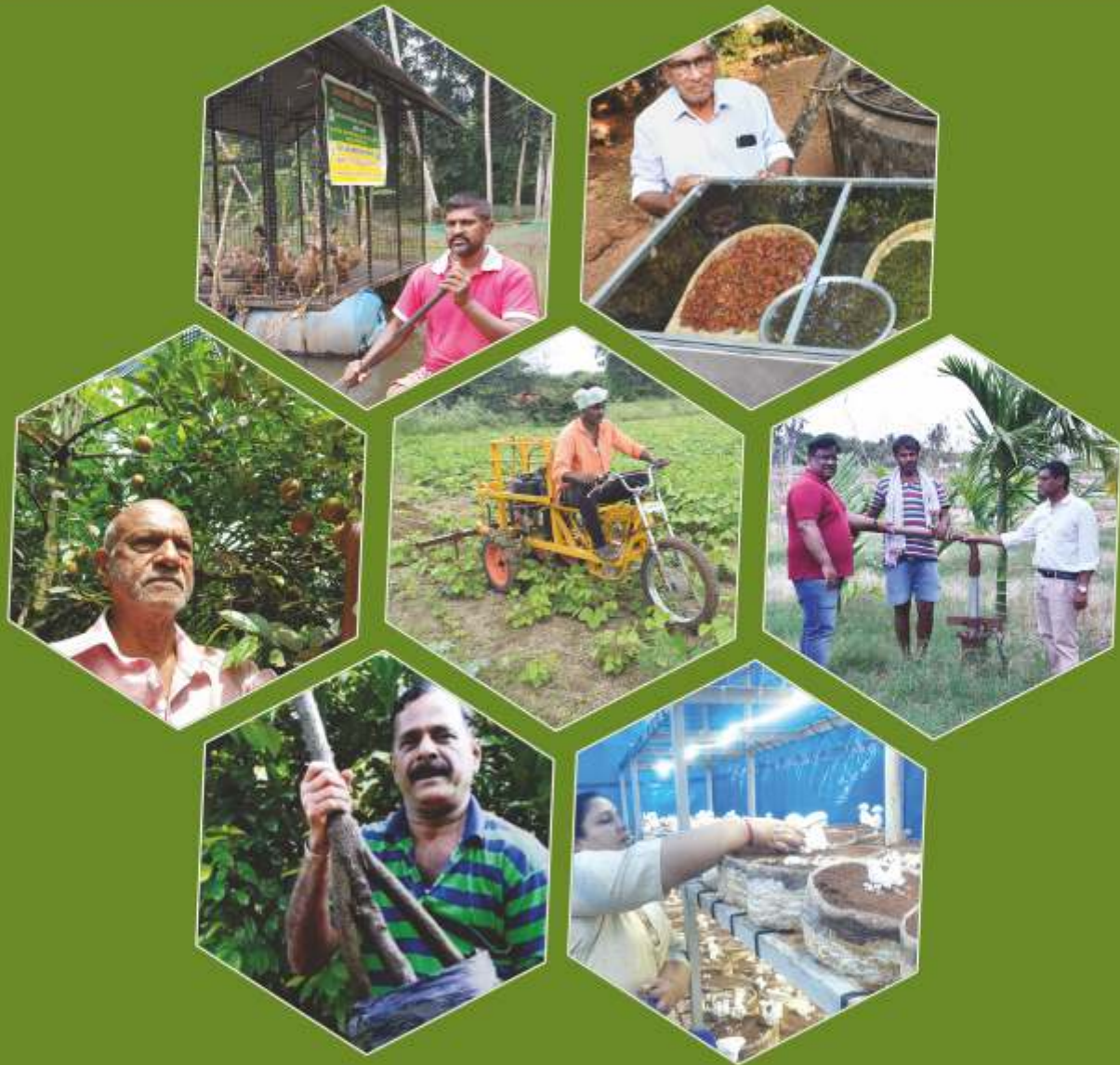


KVK TIMES

Vol 3 Issue 01, July 25

A Window to KVKs of ICAR-ATARI, Zone-XI

VKSA- FARMER INNOVATIONS



ICAR-Agricultural Technology Application Research Institute

Zone- XI, MRS, HA Farm Post, Bengaluru

ICAR-Krishi Vigyan Kendra- Alappuzha

ICAR-CPCRI, RS, Kayamkulam





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Krishi Vigyan Kendra is an innovative first line science-based extension system play an important role in dissemination of technologies from the research system to farmers. The aim of the KVK is to bring transformation in farm families through technological Interventions and capacity development process. However, for meeting new challenges, it is important to focus on conservation of natural recourses, climate related Changes, achieving higher productivity, addressing issues beyond production and productivity, ensuring sustainability of agriculture, and enhancing farmers income through value addition and market linkages.

The 48 KVKs located in the states of Karnataka, Kerala and Union Territory of Lakshadweep, made significant contributions to enhancing agricultural productivity and increasing farmers income, thereby ensuring the sustainable social and livelihood security of farm families. ICAR ATARI Bengaluru through the virtual platform "KVK TIMES", showcases the achievements of KVKs and the publications gained remarkable momentum, with its impactful news items creating long-lasting impressions. The achievements shared in KVK TIMES hold great potential for cross-learning among KVKs, serving as a valuable resource for the entire agricultural community This initiative undoubtedly boosts the morale of our collective efforts, highlighting the noteworthy contributions of our fraternity in the region. I am happy to note that, during last four years 48 issues of KVK Times were already published and shared with different stakeholders.

I appreciate the achievements of all 48 KVKs in the region and congratulate to ICAR-ATARI Bengaluru and ICAR-KVK Alappuzha for bringing this **first issue of third volume as special issue KVK TIMES on 'Farmer Innovations'**. This publication reflects the commitment and hard work of KVKs in serving farming communities. I extend my hearty congratulations to Dr. V. Venkatasubramanian, Director, ICAR-ATARI, Bengaluru and his team for their worthy efforts in publishing this document.

Dated: 12.08.2025

(Rajbir Singh)

Deputy Director General (Agril. Extn)



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Dr. K.Balachandra Hebbar
Director



It is a matter of great happiness and pride that ICAR-KVK-Alappuzha brings out the first issue of the third edition of KVK Times on behalf of the 48 KVKs in Zone-XI comprising of Kerala, Karnataka and Lakshadweep. Aptly planned to cover the farmer innovations documented as part of the Viksit Krishi Sankalp Abhiyan (VKSA) during May-June, 2025 by the KVKs, the issue of KVK Times assumes great significance as a record of the path breaking efforts of some of the enthusiastic farmers of the zone.

In this challenging era of climate change and environmental hardships, dissemination of modern agricultural knowledge and technologies especially those foreseeing climate change impacts and precision farming practices to optimize the utilization of natural resources are very important. Synchronized action of scientists and extension fraternity in agricultural and allied sectors linking with farming community is the need of the hour to improve crop productivity balancing with the nature. KVKs are playing a very crucial and significant role in this collaboration through technology testing and application in farmers' fields and handholding them for marching forward in entrepreneurship mode.

KVK- Alappuzha, in collaboration with the Local Self-Governments and the Agricultural Department of Kerala, is deeply penetrating the farmyards of rural communities through the promotion of climate resilient, integrated farming, and value chain approaches in agricultural and allied sectors. They were successful in changing the average mindset to adopt new technologies to increase livelihoods and doubling income levels through farmer producer organizations, capacity building in entrepreneurship development and handholding. The glory of many awards and achievements from 2004 kept them continuously shining and convincing the stakeholders throughout. Dr. P. Muralidharan and his team, as well as the scientists of CPCRI, Regional Station, Kayamkulam, deserve appreciation in this regard.

Efforts of the KVKs highlighted in the pages of this e-publication depict the grass-roots-level activities of the member KVKs and their close association with the farming community. Documentation of such information will pave a long way in scientific validation and cross learning.

Dr. V. Venkatasubramanian, Director, ATARI, Zone-XI, is the man supporting planning and targeting focused farm science outreach and research by taking region-specific issues into action. His backing of KVK ventures is pivotal, leading to success. Therefore, the credit including this team effort of bringing out the monthly newsletter also goes to him. I wish each and every KVK in the Zone to reflect this attitude to boost the morale of their staff and help them take action among the farming communities to bring about progress in the country.

With warm regards

05.08.25

K. Balachandra Hebbar



ICAR-Agricultural Technology Application Research Institute, Zone XI
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डॉ. वी. वेंकटसुब्रमण्यन

Director

निदेशक



Krishi Vigyan Kendras are playing pivotal role in handholding of farmers through technological backstopping for enhancing the productivity of crops and enterprise keeping in mind profitability and sustainability. *'Believing through seeing'* and *'Learning by doing'* is most appropriate to the KVKs, as the Scientists and farmers are jointly involved in implementing KVK mandated activities to reach the mission of enhancing the farmers income. KVKs are expanding the horizon from elite extension to innovation, market linkage, FPOs, processing and value addition. 48 KVK's in Zone XI of ATARI placed in states of Kerala, Karnataka and Lakshadweep Union Territory has immensely contributed in enhancing agriculture productivity and farmer income thus ensuring sustainable social and livelihood security of farm families.

A first of its kind virtual platform, **KVK TIMES** which documents monthly activities of each of the 48 KVKs of Zone-XI is gaining a real momentum. The news items covered in issues made an impact that is long lasting. Most of the news items published in the TIMES has got the potential of cross learning among KVKs and worth reading. This should boost the morale of all of us and many such noteworthy efforts of our fraternity in the zone.

I am happy that KVK-Alappuzha is bringing up the first issue of third volume of KVK TIMES covering the July month of 2025. I congratulate the KVK fraternity of Zone XI specially Dr. P. Muralidharan, Principal Scientist and Head and his team of KVK-Alappuzha, for bringing out this unique edition of KVK Times.

(V Venkatasubramanian)

Bengaluru
05.08.2025

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Dr. P. MURALIDHARAN
PRINCIPAL SCIENTIST AND HEAD



ACKNOWLEDGEMENT

We are excited to bring out the first (July, 25) issue of the Vol. III of KVK Times, a monthly e-publication documenting the salient activities and achievements of the KVKs of Zone XI, covering Kerala, Karnataka and Lakshadweep under the dynamic leadership of the Director, ICAR-ATARI, Bengaluru. We were fortunate to publish the first ever issue of this prestigious compilation in July, 2021 with the tagline, "A window to KVKs of Zone XI, ICAR-ATARI, Bengaluru" and first issue of Vol II in July, 2023. This publication has drawn the attention and appreciation of most of the higher officials of ICAR owing to its regularity and diverse contents highlighting the spectacular activities and innovations of all the 48 KVKs in the Zone. In this issue, some of the brilliant innovations of farmers of the zone collected as part of the nationwide Viksit Krishi Sankalp Abhiyan (VKSA) coordinated by the KVKs during 29th May-12th June, 25 are documented which highlights the excellence of our resourceful farmers.

