

Accelerating Farm Incomes (AFI): Building Sustainable Soil Health, Markets and Productivity in Telangana State, India

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Acronyms and Abbreviations

AIP	Agribusiness and Innovations Program
AFI	Accelerating Farm Incomes
ATMA	Agricultural Technology Management Agency
FMO	Field Monitoring Officer
FPO	Farmer Producer Organization
GAPs	Good Agricultural Practices
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communications Technology
IFDC	International Fertilizer Development Center
IFFCO	Indian Farmers Fertilizer Cooperative
IPM	Integrated Pest Management
INP	Innovations and Partnership Program
MoA	Memorandum of Agreement
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
NPK	Nitrogen, Phosphorus, Potassium
PJTSAU	Professor Jaishankar Telangana State Agricultural University
PUA	Peri-Urban Agriculture
SERP	Society for Elimination of Rural Poverty
SHG	Self-Help Group
ToT	Training of Trainers

Accelerating Farm Incomes (AFI): Building Sustainable Soil Health, Markets, and Productivity in Telangana State, India

Annual Report

October 2020-September 2021

Project Description

The development project entitled “Accelerating Farm Incomes (AFI): Building Sustainable Soil Health, Markets, and Productivity in Telangana State, India,” awarded by Walmart Foundation to International Fertilizer Development Center (IFDC), is a two-year and 10-month intervention that started on October 1, 2019. The project aims to strengthen and reorient agricultural production systems in peri-urban agriculture (PUA) and rural locations of Telangana State, India, through three diversified components – technology dissemination, knowledge sharing and capacity building, and micro-enterprise development – which are crucial for the sustainability of a market-driven agriculture production system. The project is expected to achieve an immediate impact in terms of improved productivity as well as increased farmers’ income through enhanced resource use efficiency and farmer-market linkages. AFI will focus on the following key issues in improving crop productivity and farmers’ income in Telangana State:

- Increasing productivity by creating awareness and enhancing farmers’ knowledge of good agriculture practices (GAPs).
- Ensuring introduction and adoption of site-specific technologies (seed, fertilizers, crop protection practices, and other inputs) to suit Telangana’s marginal soils, which have severe nutrient deficiencies (low nitrogen and phosphorus levels), in semi-arid/rainfed conditions.
- Creating access to viable marketing pathways and sustainable opportunities for selling farmers’ produce and optimizing their income.

The implementation strategy involves focusing on and strengthening the following areas:

- Incorporating PUA as part of the poverty-alleviation process.
- Linking targeted peri-urban poor to markets for timely sales of and obtaining a better price for agricultural products.
- Empowering community, with a special emphasis on gender and youth, by providing training and advisory services for capacity building.
- Disseminating climate-resilient and adaptable innovative technologies for enhancing the efficiency of natural resources (water, labor, and energy), mechanization, and quality seed use and reducing post-harvest losses for commodity groups, depending on the cropping pattern in the selected districts – rice, maize, pulse, and vegetable-based cropping systems – following the GAPs:
 - Improving nutrient use efficiency in rice-, vegetable-, pulse-, and maize-based cropping systems.
 - Enhancing balanced nutrient use (secondary and micronutrient uptake) in cereal-based cropping systems.
 - Improving irrigation and water use efficiency in semi-arid agriculture systems.

- Introducing smallholder farmer mechanization to enhance the efficiency of energy, labor, and time, along with natural resources.
- Providing commercial orientation to PUA farmers in Telangana State through the involvement of smallholder farmers, particularly by encouraging women and youth in such initiatives.
- Creating awareness of the growth and demand for horticultural products (vegetables) in the metropolis of Telangana State and the potential for export opportunities with the international airport to facilitate sustainable farming and income opportunities for smallholders.

The project is strengthening inter- and intra-partner relationships among stakeholders, including resource-poor farmers, private sector extension agents, agricultural input suppliers, and output buyers in the project region and beyond. The forward and backward linkages are achieving the establishment of a sustainable production system based on market demand. The project is mandated to improve the technical capacity of private sector extension agents as well as resource-poor farmers toward the effective use of technologies. Sustainable partnerships are also being developed through participatory learning processes, such as workshops, training, field days, field visits, farmer visits, and other innovative knowledge dissemination forums as web-based platforms.

This progress report on Year 2 provides a detailed description of the planned activities, outputs, and outcomes achieved under the AFI project from October 2020 to September 2021.

Project Goal and Objectives

The project goal is to increase productive employment in agriculture and related enterprises through the creation of competitive but sustainable markets for stakeholders in the value chain involving agribusiness inputs, outputs, and technologies. The project vision is in line with the Walmart Foundation's vision.

The specific objectives are to:

1. Accelerate farming incomes through productive technologies focusing on soil health, seed materials, and integrated approaches to nutrient-water management, i.e., an integrated soil-seed-water approach, to ensure sustainable outcomes for rice-, maize-, pulse-, and vegetable-based cropping systems in semi-arid regions of Telangana State.
2. Build thriving markets through commercial orientation of farming toward promoting peri-urban agriculture in Telangana State.

Project Location

The AFI project is being implemented mainly in the PUA areas of three southern and central districts of Telangana – Mahabubnagar, Rangareddy, and Medak (Figure 1) to help improve farmers' crop productivity levels, link them to sustainable markets, and thus provide opportunities for generating off-farm and on-farm employment among the farming households.

The main project office was set up in Hyderabad. Two satellite offices were set up in the districts, i.e., one at Shadnagar (for Rangareddy and Mahabubnagar districts) and the other at Toopran for Medak District. Overall, 62 villages across 10 mandals were identified for the selection of beneficiaries/farmers in these three districts (Refer to Annex 1 for the list of villages and mandals).



Figure 1. AFI Project Location

Progress Achieved in Year 2

The AFI project navigated through the unprecedented COVID-19 pandemic during Year 1. While plans were being made to accelerate project activities in Year 2, the second wave of the pandemic transpired. The resulting lockdown and mobility restrictions slowed the pace of the on-the-ground activity implementation. In Telangana State, the pandemic's second wave peaked during April and May 2021, resulting in COVID-19 infection of project staff and beneficiary farmers. Mobility to the villages in project areas was restricted to prevent the spread of the disease. As a result, project personnel were asked to continue their activities from home for two weeks during April 16-30, 2021. Meanwhile, the government of Telangana State announced lockdown restrictions from May 12 to June 22, 2021 (see the Government Order of Telangana State <https://covid19.telangana.gov.in/wp-content/uploads/2021/05/G.O-102-Imposition-of-Lockdown-in-Telangana.pdf>). Even after June 22, 2021, the local administrations (office of the Gram Panchayat) in the majority of villages continued mobility restrictions on outsiders for another month. These restrictions led project staff to minimize activities that involved in-person gatherings (such as training events and motivational meetings) and focus on virtual activities during the second half of Year 2. Therefore, the COVID-19 pandemic significantly impacted on-the-ground activity implementation as well as capacity development activities, as reflected in the results achieved. IFDC plans to scale up activities in Year 3 (October 2021-September 2022) with an expanded team and project leadership. IFDC also intends to extend project activities to Year 4 following the submission and approval of a no-cost extension to the Walmart Foundation.

Scale-Up of Virtual Activities: ICT Pilot Initiative

Considering the restrictions on mobility and gatherings of stakeholders, IFDC changed to an information and communications technology (ICT)-based virtual mode to scale up the planned activities. Therefore, the all-inclusive digital platform *NaPanta* (<http://www.napanta.com/>),

which was incubated by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Agribusiness and Innovation Platform (AIP) – was chosen for disseminating relevant information on GAPs to the beneficiary farmers in the targeted area. NaPanta is a Telugu language-based app designed to assist farmers in Telangana and Andhra Pradesh states. The app provides solutions to farmers for making informed decisions to reduce production costs and increase the productivity of various crops. As part of the pilot study, an agreement was reached with NaPanta to provide free services to 700 farmers in 21 villages specifically chosen for the pilot study (the list of villages is provided in Annex 2). It was agreed that NaPanta would provide agricultural knowledge and analytics/reports on the usage of the app and its features to the targeted farmers for the duration of the ICT pilot initiative, June-September 2021 (four months). The project staff reviewed the content provided (crop production-related information) in the web pages and assisted NaPanta's website content moderator in making amendments/corrections as required.

An training of trainers (ToT) program for project staff to learn how to use the app was held on June 2, 2021. Later, the project staff trained the beneficiary farmers to use the app in their respective villages. They ensured that the app was installed on each beneficiary farmer's mobile phone and that they had access to the features available in the platform. The information disseminated through the the app includes daily market prices of different commodities; pest, weed, disease control methods and fertilizer application rates the crops cultivated in the season, fertilizer dealers and their



locations, crop insurance schemes and providers, etc. The project staff continuously tracked usage patterns and monitored their progress in learning about crops they cultivate.

To continue the ICT initiative beyond September 2021 when this free service will be terminated, two vendors have been chosen – FarmGreen Agritech India Pvt Ltd and SourceTrace India Pvt Ltd. These two service providers have been approved by the Walmart Foundation. Contracts are being drafted and their services will be initiated after these are signed. (Refer to Annex 2 for the list of villages covered under the ICT initiative.)

Technical Activities

The progress achieved in Year 2 is outlined below under each assigned objective and corresponding technical activities performed during the period October 2020-September 2021:

Project Objectives

Objective 1: Accelerate farming incomes through productive technologies focusing on soil health, seed materials, and integrated approaches to nutrient-water management, i.e., an

integrated soil-seed-water approach, to ensure sustainable outcomes for rice-, maize-, pulse-, and vegetable-based cropping systems in semi-arid regions of Telangana State.

- 1,565 hectares (ha) of land covered under improved technologies and GAPs.
- 1,264 direct beneficiaries are using improved technology and GAPs.
- 30% yield increased in paddy (in the demonstration plots).

