b>				<b>142200</b>	<b>65200</b>

**2) Status in 2020**

Component Description		Period 2020-21				% Increase over base year	
Components	Names	Area (Acre)/No	Production (Q/Litre/No.)	Gross income (Rs.)	Net income (Rs.)	Production	Income
Field Crop 1	Cotton	1.6	12.8 q	60800	32800	-28.9	32.8
Field Crop 2	Groundnut	1.6	12 q	60000	35500	-	-
Field Crop 3	Wheat	1.6	16.8 q	28560	18760	-	-
Field Crop 4	Maize (American-INDAM-1122)	1.6	10.4 q	20800	8300	-	-
Field Crop 5	Sesame (summer)	1.6	9.6 q	48480	36480	-	-
<b>Total</b>				<b>218640</b>	<b>131840</b>		<b>102.21</b>

**Brief:** The farmer was getting annual net income of Rs. 65200 from cotton and green gram. He was facing pest problems in cotton and green gram, yield was also low due to erratic and irregular rain, low quality of produce. With DFI interventions in cotton, groundnut, wheat, maize (American-INDAM-1122) and sesame (summer), adoption of improved practices as advised by scientists, he is getting annual net income of Rs.131480. In addition there is cost saving of Rs. 12600 in production of cotton, groundnut, wheat, maize and sesame.

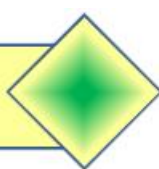


**Maize (American-INDAM-1122) field**



**Sesame field**





## Chapter 4: Content mobilization

Name of Centre: Mahatma Phule Krishi Vidyapeeth, Rahuri.

### • Popular articles

Sr. No.	Title of Article	Magazine/News Paper	Year	Authors
1	Farmer FIRST programme for increase livelihood of farmers	Shetkari	2018	Dr. Pandit Kharde
2	Farm pond fishery	Agro-one	2018	
3	ICAR Farmer FIRST	Shri Sugi (Summer. 2019 )	2019	Dr. Kiran Kokate Dr. Pandit Kharde
4	Increase Production and productivity due to Farmer FIRST	Agro-one	2019	
5	Integrated farming system	Prabhat	2019	
6	Enhancing farmers income through ICAR Farmer FIRST programme	Indian Farming	2019	Dr. P. B. Kharde Dr. Lakhan singh, Dr. B. A. Deshmukh, Dr. S. S. Sadphal
7	Increases productivity by improved technology	Agro-one	2021	
8	Five hundred women's Economically sustain by ICAR Farmer FIRST	Agro-one	2021	
9	ICAR Farmer FIRST	Shri Sugi - Rabi 2021	2021	Dr. P. B. Kharde, Dr. B. A. Deshmukh, Dr. S. S. Sadphal

### • Abstracts

Sr. No.	Title	Authors	Conference	Date
1	Doubling the farmers income through ICAR Farmer FIRST programme	P. B. Kharde, B. A. Deshmukh and S. S. Sadaphal	International Conference 2018, Nepal	20-23 Sep., 2018
2	Farm pond fishery – an integrated approach for Doubling the farmers income	P. B. Kharde, B. A. Deshmukh and S. D. Shinde	International Conference on Doubling the farmers income, KVK, Baramati	9-11 April 2018
3	ICAR Farmer FIRST – Success story for enhancing farmers income	P. B. Kharde, B. A. Deshmukh and S. S. Sadaphal	International E- Conference on Marketing LED Extension Management	2019
4	Economic Impact of ICAR Farmer FIRST programme on farmer participant	P. B. Kharde, B. A. Deshmukh and S. S. Sadaphal	National Conference (Online) Transformation of Agricultural Extension, Agriculture College, Bapatala	20-21 Aug., 2020