We place on record our wholehearted gratitude to Dr. V. Venkatasubramanian, Director, ICAR-Agricultural Technology Application Research Institute, Bengaluru for his idea and vision of this publication and the constant motivation and encouragement to the KVKs for achieving newer heights.

The support and care provided by Dr. K. Balachandra Hebbar, Director, ICAR-Central Plantation Crops Research Institute, Kasaragod as the leader of our host organization inspires and empowers us to perform better to attain his vision of serving the farming community and bringing prosperity to the nation.

I would like to acknowledge with gratitude all the KVKs of Zone XI who shared the farmer innovations for including in this publication. All members of the Team-KVK-Alappuzha deserve appreciation for their involvement and contribution to compile and bring out this issue within the time frame.

06.08.25

P. Muralidharan

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ALAPPUZHA



FLOATING DUCK SHED TO OVERCOME FLOODING SITUATIONS

Name of the farmer Sri. Stanly Baby
Address: Thottakkattuparambil, Thalavady P O Thalavady, Alappuzha, Kerala, 689572
Mobile number 7025424288
Age (years) 47
Education B.com
Experience Practicing Integrated farming system and was a partner farmer in the Technology Demonstration on Integrated Fish & Duck farming implemented under NICRA project in the year 2020.

As his plot was flood prone, he thought of fixing the duck shelter over the fish pond is not safe based on the flood experience in 2018. So he comes out with the idea of a floating duck shelter which floats freely in water and will not submerge when the water level rises.

Fabricated a duck shelter using GI and PVC pipes, and Trafford sheets in 8 x 5 x 7 ft size and fixed over sealed plastic barrels (4 barrels, one on each side) for floating. This shelter floats freely on water which rises along with the water level and is tethered with a long rope. For feeding the ducks and collection of eggs, the shelter is pulled near to the bund using the rope and then released back. The floor of the shelter is made by paving PVC pipes (3/4") on a gap of 1.5 cm which allows the faecal materials of duck to drop down, which could indirectly form feeding material to the fish. An amount of Rs. 35000/- invested towards the fabrication of this floating duck shelter and up to 8 years no maintenance cost required.



He is confident that he could rear ducks throughout year without fearing of flood and earn reasonable income from duck. Whenever flood occurs, he goes to the shelter using fiber boat for feeding the ducks. His whole family is involved in the farming operation and he engages labour only when essential. Earning an amount of Rs.1.41 lakhs through sale of eggs and fishes with an investment of Rs.81000/- every year from the 30 cents of fish pond

3.Potential of Innovation for Wider Reach/Out Scaling

School students, two batches of RAWE students and more than 25 farmers groups from the different parts of district have visited his farm. This encourages him to involve more in this farming operation and also getting wider publicity. The social acceptance and recognition he and his family receive give them more satisfaction and joy in addition to the economic gains and higher living standards achieved. His experience was documented in a popular article and published by the KVK. Nearly 50 farmers have replicated this technology in Kuttanad thaluk after visiting this unit.

Scientific Validation required: No



BAGALKOTE

LOW COST BATTERY OPERATED INSECT COLLECTOR



Name of the farmer : Mr. Arjun Galagali
Address: Arjun Galagali, Kainakatti, T/Badami
D/ Bagalkote.587206
Mobile number : 9972265795
Age (years) : 46
Education : BA

Battery operated Insect collector is a compact and portable device designed for the efficient collection of insects from crops, plants, or natural habitats. It operates using a battery-powered source that generates mild suction to draw insects into a transparent collection chamber or jar. Instrument is Lightweight consist of solution of pesticides and easy to handle, the device allows for quick field surveys and reduces manual effort compared to traditional methods like sweep nets & sticky traps.

Specification

Power Source : Rechargeable Battery with low voltage.
Collection unit : Plastic jar
Illumination source: Fluorescent bulb
Holding panel : Iron/Pipe stand

Potential of innovation wider reach/out scaling

Distribution through government agricultural schemes (e.g., KVKs, ATMA) to empower farmers with pest surveillance tools.

Adoption in schools, colleges, and universities for practical entomology training.

As a core tool in IPM strategies, reducing dependency on chemical sprays through early pest detection.

The device can evolve from a basic tool into a smart, scalable, and sustainable solution for modern pest management and ecological studies. With support from agri-tech incubators, research institutions, and public-private partnerships, it can reach millions of farmers and students, significantly improving crop protection and scientific engagement.

Scientific Validation required: Yes



BELAGAVI-I



MODIFIED RAIN WATER HARVESTING SYSTEM

Name of the farmer Shri Suresh Vishwnath Patil
Address: Budhihal Tq. Nipani
Dist. Belagavi Karnataka
Mobile number 9741621650
Age (years) 50 Years
Education B. Com

- Mark the 15 ft X 15 ft area closer to the borewell and dig 6ft deep
- Dig surrounding area to the casing pipe for another 6 inch in depth and 2 ft in width and cover with concrete
- Drill down the casing pipe with the help of hand drill machine at equal distance of 4 inch and 5 mm in size (hole size)
- Cover the casing pipe with nylon net to ensure there no blockages due to sand and mud

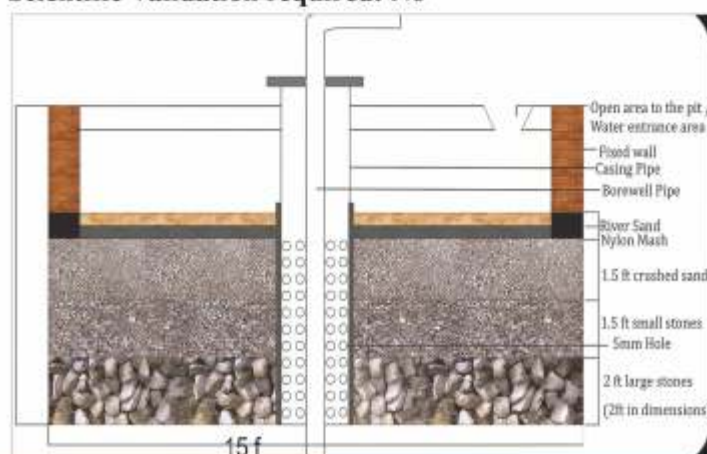


- Cover the entire 15 ft X 15 ft area divided in to three layers first with stones (2 ft in dimensions) up to 2 ft in height, 1.5ft height with small stones and third 1.5 ft with crushers, balance 1 ft leave for rain water storage
- Further, cover entire nylon net with river sand 4 inch in height
- To manage the water flow / storage identify the slope area to the pit and leave 6-inch X 1 ft open space at the top of the wall.

Potential of Innovation for Wider Reach/Out Scaling

One full day of rain can recharge ground water by 16,000 Litres per hour and 3,84,000 Litres per day. This concept help to recharge ground water up to 2,68,80,000 Litres considering 60 to 70 days of full rain during the season. It will an excellent way forward to recharge the borewell especially in rainfed area.

Scientific Validation required: No



BELAGAVI-II



LOCALLY ENGINEERED POWER TILLER MOUNTED FARM IMPLEMENTS

Name of the farmer Sri Kallappa K. Mutnal
 Address: Itagi, Khanapur, Belagavi-591112
 Mobile number 6360959810
 Age (years) 41
 Education HSC
 Land holding (ha) 3.20 ha
 Crops cultivated Paddy, Sugarcane, Mulberry

With the help of local blacksmith and fabricator, innovative farmer designed the implements which can be attached to existing power tiller mainly for paddy and sugarcane crops grown in his land at Khanapur taluk of Belagavi district



Potential of Innovation for Wider Reach/Out Scaling

About 15 farmers have adopted his technologies in their fields.

Most of the farmers growing paddy and sugarcane have power tiller for rotavator operation, this innovation helps them to adopt the power tiller mounted implements which saves time and money.

KVK and Department of Agriculture are spreading the farmer designed technologies to other fellow farmers.

Scientific Validation required: No

Specifications:

Farmer designed power tiller mounted with dozer at front and rotavator at rear end.

Farmer designed power tiller mounted combined rotavator, seed drill and seed cover

High-Pressure Triplex (HTP) sprayer attached to Power

Unique point:

Power tiller mounted dozer fitted at front is useful to carryout leveling the field with low gradient slope. This enables no dependency on heavy machineries.

Power tiller mounted combined rotavator, seed drill and seed cover:

Rotavator will churn the pre-ploughed soil

Seed cum fertilizer drill will be used for the sowing of seed and fertilizer into the soil.

Seed cover will be used for covering the seed and fertilizer after placing into the soil at proper depth

HTP Sprayer attached to Power tiller makes spraying operation fast and easy for fertilizers and pesticides spray compared to traditional knapsack sprayer:

Economic feasibility:

Sl. No	Operation	Cost/ac	Operation	Cost/ac	Savings
1	With dozer	Rs.1200/- per ac	Without dozer	Rs. 3500/- per ac	Rs.2300/- per ac
2	Winnowing with power tiller	1200 kg/hr	Manual	240 kg/hr	4 hr and Rs. 2400 /-
3	Tiller mounted sprayer	Rs.200/- per ac	Knapsack sprayer	Rs. 500/- per ac	300/- per ac
4	Tiller mounted seed drill	Only diesel cost Rs. 500/- per ac	Ballock drawn seed drill	Rs.2500/- per ac hiring charges	2000/-

BELAGAVI-II



PROTECTION OF YOUNG SEEDLINGS FROM HEAT OF PLASTIC MULCH DURING SUMMER

Name of the farmer Balgond Mastiholi
Address: Village, Block, District, Pin code Kakati, Belagavi-591113
Mobile number 9663549450
Age (years) 45
Education SSLC
Land holding (ha) 03 ac
Crops cultivated Chilli, Paddy, cabbage

Description

Young seedlings of chilli crop grown on plastic mulching are likely to be affected by heat of the plastic mulching sheet during summer. Seedlings will shrink and dry in early stage. This will increase the gap filling of seedlings which in turn lead to high cost of production.

To minimize the death of young seedlings, waste drawing sheets from paper mill are collected and cut in rectangular shape with 2.5 to 3 inch height and it will be covered to the stem and Stapled. This will protect the seedlings from heat of plastic mulch.



