

Farmer FIRST Programme (2020-21)

The Farmer FIRST Programme (FFP) was launched in the year 2015-16 by Agricultural Extension Division, ICAR, New Delhi under KVK scheme. It was successfully implemented and run for consecutive five years i.e. from 2015-16 to 2019-20. As a result, the programme was extended during the year 2020-21 for three ICAR Institutes (ICAR-NRRI, Cuttack; ICAR-CIFA, Bhubaneswar and ICAR-IIWM, Bhubaneswar) and one State Agricultural University (OUAT, Bhubaneswar) under ICAR-ATARI Kolkata. Due to COVID-19 Pandemic situations, the activities at the field level were severely affected. But, utmost efforts were made by all the concerned scientists of implementing centres to fulfil their targets in the adopted villages by following all COVID protocols to prevent infection. The details of budgetary allocation and salient achievements of FFP have been given as under.

Details of Farmer FIRST Programme under ICAR-ATARI Kolkata during 2020-21

Sl. No.	Name of the project (Institute/ University)	Name of the PI/Nodal Scientist of the Programme	Fund allotted during 2020-21 (Rs. in lakh)	Fund utilized during 2020-21 (Rs. in lakh)
1.	Promoting Improved Agriculture & Allied Sector Technologies in Khordha District (ICAR-Central Institute Freshwater Aquaculture, Bhubaneswar)	Dr. H. K. De Pr. Scientist	16.50	13.55
2.	Increasing Productivity and Sustainable the Rice based Production System through Farmer First approach (ICAR-National Rice Research Institute, Cuttack)	Dr. S. K. Mishra Pr. Scientist	16.00	15.58
3.	Enhancing water & livelihoods security (ICAR-Indian Institute of Water Management, Bhubaneswar)	Dr. P. Nanda Pr. Scientist	11.00	8.58
4.	Enhancing Farm Productivity & Profitability with 'Farmer-First' focus in Khordha district of Odisha (OUAT, Bhubaneswar)	Dr. R. K. Paikaray Professor	15.25	14.00
5.	ICAR-Agricultural Technology Application Research Institute (ATARI) Kolkata	Dr. K. S. Das Pr. Scientist	2.10	1.96
Total			60.85	53.67

Salient achievements of projects:

ICAR-NRRI, Cuttack:

The project was implemented in 4 adopted villages i.e. Laxminarayanpur, Satyabhamapur, Ganeswarpur and Biswanathpur of Salipur Block, Cuttack, Odisha.

Crop-based module (Rice)-Varietal demonstrations of 4 most promising varieties of rice namely, 'Maudamani' (CR Dhan 307, 420kg), 'Pradhandhan' (CR Dhan 409, 420kg), 'Rajalaxmi' (Hybrid, 200kg), 'SwarnaSub-1' (210kg) with complete package of practices during Kharif 2020 covering over 40 ha area in four adopted villages were conducted. As critical inputs, 10-15 kg seed minikits for HYVs and 3kg minikits for hybrid 'Rajalaxmi' with partial amount of need based pesticides were provided to each 130 farmers. About 400 kg seeds of green manuring crop- Dhanicha (Sesbania) to 50 farmers were distributed in order to reduce application of chemical fertilizers (Urea/ DAP) and to improve soil health. Under mechanization, battery-operated power sprayers (5 nos.) to five farmers' groups in four adopted village were demonstrated which were commonly used to apply liquid pesticides and fertilizers in a yard. Need based applications of pesticides under IPM and paddy seed treatment with the culture of *Trichoderma viridae* for suppression/control of various diseases were also demonstrated. Demonstration on weed management in rice through application of post emergence herbicides 'Nominee Gold' in 20 farmers' fields was done. Need based IPM in rice for pest control and surveillance through pheromone trap that uses pheromones to lure insects were demonstrated. Farmers were trained/ demonstrated to use *Tricho* cards (200 Nos.) and *Bracon* cards (50 Nos.) in order to control various rice pests.



Tricho and Bracon card demonstration in farmers' field Demonstration on paddy seed treatment with Trichoderma viride

Horticulture-based module (Vegetables)-Varietal demonstrations of vegetables viz. tomato (*var. Rohit* and *Noble 333*), okra (*var. Radhika*), ridge gourd (*var. NHRG 1001*) and pointed gourd (*var. Swarna alaukik*) were conducted in collaboration with 44 farmers and farmwomen.