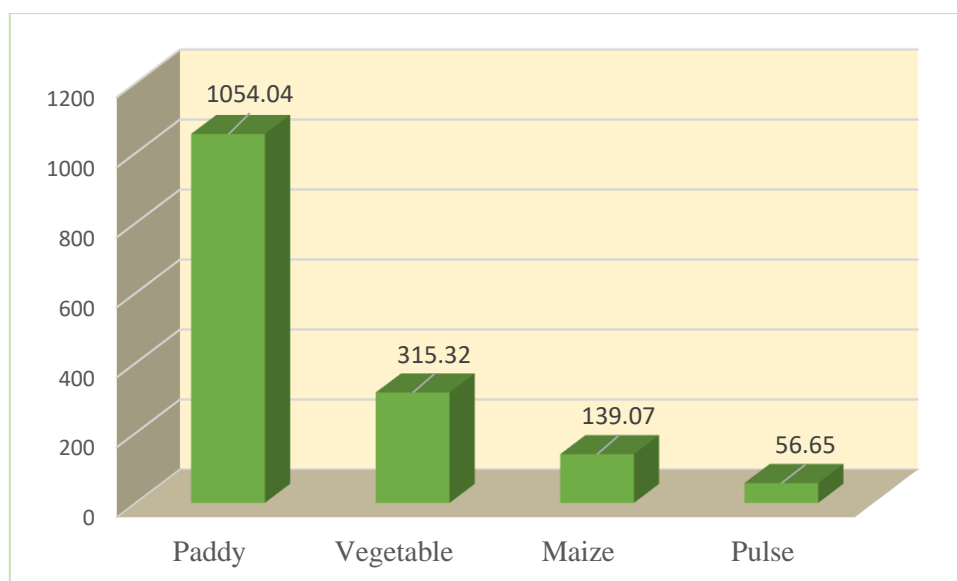
The two sample surveys conducted during the reporting period (*AFI Survey of 399 Trained Sample Farmers, 2020* and *AFI Survey of 865 Trained Sample Farmers, 2021*) revealed that 1,264 direct beneficiaries (102 women) cultivated 1,565 ha of land under improved technologies and GAPs, covering paddy (1,054 ha), vegetables (315 ha), maize (139 ha), and pulses (57 ha).

The list of technologies and GAPs used for the measurement of the extent of adoption by the number of farmers in the survey sample is shown in Table 1.

Table 1. Status of Farmer Adoption of Improved Technology and GAPs (October 2020-September 2021)

S. No.	GAP	Number of Farmers Who Applied GAPs (N=1,264)	%
1	Improved quality seedlings (nursery)	1,037	82.04
2	Improved seed variety	1,128	89.24
3	Seed treatment	881	69.70
4	Pro-tray (seed-tray) nursery raising	278	21.99
5	Sowing/planting in time	1,177	93.12
6	Line transplanting with proper spacing	710	56.17
7	Balanced fertilizer	1,017	80.46
8	Fertigation	135	10.68
9	Drip/micro-irrigation	210	16.61
10	Crop support method	87	6.88
11	IPM	548	43.35
12	Crop storage	378	29.91
13	Mechanization (land preparation, seeding, harvesting, etc)	1,254	99.21

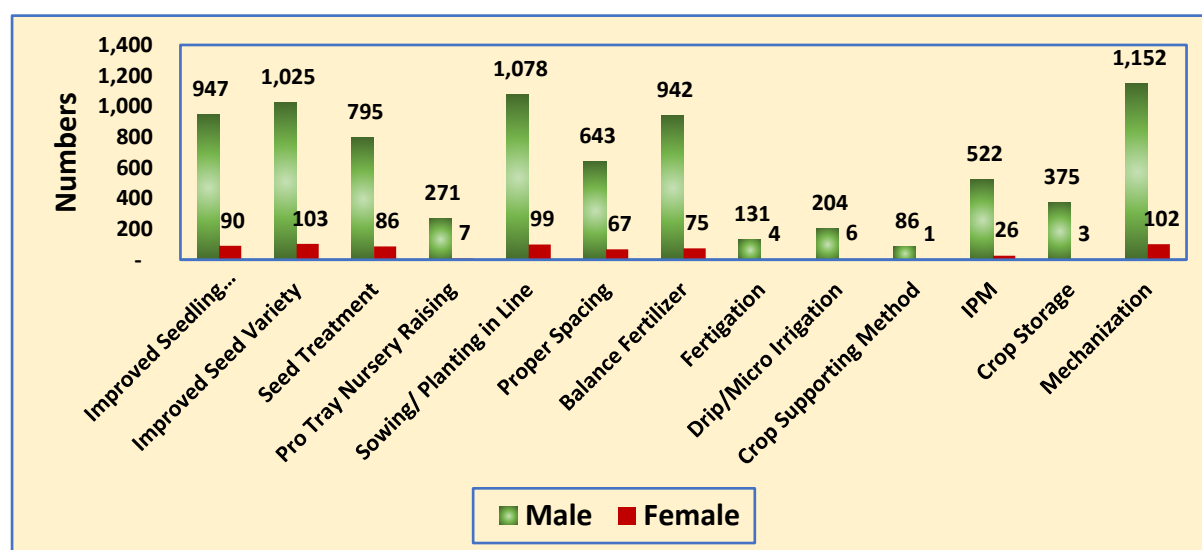
Overall coverage of the land area in the AFI project under various improved technologies and GAPs is presented in Figure 2.



Source: Trained Sample Farmer Surveys, 2020 and 2021.

Figure 2. Area Coverage (ha) Under Improved Technology and GAPs (October 2020-September 2021)

The farmers who adopted two or more GAPs are considered *unique GAP users*. In that sense, all of the 1,264 direct beneficiaries were found to be unique GAP users. The number of farmers applying each GAP by gender is shown in Figure 3.

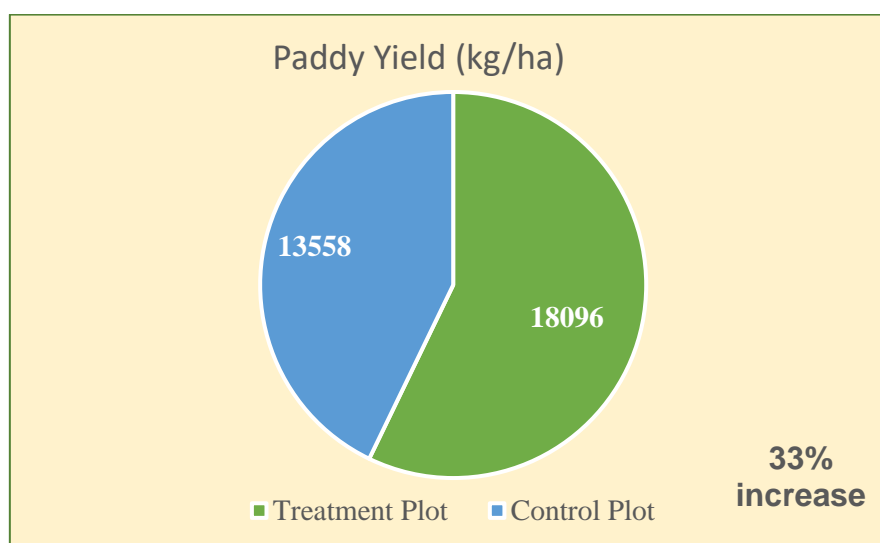


Source: Trained Sample Farmer Surveys, 2020 and 2021.

Figure 3. Unique GAP Users – Gender & Technology (October 2020-September 2021)

The assessment of the paddy demonstration held in Rabi season 2020/21 reveals a yield increase of 33% in the demonstration plots compared to the farmer's practice plot. Data were captured only from the Rangareddy District, where 13 demonstration plots were established. No demonstration plots were established in Medak or Mahabubnagar for the Rabi season due to the lack of project staff experienced in managing demonstration experiments. The comparative yield data of paddy is presented in Figure 4.

Figure 4. Yield Comparison of Demonstration Plots vs. Control Plots (October 2020-September 2021)



Source: Assessment of Paddy Yield in AFI Demo Plots, Rabi Season 2020/21.

Note: Treatment Plot = new/improved practices/technology; Control Plot = farmer's usual crop management practices.

Objective 2: Build thriving markets through commercial orientation of farming toward promoting peri-urban agriculture in Telangana State

Adoption of GAPs in the targeted crops of paddy, maize, pulses, and vegetables was extensively promoted through the initial introductory/motivational meetings and during training of PUA farmers. The introductory/motivational meetings are usually held in the villages before conducting a training program. The targeted farmers along with the Sarpanch (Village Head) and other influential persons in the village are usually invited to these meetings. Every such meeting is held with about 20-30 stakeholders in attendance. These events focused on sharing the benefits/advantages of using GAPs in the targeted crops, with a particular emphasis on vegetables, keeping in mind the potential role horticulture crops will play in improving PUA farm incomes. The purpose of these events was to bridge farmers/beneficiaries' knowledge gaps on crop management practices in general and to increase awareness and knowledge on using good quality seeds and implementing soil fertility management, integrated pest management (IPM), and post-harvest practices, including promoting the agricultural farm as a commercial venture. As part of facilitating market linkages, input retailers and agriculture produce traders were encouraged to participate in these events to disseminate knowledge on the latest products (inputs) available, market access, opportunities, and prices so that the participating farmers could utilize this information to increase the quality of their farm produce and incomes. However, to date only a small number of input dealers/traders turned up (around 20) in all the training events conducted as these were held in the villages and the dealers/traders seldom find time from their business activities to attend the training events.

Project Outputs

Output 1: Improved productivity of various crops (rice, maize, pulses, and vegetables)

The project established 13 paddy plots (one plot belongs to women farmers) in Rabi 2020 and 30 demonstration plots (two plots belong to women farmers) of paddy, maize, red gram, and vegetables in the ongoing Kharif 2021 (refer to Annex 3 for a list of demonstrations) to showcase the benefits of GAPs and improved technologies to the farming community. The technologies/improved practices being demonstrated include the following:

- Crop Support (trellis system): Supporting the crop/plant by tying it to a bamboo/wooden pole with galvanized iron wire and providing creeper mesh.
- Crop Protection: Biological traps, such as pheromone traps, yellow sticky traps, and fruit fly traps, to protect from insects.
- Crop Nutrition: Fertigation (nitrogen, phosphorus, potassium [NPK] + micronutrients) in drip irrigation and foliar application of micronutrients.
- Soil Health Management: Application of farmyard manure, vermicompost, and other organic fertilizers in combination with chemical fertilizers.
- Weed Management: Use of plastic mulch sheeting to avoid weed germination.
- Biological Control Agents: Seeds treated with bio fungicides, such as *Trichoderma viride* or *Pseudomonas fluorescens*.
- Nursery Raising: Use of a raised bed nursery and seed trays.