Potential of Innovation for Wider Reach/Out Scaling

This innovation is very easy to replicate by farmers who are cultivating vegetables with plastic mulching during summer. It only takes 2-3 women labour to complete one acre area in a day.

Scientific Validation required: No



LOW COST POLY TUNNEL FOR MILKY MUSHROOM CULTIVATION



Name of the farmer Smt. Padmini Gowda
Address: Sri Sairam Farm, Sy No 13/6&7, Kenjiganahalli, Madhure Hobli, Doddaballapur Tq, Karnataka 9686344199, 7338459996
Mobile number 9686344199, 7338459996
Age (years) 52
Education SSLC
Experience 6 years

Smt. Padmini Gowda an enthusiastic women agri entrepreneur from Bengaluru Rural District. Earlier she was working as web designer, catering services and computer classes on part time basis for school children. But she couldn't get full time job and decent income to run her family. She was always had zeal and enthusiastic to start agricultural enterprise. But she was unaware of agri related enterprises to start.

After getting the technical guidance and support from KVK and Dept. of Agriculture and Horticulture, she started milky mushroom, BV-380 improved poultry egg production, areca nut plate making, ground nut and coconut wood pressed oil extraction unit and value added products from millets and grounded spices.



Unique Selling Proposition

To reduce cost on concrete building for mushroom growth chamber and to control optimum humidity, temperature and also light by constructing low cost sunken chamber, which consumes less energy for maintaining the optimum growing conditions

Potential of Innovation for wider reach/Out scaling

This tunnel growth chamber is cost effective and occupied less space as well as conducive for cultivation of milky mushroom

This low cost fabricated sunken chamber is highly cost suitable for milky mushroom can be easily adopted by the milky mushroom growers

Specification

The sunken chamber by excavating soil to a depth of 13.5 ft. below the ground with a dimension of 72 ft. length X 16 ft. width

The sides of the excavated pit is insulated with concrete to prevent seepage and loss of heat and humidity

From the ground level the roof is fabricated with GI pipe to form a cone set and covered with high gage 500 mm thickness light blue transparent polythene sheet for sufficient light penetration and prevent light escape from the chamber

Economic feasibility

- The capacity of the growth chamber - 4800 casings or grow bags
- Milky Mushroom production – 12000 kg/year
- Total Cost of production – Rs. 14,40,000/annum (Rs. 120/kg)
- Selling price – Rs. 300/kg
- Gross returns – Rs. 36,00,000/annum
- Net returns – Rs. 21,60,000/annum
- B:C – 2.5

Scientific validation required: Yes

BIDAR



SIMPLE AND LOW COST BUND FORMER IMPLEMENT

Name of the farmer Sri. Mahadev Reddy
Address: R/o Handryal Tq : Basavakalyan, Bidar,
Mobile number 9741012685
Age (years) 54
Education SSLC

Specifications:

Constructed using two iron plates (1.5 ft wide and 3 ft long)
Plates are welded in a triangular shape on either side of the frame
Mounted onto a standard tractor-drawn cultivator frame
Forms clean and raised bunds in a single pass
Requires only one tractor operator—no manual labor needed



Unique Selling Proposition (USP):

Operated by a pair of bullocks
Can form soil bunds across 1–1.5 acres per day
Ideal for dryland farms to control runoff and erosion
Fabricated at extremely low cost using local resources
Promotes in-situ water conservation

Economic Feasibility:

Cost of Implementation: ₹1000 only, Highly Cost effective
Saves: Approximately ₹5000 in labor expenses per acre
Benefit: Cost Ratio (B:C): Greater than 7.0 within first usage season

POTENTIAL OF INNOVATION FOR WIDER REACH/OUT SCALING

- Ideal for sugarcane, ginger, and other high-water-demand crops
- Easily replicable in other dryland zones across India
- Can be fabricated locally in village & Useful for small-holder and resource-poor farmers
- Scope for promotion through KVKs, FPOs, and custom hiring centers

Scientific Validation required: Yes,
Requires testing of bund strength and agronomic benefits



BIDAR



SIMPLE AND LOW COST BUND FORMER IMPLEMENT

Name of the farmer Sri. Somshekhar Karimungi
Address: R/o Hudgi, Humnabad, Bidar
Mobile number 9343057351
Age (years) 53
Education ITI

Specifications:

- Operated manually by a single person
- Fitted with automatic seed dispensing mechanism
- Row spacing adjustable between 20–30 cm
- Light-weight frame made from mild steel
- Can sow multiple types of seeds: pulses, oilseeds, cereals



POTENTIAL OF INNOVATION FOR WIDER REACH/OUT SCALING

This innovation is suitable for small and marginal farmers who practice dryland and rainfed farming. Due to its low cost and simple construction, it can be easily replicated with local welding and fabrication units. It has already attracted interest in nearby villages for custom hiring services



Unique Selling Proposition (USP):

Eliminates the need for bullock or tractor

- Saves labor and ensures uniform seed depth and spacing
- Easy to handle even by women farmers

Economic Feasibility:

- Fabrication Cost: ₹2,000
 - Cost Saved Per Acre: ₹800 (on labor and sowing tools)
- Benefit: Cost Ratio (B:C): 3.2:1 (within first year of use)



Scientific Validation required: Yes,
Validation for seed rate, depth & yield impact



CROP RESIDUE COLLECTING IMPLEMENT

Name of the farmer Sri. Somshekhar Karimungi
Address: R/o Hudgi, Humnabad, Bidar
Mobile number 9343057351
Age (years) 53
Education ITI

Specifications:

- Simple, manually guided implement
- Easily attachable to a bullock pair
- Light-weight and rugged frame built using locally available scrap iron
- Working width of 3.5 feet with front-facing comb-like teeth to gather stubbles
- Collects scattered crop residue into piles



POTENTIAL OF INNOVATION FOR WIDER REACH/OUT SCALING

This innovation is suitable for most dryland and rainfed farming systems where stubble burning is common. With local fabrication support, it can be rapidly promoted in villages via KVKs and SHGs. This tool promotes clean fields and also enables stubble collection for mulching or composting.



Unique Selling Proposition (USP):

- Cost-effective, fabricated at just ₹1,000
- Covers 8–10 acres per day
- Significantly reduces time, effort, and manual drudgery
- Ideal for small and marginal farmers where mechanized solutions are not feasible

Economic Feasibility:

- Cost of Fabrication: ₹1,000
 - Saves ₹6,000–₹7,000 per day by reducing manual labour
- Benefit: Cost Ratio (B:C): Greater than 6.0:1 (within a week of operation)



SCIENTIFIC VALIDATION REQUIRED:

YES, For operational efficiency, ergonomic impact on users, and effectiveness across different soil types and crop residues.

CHAMARAJANAGAR

HYBRID POWER SUPPLY SYSTEM IN AGRICULTURE



Name of the farmer R. Sheshakumar
Mobile number 99729621141
Age (years) 72
Education B.Com
Experience 40 years

Hybrid power generating unit with a wind mill and solar panel that operate based on wind and solar energy automatically installed capacity is 7.5 KV that can facilitate a 10 HP irrigation pump uninterrupted power supply presently used to run a 6 HP irrigation pump which is sufficient to meet the irrigation requirements of his entire 4.6 ha farm producing many field crops, vegetables, fruits and fodder uses this power for charging the batteries of the solar fencing unit, thereby getting rid of wild animal menace, mainly wild boars



Unique Selling Proposition:

whoever weekend customers visits his farm, will get a chance to taste rare and exotic fruits (Yellow Sapote, Peanut Butter, Barbados Cherry, Lipote, Milk Fruit, Karonda, White Jamun, Dragon Fruit, Abui, Red Sapota, Black Sapote, Miyazaki, Noor Jahan Mango)

Economic feasibility: saving in electric power and electricity charges – monthly ₹.3500 to 4000

Potential of Innovation for Wider Reach/Out Scaling

highly efficient in terms of electric power sufficiency, especially for irrigation purpose and wild animals menace management

reduced electricity charges and uninterrupted power supply

Can be adopted in all farms at and around hilly /elevated area for overcoming electric power crisis

Scientific Validation required: No



CHIKKABALLAPURA

ADJUSTABLE SPRAYERS



Potential of Innovation for Wider Reach/Out Scaling:

Fifty to sixty adjustable sprayers have been sold by Mr. Ramanji and more than 150 farmers are using the adjustable sprayers with five nozzles and six nozzles in different crops. The farmers have expressed positive response towards innovation and expressed that time consumption has reduced to 50 per cent and chemical wastage has reduced. Further expressed that there was uniform spraying of chemical and reduced the labour cost due to use of adjustable sprayers.

Scientific Validation required: Yes



Name of the farmer Mr. Ramanji.
Address: S/o Byrareddy, Yelegere Village,
Chikkaballapura Taluk & District
Mobile number 9902991459
Age (years) 34
Education PUC

Adjustable sprayers are developed by using spraying pipe with multiple nozzles as per the crop requirement and to cover more canopy. This has reduced chemical wastage, labour cost and also reduced the time required for spraying since it covers more canopy. This can be used in any line sown crops like capsicum, rose, tomato, chrysanthemum, marigold and all green leafy vegetables.



CHIKAMANGALURU

MANAGING PIGLET MORTALITY BY USING CEMENT PROJECTION



Name of the farmer Mr. Amar D'souza
Address: Madeneralu, Mudigere Talluk, Chikkamagaluru Dist. Karnataka
Mobile number 9900431066
Age (years) 56 years
Education B.A.
Experience 25 years

Mr. Amar D' Souza, a farmer from Madeneralu village of Chikkamagaluru taluk and district is practicing integrated farming system and had a faith in that which has led to the increase in higher income and betterment in livelihood status. During the year 2004 he visited KVK Mudigere

interacted with scientist and had an assumption that, agriculture is not profitable to farming communities. Later, scientist convinced him and suggested him to follow the integrated farming system. Scientist of KVK demonstrated the piggery farming, as a subsidiary and profitable enterprise in malanad region and gave scientific advisories to D'souza. Later, he found piggery as a profitable enterprise and continued to practice piggery as an enterprise in full scale.

He never forgot the words of KVK scientist to follow the IFS. In this context he added backyard poultry, dog breeding, fisheries and dairying components to IFS and took a remarkable step towards linking of enterprises, linking bio products of one enterprise as input to another enterprise. Thus minimizing the waste as well as lowering the investment for the other enterprises. This made him to gain more profit from all the IFS components.