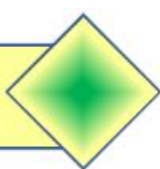
Sr. No.	Title	Authors	Conference	Date
5	Integrated Farming System – Success story of ICAR Farmer FIRST programme	P. B. Kharde, B. A. Deshmukh and S. S. Sadaphal	National Seminar on Pluralistic Extension for enhancing farmers income through reaching the unreached, MPKV, Rahuri	6-7 Dec., 2019
6	Socio –economic empowerment of farmers through farming system interventions for sustainable agriculture development in Ahmednagar districts	P. B. Kharde, V. R. Shedge and Y. M. Gagare	National Conference on sustainable development through agriculture production, protection and policy landscape for crop care, MVN University, Palwal	18-19 Jan., 2023

• **Folders**

Sr. No.	Title of folder	Publication No.	Year of Publication	Authors
1	IFS model for marginal farmers	MPKV/Extension/Publ. No. /2106/2017	2017	Dr. P. B. Kharde Dr. Ulhas Surve Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh
2	Pomegranate management technology	MPKV/Extension/Publ. No. /2127/2017	2017	Dr. P. B. Kharde Prof. Manjabappu Gawde Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh
3	Procedure to collect soil sample and importance of soil testing	MPKV/Extension/Publ. No. /2111/2017	2017	Dr. P. B. Kharde Dr. Anil Durgude Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh
4	Chickpea production technology	MPKV/Extension/Publ. No. /2107/2017	2017	Dr. P. B. Kharde Dr. Nandkumar Kute Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh
5	Five point rabi sorghum production technology	MPKV/Extension/Publ. No. /2110/2017	2017	Dr. P. B. Kharde Dr. Manaji Shinde Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh
6	Improved Implements to reduce women work in agricultural	MPKV/Extension/Publ. No. /2109/2017	2017	Dr. P. B. Kharde Dr. Sachin Nalwade Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh







<b>Sr. No.</b>	<b>Title of folder</b>	<b>Publication No.</b>	<b>Year of Publication</b>	<b>Authors</b>
7	Five points for successful goat farming	MPKV/Extension/Publ. No. /2108/2017	2017	Dr. P. B. Kharde Dr. Sanjay Mandakmale Dr. Sandip Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh
8	Importance of Bajra in Diet and Bajra Production Technology	MPKV/Extension/Publ. No. /2227/2018	2018	Dr. P. B. Kharde Dr. Hemant Patil Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
9	Backyard Poultry	MPKV/Extension/Publ. No. /2228/2018	2018	Dr. P. B. Kharde Dr. Ravindra Nimse Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
10	Red gram Production Technology	MPKV/Extension/Publ. No. /2229/2018	2018	Dr. P. B. Kharde Dr. Nandkumar Kute Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
11	Management of Fodder Crop	MPKV/Extension/Publ. No. /251/2019	2019	Dr. P. B. Kharde Dr. Dilip Devkar Dr. Ravindra Nimse Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
12	Farm Pond Fishery	MPKV/Extension/Publ. No. /253/2019	2019	Dr. P. B. Kharde Dr. Rajendra Dangre Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
13	Mini Dal mill – A small business	MPKV/Extension/Publ. No. /254/2019	2019	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Dinesh Shirsagar Shri. Vijay Shedge
14	Loose House System – Important for Dairy Animal and Farmers	MPKV/Extension/Publ. No. /252/2019	2019	Dr. P. B. Kharde Dr. Dilip Devkar Dr. Ravindra Nimse Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
15	Silage for continuous green fodder	MPKV/Extension/Publ. No. /2297/2020	2020	Dr. P. B. Kharde Dr. Ravindra Nimse Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge



Sr. No.	Title of folder	Publication No.	Year of Publication	Authors
16	Vermicompost Management	MPKV/Extension/Publ. No. /2349/2020	2020	Dr. P. B. Kharde Dr. Ullhas Surve Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
17	Soybean production technology	MPKV/Extension/Publ. No. /2471/2022	2022	Dr. P. B. Kharde Dr. Milind Deshmukh Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
18	Backyard Vegetable and medicinal plant garden	MPKV/Extension/Publ. No. /2472/2022	2022	Dr. P. B. Kharde Prof. Kiran Jadhav Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge

• **Books**

Sr. No.	Title of book	Year	Publisher	Authors
1	Success stories of ICAR Farmer FIRST programme	2023	Director, Extension Education, MPKV, Rahuri	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge

• **Pamphlets/ Booklets**

Sr. No.	Title of booklet	Publication No.	Year of Publication	Authors
1	ICAR Farmer FIRST information brochure in local language (Marathi)	MPKV/Extension/Publ. No. /2275/2019	2019	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
2	ICAR Farmer FIRST information brochure in English	MPKV/Extension/Publ. No. /2288/2019	2019	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
3	Pocket Dairy	MPKV/Extension/Publ. No. /2346/2020	2020	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge

• **Awards received**

Sr. No.	Name of Award	Date	Name of Farmer / Scientist	Agency
1.	Best Women Farmer	29.08.2019	Mrs. Savita Vaibhav Nalkar	MPKV, Rahuri





Sr. No.	Name of Award	Date	Name of Farmer / Scientist	Agency
2.	Innovative Farmer Award	01.09.2019	Mrs. Savita Vaibhav Nalkar	NAARM, Hyderabad
3.	Best Presentation Award	03.01.2020	Dr. P. B. Kharde	ATARI, Pune
4.	Best Research Paper Presentation	06.12.2019	Dr. P. B. Kharde	Maharashtra Society Of Extension Education, Akola and MPKV, Rahuri
5.	Best Oral Presentation	20.08.2020	Dr. P. B. Kharde	Acharya N. G. Ranga Agri. University
6.	Best Oral Presentation	19.01.2023	V. R. Shedge	AEEFWS, Punjab, MVN University, Palwal

• **Videos**

Sr. No	Subject	Participant farmer	Year	Editor
1	Pomegranate production technology	Mr. Machindra Shete	2017	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
2	Red gram and Bajra Production Technology	Mr. Maruti Gite	2018	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
3	Farm pond fishery	Mrs. Savita Nalkar	2018	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
4	Backyard Poultry	Mrs. Najma Pathan	2018	Dr. P. B. Kharde Dr. Sachin Sadafal Dr. Bhagvan Deshmukh Shri. Vijay Shedge
5	Chickpea varieties and their characteristics	Dr. Nandkumar Kute	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
6	Integrated pest management on Red gram	Dr. Changdeo Vayal	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
7	Integrated pest management on Chickpea	Dr. Changdeo Vayal	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
8	Micronutrient developed by MPKV, Rahuri	Dr. Anil Durgude	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
9	Oily spot and wilt management in	Dr. Prakash More	2022	Dr. P. B. Kharde Dr. Sachin Sadafal



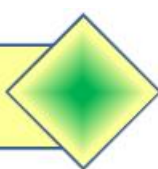
Sr. No	Subject	Participant farmer	Year	Editor
	Pomegranate			Shri. Vijay Shedge
10	Management of vaccination in animal	Dr. Ravindra Nimse	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
11	Fall army worm management in maize	Dr. Nandu Bhute	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
12	White grub management in sugarcane	Dr. Nandu Bhute	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
13	Pink boll worm control in cotton	Dr. Nandu Bhute	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge
14	Documentary of ICAR Farmer FIRST programme	Dr. Pandit Kharde	2022	Dr. P. B. Kharde Dr. Sachin Sadafal Shri. Vijay Shedge

• **Success Stories Published**

Sr. No.	Title	Magazine/ News paper/ Tv/ Radio	Participant name / Authors	Date	Page No. / Volume
1	Farm pond fishery	Agro-one		17.08.2018	09
2	Special programme on Socio-economic empowerment of farmers through ICAR Farmer FIRST Programme	Doordarshan Sahyadri Channel	Dr. P. B. Kharde	29.10.2018	
3	Pomegranate Production Technology	Doordarshan Sahyadri Channel (Krushi Darshan)	Subhan Mohmmad Inamdar	02.07.2018	
4	Cucumber (Horticulture based module)	Doordarshan Sahyadri Channel (Krushi Darshan)	Nawnath Dada Musmade	02.07.2018	
5	ICAR Farmer FIRST	All India Radio, Pune	Dr. P. B. Kharde	05.04.2018	
6	ICAR Farmer FIRST	All India Radio, Ahmednagar	Dr. B. A. Deshmukh	17.06.2018	
7	ICAR Farmer FIRST	All India Radio, Ahmednagar	Dr. P. B. Kharde	05.04.2019	
8	ICAR Farmer FIRST	Shri Sugi (Summer. 2019 )	Dr. Kiran Kokate Dr. Pandit Kharde	Summer - 2019	09-12