The project team trained 1,647 farmers in 60 batches during Year 2. The major purpose of the training events was to improve farmers'/beneficiaries' knowledge of crop management and new technology toward productivity improvement and to promote post-harvest practices to maintain product quality. The number of farmers trained on productivity improvement, improved technologies, and GAPs is provided in Table 2 (see Annex 4 for details on the farmers trained).

Table 2. Farmers Trained on Productivity Improvement, Improved Technology, and GAPs (October 2020-September 2021)

Number of Farmers Trained			
No. of Batches	Men	Women	Total
60	1,540	107	1,647

Source: AFI Project Training Database.

Soil testing, balanced use of fertilizers, and integrated pest management (IPM) are being promoted during these training programs. However, events such as motivational exposure visits, field days, and crop cut shows in demonstration plots that were planned for the farmers could not be conducted due to COVID-19 restrictions.

Output 2: Improved income and livelihood of farmers

In total, 12 manuals and one PowerPoint presentation were prepared on various topics and crops, covering GAPs and new/improved technologies. These will serve as ToT material for field staff, which will allow them to further enhance the technical capacity of farmers and other stakeholders through training sessions. External resource persons also received these materials to ensure that they understand the context. Appropriate training materials and brochures/handouts in the local language about GAPs, thematic aspects, and the AFI project were distributed to the participants to create awareness about the project and relevant crop practices.

Table 3. Training Manuals – Crop Production

Number of Manuals Prepared			
Paddy	Maize	Vegetables	Pulses
1	1	8*	1**

*Tomato, okra, eggplant, bitter gourd, bottle gourd, cucumber, green chili, and onion.

**Red gram.

All 12 training manuals and the presentation can be accessed at <https://1drv.ms/u/s!Aub5BNg4Pclrh3OsPaMrDFsiYbn9?e=aXGPIh>. (Manual on tomato cultivation/production is provided in Annex 5 for reference).

Two seminars were attended by 102 stakeholders, including 57 farmers, during January 2021. Other stakeholders included private sector agro-input dealers/retailers, output traders/processors/retailers, government extension officers, progressive farmers, representatives from community-based organizations (CBOs), and non-governmental organizations (NGOs). During the seminars, the participants deliberated on GAPs, production technologies, and market opportunities for agriculture products/commodities. Question-and-answer sessions were held in which many farmers actively inquired about various government subsidy schemes, market avenues, etc. The seminars were also covered by the local media. These events are paving the way for linking farmers with markets. (A list of participants, photos, media clippings, and other details are provided in Annex 6.)

Table 4. Number of Participants Attending Stakeholder Seminars (October 2020-September 2021)

Stakeholder Seminar 1				
Date	Place	No. of Participants		
		Farmers	Other Stakeholders	Total
Jan 7, 2021	Shadnagar, Rangareddy District	34	22	56
Stakeholder Seminar 2				
Jan 29, 2021	Toopran, Medak District	23	24	47

Output 3: Strengthened the private sector's capacity to improve farmers' access to improved technologies and GAPs

Government extension officers, NGO representatives, and academicians discussed GAPs and soil management with biological control agents during the stakeholder seminars. These conversations helped bridge knowledge gaps, develop capacities, and facilitate linkages between relevant stakeholders, such as private sector agro-input dealers/retailers and output traders/processors/retailers. Since private sector actors are the first to have contact with the farmers in meeting their immediate farm needs (market-led extension), building their capacity is prioritized in project activities.

The training programs planned for agro-input dealers on improved technologies and GAPs, small business development, and management were postponed due to pandemic restrictions and lockdown. Field visits planned for dealers and farmers were also postponed due to the

worsening situation.

Output 4: Improved pro-market environment and linkages

Two stakeholder seminars (mentioned previously) for establishing market linkages between farmers and agripreneurs were conducted. A market assessment could not be conducted due to the COVID-19 restrictions.

To link farmers with retailers and agriculture produce traders, these agripreneurs were invited to farmer training events to ensure a possible interaction between these two groups. Participation of at least two traders was expected in each of these events. However, very few (close to 20) participated in these programs citing a clash of program timing with their business hours. Those few who could participate in the training had interaction sessions with farmers for disseminating knowledge on the latest products (inputs) available, market opportunities, and prices. Regarding public-private partnership activity, informal collaborations have been established with five institutions so far – Professor Jayashankar Telangana State Agricultural University (PJTSAU), Telangana Department of Agriculture, ICRISAT, Ninjacart, and a cooperative society *Ramalingeswara Sahakara Samiti* – for obtaining leads to building relationships/linkages between farmers and agripreneurs.

Output 5: Strengthened support systems to facilitate sustainability

The project intends to ensure sustainability (after its exit) by strengthening support systems. Exposure trips for farmers and agri-input dealers/retailers and training events for dealers on topics such as how to involve women in maximizing agricultural productivity and product sales, how to implement technology dissemination programs, and how to access commercial financing were planned. However, these events could not take place due to COVID-19 restrictions.

Cumulative Achievement

Cumulative data of the major technical activities planned and achieved by Year 2 is provided in Table 5.

Table 5. Cumulative Data of Major Technical Activities (October 2019-September 2021)

S. No.	Activity	Project Target	Achievement				
			Year 1 Achieved	Year 2 Targets	Year 2 Achieved	Cumulative Achievement	%
		A	B	C	D	E (B+D)	E*100/A
Objective 1: Accelerate farm incomes through productive technologies							
1	Farmers trained on productivity improvement, technology, and GAPs	30,000 (30 participants * 1,000 batches)	160	13,500	1,647	1,807	6.02
2	Coverage of land (ha) under various crops and GAPs	16,000 (combined)	0	8,000	1,565	1,565	9.78
	2.1 Paddy	10,000	0	5,000	1,054	1,054	10.54
	2.2 Maize	2,000	0	1,000	139	139	6.95
	2.3 Pulses	1,000	0	500	57	57	5.7
	2.4 Vegetables	3,000	0	1,500	315	315	10.5
3	Yield increase (demonstration plots)	30%	0	20-30%	33%	33%	100%+
4	Field demonstrations on crops	450	10	225	43	53	11.77
5	Field days with crop cuts (demonstration plots)	150	0	75	13	13	8.66

S. No.	Activity	Project Target	Achievement				
			Year 1 Achieved	Year 2 Targets	Year 2 Achieved	Cumulative Achievement	%
		A	B	C	D	E (B+D)	E*100/A
6	Market linkages established with farmer groups	20	0		0	0	0
Objective 2: Build thriving markets							
7	Stakeholder seminars linking farmers with market actors	18	0	9	2	2	11.11
8	Training of agro-input dealers	180	0	50	0	0	0
9	Training of rural retailers and farmers on small business (batches)	9	0	50	0	0	0
10	Input-based enterprises with an increase in clientele and income	25	0	12	0	0	0

Short-Term COVID-Support Initiative through ICRISAT

The application process is underway with ICRISAT for a grant from the short-term COVID-support initiative “India Covid Recovery and Resilience: Farm and FPOs,” which is meant to support the recovery and future resilience of farmers and FPOs impacted by the pandemic in India. This is Walmart’s philanthropic grant to ICRISAT’s Innovations and Partnership Program (INP) for the award of \$30,000-50,000 to Walmart grantees in India.

This six-month time-bound initiative will focus on recovery parameters likely to be formed around inputs and related planting materials and services, harvesting, and market linkages to navigate COVID-19 impacts to farms and FPOs from the immediate prior (harvesting) and forthcoming production (planting) seasons. The AFI team had a preliminary round of discussions through a teleconference with ICRISAT in July 2021 and provided the document containing details regarding the objectives and activities of the AFI project. The finalization of a Memorandum of Agreement (MoA) with ICRISAT INP is currently in progress.

Other Prioritized Activities

Human Resource Management

The AFI project is presently managed with limited human resources with limited mobility due to COVID-19 restrictions. IFDC has begun recruitment to fill vacant positions: Project Leader, two District Coordinators, Agribusiness Specialist, Gender Specialist, and two MIS/Data Officers. As of Year 2, 10 project personnel have been onboarded (Project Manager, Training Specialist, Finance Officer, Administration Officer, and six Field Monitoring Officers [FMOs]), and they all are assuming and discharging their duties and responsibilities at various levels. All recruited staff were trained on the project goal, objectives, activities, and implementation strategy.

Reporting

All required reports were submitted on time by IFDC during Year 2. In addition, a sample survey of trained farmers was conducted in two phases – one during the first half of the year and the other during the second. In the first phase, 399 farmers who had participated in the AFI training programs on GAPs were selected as the sample and 865 in the second.

Selection of Partners for Collaboration

The project is building collaborative partnerships with the private sector (seed, fertilizer, and micro-irrigation companies, agri-input dealers/retailers, crop output aggregators/traders/processors, etc.), government (agriculture and horticulture extension departments, Agricultural Technology Management Agency [ATMA], Society for Elimination of Rural Poverty [SERP], etc.), and CBOs (NGOs, FPOs, women self-help groups and farmer groups, and the Indian Farmers Fertilizer Cooperative [IFFCO] and its member cooperatives). Partnerships are being developed with officials from the Department of Agriculture in the state (District Agriculture Officers of Mahabubnagar and Rangareddy districts) to ensure smooth rollout of the training programs through the participation of department officials and functionaries. So far, As mentioned earlier, partnerships were established with five institutions – PJTSAU, Telangana Department of Agriculture, ICRISAT, Ninjacart, and a cooperative society (Ramalingeswara Sahakara Samiti) in Shadnagar, Rangareddy District.

Identification of Improved Technologies and Precision Farming Practices for Field Demonstrations

In consultation with seed, fertilizer, and micro-irrigation companies and district extension officers of agriculture and horticulture departments, the project identified improved technologies and precision farming practices, which can enhance resource use efficiency and productivity for establishing field demonstrations. Emphasis is on soil health, seed materials, and water management.

Advocacy Campaigns

The project is consulting extensively with public extension and private firms to carry out advocacy campaigns for imparting new and efficient products and delivery mechanisms. However, these efforts did not materialize in Year 2 due to the COVID-19 situation.

Increasing Visibility for the Project

The project has distinct plans to promote the brand image and create awareness among the stakeholders and the farming community at large. The demonstration plots have display boards depicting the nature and characteristics of the AFI project's intervention. The boards also display the logos of IFDC and the Walmart Foundation. At every training event, the project information leaflets, printed in Telugu (the local language), are distributed to the participants. All printed training materials have concise information about the project and the logos of IFDC and Walmart Foundation. In addition, the local media has covered the project events that have taken place, including training events, stakeholders seminars, etc. (Refer to Annex 6 for stakeholder seminar coverage by media).