Specifications

Saving mortality of newly born piglets from getting trapped under mother

Unique selling proposition/

point (USP) Managing piglet mortality by adapting cement projection by wall and iron platform with space to allow piglets to escape from getting trapped under mother

Economic Feasibility

Cost

B:C ratio He is having 10 brooding structure. From this Rs. 3.0 lakhs is saved annually which due to preventing death of 6 piglets from 10 female pigs



Potential of Innovation for wider Reach/out scaling

Low cost technology, even farmers can create this cement projection by utilizing locally available resources without external investments. There is no complexity in the innovation. This can be easily accessible and adoptable by the layman.

Innovation minimize piglet mortality @ 6 piglets/female pig/annum. It saves the amount of Rs. 3,00,00/female pig/annum

Scientific validation required : Yes



CHITHRADURGA

SQUIRREL MANAGEMENT TECHNIQUE IN ARECANUT PLANTATION



Name of the farmer Mr. Siddesh J B
Address: S/o Jangli Basappa, Palikehalli,
Chitradurga Tq.& Dist., Karnataka
Mobile number 9743953465
Age (years) 35 years
Education SSLC
Experience 7 years

Description

Empty plastic water glasses are tied to strings or wires. These are suspended near the arecanut palms in such a way that they can swing freely.

When wind blows, it causes these suspended plastic containers to move randomly.

As the containers swing, they often hit the stems of the arecanut palms.

These impacts produce a sharp, unpleasant sound as plastic hits stems which intern repels the squirrels.

Potential of the innovation /replication on larger scale:

It is highly effective, economically viable, and inexpensive, making it suitable for large-scale implementation. Farmers from neighboring villages adopted this technology and further more area will be covered with this technology during this year



DAVANGARE



AUTOMATIC DRINKER FOR DAIRY ANIMALS

Name of the farmer H.M.Dhyamappa
Mobile number 99720-89517
Age (years) 51 years
Education Matriculation
Experience Doing dairying from last 15 years

Saves water and Labour, provides ad-libitum water to animals, less cost (Rs.300.00 as against Rs.7000.00 for ready unit) involved per unit. Electricity not required, easy to clean & maintain. One thousand litre Syntex Tank connected to 7 inches diameter CPVC Pipe of 1 ½ feet height (Blue colored to avoid fungal growth) through 1 ¼ inch PVC pipe serially at 4 feet interval via Cement Tank provided with Ball Valve to control water level.



Potential of Innovation for wider reach/out scaling:

This technology can be easily adopted by other dairy farmers. Already 6 farmers from the nearby villages have adopted this technology.



DHARWAD

MECHANICAL WEEDER-CUM-SPRAYER



Description

Shri Krishna Madalli, a B.E. graduate, began his career as a Training Officer at NTTD Diploma College in Uttarakhand, where he developed a strong interest in agriculture. Upon returning to his hometown, he engaged in farming and recognizing key challenges, invented a farmer-friendly mechanized Weeder-cum-Sprayer. This innovation helps to reduce drudgery and improve efficiency, especially for small and marginal farmers.

Unique Selling Proposition/Point (USP)

This machine offers dual functionality - weeding and spraying, in a single unit, reducing labour, time and effort. Its compact design, ease of use and adaptability for narrow-row crops like vegetables and pulses make it ideal for smallholder use. Low maintenance and high efficiency further enhance its appeal.

Economic Feasibility

Costing Rs. 60,000/-, it is affordable for small-scale farmers. It reduces labour costs by up to 40% and consumes only 0.5 liters/hour of fuel. With its efficient performance, the machine delivers a B:C ratio of 3.5, ensuring high economic return and quick payback.

Potential of Innovation for Wider Reach/Out Scaling

o The mechanized weeder-cum-sprayer holds immense potential for large-scale replication due to its affordability, simplicity in design and relevance to the needs of small and marginal farmers across the country.

o It addresses critical challenges in Indian agriculture such as labor scarcity, high cost of cultivation and time-consuming manual operations, making it suitable for widespread adoption.

o The machine's multi-functionality-performing both weeding and spraying-adds to its value proposition and promotes efficient resource use on the farm.

Scientific Validation required: Yes

Name of the farmer	Shri Krishna A. Madalli
Address:	Hallikeri village, Annigeri taluka, Dharwad district
Mobile number	9480645550
Age (years)	31 years
Education	BE (Mechanical)
Experience	6 years

Specifications

Powered by 4.4 HP single-cylinder diesel engine, 5-litre fuel tank ensures longer operation

Tyres: Front – 3.00-18; Rear – 100-18 for better traction

Speed: Operates at 5–10 km/h, Coverage: Weeding – 1 acre/hour, Spraying – 3 acres/hour

Dimensions: Length – 2540 mm, Width – Adjustable (1435–2032 mm)

Ground clearance – 762 mm

Minimum row width: 200 mm (suitable for vegetables, pulses)

Built-in PTO for spraying, pesticide application and irrigation



GADAG



SAND MULCHING FOR SOIL MOISTURE CONSERVATION IN DRYLAND FARMING



Description

Sand mulching is a technique where coarse sand is uniformly applied (450–500 tons per acre) to impermeable black soils to a depth of up to 10 cm followed by shallow cultivation. This is particularly effective in areas with low, uneven and scanty rainfall. The sand mulching enhances soil moisture retention and crop productivity.



Potential of Innovation for Wider Reach/Out Scaling

Can be scaled across semi-arid regions with similar soil types (deep black cotton soils with calcareous nature)
Feasible in locations with seasonal streams or local sand availability
Already adopted in over 1000 hectares in 8 villages of Gadag district

Scientific Validation required: No

Name of the farmer	Shri Manjunath Panchappa Channalli
Address:	Halligudi, Po: Hallikeri, Mundaragi, Gadag
Mobile number	8861225788
Age (years)	45 years
Education	PUC
Experience	22 years in Dryland Agriculture

Specifications

Depth of sand mulch can be done up to 7.5 cm to 10 cm on the top of the soil uniformly

Approximate quantity of sand required is 450–500 tons per acre

This sand mulching is suitable for crops like Greengram, Sunflower, Maize, Rabi Sorghum & Bengalgram

Economic Feasibility:

Benefit-Cost Ratio (B:C): ~1.8–2.0 (based on farmer feedback)

25–35% higher yield than conventional practices

Reduced input cost due to better moisture availability



GADAG



RIDING TYPE PRIME MOVER WITH MULTI TOOL ATTACHMENTS

Name of the farmer Shri Suresh Malleshappa Kondikoppa
Address: Narasapur village, Gadag,
Mobile number 8722210081
Age (years) 47 years
Education SSLC
Experience 28 years in agriculture

Description:

Non availability of timely labour and high operational cost often lead to low net income. Besides, decrease in number of draught animals is a major concern to carry out interculture operations in the standing crop. This technology gap could be bridged by developing low cost, compact agricultural machinery suitable for area specific cropping systems.

The riding type prime mover with multi tool attachments developed by Mr. Suresh Kondikoppa involves a three-wheeler prime mover capable of performing secondary tillage, weeding and spraying operations. The vehicle is powered by a 9 HP diesel engine and provided with hitch system for attachment of tools. It can carry a spray tank of upto 50 litre capacity and provided with a horizontal spray boom covering a span of 5 metres.



Specifications

Dimensions of the prime mover:

Overall length: 2.10 m

Overall width: 1.20 m

Overall height: 1.60 m

Power source: IC engine of 9 HP power output

Fuel used : Diesel

Attachments : Harrowing blade, Three-row weeding tool and Boom sprayer

Fuel consumption:

0.8 to 2.5 l/ha (for harrowing and weeding purpose as claimed by the innovator)

0.3 to 0.6 l/ha (for spraying purpose as claimed by the innovator)

Saving in labour: 70 - 85 % (as claimed by the innovator)

Economic Feasibility:

- Cost of the machine: Rs. 64,000 (During 2021)
- Saving in cost of operation: 1200 to 1500 / ha (as claimed by the innovator)
- The developed prime mover has a payback period of only 1.5 years (18 months) if used in both seasons (kharif and rabi) of the year.
- Has a B:C ratio > 2 (Evaluated as cost incurred for field operations against benefits by saving in labour cost).

Unique Selling Proposition (USP):

Compact design of the equipment is suitable for operation in various field crops.

Multiple operations can be performed with single prime mover.

The unit can be fabricated at local workshops with the help of skilled foreman.

Most suitable for field operations in small and marginal farms.

Dependency on labour and draught animals will be partially eliminated for field operations.

Minimal skill required to operate.

Reduces cost of operation and labour requirement significantly in comparison to manual operations.

Potential of Innovation for Wider Reach/Out Scaling

Developed innovation is eligible for "Patent of Design" filing. Small and marginal farmers not having draught animals can invest in the innovation to meet out the field operation requirements, specially interculture and spraying operations. The technology has already been adopted by farmers across the country including states like Karnataka, Maharashtra and Punjab by taking technical assistance from the innovator.

The innovation can be taken into State and Central Government subsidy schemes after thorough refinement and valid testing of the equipment.

Scientific Validation required: Yes



BANANA DE-SUCKERING TOOL

Name of the farmer Vasudevamurthi Ishwarappa Moodi
Mobile number 9008479128
Age (years) 75 years
Education PUC
Experience 28 years in agriculture

Description:

De-suckering is the practice of removing unwanted suckers that grows around the mother banana plant. In traditional method, de-suckering is done manually with the help of sickle which is costly, less effective as well as cause musculoskeletal stress on farm workers. Banana de-suckering tool is a hollow T shaped bar. Handle welded to metal bar with slight opening just before the end. After cutting the surplus and unwanted suckers at ground level using sharp knife, a small hollow will be gouged in the centre of the cut surface with the help of de-suckering tool. There by destroying the central core of the suckers without detaching the sucker from the plant. In later period accumulation of rainwater in funnel shaped hole in the centre of the suckers will kill the suckers. It is also a quick alternative to digging out the suckers especially when sucker is big.

Unique selling proposition/point:

It is environment friendly and cheap way to do de-suckering operation in Banana. Reduces labour requirement and more effective. The cost of the tool is around 250-300 rupees.

Economic feasibility:

Traditional method B:C ratio – 5.25

Banana de-suckering tool B:C ratio – 10.50

Potential of innovation for wider reach/out scaling:

The proposed de-suckering tool can help to address challenges associated with banana production such as difficulties in de-suckering and preventing sucker regrowth, minimizing fertilizer waste and high costs

Scientific validation required: No



HAVERI



TWIN RING METHOD OF BOREWELL RECHARGE TECHNIQUE



Name of the farmer	Shri. Shankarappa I Sogali
Mobile number	9738434329
Age (years)	33 Years
Education	ITI
Experience	10 Years

Here rain water harvesting was done through bore well recharge pit method, which will bring water back to the dried up bore wells.