Sr. No.	Title	Magazine/ News paper/ Tv/ Radio	Participant name / Authors	Date	Page No. / Volume
9	Increase Production and productivity due to Farmer FIRST	Agro-one		07.08.2019	09
10	Integrated farming system	Prabhat		19.08.2019	07
11	Enhancing farmers income through ICAR Farmer FIRST programme	Indian Farming	Dr. P. B. Kharde Dr. Lakhan Singh, Dr. B. A. Deshmukh Dr. S. S. Sadphal	2019	Vol-69
12	Backyard poultry	Field Innovations of Farmer FIRST Project – ICAR NAARM, Hyderabad	Mrs. Najma Pathan	2019	74-75
13	Farm pond fishery	Field Innovations of Farmer FIRST Project – ICAR NAARM, Hyderabad	Mrs. Savita Nalkar	2019	76-77
14	Pomegranate production technology	Field Innovations of Farmer FIRST Project – ICAR NAARM, Hyderabad	Mr. Machindra Shete	2019	78-79
15	Integrated Farming System	Doordarshan Sahyadri Channel (Krushi Darshan)	Mrs. Savita Nalkar and Shedge Vijay	25.11.2019	
16	Backyard poultry	Doordarshan Sahyadri Channel (Krushi Darshan)	Mr. Pravin Gade and Kiran Magar	02.12.2019	
17	Increases productivity by improved technology	Agro-one		20.07.2021	08
18	Five hundred women's Economically sustain by ICAR Farmer FIRST	Agro-one		19.10.2021	09
19	ICAR Farmer FIRST	Shri Sugi - Rabi 2021	Dr. P. B. Kharde, Dr. B. A. Deshmukh, Dr. S. S. Sadphal	Rabi 2021	53-54

• **Registered/promoted FPOs, SHGs**

Sr. No.	Name of SHG's	Village	No. Of members	Activity
1.	Shetmajur Women Self Help Group	Kangar	11	Dal mill
2.	Shri. Swami Samarth Women Self Help Group	Chinchvihire	11	Dal mill

• **Value chain**



Developed marketing chain of dal mill producer SHG's by grading and branding

- **Seed village**

Sr. No.	Name of Village	Seed production	Year
1	Chinchvihire	Soybean, Chickpea	2017-2023
2.	Kangar	Soybean, Chickpea	2017-2023
3.	Tambhere	Soybean, Chickpea, Red gram, Sorghum	2017-2023
4.	Kanadgaon	Soybean, Chickpea	2019- 2023

- **Custom hiring centre**

Sr. No.	Name of Custom Hiring Implement	Year	Village covered
1.	Check Basin Former	2018 -19	Chinchvihire and Kangar

- **Farmer interest groups, Community organization**

1. Pomegranate Producer group
2. Chickpea producer group
3. Farm pond fishery group
4. Backyard Poultry group
5. Dairy farmer group
6. Goat farmer group
7. Soybean producer group
8. Farmer Scientist forum

- **Creation or up-gradation of lab/ buildings**

1. Egg incubator in dairy department
2. Hydroponics in Integrated Farming System Project
3. Vermicompost mesh in Integrated Farming System Project
4. Feeding manager for goat improvement project
5. Check Basin Farmer to Sorghum improvement project

- **Others**

1. More than 500 news published in different news paper
2. Videos of FFP also available on You tube
3. Whats app group of ICAR Farmer FIRST participant farmers on which guidelines provided to the farmers

**Name of Centre: Directorate of Extension Education, Navsari Agricultural University,  
Navsari**

- **Research papers published above 6.0 NAAS rated journal including their NAAS rating.**