Supply System Development/Enhancement

The project discussed with Ninjacart (to link farmers with the market) for dissemination of technology and opportunities for investment on a cost-share basis to achieve rapid private sector participation. Ninjacart informally agreed to procure agricultural produce from the AFI project's targeted farmers, and it did in cases where the farmers came forward (7 farmers from Medak district and 9 farmers from Rangareddy district – about 22 tons vegetables). Talks were held with other supermarkets viz. Reliance Fresh, More Supermarket, Polimeras, to set up their collection centers at certain central places in these districts for vegetable procurement. There has been an administrative delay in setting up these collection centers due to COVID situation. Discussions were also held with ICRISAT's Monitoring and Evaluation (M&E) Division for the customization of their platform SEEDx and their AgSkilled app to suit the capacity building and information dissemination needs of the AFI project. AgSkilled is built with a Telugu interface and, therefore, is user-friendly for the farmer-learners in Telangana. Training lessons on tomato and groundnut have already been developed for the app. Details on SEEDx can be found at <https://www.icrisat.org/tag/seedx/>.

Gender Dimensions

To ensure 20% women participation target in AFI project activities, the project is making an effort to include women in all the activities. Special training programs must be conducted for women due to cultural barriers in society. This is an ongoing process.



Exclusive women training program held at Dachakpally village, Mahabubnagar District

Establishing/Fortifying Stakeholder Relations (especially with Walmart Grantees)

Ample opportunities are available to explore and establish relationships with stakeholders, especially organizations funded by the Walmart Foundation. Organizations such as TechnoServe (which receives funding from the Walmart Foundation) are operating in the agriculture sector (tribal) in the neighboring Telugu state of Andhra Pradesh. An exposure visit was planned to learn about its strategy and activities and share those of the AFI project for the sustainable livelihoods of the farming community. However, this plan was shelved due to COVID-19. The AFI project is in talks with ICRISAT's Innovations and Partnership Program (INP) for the grant of short-term COVID-support initiative "India Covid Recovery and Resilience: Farm and FPOs." Finalization of the MoA is in process.

Monitoring and Evaluation

Establishing an M&E system in any project/organization is crucial for continuous assessment of progress, constraints, and opportunities. All these aspects are key in assessing performance, efficient use of project resources, and results achieved. Therefore, the AFI project has established an appropriate M&E system that tracks progress in the achievement of performance indicators and impact indicators. The M&E system design considers the measurement of performance at the activity, outcome, and objective levels.

Success Stories

Archana, Anthawaram Village, Shabad Mandal, Rangareddy District

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In 2020, Archana became infuriated once again. The wholesale merchant in the Bowenpally market, Hyderabad, had just paid her Rs. 800 per quintal for carrot – the price she had received the last several seasons. She tried to sell the produce to other merchants, but the price they offered was no better. “What more could I have done to get a better price?” she muttered, returning home in despair.

Archana is a 34-year-old woman who hails from a farming family. She and her husband own a 2-acre plot of land in Anthawaram village, Telangana State, where they live with their three children. They grow paddy, carrots, cabbage, and tomatoes on 5 acres that her family owns.

Archana heard about the AFI project, implemented by IFDC, in her monthly self-help group meeting. Fellow group members informed her that the project helps improve soil health, productivity, and incomes of the farmers. She approached the AFI team and enrolled in the training program. On the day of training, she could not attend but she asked her husband to participate instead. When he came home, he told Archana about the best practices and techniques he had learned for improving crop productivity. Later, when one of the members of the team visited their village, Archana asked him to let her apply those best practices in her vegetable plot. Seeing her eagerness to boost productivity, the team guided her on improved practices for vegetable crops, such as soil mulching, balanced fertilization, staking of tomatoes, drip irrigation, and sticky traps.

“I am indebted to IFDC’s AFI project. The team introduced me to the best practices and techniques in vegetable cultivation. Previously, [my husband and I] struggled a lot to produce high-quality vegetables,” says Archana.

On the advice of the AFI team, Archana hired laborers to grade tomatoes and bought a machine to clean carrots.

These days, Archana can be seen smiling as she goes to the bank. She says, *“This season [pre-Kharif 2021], I was able to sell my vegetable produce at never-before prices. The biggest gain for me has been carrots. I used to clean carrots manually. The merchant used to buy carrots at Rs. 800 per quintal. After turning to mechanical cleaning and grading, I can sell carrots at Rs. 1,800 per quintal. A big thanks to the AFI project and the team!”*



R. Raju, Papireddyguda Village, Keshampet Mandal, Rangareddy District

Ph. +91-9014114066; Farmer ID: 20402073

Raju is a noted cultivator of vegetables in Papireddyguda village. He has a permanent pandal built for the cultivation of crops such as tomatoes and gourds. Before, he cultivated these crops using practices he had learned from his father and the fellow farmers in the village.



While promoting the adoption of GAPs and new technologies for better yield and incomes, Ms. Rukmini, AFI Field Monitoring Officer (FMO), met him and other farmers in the village. After hearing the benefits of adopting GAPs and improved technologies in agriculture, the farmers were not convinced but their curiosity was piqued. They all agreed to participate in the training program that would soon be conducted. Raju was among the

farmers that participated in that event on March 17, 2021.

Raju diligently followed the advice and used the inputs he received during the training. He decided to grow tomatoes on a half-acre plot, and he began using the new crop management techniques. He procured seeds (Saaho TO-3251 variety) from the market and hired the local nursery manager to raise

seedlings from them. Raju transplanted the seedlings and mulched the beds, covering them with plastic. He met the plants' water and protection needs (chemigation) through the drip system. He also staked the tomatoes and used insect traps to mitigate yield loss. In this way, he reduced his cultivation costs up to 20%.

When the tomato crop matured, Raju received a yield of 13 metric tons from 15 pickings. He felt happy with that achievement, as he had never attained such a high yield (almost double) in his history of tomato cultivation. Raju was overjoyed with his overall profit of Rs. 75,500.

Cost-Benefit Analysis

Details	Cost (Rs)	Details	Amount (Rs)
Seed	1100	Yield 13 tonnes	130000 (B)
Nursery	900	520 boxes * Rs. 250	
Land preparation	5000	Profit = B – C = 130000 – 54500	
Mulching	3500		
Fertilizer	6000		
Pesticide	5500		
Labor (harvest)	22500		
Misc.	10000		
Total (C)	54500		= 75500

G. Anjaiah, Mucherla village, Kadthal Mandal, Rangareddy District

Ph. +91-99124220; Farmer ID: 20201036

When the AFI team announced a training program on GAPs and new technologies for selected crops in Mucherla village, Anjaiah was indifferent. On December 15, 2020, he reluctantly stepped into the training hall – done at the behest of his neighboring farmers.

As the training session progressed, Anjaiah became curious about the practical use of the GAPs in paddy, the major crop he cultivates. He usually cultivates paddy in his 2-acre plot and produces around 2.1 metric tons (mt) per acre. He wanted to give GAPs a try to achieve a higher yield in the upcoming season. He asked a lot of questions, with sheer curiosity and enthusiasm; he was the most inquisitive person among all that participated in the training event.

When the team was looking to demonstrate GAPs, he was the first farmer to approach the team requesting they carry out those interventions in his plot. The team checked his eligibility, as per the set criteria, and chose him to be one of the demonstration farmers in that village.



The demonstration plot was established on February 2, 2021, and the team recommended the best variety for him that season. The seeds were treated with Carbendazim 3 g/kg. Fertilizer was recommended at a dose of 48 kg nitrogen, 24 kg phosphorus, and 16 kg potash per acre. While transplanting, the team undertook practices such as leaf clipping and alleyway formation. With this, infestation by the rice stem borer and brown planthopper was reduced as much as possible. Alleyways led to more tillering and the emergence of healthy and strong panicles. As part of the AFI demonstration input kit, the team supplied Anjaiah with humic acid, NPK liquid, seaweed extract, and Bevarin to enhance the growth and yield of the crop.

By the end of the season, Anjaiah was elated to see that his paddy yield surpassed the usual 2.1 mt/acre and reached 2.8 mt/acre.

B. Mallesh, Kondannaguda Village, Farooqnagar Mandal, Rangareddy District

Ph. +91-9553756258; Farmer ID: 20304011

Mallesh is a knowledgeable progressive farmer in Kondannaguda village. However, he had never heard about insect traps until he attended a training program conducted by the AFI project in his village.

Mallesh had always cultivated paddy and tomato crops. But the training event that he participated in on November 11, 2020, made him consider adopting GAPs for increasing his farm income.

When the season was over, he immediately changed his cropping pattern to start the cultivation of ridge gourd and capsicum. The team began integrated pest management (IPM) interventions in his plot. He already had a drip irrigation system. On the advice of the team, he procured insect traps – fruit fly traps, as well as yellow and blue sticky traps.



Later, the team installed the traps on his farm where he was cultivating both ridge gourd and capsicum under integrated farming. The IPM traps controlled fruit flies, thrips, and aphids, and jassids. As a result, he obtained a very good yield from both crops.

At harvest, Mallesh's total ridge gourd yield was 4.5 metric tons, harvesting 300 kg each from 15 pickings. After a total expenditure of Rs. 50,000, he earned Rs. 150,000 for a profit of Rs. 100,000.

On capsicum, he obtained about 6 metric tons, harvesting about 500 kg each from 12 pickings. He earned around Rs. 225,000 with a minimal expenditure of Rs. 100,000, for a profit of Rs. 125,000.

Mallesh was delighted with these results. He plans to conduct integrated farming with ridge gourd and chili in the upcoming season.

Venkatesh, Makthaguda Village, Kothur Mandal, Rangareddy District

Ph. +91- 9666950774; Farmer ID: 20502023

Since learning the practice, grading tomato has earned Venkatesh good money. He learned about this practice during a training event on March 16, 2021, conducted on GAPs and post-harvest practices, by the AFI team in his village.

Before grading, Venkatesh earned Rs. 100 per box of tomatoes. Now that he grades his produce, he earns around Rs. 200-250 per box.



As demand is mounting, Venkatesh is happy to earn Rs. 200-300 for grade A tomato, and Rs. 100-150 for grade B.