Excessive digging of new bore-wells and overuse of existing ones has resulted in severe depletion of groundwater levels rendering many bore-wells dry.

So this farmer developed a new method called the Twin Ring Method.

The method is simple, works well and is cost effective. In brief the process is as follows:

1. A pond – approx 5 feet x 5 feet and 10 feet deep – is constructed nearby the borewell site – in a position to gather the run off water from the monsoonal rains.
2. A pit is dug around the actual borewell casing – 5 feet x 5 feet size and 10 feet deep. This work is done with JCB.
3. The bottom of this pit is lined with filtration material to a depth of 2 feet – layers of 40 mm boulders size.
4. Next slits are cut into the borewell casing using a cutting machine, and the casing is then wrapped with nylon mesh so solids cannot enter the casing pipe.
5. At this stage, 5 x 5 foot diameter cement rings are placed around the borewell casing and the spaces between them are filled with cement to seal them. This pit is then filled with 20mm small stones.
6. A second pit measure of 5 x 5 foot diameter cement rings are placed next to the first pit and the gaps between them are filled with cement. This pit is left empty. And a cement cover is placed on it to avoid falling of dust particles.
7. A 3 inch feeder pipe is fitted coming from the pond to a hole in the first cement ring of this empty well. This brings the water from the pond.
8. During rainy season the water flows from the pond into the first empty pit where it percolates down through the filter materials and subsequently up into the second pit around the borewell casing. It then enters through the slits and filters down into the underlying aquifer where it is stored for the following dry season.

Benefits of recharge technique

Increased water-output:

Better water-quality:

Customizable:

Eco-friendly:

Cost-effective: The total cost required to establish this recharge technique is Rs. 5000/- and the ground water recharged is 90000 liters per day

Potential of Innovation for Wider Reach/Out Scaling

Scaling up also requires addressing challenges like land availability, water quality concerns, and ensuring long-term maintenance of recharge systems.

Scientific validation required: Yes



IDUKKI

NUTMEG SAPLINGS WITH MULTIPLE ROOTS VIA APPROACH GRAFTING



nutrient absorption, and an extended lifespan. Dr. Gopi's contributions have been widely recognized. The Spices Board Research Centre acknowledged his remarkable achievements in 2014, and the Agriculture Department honoured him with the Innovation Award in 2019.

In nutmeg, this enables: Faster multiplication, True-to-type planting material, Uniformity in crop performance and Early bearing plants.

The nutmeg multiroot development was started with 2 roots and now increased to 12 roots per tree. These grafted wild nutmeg saplings were budded with high yielding new longa and apple varieties of nutmeg. These varieties can produce 1 kilo from 75-80 nuts while the local requires 300-350 nuts to produce 1 Kg. Also 1 ha of this multiroot system yields 75000-82000 nuts per year with a year round production. 1 Kg Mace can be produces from 300-350 nuts meanwhile the local nutmeg Mace requires 800-1500 numbers to yield 1 kg. Nuts from this multiroot system fetches 12-15 Rupees per nuts which stabilizes the profitability. This nuts are named Jumbo nuts in the market. To ensure the sustainability in development 3000 mother plants are been conserved in farm. These mother plants are conserved as germplasm to ensure the regular supply of rooting and budding materials. This multirooted nutmeg varieties perform best in intercropping system along with coconut, Cocoa and Black pepper. Cost saving is observable from the eradication of props instruments/poles and labour charges. An amount of Rs. 5000-6000 per tree/year is been saved because of the multi-root system. Also he Conserves more than 3000 mother plants to ensure the resource saving mechanism.

The scion selected for budding are from pest and disease resistant varieties. These varieties possess more immunity to fight against the pest and diseases. Only fungal leaf spot in a reduced intensity is been observed in trees. 2-12 roots



Name of the farmer : Dr. Gopi C M
Address : Cherukunnel, Near KSEB Sub station, NH Road, Chattuppara, Adimaly
Mobile number : 9447613755
Age (years) : 67
Education : VIIIth
Experience : 35 years

Traditional nutmeg plants, with their single mother root, were prone to wind damage. To address this, Dr. Gopi ingeniously combined wild and ordinary nutmeg through approach grafting, resulting in the "multi-root nutmeg" variety. This new innovation exhibited superior stability,



selected for approach grafting are healthier and free of pest and disease. Reduction of 30-35 % of pest and disease is observed in this system of planting. Innovative multiroot system in nutmeg contributed the farmer to start a nursery named Cherukunnel Nursery (Govt. Approved) with a turnover of 80 lakhs/year on average where he assures a record production and marketing of saplings at a marginal cost of Rs. 1000/- and above as per the age of sapling.

Potential of Innovation for wider reach/out scaling:

Suitable for both smallholders and large-scale plantations
High replication potential in nutmeg-growing belts across Kerala and other region

Promotes resilient and sustainable spice crop production
Encourage farmer producer organizations (FPOs), SHGs, and cooperatives to set up community-level nurseries.
Hands-on training for farmers, nursery managers, and extension officers.

- Integration into National Horticulture Mission (NHM), MIDH, or state spice development programs.
- Attracting rural youth with entrepreneurial opportunities in nursery business.

Scientific Validation required: No

KALABURGI-II

INNOVATIVE STALL FEEDING UNIT AT LOWER COST FOR SHEEP/ GOAT



Name of the farmer Sri. Parashuram Bommanalli
Mobile number 9916012022
Age (years) 35 years
Education BA BEd
Experience 10 years

Specifications

Locally available materials were utilized for the establishment of stall feeding unit

- Used and rejected bore well GI pipes
- 11 inches Krishi Honda used pipe
- Tin roofing Sheet
- Chain link mesh
- Paving material

Unique Selling Proposition/Point (USP)

Low cost stall fed unit



Economic Feasibility (in terms of Cost & B:C Ratio)

Rs. 50000/-

B:C Ratio: 2:1

Potential of Innovation for Wider Reach/Out Scaling

Effective utilization of locally available resources

Scientific Validation required: No



KALABURGI-II

SEED DRILLER ON BUND SOWING



Name of the farmer Sri. Vijaykumar Yalwar
Mobile number 9880840071
Age (years) 47 years
Education PUC
Experience 21

Specifications

- A new way to maintenance of seed space in pigeonpea and cotton reduce time and labour cost.
- Sowing on bunds using modified seed driller

Unique Selling Proposition/Point (USP)

Modified seed drill

Economic Feasibility (in terms of Cost & B:C Ratio)

Sowing time saving

Rs. 30,000/-

B:C Ratio: 3:1



Potential of Innovation for Wider Reach/Out Scaling

Seed drill in Pigeonpea and Cotton

Scientific Validation required: Yes, required for multiple crops for specific region



KANNUR



ORGANIC WILD BOAR/ ELEPHANT REPELLENT: A FARMER'S INNOVATION FOR SUSTAINABLE CROP PROTECTION

Name of the farmer Kurian T. J
 Address: : Theruvankunnel house, Josegiri,
 Cherupuzha, Kannur, Kerala-670511
 Mobile number 9744976118
 Age (years) 60 years
 Education Plus Two
 Experience 45 years in farming



The wild boar repellent prepared by Kurian T. J. was innovatively formulated using locally available tubers and herbal crops. The preparation emits a strong smell and bitter taste that naturally deters both wild boar and Elephant, effectively preventing crop damage without causing harm

to animals or the environment. It is completely chemical-free, making it suitable for use in both conventional and organic farming systems. Once applied along the field boundaries or at known entry points, the formulation remains effective for 3-4 months with a single application. The unique selling proposition of this innovation lies in its eco-friendly, long-lasting

action and its ability to be prepared using on-farm, low-cost materials. It offers a sustainable, animal-safe solution to wildlife intrusion, especially in resource-constrained agricultural systems. The technology is economically feasible, easily reproducible, and significantly reduces crop loss, thereby enhancing profitability. The benefit-cost (B:C) ratio was found to be more than 1, confirming its economic viability. Its effectiveness is being validated through trials under NICRA, and further evaluations are being carried out by the Krishi Vigyan Kendra (KVK). The innovation has also been submitted for patent protection, underlining its novelty and practical value.



Potential of Innovation for wider reach/out scaling:

The innovation has significant potential for large-scale replication across India, particularly in areas prone to wild boar/Elephant intrusion. Its compatibility with conventional, organic, and natural farming systems makes it highly adaptable across diverse agro-ecological regions. The formulation is particularly beneficial to smallholder and tribal farmers who seek low-cost, environmentally friendly, and non-lethal crop protection methods. of low-cost, eco-friendly, and non-lethal methods for protecting their crops. Due to its simple and locally reproducible nature, the idea can be scaled up through community-level preparation methods or further developed as a commercial organic repellent product, providing a sustainable and inclusive solution to a prevalent wildlife conflict in Indian agriculture.

Scientific Validation required : Yes



KANNUR



INTEGRATED ORGANIC REPELLENT AGAINST MONKEYS AND PEACOCKS

Name of the farmer Kurian T. J
Address: : Theruvankunnel house, Josegiri,
Cherupuzha, Kannur, Kerala-670511
Mobile number 9744976118
Age (years) 60 years
Education Plus Two
Experience 45 years in farming



Organic repellent developed by Kurian T. J. has emerged as a highly effective solution for protecting crops from monkeys and peacocks. This innovative formulation includes burnt chicken remnants, fish, egg, neem oil and a mix of traditional herbal leaves. The strong smell and bitter taste produced by the combination of non-vegetarian and herbal ingredients act as a powerful deterrent, creating instinctive aversion in monkeys and discouraging them from feeding or entering the area. The inclusion of neem oil and herbal extracts not only enhanced the repellent effect but also provided natural pest-repelling and antimicrobial benefits, while contributing to plant health. Additionally, the formulation functions as a natural plant growth promoter, enriching the soil and improving crop vigour. The innovation is 100% chemical-free, biodegradable and highly suitable for conventional, organic as well as natural farming systems. It is applied either directly to the crop canopy or around the field perimeter. The unique selling point of this repellent lies in its dual function as both a wildlife deterrent and bio-enhancer prepared using on-farm, low-cost materials. Economically, the practice is viable, with a B:C ratio greater than 1, indicating profitability and ease of adoption.

The innovator received the State Award for farmers and Certificate of Merit at the VAIGA Agri Hack 2021 event, which recognizes grassroots innovations that contribute to sustainable and eco-friendly agricultural practices. To ensure wider adoption and community engagement, awareness and extension activities were actively conducted by the Farm Information Bureau, Krishi Vigyan Kendra, Kannur, Department of Agriculture and the Forest Department. These collaborative efforts involved on-field demonstrations, farmer training sessions, and awareness programs aimed at educating farming communities on the preparation, application and benefits of the organic repellent.