Sr. no	Title	Authors	Journals name
1	Personal and socio-economic profile of dairy farmers and Prevailing housing management practices for dairy animals in Navsari district of Gujarat	N. B. Patel, A. P. Raval, G. P. Sabapara and Y. D. Padheriya	Indian J. Anim. Prod. Mgmt. Vol. 36 (3-4): 101-105, 2022





• **Popular articles**

Sr. No.	Title of abstract	Publication	Year
1	Farm Women Participatory On-Farm Trial (OFT) on Prevention and Control of Mastitis in Dairy Cattle under Farmer FIRST Programme" by N. B. Patel, R. S. Ghasura and L. M. Sorathiya	SEEG National Symposium-2019 , Navsari	2019
2	Impact of farmer FIRST programme: effect of mineral mixture supplementation and deworming on milk production and composition in buffaloes and their economics.	National conference ISBD,NAU, Navsari, 2019	2019
3	Feeding, breeding and milking management practices followed by dairy animal owners of Navsari district of South Gujarat-farmer FIRST programme	SEEG National Seminar-2022, Junagadh	2022
4	Economic loss due to clinical mastitis in dairy cattle and effectiveness of mastitis control measures under farmer FIRST programme	SEEG National Seminar-2022, Junagadh	2022

• **Folders**

Sr. no	Title	Authors	University publication No. /Year
1	Nauroji novel sendriy pravahi tatvono khetima upayog	Dr. Chirag S. Desai, Dr. V. P. Usdadia, Dr. R.M. Bhuva, Miss A. M. Pandya, Miss R. A. Patel	13/2018-19
2	Aamba/Chikuna Rog ane Jivat niyantrannu Calender	Dr. B. M. Tandel, Dr. Narendrasinh, Dr. R.M. Bhuva, Miss A. M. Pandya, Miss R. A. Patel, Mrs. A. N. Rudani	16/2018-19
3	Dangarni jat GNR-3 ni vaigyanik kheti paddhati	Dr. H. M. Viradia, Dr. Narendrasinh, Dr. R.M. Bhuva, Miss A. M. Pandya, Miss R. A. Patel, Mrs. A. N. Rudani	15/2018-19
4	Seradi G.N.S-10 ni vaigyanik kheti paddhati	Dr. H. M. Viradia, Dr. Narendrasinh, Dr. R.M. Bhuva, Miss A. M. Pandya, Miss R. A. Patel, Mrs. A. N. Rudani	14/2018-19
5	Chikunu Mulyavardhan	Dr. Jilen Mayani, Dr. R.M. Bhuva, Mr. Mahendra V. Dalvi, Mr. Ajay N. Patel, Miss Vaishali J. Ahir	72/2021-22
6	Sankalit kheti padhdhti	Dr.L.K.Arvidia,Dr.R.M.bhuva Mr. H.M.Parmar, Miss R. A. Patel	75/2020-21

• **Awards received**

Sr. No.	Details
1	Best Oral Presentation entitled "Impact of farmer FIRST programme: effect of mineral mixture supplementation and deworming on milk production and composition in buffaloes and their economics" in National conference ISBD, NAU, Navsari, 2019



- **Videos (DVDs)**

- 1) Krushi bajar vyavasthya, ASPEE, NAU, Navsari (2018-19)
- 2) Krushi padashona nikash mate aayojan ASPEE, NAU, Navsari (2018-19)