Lessons Learned

Lesson 1

The project may gain more acceptance and visibility if it concentrates more on supporting farmers and agripreneurs through improving food processing facilities and creating marketing avenues rather than excessively banking upon training activities related to productivity improvement.

In Telangana, the yield of staple farm produce is continuously on the rise due to improved irrigation facilities, the state government's support for farmers through seasonal procurement under the provision of guaranteed minimum support price (MSP), financial assistance under the Rythu Bandhu scheme, and an uninterrupted power supply. Excessive production often leads to low value realization in the market, and farmers face distress sales after harvesting the produce every season. Beneficiary farmers are also more interested in the marketing of their produce than in productivity improvement. Therefore, if the development interventions within the AFI project placed more emphasis on promoting and supporting post-harvest facilities (silos, processing units, etc) and marketing the product, farmers would be able to earn a sustainable income.

Lesson 2

Promoting agribusiness through farmer groups for enhancing incomes is a more lucrative option than connecting traders with a few individual farmers.

Thus far, the project has initiated activities related to agribusiness and marketing of agricultural produce by connecting agricultural traders with a few individual farmers who are generally progressive, with considerably large holdings and commercial interests. This was done to kickstart project activities in the agribusiness arena. In doing so, the project has experienced that only those farmers (like the above) who are capable of supplying in bulk and on time with quality are making large gains; however, farmers such as these comprise a negligible chunk of the farming community at large. As a result, the small and marginal farmers who have less than 2 hectares of landholdings are not gaining but are struggling to sell their farm produce. Hence, the project needs to collaborate for agribusiness promotion with small groups, such as women SHGs, newly formed specific commodity-based groups, or FPOs within the scope of the AFI project. One way of forming such commodity groups is to mobilize commodity-wise cultivators from the training programs conducted by the farmers and forming them into small groups (such as WhatsApp groups). In this way, aggregation of agricultural produce and connecting farmers with market forces becomes a viable option.

Lesson 3

Balancing the professional time between conducting training and carrying out other project activities is crucial for the success of the project.

The AFI project is required to conduct 1,000 training programs, covering a total of 30,000 farmers. By the end of the second year of the project, only 65 programs covering about 1,800 farmers had been completed. Presently, all field staff (supported by the Training Specialist from the project's Hyderabad office) are being engaged in sensitizing, mobilizing, and training farmers. As a result, they are fully occupied with these activities related to training and cannot provide quality time to other project activities, such as surveys, assessments, and building local partnerships with other stakeholders. Since building partnerships with other stakeholders for reaching out to the farming community, carrying out extension activities through ICT tools, and promoting marketing/agribusiness activities for increasing farm incomes are considered crucial for the success of the project, the project staff must balance their professional time between training and other project activities.

Lesson 4

Inclusion of ICT activities is advantageous in project implementation especially during pandemic situations

The timely inclusion of ICT activities initiated during Year 2 when the second wave of COVID hit the Telangana region turned out to be the only option to scale up project activities. As mentioned earlier, the lockdown and mobility restrictions as the result of the pandemic led project staff to minimize activities that involved in-person gatherings (such as training events and motivational meetings) and focus on virtual activities during this period. Then, the initiation of ICT activities ensured that project staff carried out the project activities to an extent possible, though not at the usual pace at which the project implementation was carried out in other times.

Expenses Through Year 2

The AFI budget is a financial representation of the work plan. The total project budget is U.S. \$2,513,472.00. However, due to COVID-19 and other bottlenecks, IFDC could not spend the amount as budgeted for the AFI project in the 2nd year of implementation. Expenditure rates up to and including August 2021 are at 21.16% of the the total project budget. Details of expenses from the start of the project though August 2021 are provided in Table 6.

As noted, IFDC will shortly submit a request for a no-cost extension to the Walmart Foundation to allow an extension of the project into Year 4 and acceleration of activities starting in October 2021.

Table 6. Actual Expenses Against Target Allocation of Budget for Life of Project (through August 2021)

	Cost Item	Total Budget	Expense (through Aug 2021)	% Achieved
1	Personnel (Resident&short term expats)	377,832.00	130,815.17	58.84
2	Program Management/Support	155,500.00	59,913.08	15.62
3	In Country Staff, Office Ops/Support	1,033,410.00	249,942.38	24.19
4	Program Implementation Activities	627,230.00	7,101.72	1.13
5	Expendable Supplies	41,000.00	0.00	0.00
6	Equipment and Furnishings	80,000.00	16,199.62	20.25
7	Direct Costs	2,284,972.00	483,571.03	21.16
8	Indirect Costs	228,500.00	48,357.10	21.16
9	Total Program Budget	2,513,472.00	531,928.13	21.16

Annexes

Annex 1

Project Locations by District, Mandal, and Village

District	Mandal	Peri-Urban Village
Mahbubnagar	Bhoothpur	1. Annasagar
		2. Hasnapur
		3. Sheripally
		4. Thatikonda
	Hanwada	5. Hanwada
		6. Tankara
		7. Dachakpally
		8. Kothapet
		9. Budharam
		10. Gudi Malkapur
	Balanagar	11. Gangadharpally
		12. Pedda Chelluka Thanda
		13. Chinna Revalli
		14. Motighanapur
		15. Eedammagaddathanda
		16. Udithyal
		17. Nerellapally
Medak	Toopran	18. Malkapur
		19. Konaipally
		20. Venkataipally
		21. Narsampally
		22. Vattur
		23. Ghanapur
		24. Yavapur
		25. Gundlapally
		26. Padalpally
		27. Brahmanpally
		28. Imampur
		29. Gundreddipally
	Shivampet	30. Gomaram
		31. Nawabpet
		32. Konthanpally
		33. Donthi
	Wargal	34. Usirikapally
		35. Nacharam
		36. Ananthagiripalle
		37. Veluru

District	Mandal	Peri-Urban Village
Rangareddy	Kadthal	38. Kadthal
		39. Nyamathapur
		40. Raviched
		41. Madharam
		42. Takrajguda
		43. Maktha Madharam
	Kandukur	44. Dasarlapalle
		45. Debbadaguda
		46. Nedunur
		47. Mucherla
	Farooqnagar	44. Madhurapur
		45. Dooskal
		46. Velijerla
		47. Kondannaguda
		48. Burugugadda Thanda
		49. Hajipally
		50. Kishan Nagar
		51. Chilkamarri
	Keshampet	52. Sangem
		53. Kothapet
		54. Santhapur
		55. Eklaskhanpet
		56. Alwal
		57. Vemulanarwa
		58. Papireddyguda
		59. Sangem
		60. Anthawaram
		61. Kaklur
		62. Thimmareddyguda

Annex 2

ICT Initiative – Coverage of Villages

S.No.	District	Mandal	Village
1	Mahabubnagar	Chowderguda	Yedira
2			Kaslabad
3	Medak	Ghanapur	Paturu
4			Shamnapur
5			Byathol
6			Thimmaipally
7		Ramayampet	Laxmapur
8			Dantepally
9			Parvathapur
10			Katriyal
11		Farooqnagar	Nagulapally
12			Elikatta
13			Mogiligidda
14			Gantlavelly
15			Kondannaguda
16			Velijerla
17	Rangareddy	Shabad	Kurvaguda
18			Rangapur
19			Keshavaram

Annex 3

Establishment of Field Demonstrations (October 2020-September 2021)

Rabi 2020

Sl. No.	Farmer Name	Gender	Village	Mandal	District	Crop	Technologies to be dEmonstrated
1	M Anji Reddy	M	Kondannaguda	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
2	Srinivas Yadav	M	Kondannaguda	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
3	Ramdas	M	Velijerla	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
4	D Shankaraiah	M	Velijerla	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
5	Raniamma	F	Madhurapur	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
6	G Krishnaaih	M	Madhurapur	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
7	K Mallesh	M	Vemulanarva	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
8	K Chandramouli	M	Sangem	Keshampet	Rangareddy	Paddy	IPM and Alleyways
9	N Jalender Reddy	M	Sangem	Keshampet	Rangareddy	Paddy	IPM and Alleyways
10	E Srisailam	M	Hajipally	Farooqnagar	Rangareddy	Paddy	IPM and Alleyways
11	E Jangareddy	M	Debbadaguda	Kandukur	Rangareddy	Paddy	IPM and Alleyways
12	G Anjaiah	M	Mucherla	Kandukur	Rangareddy	Paddy	IPM and Alleyways
13	Marolla Raju	M	Mucherla	Kandukur	Rangareddy	Paddy	IPM and Alleyways

Kharif 2021 (Paddy)

Sl. No.	Farmer Name	Gender	Village	Mandal	District	Crop	Technologies to be dEmonstrated
1	Chakali Jangaiah	M	Anthawaram	Shabad	Rangareddy	Paddy	Application of Heart (Humic acid); Application of PSB; Application of liquid NPK; Application of Amulya Gold (PGPR+ Seaweed extract + Humic acid consortia); Application of neem oil; Application of Bevarin; Pheromone traps; Tip clipping, Alleyways, Rope pulling
2	Siddaiah	M	Kaklur	Shabad	Rangareddy	Paddy	
3	Padma Rao	M	Anthawaram	Shabad	Rangareddy	Paddy	
4	Shiv Kumar	M	Kurvaguda	Shabad	Rangareddy	Paddy	
5	Damodar Reddy	M	Yedira	Chowderguda	Mahabubnagar	Paddy	
6	Ramachandra Reddy	M	Yedira	Chowderguda	Mahabubnagar	Paddy	
7	Raghavendar Rao	M	Yedira	Chowderguda	Mahabubnagar	Paddy	
8	Venkatagiri	M	Yedira	Chowderguda	Mahabubnagar	Paddy	
9	C Ramesh	M	Sangem	Farooqnagar	Rangareddy	Paddy	(Combination of INM, IPM, and cultural practices)
10	T Suresh	M	Papireddyguda	Farooqnagar	Rangareddy	Paddy	(Common technologies to be demonstrated for all paddy cultivators)
11	G Basappa	M	Gantlavelly	Farooqnagar	Rangareddy	Paddy	
12	K Venkatesh	M	Makthaguda	Kothuru	Rangareddy	Paddy	
13	Padmareddy	M	Penjerla	Kothuru	Rangareddy	Paddy	
14	Ravinder	M	Alwal	Keshampet	Rangareddy	Paddy	
15	Gopal Reddy	M	Nagulapally	Farooqnagar	Rangareddy	Paddy	
16	Kummari Narsimlu	M	Patoor	Medak	Medak	Paddy	
17	Papannagari Kistareddy	M	Byathol	Ghanapur	Medak	Paddy	
18	Amudala Harish	M	Thimmaipally	Ghanapur	Medak	Paddy	
19	Chimtala Durgavva	F	Shamnapur	Ghanapur	Medak	Paddy	
20	Kasula Durgaraj	M	Laxmapur	Ramayampet	Medak	Paddy	
21	G Rajinikanth	M	Dantepally	Ramayampet	Medak	Paddy	
22	Kamuni Ravinder	M	Parvathapur	Ramayampet	Medak	Paddy	
23	R Krishnamurthy	M	Parvathapur	Ramayampet	Medak	Paddy	