Potential of Innovation for Wider Reach/Out Scaling

This innovation holds significant promise for wider replication in regions affected by monkey and peacock menace, where crop loss due to wildlife incursions is a growing concern. Its formulation and application are well-suited for organic and natural farming systems, aligning with eco-friendly and sustainable agricultural practices. As a humane, non-lethal and environmentally safe solution, it offers an effective alternative to conventional deterrents, making it particularly relevant in areas experiencing intensifying human-wildlife conflict. The low-cost, farmer-friendly approach further enhances its scalability and acceptance, especially among resource-poor and ecologically sensitive farming communities.

Scientific Validation required: Yes

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KANNUR

A FARMER'S INNOVATION IN CASHEW CULTIVATION



നാലു വർഷം പ്രായമുള്ള കശു കൃഷിയാണ് റോബർട്ടിന്റെ കുടുംബത്തിലുള്ളത്. സാധാരണ മൂന്നാം വർഷം മുതൽ കശുകൾ കാർച്ച തുടങ്ങും. അഞ്ചു ചെറുവരമ്പിനെ നിയമിച്ച് കിടക്കുന്ന കശുകൾ കണ്ണിനും മനസിനും കൃഷി രീതി പകരുന്ന കാഴ്ചയാണ്. മഞ്ഞപ്പൂ കുമ്പസ്പന്ദം കശുകൾക്കു വലിയ ഭീഷണിയാണ്.

കശുകളിലാണ് കശു



Name of the farmer : George Philip
 Address : Kaliyani (H), Chandanakkampara P.O Payyavoor, Kannur, Kerala-670633
 Mobile number : 9745985279
 Age (years) : 65 years
 Education : SSLC
 Experience : 50 years in farming

KG Gold is a farmer-developed cashew variety selected by Innovator George Philip, known for its distinct agronomic and economic advantages. The variety stands out due to its exceptionally high nut weight of 14.6 g, which significantly surpasses that of conventional cashew varieties, offering higher returns per unit of harvest. Its extended flowering duration ensures a broader pollination window, thereby increasing fruit set and yield stability. Notably, KG Gold exhibits tolerance to tea mosquito bug (*Helopeltis* spp.), a major pest in cashew plantations, which reduces the need for frequent chemical pesticide applications.

Potential of Innovation for Wider Reach/Out Scaling

The KG Gold cashew variety has immense potential for replication on a larger scale due to its adaptability, sustainability, and ease of propagation. Well-suited to humid and sub-humid climates, it performs effectively across major cashew-growing regions of India. Its natural tolerance to pests like the tea mosquito bug reduces the need for chemical interventions, making it ideal for sustainable and eco-friendly farming. The variety promotes higher productivity through an extended flowering period and better nut weight, contributing to increased farmer income. Additionally, its compatibility with softwood grafting and nursery multiplication allows for rapid and uniform propagation, making it easier to scale across farming communities. As a farmer-developed innovation with demonstrated field success, it holds strong potential for wide-scale adoption through participatory extension approaches and farmer-led dissemination.

Scientific Validation required: Yes





PEPPER THRESHER

Name of the farmer Shri Gopala Krishna Sharma S
Address: : Saravu House, Post Padre, (Via.) Perla,
Kasaragod, Kerala, PIN: 671552
Mobile number 04998 225100, 09446655218
Age (years) 62 years
Education Graduate

Pepper threshing is presently done manually by shearing between the legs thereby causes contamination. Manual threshing involves lot of drudgery, high labour cost and contamination

Working of pepper thresher

Threshing takes place due to the shear force between the drum and the thresher plate. Threshing drum is welded with four rods half spirally which helps the pepper stalks to rotate and move forward quickly

The clearance between the rotating drum and the stationary plate is less than the pepper bunch therefore the individual berry gets detached from the stalk effectively.

The detached and undamaged berries fall through the holes provided in the stationary plate and gets collected in a container kept at the bottom of the machine.

The threshing capacity of the machine is more than 250kg of green pepper per hour and the threshing efficiency is 99.5%.



Potential / Relative advantages of innovation

Cost benefit:

Labor cost for manual threshing is Rs. 600/- per day (Rs.6/kg) and the cost of mechanical threshing including power consumption and labor is only 40 paise per kg.

2. Time saving

A labor can thresh 100kg per day whereas this machine driven by half hp motor can thresh 250 kg/hr (2000kg/day) thereby saving time to a larger extent.

3. Drudgery reduction

Leg pain and staining of legs in manual threshing is overcome.

4. Adaptability

The machine can thresh all varieties of pepper since the pepper size does not vary much.

5. Threshing efficiency

Manual threshing has an efficiency of only 80% whereas the machine threshing can detach more than 99.5% berry.

6. Social acceptance

Well accepted by farming community and women friendly. Sold more than 300 units.

Further refinement/ Validation Needed: Validated by ICAR-KVK Kasaragod

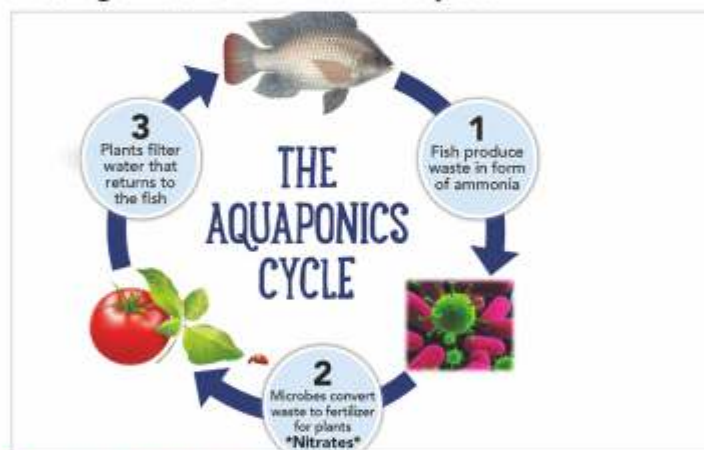
Domain: Farm Machinery

KODAGU

MODIFIED PREFABRICATED ENCLOSURE FOR INTENSIVE FISH PRODUCTION

Name of the farmer Aiyappa P.I
 Address: : Guvya village, Siddapur, Kodagu, Karnataka
 Mobile number 9731784873
 Education MFSc, MS(Aquaculture)

Modified Prefabricated Enclosure for Intensive Fish Production" is an innovative technology developed by a progressive farmer in Kodagu. This system uses durable, prefabricated tanks of various sizes that can be easily installed, dismantled, and relocated on any type of land, including non-arable and backyard areas. It integrates intensive fish culture with hydroponic vegetable production, enabling efficient use of water and space.



Economics of Koi Carp Farming

Particulars	Amount (in INR lakhs)
MPE tanks (4 Nos) and other accessories	10
Fish seed (5000/tank) @ Rs 0.5	0.10
Feed	1.0
Management cost	1.5
Total cost	12.6
Fish production (harvest size 4 inch+) in three months	4500/tank=18000 nos
Three cycle in a year	54000 nos
Revenue (fish sale) @ Rs.15 per fish	8.10

Potential of Innovation for Wider Reach/Out Scaling:

Normal density of fingerlings is 1/sq.mt, using this method we can upscale to 30/sq.mt. This model was adopted by 10 farmers within and outside the district

Scientific Validation required: No, Product is patented from trade mark and patent office, Chennai

Advantages:

- Compact and portable, suitable for smallholders and backyard farming.
- Requires less land and water compared to conventional fish ponds.
- Can be installed in any location, including non-agricultural land.
- Facilitates year-round fish production with higher profitability.
- Promotes integrated farming by combining aquaculture and hydroponics.
- Low maintenance cost and high returns within a short production cycle, serves as a practical, low-cost solution for enhancing income and nutritional security, particularly in regions like Kodagu where land and water resources are limited.



Economics of Tilapia farming

Particulars	Amount (in INR lakhs)
MPE tanks (4 Nos) and other accessories	10
Fish seed (2000/tank) @ Rs 3	0.24
Feed	3.21
Management cost	2
Total cost	15.5
Fish production (harvest size 400 g) in four months	0.8 tons/tank = 3.2 tons
Two cycle in a year	6.4 tons
Revenue (fish sale) @ Rs.150/kg	9.6

AUTOMATED CUP HANGER MAKING MACHINE



Rubber tapping relies on cup hangers to hold latex collection cups below the tapping cut. During a discussion with a rubber accessory dealer, Mohan Kumar learned that these hangers were still manually made, leading to inconsistencies in size, structural weakness, and latex wastage. Recognizing the lack of mechanization and its negative impact on farmers, Mohan saw an opportunity to innovate. After months of research and testing, he developed a machine that automatically manufactures uniform, durable cup hangers. This mechanized solution enhances efficiency, reduces waste, and ensures consistency, addressing a long-standing issue in rubber tapping practices.

Highlights & Specifications of the said Innovation

First Prototype (2018):

Powered by a 1 HP, 1500 RPM motor, this version could produce 1,300 cuphangers per hour.

Second Version (2019):

An improved and energy-efficient model powered by a 0.5 HP, 1400 RPM motor, it maintains the same production capacity of 1,300 cup hangers/hour.

The entire system comprises approximately 39 components, most of which excluding the motor and a few other parts are fabricated in-house at the workshop. The central component is a cam wheel, which can be operated either manually or mechanically using an electrically driven motor. One unit of the product is produced with each rotation of the cam wheel. A single rotation, completed in 3 seconds, drives a sequence of 17 interlinked processes, starting from the insertion of GI wire into the machine and continuing through to the completion of the final product.

Advantages of the Innovation

- Consistent Quality: Uniform size and fit improve tapping efficiency.
- Enhanced Durability: Strong, reliable hangers reduce breakage.
- High Productivity: Enables mass production, cutting labour and costs.
- Reduced Latex Wastage: Better design prevents leakage, boosting latex yield and farmer income.



Name of the farmer : Dr. G S Mohankumar
 Address : Channel- 5 Electronics, Anchal Road
 Ayoor
 Mobile number : 9447292158, 9495992158
 Age (years) : 58 yrs

Mohan Kumar is a highly skilled and innovative technician known for his ability to design and fabricate tailor-made components for his machines. With a background in repairing and tinkering with devices such as watches, radios, televisions, cameras, and even installing elevators in residential and commercial spaces, Mohan's hands-on technical expertise has been his greatest strength.

