ACHIEVEMENTS OF AICRP ON FARM IMPLEMENTS AND MACHINERY

The Farm Implements and Machinery (FIM) scheme has made significant strides in enhancing agricultural productivity through several key initiatives over the past years. Notable among these are research and development projects aimed at innovating new agricultural technologies and machinery. These projects have focused on creating more efficient, cost-effective, and user-friendly equipment, which address the specific needs of different crops and farming conditions. Alongside R&D, prototype feasibility tests have been a critical component, ensuring that the developed prototypes are practical and effective in real-world farming scenarios. These tests help in fine-tuning the machinery, addressing any design flaws, and optimizing performance before mass production and distribution. Additionally, the FIM scheme has conducted numerous front line demonstrations, where these advanced implements and machines are showcased directly to farmers. These demonstrations are crucial for educating farmers on the usage and benefits of the new technologies, thereby encouraging adoption and fostering modern agricultural practices. Collectively, these efforts under the FIM scheme have substantially contributed to the modernization of agriculture, improving productivity and sustainability for farmers across the country.

Research and Development Projects

One of the cornerstone achievements of the FIM scheme has been its comprehensive approach to R&D in agricultural machinery. The goal has been to develop advanced tools and machines that cater to the diverse needs of farmers, ranging from small-scale operations to large agribusinesses. These projects often begin with extensive field studies to understand the specific challenges faced by farmers, including issues related to soil types, crop varieties, climate conditions, and resource availability.

Prototype Feasibility Testing

Feasibility testing under the FIM scheme is meticulous and involves collaboration with agricultural universities, research institutions, and farming communities. These partnerships are vital for gaining diverse insights and feedback. For instance, a prototype of a new harvesting machine might be tested in different regions to assess its performance with various crops and soil types. Feedback from these tests is used to make necessary adjustments and improvements, ensuring the final product meets the high standards required for widespread use.

Front Line Demonstrations

Front line demonstrations are an essential aspect of the FIM scheme, serving as a bridge between technological innovation and practical application. These demonstrations involve showcasing the latest agricultural implements and machinery directly to farmers in their own fields. The goal is to educate farmers about the new technologies, demonstrate their benefits, and provide hands-on training for their effective use. The impact of front line demonstrations cannot be overstated. They provide farmers with an opportunity to see the machinery in action, understand its capabilities, and ask questions. For example, a front line demonstration of a new automated planter would involve showing how it operates, the quality of planting it

achieves, and the time it saves compared to traditional methods. Farmers can witness the efficiency and productivity gains first-hand, making them more likely to adopt the new technology.

Sl. No.	**Research and Development Projects**
1	Refinement of pineapple harvesting attachments to brush cutter
2	Testing of the bio-fungicide applicator attach mixtheeled riding type rice transplanter for foliar application of micro nutrient mixture.
3	Development of an electrostaticspray charging system for attachment to electrically operated mist blower
4	Development of a Back Pack Engine operated multipurpose tool carries four homestead agriculture
5	Modification of amphibian weed harvester towards the development of pokkali harvester
6	Design and development of robotic pineapple harvester
7	Design and development of robotic pepper harvester

Sl. No.	**Prototype Feasibility Testing**
2017-18	
1	Development of bio-fungicide applicator attachment for four wheeled riding type transplanter
2	Kerala model palm climber with safety belt
3	Tractor operated rake
4	Paddy seeder attachment to Chinese 8 row transplanter
2018-19	
1	Tractor operated rake
2	Micro nutrient applicator attachment for four wheeled riding type rice planter