Kharif 2021 (Maize)

Sl. No.	Farmer Name	Gender	Village	Mandal	District	Crop	Technologies to Demonstrated
24	Narasimha Reddy	M	Keshavaram	Shabad	Rangareddy	Maize	Application of Multi max; Application of neem oil; Application of Bevarin; Pheromone traps; (Combination of INM and IPM practices) (Common for all maize farmers)
25	R Satyanarayana	M	Papireddyguda	Farooqnagar	Rangareddy	Maize	
26	Chintapanti Ramesh	M	Dantepally	Ramayampet	Rangareddy	Maize	

Kharif 2021 (Red Gram)

Sl. No.	Farmer Name	Gender	Village	Mandal	District	Crop	Technologies to be demonstrated
27	B Shekar	M	Papireddyguda	Farooqnagar	Rangareddy	Red Gram	Application of liquid NPK; Application of 19:19:19; Application of 13:0:45; Application of neem oil; Application of Bevarin; Yellow sticky cards; Laying pheromone traps; Cycle weeder; (Combination of INM and IPM practices) (Common for all Red Gram farmers)
28	Jyothi	F	Madhurapur	Farooqnagar	Rangareddy	Red Gram	

Kharif 2021 (Vegetables)

Sl. No.	Farmer Name	Gender	Village	Mandal	District	Crop	Technologies to be demonstrated
29	Balaraju	M	Udityal	Balanagar	Mahabubnagar	Tomato	Application of multi max; Application liquid NPK; Application of neem oil; Application of Bevarin; Yellow, Blue sticky cards; Pheromone traps (Combination of INM and IPM practices) (Common for all vegetable farmers)
30	Kasula Chandraiah	M	Shamnapur	Ghanapur	Medak	Tomato	

Annex 4

Total Farmers Trained in Year-2 (October 2020-September 2021)

District	Mandal	Number of Participants				Subject
		Village	Male	Female	Total	
Mahabubnagar	Bhoothpur	Karivena	34	1	35	GAPs in Paddy, Maize, Pulses, and Vegetable Crops (all events)
		Nehru Nagar	20	10	30	
	Balanagar	Chinna Revalli	30	0	30	
		Eedammagadda Thanda	27	3	30	
		Gangadharpally	26	0	26	
		Motighanapur	30	0	30	
		Pedda Chelluka Thanda	24	6	30	
		Udithyal	30	0	30	
Medak	Shivampet	Donthi	17	1	18	GAPs in Paddy, Maize, Pulses, and Vegetable Crops (all events)
		Gomaram	30	0	30	
		Gundlapally	17	0	17	
		Konathanpally	29	0	29	
		Nawabpet	30	0	30	
	Toopran	Brahmanpally	23	2	25	
		Ghanapur	30	0	30	
		Gundreddipally	30	0	30	
		Imampur	29	1	30	
		Konaipally	30	0	30	
		Narasampally	29	1	30	
		Padalpally	54	0	54	
		Vattur	23	0	23	
		Venkataipally	26	0	26	
		Yavapur	30	0	30	
	Warg Wargal	Ananthagiripally	22	0	22	
		Nacharam	31	0	31	
		Velur	20	0	20	
Rangareddy	Farooqnagar	Burugugadda Thanda	15	6	21	GAPs in Paddy, Maize, Pulses, and Vegetable Crops (all events)
		Hajipalli	25	5	30	
		Kondannaguda	51	8	59	
		Madhurapur	56	6	62	
		Velijarla	60	0	60	
	Kadthal	Madharam	24	1	25	
		Makthamadhram	24	0	24	
		Nyamathapur	45	6	51	
		Ravichedu	23	0	23	
		Takrajguda	25	0	25	

District	Mandal	Number of Participants				
		Village	Male	Female	Total	Subject
	Kandukur	Dasarlapally	24	1	25	
		Debbadaguda	30	0	30	
		Mucherla	15	12	27	
	Keshampet	Alwal	30	0	30	
		Bhairankhanpally	30	0	30	
		Kothapet	29	0	29	
		Papireddyguda	49	11	60	
		Sangem	42	14	56	
		Santhapur	29	0	29	
		Vemulanarwa	48	12	60	
		Kothur	Makthaguda	24	0	
	Peddaguda Thanda		22	0	22	
	Penjerla		20	0	20	
	Siddapur		25	0	25	
	Shabad	Anthawaram	24	0	24	
		Kaklur	30	0	30	
Total			1540	107	1647	

Source: AFI Training Database.

Annex 5

Training Manual – Tomato Crop Production

TOMATO



Benefits of cultivating tomato

- High nutritional value
- Produced throughout the year hence a profitable agribusiness
- Short duration crop hence scope for adopting different cropping patterns

Types of tomato plants

- Tall or Indeterminate
- Bush or Determinate

Varieties

Kharif/Rainy Season
Arka Meghali, Pusa Early Dwarf, Pusa Ruby, Arka Vikas
Rabi/Winter Season
Pusa Early Dwarf, Pusa Ruby, Arka Vikas, Arka Saurabh
Zaid/Summer season
Marutham, PKM-1, Arka Vikas, Arka Saurabh
Hybrid Varieties Suitable to Telangana
Manmohan, Avinash-2, Naveen, Rupali, Rishi, , Meenakshi, Larika, BSS-20, Rashmi, MTH-6, Mangala, Pusa Hybrid-1, Abhiman, Vaishali, Arka Vardan, Arka Vishal

Soil Requirements

- Preferably sandy loam or black soil
- Well-drained land
- A minimum pH range of 6-7

Climatic Conditions

- Survives in both warm and cool climates
- Cannot withstand frost & high humidity
- Requires low to medium rainfall
- Optimum temperature range 21-24°C for the fruit to attain red colour

Crop season for Telangana

Cultivated all the year round in Telangana though, farmers should follow these timings for better yields:

Season	Timing
Kharif	Jun-Jul
Rabi	Oct-Nov
Zaid	Jan-Feb

Seed Rate

Varieties	Hybrid
200 gm per acre	70-80 gm per acre

Seed Treatment

- Captan/Mancozeb @ 3 gm/kg seeds
- During summer, treat with Imidacloprid @ 5 gm/ 1 kg seeds

Conventional Nursery

- Plough the land 4 times; put 40 kg of decomposed FYM mixed with 4 kg super phosphate at the last plough
- Form raised beds of 1m width, 30 cm height, and convenient length
- Draw straight lines 10 cm apart and sow the seeds with 1-2 cm depth
- Cover the seeds with fine sand and straw or plastic sheet
- Water the seedbed with rose-can twice a day until germination
- After germination, remove the straw/plastic

Pro Tray Nursery

- Seedlings are raised in pro trays
- Cover the nursery area with 50% shade net
- Mix sterilized cocopeat @ 120 kg/a with 2 kg of neem cake along with Azospirillum and Phosphobacteria each @ 400g
- Mix seeds with Azospirillum @ 80g/kg, and let shade dried for about 30 minutes
- Sow one seed in each cell containing cocopeat
- Place the germinated seedlings (after 6 days) individually on the raised beds

At 18th day after sowing, drench the beds with 19:19:19 + MN @ 0.5% (5g/l) solution

Main Field/Land Preparation

Plough deep 4 times to increase water-holding capacity, reduce soil-borne pests & diseases

through exposing the soil to sunlight, and remove weeds



Transplanting

- Water the plants before 6-12 hours of pulling out/uprooting to ensure no damage is done to the roots (conventional nursery)
- Transplant seedlings of 30-35 days of age.
- Treat with Bavistin and humic acid before planting
- Transplant in the evening or cloudy day and irrigate immediately
- The spacing of 90 x 60 cm is ideal for all seasons. In paired row: 90 x 60 x 60
- Spray Pendimethalin as pre-emergence herbicide @ 1.2 litres mixed with 200 litres of water per acre on the wet soil on 3rd day after planting
- One row of African marigold seedlings of 40 days old are planted simultaneously for every 16th row of tomato seedlings.
- Gap filling is to be done at 7th day after transplanting

Irrigation Management

- Light irrigation after 3-4 days of transplanting
- Kharif: 7-8 days interval
- Rabi: 10-12 days interval
- Summer: 5-6 days interval
- Drip irrigation can save 30-70% of water
- Tomatoes crack/split if there is water stress

Nutrient Management

- **Varieties:**
 - Basal dose: FYM 10 t/a, NPK 30:40:20 kg/a, Borax 4 kg, Zinc sulphate 20 kg/a
 - Top dressing: 30 kg N/a on 30th day of planting or during earthing up
- **Hybrids:**
 - Basal dose: FYM 10 t/a, NPK 20:100:40 kg/a, Borax 4 kg, Zinc sulphate 20 kg/a, Copper sulphate 1.5kg/a

- Top dressing: N and K each 60 kg/a in 3 equal splits at 30, 45 and 60 days after planting
- Foliar spray: 0.3% Boric acid at flowering and 10 days later
- **Micronutrient spray:**
 - Foliar spray of ZnSO₄ @ 0.5 per cent thrice at 10 days interval from 40 days after planting
 - Spray 19:19:19 + Mn @ 1 % at 60 days after planting
 - 0.3% Boric acid at flowering and 10 days later

Weed Management

- Plough deep during land preparation
- Mulching with straw/plant residues/plastic
- Hand weeding between the plants in a row

Pest Management

Fruit Borer

- Grow marigold simultaneously @ 1:16 rows
- Use pheromone traps @ 5 per acre
- Spray Azadirachtin 1.0 % EC (10000 ppm) 2.0 ml/ lit. or apply Bacillus thuringiensis 2g/lit. during evening hours.
- Spray
- Spray Quinalphos 25 EC @ 10ml/10lit