Specification	Details
Machine Weight	189 kg
Material Used	Galvanized Iron (GI) wire, 3 mm diameter (11-gauge)
Number of Components	Approximately 39
Built-in Features	Production counter, manual clutch system for safe stopping
Wire Length per Hanger	25 inches (64 cm)
Hanger Load Capacity	Up to 8 kg
Hanger Durability	Up to 7 years (with good quality material)
Cost per Hanger	₹5/- per piece
Cost of Machine	₹5.50 lakhs + GST

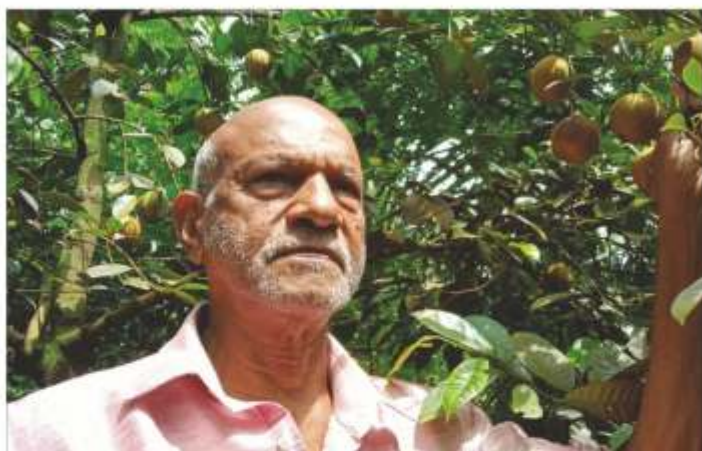
Potential for Large-Scale Replication:

Mohan's machine has been successfully installed at ten locations across Kerala including Thiruvananthapuram, Malappuram, and Kozhikode—and has been extended to Assam, Mizoram, and Meghalaya, demonstrating its adaptability to diverse regional conditions. Its export to South Africa further underscores its global relevance. With low energy consumption, a compact design, and cost-effective construction, the machine is ideally suited for FPOs and small enterprises. It fosters rural entrepreneurship, generates employment, and encourages local production, aligning well with national initiatives such as Atmanirbhar Bharat and Startup India.

Domain: This innovation falls within the domain of Agricultural Machinery and Rural Innovation, with a specific focus on the rubber plantation sector.

KOTTAYAM

HIGH YIELDING NUTMEG VARIETY – KAU POOTHARA



Innovation Highlight:

- A farmer-led variety development initiative in collaboration with scientists
- Suitable for cultivation in all districts of Kerala
- Combined traditional knowledge with advanced scientific techniques
- Resulted in a significant yield increase for nutmeg farmers



Recognitions:

- Honored by Hon. Chief Minister of Kerala for variety development
- Recipient of 'Sugandhasree Innovative Farmer Award' by Indian Society for Spices (2019)
- Acknowledged by ICAR-IISR, Calicut for contributions to spice crop improvement



Name of the farmer Sri. T. Joseph
Address: : Mangatteparambil (H), Vaikom,
Kottayam, Kerala

Identified and popularized the high-yielding nutmeg variety KAU Poothara, released by Kerala Agricultural University in 2018

Unique features of the variety	
Canopy	Pyramidal
Fruit	Round, clustered fruiting habit
Nutmeg (Avg. dry nut weight)	10 g/nut
Mace (Avg. dry weight)	2.06 g/mace
	Dark red
Yield per tree:	Nut : 22.00 kg
	Mace : 4.53 kg

Spread and Impact of the KAU Poothara Variety

Since the release of the KAU Poothara variety by the Agricultural University in 2018, a total of 7,500 budded saplings has been distributed to farmers over a span of five years. Farmers across all 14 districts of Kerala have adopted this variety. Additionally, it has also been adopted by farmers in Tamil Nadu and Karnataka.





BIO PREPARATION AGAINST PSEUDO STEM WEEVIL IN BANANA

Name of the farmer M.P. Chacko Muttath
Address: : Muttath, Santhi Nagar, Kodenchery,
Kozhikode – 673582
Mobile number 8086442934, 0495-2236778
Age (years) 72 years
Education SSLC
Experience 40 years

Quick lime (100g dissolved in 1 litre of water and to be cooled to room temperature), common salt (100g) and Capsicum fruitescence (100g- to be crushed into paste) dissolved in 10 litres of water, need to be sieved and sprayed in the outermost 5-6 leaf axils, except the spindle leaf, at 4th month of the crop. This has to be continued at monthly intervals till bunch emergence. This mixture of quick lime, common salt and crushed Capsicum fruitescence applied in leaf axils will control the pseudo stem weevil pest in banana.

Advantages:

It is an environment friendly and cheaper method



USE OF EFFLUENT FROM RUBBER PROCESSING PLANT AGAINST BUNCHY TOP DISEASE OF BANANA

Prophylactic spraying of effluent water from rubber processing plant at 15 days interval on banana leaf and axils will prevent the bunchy top disease in banana

Advantages:

Environment friendly, Utilization of waste, Alternate use

Potential of Innovation for Wider Reach/Out Scaling:

Banana pseudo stem weevil is a serious menace in banana cultivation resulting in severe crop loss. A mixture of Quick lime, common salt and Capsicum fruitescence provides an environment friendly and cheaper method for addressing the problem, which has high potential for adoption by banana farmers.

Yet another problem addressed is the bunchy top viral disease in banana. After it is introduced into the field, its eradication is practically impossible, making preventive control extremely important. Hence the prophylactic spraying of effluent water from rubber processing plant is an efficient method wherein disease management and waste utilization go hand in hand. Hence these innovations have high potential, considering the applicability of these innovations.



MALAPPURAM



AUTOMATICALLY CONTROLLED ANIMAL REPELLING ELECTRONIC DEVICE.

Name of the farmer : Mr. Jishoy V. V
Address: : Valiyaveetil House, Ayankalam P.O,
Thavanur, Malappuram, Kerala-679573
Mobile number : 9633242552
Age (years) : 33 years
Education : B Tech
Experience : 5 years

Specifications;

Dimensions – height : 500 mm, diameter : 110 mm, Weight : 3 Kg

Body material : PVC

Battery powered device with solar panel support

Battery capacity : 7AH, 12 V

Effective protection range - 28 meters

Operates using thermal sensors with various patterns of light and sound

360 degree monitoring with sensors

Portable, easy to operate and can be easily installed anywhere

Day/ Night mode of operation

Suitable for protecting land areas and forest boundaries

Economic Feasibility

Cost : Rs. 7500/- (without solar panel), Rs. 10,000/- (Including solar panel)

B:C Ratio : Preventive innovation, cannot calculate BC ratio

Potential of Innovation for Wider Reach/Out Scaling : yes

Scientific Validation required : No.



Unique Selling Proposition/Point (USP) :

Light weight and portable, operates using thermal sensors with various patterns of flashing modes of light and sound, makes the animal to feel deterrent differently each time. Sensor based activity of the machine enables to save more power. It can be operated on hybrid mode using solar power as well as DC power.



MALAPPURAM



PORTABLE AUTOMATED SUGAR CANE JUICE EXTRACTOR

Name of the farmer : Mr. Jishoy V. V
Address : Valiyaveetil House, Ayankalam P.O,
Thavanur, Malappuram, Kerala-679573
Mobile number : 9633242552
Age (years) : 33 years
Education : B Tech
Experience : 5 years



Specifications;

Specifications: Dimension height : 52 cm, Width : 44 cm, thickness : 30 cm, weight : 30 kg
Body material: Food grade SS 304
Battery operated and portable
Machine capacity: 1200 glasses per full charge

Unique Selling Proposition/Point (USP) :

Low maintenance and operating cost Eco-friendly with no emissions, Easy to operate (Can operate by men and women and even differently-abled individuals), It is completely safe and does not harm the operator's hands). Ensures hygiene by being completely sealed against dust and other pollutants. The machine efficiently extracts all the juice from sugarcane in one go, eliminating the need for multiple insertions. Operates with minimal noise. One full charge consumes less than one unit of electricity. It can be operated on hybrid mode using solar power as well as DC power

Economic Feasibility :

Cost : Rs. 80,000/- (without solar panel), Rs. 1,00,000/- (Including solar panel)
B:C Ratio : 4.68



MALAPPURAM



“CHEKU”, INDIGENOUS TECHNOLOGY FOR COCONUT DRYING



Name of the farmer : Smt. Sushama P T
Address : SDREAMS, K.Puram (post), Tanalur, Malappuram (DT) 676307, Kerala
Mobile number : 9947122970
Age (years) : 55 years
Education : Degree
Experience : 10 years

Specifications;

Dimensions – height : 90 cm , width : 213 cm , length : 457 cm , thickness mud wall : 28 cm, channel width : 61 cm
Capacity : 4500 to 5000 coconuts

The double walled dryer is made up with a mixture of clay, lime, cow dung and jaggery pasted over mud bricks. Kurudies (holed tiles) with hearth furnace under it. The drying area is provided between the mud walls for uniform drying. The dryer as whole is protected with sheet roof.

Unique Selling Proposition/Point (USP) :

Cost effective method for drying of coconuts for copra purpose using locally available materials.

Separation of copra from the coconut shell within 3 days, enables to reduce labour cost and post harvest losses especially during monsoon months.

Coconut husk is used as the fuel source.

Low cost technology and it can be adopted in other areas.

Economic Feasibility

Cost : Rs. 45,000/-

B:C Ratio : 2.5

Potential of Innovation for Wider Reach/Out Scaling :

yes

Scientific Validation required : Yes



MANDYA

MOTOR OPERATING SPRAYER IN AGRICULTURE

Name of the farmer Madhu
Address: : Sri. Madhu, Arekaldoddi, Maddur
Mobile number 7353321190
Age (years) 45 years
Education PUC
Experience 8 years

Description

Converted his old bajaj chethak motor bike as a motor operating sprayer to spray plant protection chemicals for his 5 acre land

It will reduce cost of sprayer rent upto Rs.2000/crop

Reduces labour drudgery 4-6 man days /crop



Potential of innovation for wider reach

Increasing spraying efficiency

Most suitable for small and marginal farmer of nuclear family type

Scientific validation required - No



MANDYA

LOCAL POULTRY BIRDS AS PREDATORS TO MANAGE UZI FLY



Name of the farmer Shivaraju
Address: : Sri. Shivaraju, Mallanayakanakatte,
Mandya
Mobile number 9019752871
Age (years) 40 years
Education Graduation
Experience 7 years

Description

Using local poultry birds to manage and control Uzi fly infestation after cocoon harvesting
Reduce two chemical sprays while disinfecting the rearing house
Reduction of labour in management of rearing house

Potential of innovation for wider reach

Reduction of formulation chemicals at rearing house management
Eco-friendly insect management

Scientific validation required - No



MYSURU



FARMER DESIGNED TURMERIC HARVESTER

Name of the farmer Madappa
Address: : Ayarahalli, Nanjangud
Mobile number 9902417976
Age (years) 65 years
Education SSLC
Land holding 13 acres

Specifications

The farmer has developed a simple implement of width 60cm, weighing less than 50kg with a blade and teeth for easy penetration into the soil and digging of the rhizomes with the help of power tiller without damaging the rhizomes.