3	Tractor operated power harrow
4	Herbicide applicator attachment to 8 row riding type rice transplanter
5	Wetland and attachment to mini garden tiller/weeder
6	Tractor operated spading machine
2019-20	
1	Punch planter for small scale vegetable cultivation
2	Tractor operated flail shredder mulcher
3	Manually operated seeder for homestead vegetable and fodder maize cultivation
2020-21	
1	Punch planter for vegetable cultivation
2	Tractor operated flail shredder mulcher for weed management and moisture conservation in coconut garden and rice fallows
3	Manually operated seeder for homestead vegetable and fodder maize cultivation
4	Self propelled paddy seeder for wetland cultivation
2021-22	
1	Self propelled coconut climber
2	Wheeled string trimmer
3	Power tiller operated coconut basin lister
4	Battery operated rubber tapping machine
2022-23	
1	Power tilleroperated coconutbasin digger
2023-24	

1	Manual operated 5 row paddy transplanter
2	Modified power operated nutmeg sheller

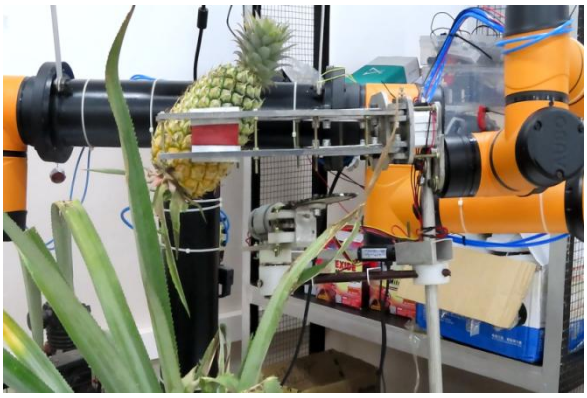
Sl. No.	**Front Line Demonstrations**
2017-18	
1	Four wheeled riding type paddy transplanter
2	Low land power paddy weeder
3	Combination implement for seeding and herbicide application for dry seeded rice
4	Tapioca harvester
5	Tractor operated helical blade puddler
2018-19	
1	Tractor operated baler
2	Tractor operated rake and straw baler combination
3	Combination implement for seeding and herbicide application for dry seeded rice
4	Bio-fungicide applicator attachment to 4 wheeled riding type rice transplanter
5	Pre-germinated paddy seeder attachment to Chinese 8 row rice transplanter
6	Combi brush cutter for homestead farming
7	Back pack brush cutter operated pineapple harvester
2019-20	
1	Tractor operated rake
2	Micro nutrient applicator attachment for four wheeled riding type rice planter

3	Tractor operated power harrow
4	Herbicide applicator attachment to 8 row riding type rice transplanter
5	Wetland and attachment to mini garden tiller/weeder
6	Tractor operated spading machine
2020-21	
1	Packages for homestead cultivation
2	Combinationimplement for seeding and herbicide application for dry seeded rice
3	Multipurpose mini power tiller for homestead farming
4	Banana bunch covering device
2021-22	
1	Tractor operated flail shredder mulcher for weed management and moisture conservation in coconut garden and rice fallows
2	Banana bunch covering device
3	Power operated nutmeg sheller
2022-23	
1	Battery operated rubber tapping machine
2	Banana Bunch covering device
3	Power operated nutmeg sheller
2023-24	
1	Power tiller operated coconut basin digger
2	Battery operated rubber tapping machine

Budget Estimate & Expenditure

Year	Budget Estimate (Rs.)	Expenditure (Rs.)
2012-13	30,80,000	22,42,027
2013-14	28,13,300	24,62,342
2014-15	27,18,700	23,96,390

2015-16	29,20,000	25,91,595
2016-17	45,61,700	42,63,298
2017-18	45,06,700	42,32,003
2018-19	42,00,000	31,39,511
2019-20	36,75,000	28,27,898
2020-21	52,66,700	33,22,525
2021-22	52,68,000	50,70,566
2022-23	42,75,000	40,06,487
2023-24	64,26,600	44,73,325

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TRUXOR


KERALA AGRICULTURAL UNIVERSITY
ALL INDIA CO-ORDINATED RESEARCH PROJECT
ON
FARM IMPLEMENTS & MACHINERY


FARM IMPLEMENTS & MACHINERY
PROTOTYPE FEASIBILITY TESTING


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PROTOTYPE FEASIBILITY TEST


19.10.23
Malayattur