**Name of Centre: Junagadh Agricultural University, Junagadh**

**Research papers published in >4.96 NAAS rated journal**

Sr. no	Title	Authors	Journals name
1.	Farmer FIRST Programme: An effective communication approach for dissemination of sustainable groundnut production technology,	Bharadiya, A. M., Savaliya, S. G., Patel, P. V., Bhut, J. B., Dhingani, J. C., Dholariya, N. D. and Gohil, P. J.	(2019). <i>Guj. J. Ext. Edu.</i> ; Special Issue on National Seminar: 1-4.
2.	Dissemination of improved production technology of cotton through Farmer FIRST programme in Saurashtra region of Gujarat,	Gohil, P. J., Savaliya, S. G., Bharadiya, A. M., Patel, P. V., Kavar, N. R. and Varia, M. V.	(2019). <i>Guj. J. Ext. Edu.</i> ; Special Issue on National Seminar: 112-115.
3.	Doubling farmers' income through crop diversification and intensification under Farmer FIRST programme	Chovatia, P. K., Mathukia, R. K., Savalia, S. G., Patel, P.V. and Panara, D.M.	(2019). <i>Guj. J. Ext. Edu.</i> ; Special Issue on National Seminar: 13-15.
4.	Doubling farmers' income through natural resource management under Farmer FIRST programme.	Savalia, S. G., Solanki, M. S., Patel, P.V., Jadeja, A. S. and Bunsu, P.B.	(2019). <i>Guj. J. Ext. Edu.</i> ; Special Issue on National Seminar: 44-47.

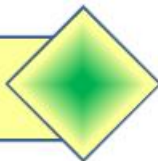
- **Popular articles: 3**

- **Folders**

1. Vaignanik padhdhti thi pashupalan and pashu rahethan
2. Whitegrub Management in Groundnut Crop
3. Integrated Disease Management in Groundnut Crop
4. Integrated Management of Cotton Pink ball worm
5. To get higher production with High Density Planting in Cotton
6. Scientific Farming of Gram
7. Integrated Management of Pod borer in Gram Crop
8. Integrated Pest Management in Pulse Crop
9. Pulse Crop Diseases and Their Management
10. Scientific Farming of Wheat
11. Diseases of Wheat
12. Care and management of milch cows and buffaloes
13. Primary treatment of common diseases in cattle and buffalo
14. Occurrence of uterine torsion in pregnant cows and buffaloes
15. Scientific Farming of Kharif Groundnut
16. Scientific Farming of Summer Groundnut
17. Integrated Pest Management in Groundnut Crop
18. Diseases of Groundnut crop and their management
19. Safe Use of Pesticides and Yellowish Groundnut and Their Avoidance
20. Intensification in Sowing of Cotton - A New Concept







21. Integrated Pest & Disease Management in Cotton
22. Adopt crop diversification to double the income from Agriculture
23. Reduce the cost of cultivation to double the income from Agriculture
24. Losses due to waterlogging and its remedial measures
25. Management of reproduction in cows and buffaloes
26. Prevention of diseases in animals
27. Jaffrabadi buffalo- A milch buffalo breed of Gujarat
28. Introduction & Scenario of beekeeping
29. Appliances of beekeeping and their uses
30. Pest and Diseases of Honey bee
31. Products and by-products of apiculture
32. Integrated Nutrient Management in Groundnut- Pigeon pea relay cropping system
33. To apply the recommended fertilizers to crops, how to calculate required nutrient from fertilizer
34. Soil fertility and its management
35. Response of potassic fertilizer in crops
36. Management of anoestrous cows and buffaloes

- **Books**

(a) Pashupalan Panchamrut

(b) Rasayanik, Organic and Bio fertilizer no karyxam upyog

- **Pamphlets:**

1. Groundnut crop experiment of crop based module under FFP project.
2. Cotton crop experiment of crop based module under FFP project.
3. Gram crop experiment of crop based module under FFP project.
4. Wheat crop experiment of crop based module under FFP project.
5. Cotton + sweet corn intercropping system + enriched compost on crop diversification module under FFP project.

- **Awards received:**

Sr. No.	Details
1	"Innovative Farmer Award" awarded to Rakeshkumar Vaghasiya (Village: Hadala, Ta: Bagasara, Dist.: Amreli) on 45th Foundation Day of ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad on 1st September 2020.

- **Videos: 42 clips**
- **Success Stories Published: 105**
- **Registered/promoted FPOs, SHGs: 01**
- **Contract farming arrangements: 2**





भाकृअनुप-कृषि प्रौद्योगिकी अनुप्रयोग अनुसंधान संस्थान  
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