Serpentine Leaf Miner

- Spray Neem Seed Kernel Extract 5%
- Cyantraniliprole 10.26 OD 1.8ml/lit

Thrips

- Cyantraniliprole 10.26 OD 1.8ml/lit
- Thiamethoxam 70 WS 6ml/10 lit

Whitefly

- Install yellow sticky traps @ 4/a to attract the adult
- Remove alternate weed host Abutilon indicum
- Carbofuran 3 CG @ 15 kg/a OR
- Imidacloprid 17.8 SL @ 3ml/10lit OR
- Dimethoate 30 EC @ 1ml/lit

Nematode

- Treat seeds with antagonistic fungus, Trichoderma viride @ 4g/kg of seed along with pressmud @ 5kg/m² or carbofuran 3 CG @ 10g/m² for nematode disease complex
- Apply nematode-egg parasitic fungus, Purpureocillium lilacinum as seed treatment @ 10g/kg of seed followed by soil application @ 50g/m² to reduce root-knot nematode, Meloidogyne incognita in tomato grown under polyhouse conditions

Disease Management

Damping Off

- Treat the seeds with Trichoderma Asperellum @ 4g/kg or Pseudomonas fluorescens @ 10 g/kg of seeds 24 hours before sowing
- Apply P. fluorescens to soil @ 1 kg/a with 20 kg of FYM.
- Avoid stagnation of water
- Drench with copper oxychloride @ 2.5 g/l @ 4 l/sqm

Early Blight

- Spray hexaconazole 5% SC @ 1ml/l or propiconazole 25% EC @ 1 ml/l at 30 and 50 days after planting

Fusarial wilt and Root-knot Nematode

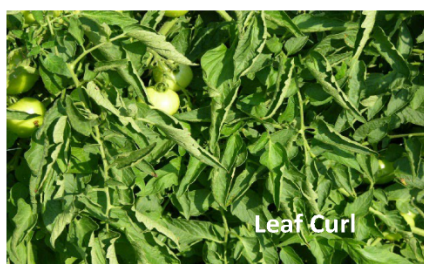
- Soil solarization before preparation of nursery bed
- Seed treatment with Pseudomonas fluorescens @ 10 g/kg of seeds followed by nursery application of P. fluorescens @ 20 g/m²
- Seedling dip with P. fluorescens @ 5g/l
- Soil application of P. fluorescens @ 2.5 kg with 20 kg of FYM/a at 30 days of transplanting

Spotted Wilt

- Selection of healthy seedlings for transplanting and rouging of PBNV infected plants up to 45 days of planting
- Spray cyantraniliprole 10.26 OD @ 1.8 ml/l or thiamethoxam 70 WS @ 6ml/10 l to control thrips vector

Leaf Curl

- Install yellow sticky traps @ 5/a to attract the adult
- Remove alternate weed host Abutilon indicum
- Apply or spray carbofuran 3 CG@ 15 kg/a or dimethoate 30 EC @ 1 ml/l or thiamethoxam 25 WG @ 4 ml/10 l or Imidacloprid 17.8 SL @ 3 ml/10l



Crop Protection: IPM Package of Practices

- Always use healthy and certified seeds
- Selection of good and virus disease free seedlings for planting
- Collect and burn the infected crop debris
- Maintain drainage
- Seed treatment with Pseudomonas fluorescens @ 10g/kg of seeds
- Nursery application with Trichoderma viride and Pseudomonas fluorescens
- Application of Neem cake @ 100kg/a
- Soil application of Pseudomonas fluorescens @ 1 kg/a
- Grow marigold as a border crop
- Set up Helicoverpa/ Spodoptera pheromone traps @ 5/a
- Release Trichogramma chilonis @ 20000/a
- Install yellow sticky traps
- Spraying Neem formulations (1%)/ Neem seed kernel extract (5%)

Support Systems

- Plants need support when in growth stage
- Staking or trellising is done to keep the plants erect after 30th day of planting
- Bamboo sticks or wood stakes (1-1.5m long) will avoid fruits getting exposed to water and soil
- Remove the side branches up to 20 cm from ground level (pruning)

Harvesting

60-70 days after transplantation, and picking will continue for 4-5 weeks

Green stage	For long-distance transportation
Pink stage	For selling at the local market
Maturity stage	For selling at the local market
Full maturity stage	For making sauce, soups, etc.

Yield in Telangana

- Winter crop: 10-12 t/acre
- Summer crop: 8-10 t/acre
- Hybrid varieties yield more up to 20-26 t/acre

Post-Harvest Storage & Marketing

- Identifying, classification, and separation of fruits (grading) is to be done based on their quality characteristics
- Green stage tomatoes if dipped in sodium hypochlorite 25 mg per 1-liter water solution can remain undamaged for 21 days; they

can be stored at 12-13°C in PE bags of 100-gauge thickness

- Wooden boxes are generally used to transport tomatoes for long distances
- Dipping tomatoes just once in 6% wax emulsion and 9% sodium orthophenyl phytate makes tomatoes not damaged for a longer time
- Can be kept undamaged for a longer time at 13°C with 90% moisture
- After processing, the by-products skin and seeds can be used for - seeds for the next crop and skins for animal feed
- Sun drying is a cheap and easy way of preservation. Firm, not too large plum or paste-type tomato varieties (e.g. Roma type) are best suited for this purpose. Large, juicy varieties are not suitable
- Preserving tomatoes and tomato products (concentrated) through bottling or canning (heat treatment and concentration) generally yields products of fair nutritional value which can be kept for up to a year

Seed Production

- Essential to maintain isolation distance of 50-100m with other varieties
- *Fermentation Method:* Ripe fruits are crushed in non-metallic box by hand. No fruit juice should be allowed to drain out. Entire mass is kept for 24-72 hours. Seed will settle down at the bottom. Fermented mass is removed, and seeds are washed in clean water and dried in shade
- *Alkali Treatment Method:* Fruit is cut into halves and slimy mass containing is scooped out. Treat with 400g washing soda in 4l of boiling water in equal volume. Cool the mixture and allow it stand overnight. Next day, seeds are washed thoroughly and dried in shade
- *Acid Treatment Method:* Slimy mass is treated with hydrochloric acid @ 75ml per 12 kg of mass. Seeds are separated from slimy mass within 15-30 min. Acidified liquid is removed and seed is separated and dried in shade

Record-keeping

- Record keeping a time-consuming affair though, it provides the farmer with a lot of insights about what, when, why, where, and how of activities, such as:
 - What kind of inputs used in the farm and when (date of application, duration, results, etc)?
 - What has been bought by other people (such as farm suppliers)?

- How much of sale made? When? To whom? etc

- Keeping track of the assets and liabilities in a farm business: (e.g.) (cost in Rs)

Assets	Cost	Liabilities	Cost
Cash	10,000	Loan from friend	9,000
Implements	7,000	Loan from bank	11,000
Shed	3,000		
Total	20,000		20,000

Cost & Profit Analysis: Telangana Context

An estimate of the investment required for the cultivation of tomatoes on one acre of land is presented. All the values presented here are just for reference and may vary slightly from the original

Cost estimate of tomato cultivation in 1 acre of land:

Details	Cost (Rs)
Seed	300
Seed treatment	250
Ploughing	9,000
Transplanting	500
Labour	3,600
Misc. Operations	4,000
Rental/Lease	6,000
Pesticides	3,500
Harvesting	500
Marketing	2,500
Total (C)	30,150

Now, let us calculate the return/benefit (B)

Let us consider the yield of 1 acre = 10 tonnes

Average price of tomato per kg = Rs. 15 X
10,000 kg = Rs. 1,50,000

Profit = B – C = Rs. 1,50,000 – Rs. 30,150 = Rs. 1,19,850

It means the income of a farmer is around Rs. 30,000 per month for 4 months of crop duration

Annex 6

Stakeholder Seminars

Seminar 1



Date:

January 7, 2021

Objective:

“To deliberate on the improved technologies for crop production to enhance crop yields and to identify/inform better marketing pathways and opportunities for selling farmers’ produce and optimizing their incomes.”

Venue:

Sri Ramalingeswara Sahakara Sangha
Shadnagar, Rangareddy (Dist)

Total Members Attended:

56 (34 Farmers and 22 Stakeholders)

Key Participants:

- Dr. Sunanda, District Horticulture Officer, Rangareddy district
- Mr. Gopinath, State Food Processing Society Advisor for Telangana Govt.
- Mr. Sandeep Kumar, State Food Processing Society Advisor for Telangana Govt.
- Mr. Madhu, Zonal Manager, Ninjacart
- Mrs. Usharani, Shadnagar Cluster Horticulture Officer

- Mrs. Shirisha, Agriculture Officer, Keshampet Mandal
- Mr. Harimohan Reddy, President of Farmers' Producers Organization.

Proceedings in Brief

- Mr. Sridhar Reddy set the tone for the event by introducing the activities of the AFI project, the objectives of the program
- Mr. Gopinath provided details about the government subsidy schemes available in the area of food processing, the benefits, and how to set up units.
- Mr. Sandeep informed the participants about the opportunities available in vegetable processing, and how it leads to income generation for the farmers.
- Mr. Madhu from Ninjacart explained their how their organization/company procures vegetables from farmers, makes payments, and arranges logistics.
- Ms. Sireesha advised farmers to register their crops. Based on that, the government will be able to export the products or provide market information to farmers.
- Ms. Sunanda talked about three focus areas for farmers: Reduction in cultivation expenditure, crop diversification, establishing processing centers.