Animal husbandry-based module (Poultry/Duckery/Fishery)-Pond-based aquaculture production was demonstrated to 21 fish farmers by providing 50,000 fingerlings of Rohu and Catla fishes procured from ICAR-CIFA, Bhubaneswar. To promote backyard poultry rearing in the villages, a total of 1200 dual purpose chicks namely, *Vanaraja*, *RIR* and *Kadakhnath* were provided to 22 farmers and farm women.

Enterprise-based module (Mushroom/ Vermi-composting)- Demonstration of paddy straw mushroom production along with technical backstopping by experts was arranged for 87 farmers/farmwomen. About 2000 bottles mushroom spawn and 198 kg of polythene tube were also provided to the farmers.

Capacity building and extension activities-Training-cum-demonstration on paddy straw mushroom cultivation for ensuring nutrition and income for 87 farmers, on *Tricho* cards and *Bracon* cards for management of insect pests in rice for 21 farmers, on improved vegetable production technologies for 46 farmers and on production management of livestock and poultry for 64 farmers were organized under this programme.



Training programme on livestock/ poultrymanagement

Training programme on 'Improved vegetable production technologies'

Honour/Awards-Smt. N. Pradhan of Satyabhamapur and Smt. P. Pani of Ganeswarpur village were awarded with '**Best Woman Farmer Award**' by the Director, ICAR-NRRI, Cuttack during '*Rashtriya Mahila Kisan Diwas*' celebration at the Institute on 8th March, 2021.

SriR. K. Behera of Biswanathpur and Sri Shiba Narayan Samal of Satyabhamapur were awarded with '**IARI Innovative Farmer-2020-2021 Award**' organized by ICAR-IARI, New Delhi at Pusa Krushi Vigyan Mela held on 25-27thFeb., 2021.

Dr. S.K. Mishra (Principal Scientist & PI, ICAR-NRRI, Cuttack) and his team received '**Best Poster Award**' (2nd Prize) based on the topic '*Enhancing crop productivity and farmers' profit in rice based production system: A successful case study of NRRI Farmer FIRST programme*' during National Rice Workshop organized by Association of Rice Research Workers (ARRW) at ICAR-NRRI, Cuttack.

ICAR-CIFA, Bhubaneswar:

The project was implemented in 3 villages viz. Jagannathpur, Dorbanga and Balabhadrapur of Khurda district.

During the year 2020-21, seven field days, four capacity building programmes and one scientists-farmers interface were organised involving 143, 107 and 120 farmers, respectively. Modules on

improved technologies of paddy, green gram, black gram, carp culture, horticulture and integrated farming system were demonstrated in 90.35 ha area during 2020-21. Integrated nutrient management in paddy was demonstrated in 29.2 ha involving 73 beneficiaries. An average yield of 45 q/ha was recorded in 'Pooja' variety whereas 'Swarna sub-1' (CR 2539-1) cultivar yielded up-to 48 q/ha in the demonstration plots. Green manuring, micronutrient supplement and balanced use of RDF enhanced the productivity and profitability of the beneficiaries (B:C ratio was 1.50). Thermo-insensitive variety of cauliflower var. 'Fujiyama' was demonstrated in 1.5 ha area involving 28 beneficiaries of 3 villages. An average yield of 17 t/ha was recorded in the demonstration plots. Three fish based integrated farming systems having an area of 2.35 ha were developed and one of the IFS was developed with fish seed rearing as main enterprise and other enterprises like horticulture, dairy, poultry, vermi composting etc. were also integrated for profit maximization.

Under FFP, ICAR-CIFA promoted Bhargabi ish Farmers Producers Company Limited [CIN no-U01100OR2019PTC030755] in Balipatna block for better marketing of fishes. The office room was inaugurated on 21st November 2020 which was attended by 70 farmers and representatives from NFDB, OUAT, bank and other stakeholders. During reporting period, one research article and two popular articles in English and Hindi were published. A brochure on 'Farmer FIRST project-Significant achievements' was also prepared and distributed among the beneficiaries.



Harvested thermo insensitive variety of cauliflower 'Fujiyama'



Fish farming by women beneficiaries in Balabhadrapur village

ICAR-IIWM, Bhubaneswar:

The project was implemented in Khuntapingu, Jamda and Malharpada village of Saharapada block under Keonjhar district of Odisha.

During the period under report, a number of interventions e.g. increasing water use efficiency in different crops and cropping sequences, increasing farmers income through poultry rearing and use of farm machineries, vegetable cultivation in uplands during *Kharif* and irrigated medium lands in *Rabi*, use of community ponds for pisciculture were undertaken. Providing irrigation through piped conveyance, practicing line transplanting and adopting SRI increased water use efficiency in transplanted rice. Three training programmes each in three project villages were taken for about 300 farmers.

Under livestock module, poultry rearing in 145 farmers were assisted through supplying 'Kadakhnath' and 'Aseel' chicks. The average income from sale of 'Kadakhnath' and 'Aseel' was estimated to be Rs.2500/- to Rs. 3500/- per farmer. Under content mobilization, *WhatsApp* group with scientists, farmers and line department personnel was created for farmer problem solving, propagation of farmer FIRST activities through print media, group meetings among the farmer beneficiaries under the project. Timely meteorological forecasting was disseminated to the farmers. The impact evaluation of farmers FIRST project indicated that during 2017-20, different interventions increased the average on-farm income from Rs. 31900/- to Rs. 68700/- in Malharpada, from Rs. 274322/- to Rs. 93467/- in Jamda and Rs. 40289/- to Rs. 102556/- in Khuntapingu in comparison to 2016-17 for the beneficiary farmers after adoption of improved technologies under the project. The improvement in cropping intensity was analysed during the same period and was found to be from 125% to 170%, 125% to 170% and 130% to 177% in three villages, respectively during the same period. The land use index was calculated to be improved from 0.46 to 0.65 for Malharpada, 0.46 to 0.66 for Jamda and 0.48 to 0.68 for Khuntapingu. The achievements with respect to two successful lady farmers were analysed and the

analysis of income from farm enterprise indicated that Mrs. Meena Mahanta of Khuntapingu village earned a net income of Rs. 3.40 lakh during the year 2020 as against Rs.1.65 lakh during 2016-17 and Ms Ranjita Mahanta of same village earned a net income of Rs. 1.96 lakh against Rs. 2 lakh in the same period of 2016-17 to 2020-21.



OUAT, Bhubaneswar:

The project was implemented in 4 adopted villages viz. Gobindapur, Gopalpur, Brahmapura and Brahmapurapatna of Begunia block under Khorda district of Odisha.

Crop based module-High yielding rice varieties viz. *CR 1009 Sub-1* (in 50 ha), *Swarna Sub-1* (in 30 ha), *Hasant* (in 0.4 ha), *Pradhan Dhan* (in 2 ha), *Lalat* (in 4 ha) and Black rice var. *Debarinna* (in 2.4 ha) were introduced covering 222 households to provide appropriate sowing window to green gram in rice fallow.

Horticulture based module- To intensify summer season vegetable crops, raising of different vegetable seedlings e.g. pumpkin, cucumber, tomato, cauliflower, cabbage etc. in portrays under protected structure were demonstrated in 5 ha area which benefitted 100 households in different adopted villages.



Livestock based module-Rearing of crossbred dairy cows was promoted involving 50 animals for enhancing milk production through providing scientific package of practices. Fifty livestock farmers got benefit from the demonstrations. Four breeding bucks were used to demonstrate 25 farmers to improve performance of goats through scientific package of practices. Rearing of improved poultry birds under backyard farming system was demonstrated in 75 households with supplying 750 chicks and providing technical know-how for supplementary income and improving family nutrition status.



Enterprise based module- Straw and oyster mushrooms were introduced involving 75 household to produce mushroom spawn, to demonstrate production technology of straw and oyster mushrooms, to provide knowledge on post-harvest handling and processing of mushrooms, and to prepare value added products. The farmers were trained in such a way that one farmer could produce 100 spawn bottles per batch and one batch/ day i.e. 3000 bottles/ month.

Resource based module- Three sets of drip fertigation systems for 0.1 ha vegetable fields and one multipurpose grinding mill with 20 kg/ h capacity were also established under the programme for different farmer groups in the adopted villages.