వ్యవసాయ ఆదాయాల పెంపు కోసం భాగస్వామ్య పక్షాలతో సమావేశం



షాద్ నగర్, సిబీజ్యోతి: ఐఎఫ్డిఎస్ సంస్థ ఆధ్వర్యంలో జిల్లాలో అమలు చేస్తున్న ఎన్ఎఫ్ఐ ప్రాజెక్ట్ భాగం గా గురువారం షాద్ నగర్ మండల కేంద్రంలో వ్యవసాయ ఆదాయాల పెంపు కోసం భాగస్వామ్య పక్షాలతో సమావేశం పేరుతో స్టేట్ హోల్డర్ సెమినార్ నిర్వహించారు. రైతులు తమ పొలాలలో నాణ్యమైన పంట పండించి, గిట్టుబాటు ధరకు విక్రయించి అధిక ఆదాయం పొందాలని సూచించారు. కార్యక్రమానికి వక్రగా తలంగాణ రాష్ట్ర ఫుడ్ ప్రొసెసింగ్ సొసైటీ సలహాదారు గోపినాథ్, ఫుడ్ ప్రొసెసింగ్ విభాగాలు సందీప్ హాజర్ కులగాయ పంటలకు విలువ జోడించడానికి ప్రభుత్వం తరఫున అందించే పథకాలను గురించి వివరించారు. జిల్లా ఉద్యాన పట్టణ పరిశ్రమ కాఖ అధికారి సునంద రైతులను ఉత్తేజపరిచి మాట్లాడుతూ విదేశాల వారిగా పంటలను నాటడం, సముగ్గ సస్య రక్షణ పద్ధతులను పాటిస్తూ, సూతన సాంకేతికతలను అవలంబిస్తూ దిగుబడి పెంచుకొని, మార్కెట్ పోకడలను దృష్టిలో ఉంచుకొని గిట్టుబాటు ధర పొందవచ్చని, రైతులు రైతు ఉత్పత్తి దారుల సంఘాలుగా ఏర్పడితే పంటల మార్కెటింగ్ కి సులువుగా ఉంటుందని వివరించారు. ఉద్యాన కాఖ ద్వారా రైతులకు అందుబాటులో ఉండి పథకాలను వివరించారు. స్థానిక క్లస్టర్ స్టాయి ఉద్యాన అధికారిణి ఉషారాణి గారు, తోంపేట్ మండల వ్యవసాయ అధికారిణి కేరప్ప హాజర్ రైతులను ఉత్తేజపరిచి మాట్లాడారు. కార్యక్రమానికి ప్రయివేటు సంస్థ సహకార సుందీ జోసెల్ మేనేజర్ గా ఉన్న మధు హాజర్ వారి సంస్థ ద్వారా కూరగాయలు కొనే విధి విధానాలు వివరించారు. సంస్థ ప్రోగ్రాం మేనేజర్ శ్రీధర్ రెడ్డి మాట్లాడుతూ ఐఎఫ్డిఎస్ సంస్థ గురించి, ప్రాజెక్ట్ ఉద్దేశ్యాలును కూలంకశం గా వివరించారు. రైతుల ఆదాయాలను పెంచడం అనేది తమ సంస్థ ఉద్దేశ్యమని చెప్పాడు. జిల్లాలో తాము ప్రాజెక్టు నిర్వహిస్తున్న గ్రామాల్లోని రైతులు మంచి వ్యవసాయ పద్ధతులు, పాటిస్తూ నాణ్యమైన దిగుబడి పొంది, తమ ప్రాజెక్ట్ ద్వారా రైతులకు మార్కెట్ కు మామూలున్న అవకాశాలను అందిస్తున్నారని ఆదాయాలను పెంచుకోవాలని సూచించారు. కార్యక్రమంలో ఐఎఫ్డిఎస్ సంస్థ ప్రతినిధులు, అత్యున్నత నిధులు, రాంపూర్ రైతు ఉత్పత్తి దారుల సంఘం ప్రతినిధి వారి మాహాన రెడ్డి, జమ్మిట్ డేలర్లు, కమిషన్ ఏజెంట్లు, కర్నూల్, కందుకూరు, ఫుడాక్ సగర్, కేటపేట్ మండలాల పరిధిలోని రైతులు హాజరయ్యారు.

ఆధునిక సాగుతోనే అధిక దిగుబడి

● ఉద్యాన కాఖ అధికారి సునంద

షాద్ నగర్

ఆర్యవ: సాంకేతిక విధానంలో కూరగాయ పంటల సాగు చేస్తే అధిక దిగుబడులు పొందవచ్చని జిల్లా ఉద్యానకాఖ అధికారి సునంద అన్నారు. ఐఎఫ్డిఎస్ ఆధ్వర్యంలో గురువారం షాద్ నగర్ లో రైతులతో నిర్వహించిన సమావేశానికి సునంద హాజరై మాట్లాడారు. మార్కెటింగ్ కు గురికాని పంటలను సాగుచేయాలన్నారు. కార్యక్రమంలో డిప్యూటీ ప్రొసెసింగ్ సొసైటీ సలహాదారు గోపినాథ్, ప్రొసెసింగ్ రినిషణలు సందీప్ ప్రభుత్వం అందిస్తున్న సహకారాన్ని వివరించారు. సంస్థ ప్రోగ్రాం మేనేజర్ శ్రీధర్ రెడ్డి మాట్లాడుతూ రైతుల ఆదాయాలను పెంచడానికి సంస్థ కృషిచేస్తోందన్నారు. కామంలో ఉషారాణి, శీరిష, రైతు సంఘ ప్రతినిధులు పాల్గొన్నారు.

ఆంధ్రజ్యోతి Fri, 08 January 2021
<https://epaper.andhrajyothy>

సిబీజ్యోతి

TELANGANA - 08 Jan 2

Seminar 2



Date:	Jan 29, 2021
Venue:	Sri Ramalingeswara Sahakara Sangha Shadnagar, Rangareddy (Dist)
Attendance:	56 (23 Farmers and 24 Stakeholders)
Key Participants:	<ul style="list-style-type: none">• Mr. Narasaiah, District Horticulture Officer, Medak district• Ms. Surekha, Addl. Director, Agriculture, Medak district• Ms. Rajitha, COO, SERP• Mr. Srinivasulu, SAVE Foundation• Mr. Sandeep, TS Food Processing - Advisor• Mr. Ramakrihna, Horticulture Officer• Ms. Nusrath, Agriculture Officer• Venkat Reddy, President, Agros Dealers Association• Goli Srinivas, Input Dealer• Subhash, Advisor-KPMG• Ravi Krishnan – KN Bio-sciences

ఆదాయం పెంచడమే లక్ష్యం

- స్టేక్ హోల్డర్స్ సెమినార్లో
ఐఎఫ్డీసీ మేనేజర్ శ్రీధర్ రెడ్డి
- రైతులకు సూచనలు, సలహాలు
- హాజరైన ఉద్యాన, వ్యవసాయ అధికారులు

తూప్రాన్: తూప్రాన్ డివిజన్ కేంద్రంలో వార్డ్ మార్డ్ పొందే షన్ సహకారంతో, ఐఎఫ్డీసీ(ఇంటర్నేషనల్ ఫర్మరైజన్ డెవలప్మెంట్ సెంటర్) సంస్థ ఆధ్వర్యంలో జిల్లాలో అమలు పరుస్తున్న ఎఎఫ్డీ ప్రాజెక్ట్లో భాగంగా శనివారం స్థానిక లింగారెడ్డి గార్డెన్లో వ్యవసాయ ఆదాయాల పెంపు కోసం భాగస్వామ్య పక్షాలతో స్టేక్ హోల్డర్స్ సెమినార్ నిర్వహించారు. ఈ సందర్భంగా ఐఎఫ్డీసీ సంస్థ ప్రాజెక్ట్ మేనేజర్ శ్రీధర్ రెడ్డి మాట్లాడుతూ సంస్థ గురించి, ఎఎఫ్డీ ప్రాజెక్ట్ ఉద్దేశాలను, కార్యకలాపాలను సమగ్రంగా వివరించారు. రైతుల ఆదాయాలను పెంచడం తమ సంస్థ ఉద్దేశమని తెలిపారు. తాము ప్రాజెక్టు నిర్వహిస్తున్న వ్యవసాయ పద్ధతులు పాటిస్తూ గ్రామాల్లోని రైతులు నాణ్యమైన దిగుబడి పొందాలన్నారు. కార్యక్రమానికి ముఖ్య అతిథిగా హాజరైన జిల్లా ఉద్యానశాఖ అధికారి నర్సయ్య మాట్లాడుతూ.. సమగ్ర సన్న రక్షణ పద్ధతులను పాటిస్తూ, నూతన సాంకేతికతలను అవలంబిస్తూ దిగుబడి పెంచుకొని, మార్కెట్ పోకడలను దృష్టిలో ఉంచుకొని గిట్టుబాటు ధర పొందవచ్చని వివరించారు. ఎస్ఈఆర్డీ ప్రతినిధిగా హాజరైన సీఓ రజిత ద్వారా మహిళలతో, రైతు సంఘాల భాగస్వామ్యంతో నాణ్యమైన విత్తనాల ఉత్పత్తిని ప్రోత్సహించి, సాగు ఖర్చు



సమావేశంలో రైతులకు సూచనలు చేస్తున్న ఆయా సంస్థల ప్రతినిధులు

తగ్గించి, వంటల దిగుబడి పెంచే దిశగా తమ సంస్థ చేసిన కార్యకలాపాలు, సాధించిన విషయాల గురించి రైతులకు పలు సూచనలు చేశారు.

సీఎ్ పొందేషన్ సంస్థ అధ్యక్షుడు మెండు శ్రీనివాస్ రైతు ఉత్పత్తి దారుల సంఘాల ప్రాముఖ్యత, తమ సంస్థ చేస్తున్న సామర్థ్య పెంపుదల కార్యక్రమాల గురించి వివరిస్తూ, నాణ్యతతో కూడిన నిరంతర పంట మార్కెట్ అవకాశాలను సుగమం చేస్తుందని స్పష్టం చేశారు. తెలంగాణ రాష్ట్ర ఫుడ్ ప్రాసెసింగ్ సొసైటీ నిపుణులు సందీప్ కూరగాయ పం

టలకు విలువ జోడించడానికి ప్రభుత్వం తరఫున అందించే పథకాలను గురించి రైతులకు తెలియజేశారు. అగ్రోస్ రైతు సేవ కేంద్రాల రాష్ట్ర స్థాయి అద్యక్షుడు వెంకటరెడ్డి, ఇన్ ఫుట్ డీలర్ గోలి శ్రీనివాస్ రైతులు ఎదుర్కొంటున్న సమస్యలను తెలిపారు. కార్యక్రమంలో ఉద్యాన శాఖ డివిజన్ స్థాయి అధికారి రామకృష్ణ, వ్యవసాయ శాఖ మనోహరాబాద్ అధికారి బ్రహ్మం, ఇంకా ఐఎఫ్డీసీ సంస్థ ప్రతినిధులు, ఇతర ఇన్ ఫుట్ డీలర్లు, తూప్రాన్, శివ్వంపేట మండల పరిధిలోని రైతులు తదితరులు పాల్గొన్నారు.