2. Two rows of turmeric (30cm row spacing) can be dug simultaneously using the harvester
3. With the innovative harvester one acre of turmeric can be harvested in 4-5 hours.



Potential of the innovation / replication on larger scale

The innovator himself has already used it on his 2 acre farm and another 8 farmers in Hanur village of the neighbouring Chamarajanagar district have used it for harvesting 30 acres of turmeric. The farmers have found it handy, less expensive and easy to use.

Need for refinement : No

Domain : Mechanization / Farm Machinery

MYSURU

HIGH YIELDING, PADDY VAR. NMS-2 SUITABLE FOR ORGANIC FARMING



Name of the farmer : M.K. Shankarguru
Address : Madralli, T. Narasipur
Mobile number : 9900658921
Age (years) : 71 years
Education : SSLC
Land holding : 20 acres

Specifications

While growing the variety 'Salem Sanna' on his farm, he observed a few plants of different variety; he collected seeds of this 'Off type' and continued growing them separately and 'selection of best and uniform plants and their seeds for seven years until he could stabilize the characteristics of the variety. The variety, eventually named as NMS 2 (stands for Narasipur – his native taluk as also for his wife's name - Nirmala, Madralli – his village, and Shankarguru - his name). He has registered in PPV& FRA award for his innovation.

Potential of the innovation / replication on larger scale

The variety has undergone field trials at ZARS, UASB, Mandya and on the instructional farm of ICAR JSS KVK, Mysuru. The variety has already spread to the neighbouring states, Andhra Pradesh, Tamil Nadu and Maharashtra. More than 1000 farmers are growing this variety on about 2000 acres.

Need for refinement : No

Domain : Agriculture/ Variety development



MYSURU



WASTE TO WEALTH FROM BANANA VALUE ADDITION & RETAIL STORE ON WHEEL

Name of the farmer : Naveen Kumar H M
Address : Rathnapuri, Hunsur
Mobile number : 9902417976
Age (years) : 40 years
Education : MBA
Land holding : 12 acres

Specifications

The PMFME beneficiary from Mysore having innovated products from all the parts of banana. This makes us to utilize all parts of banana and maximize our returns
Dry Banana and Dry Banana Bar from ripe Banana
Banana stem and flower pickles
Banana Stem Juice
Banana fiber extraction



Potential of the innovation / replication on larger scale
Created MRF group and conducted 25 trainings to transfer innovated idea and learning along with that we also conducted training along with JSS KVK Mysore. He has got award from NRCH, Tiruchy, TN.

Need for refinement : Yes

Domain : Value addition





MECHANISED PRODUCTION AND APPLICATION OF COW DUNG BASED BIO- INPUTS

Name of the farmer Gnana Saravanan
 Address: : DEESAN FARMS, Ramar Pannai Kalam, Moolathara Village, Chittur, Palakkad, Kerala, 678533
 Mobile number 9962688000
 Age (years) 31 Years
 Education MA
 Experience Practicing in Natural Farming for the past 15 Years

Description

Soil degradation due to excessive chemical use has made sustainable alternatives imperative. This innovation introduces a mechanized system for the production and application of cow dung based bio-inputs, a core component in natural farming.

Specifications

Automated Collection: Cow dung and urine are directly collected from cattle sheds.

Filtration and Processing: The raw materials are pumped into a primary tank for filtration.

Digestion and Agitation: The filtered material is transferred to a digester tank where culture from the previous batch is added to accelerate fermentation. Agitation is controlled by a timer-based motor system.

Daily Output: Capable of producing up to 8000 liters of bioinput daily.

Application System: The finished product is distributed via a sprinkler irrigation system, ensuring even and efficient application.

Unique Selling Proposition (USP):

- Reduces labor dependency in organic input preparation
- Ensures standardization and consistency in bio-input production
- Scalable and replicable for other natural farming units

Economic Feasibility:

Cost-Effective in the long term due to reduced labor and input costs, we will get improved Benefit:Cost (B:C) Ratio through enhanced productivity and soil health. The mechanized system significantly reduces production costs by enabling the preparation of 5000 liters of bioinput at the same cost as manually producing just 200 liters—resulting in a 25-fold increase in efficiency. This innovation not only minimizes labor dependency but also ensures consistent quality and volume of bio-inputs.

Potential for Wider Reach and Out-Scaling

One of the major challenges in organic and natural farming is the tedious and labor-intensive process of bio-input preparation. This mechanized system offers a simplified, efficient, and scalable model that can be replicated across farming communities. It not only addresses the labor constraints but also encourages more farmers to adopt natural farming practices by demonstrating practical feasibility. The model can be showcased as a pilot or demonstration farm for training and dissemination purposes.

Scientific Validation required: No



PALAKKAD



“SIMPLIFY AGRI – DECISION SUPPORT ENTERPRISE RESOURCE PLANNING (ERP) BY A FARMER INNOVATOR”

Name of the farmer Rijish V R
Address: Valloortodi House ,Mankurussi ,Palakkad Kerala 678613
Mobile number 7907683358
Age (years) 45 years
Education Master's in Computer Applications
Experience Cultivating paddy integrated with ducks, vegetables, rabbit, cattle & goat in 44 acres

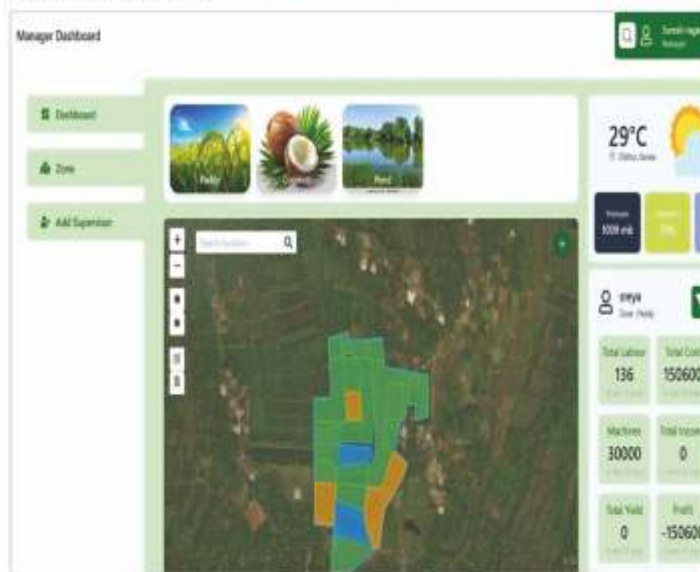
Description

Simplify Agri is an end to end farm ERP and bookkeeping app created by farmer innovator Rijish VR. Building upon his experience with integrated crop–duck–livestock–vegetable farming, he developed a chatbot driven system that enables:

- Field zoning and GIS based farm planning
- Crop wise budget and cost estimation
- Daily logging (inputs, labour, irrigation, pest/crop events) via chat interface
- IOT integration and satellite data integration for climate, soil data
- QR based traceability for produce batches
- Dashboards showing Profit & Loss, Return on investments, crop performance

Economic Feasibility (Cost & B:C Ratio):

- Pilot with ~480 farmers showed >10% cost reduction and 16% higher yield
- Software as a service (SaaS) subscription based on crop revenue (0.5–1%) makes cost scalable (Free access for small and marginal farmers)
- Potential B:C ratio of 1.3–1.5 depending on adoption scale



Specifications & USP:

- Offline capable mobile app (multilingual) for even low connectivity regions
- Chatbot interface makes adoption by low literacy farmers simple
- Enables traceable produce and bank/insurance integration
- Coupled with soil scan & weather data via IoT
- Aggregation platform enables FPO sales, input supply, and exports with full traceability

Potential for Wider Reach / OutScaling

- Pilot phase in Kerala aiming at 10,000 farmers in 6 months
- Planning roll out across South India (~100,000 farmers over 12 months), followed by Pan India scale to 1.5 crore farmers over the next 24 months
- Works via FPOs, farmer groups, digital marketing, and field agents
- Priced free for small farmers to ensure inclusion; revenue from medium & large farms, platform transactions, and partner referrals
- Enables traceable organic produce export, financial inclusion via banks/insurance, and farmer enterprises
- Up-skilling farmers

Scientific Validation Required

Yes - To establish B:C ratios scientifically and validate yield improvement through trials on control groups. Soil health and NDVI studies can further enhance credibility.

PATHANAMTHITTA



1. TRANSFORMING USED TYRES INTO ECO-FRIENDLY PLANTING CONTAINERS

Name of the farmer Mr. C.K Mani
Address: : Sanu Nivas, Kadambanad PO, Adoor,
Pathanamthitta-691553
Mobile number 9447594550
Age (years) 72 Years
Education SSLC

Description

This innovation offers an eco-conscious solution to both environmental waste and urban farming challenges by repurposing discarded tyres into circular cultivation units. These units provide a low-cost, durable, and space-efficient alternative to plastic pots and grow bags, making them especially suitable for urban households, terrace gardens, and small landholders. The unique selling proposition lies in their dual advantage: they upcycle non-biodegradable waste and simultaneously enable sustainable food production in compact spaces. Economically, the model is highly feasible as the primary input, used tyres and is often freely available or sourced at minimal cost, with each unit lasting over five years. With negligible initial investment and the potential to grow vegetables, leafy greens and tubers year-round, the benefit-cost (B:C) ratio is estimated at 2.5–3.0, allowing users to recover costs within just one or two cropping cycles. The innovation holds immense potential for scaling through community gardens, FPOs and educational campaigns, especially under missions promoting waste management and urban farming.



Potential of the Innovation for Wider Reach / Outscaling

Abundant Raw Material Availability:

Discarded tyres are widely available in both urban and rural areas, making this innovation easily replicable at scale without significant input costs.

Cost-Effective and Accessible:

As an alternative to plastic pots or grow bags, tyre-based units are significantly more affordable and durable, attracting both urban gardeners and small-scale farmers.

Eco-Friendly and Waste-Reducing:

This innovation addresses a critical environmental issue by repurposing non-biodegradable waste, promoting circular economy principles.

Urban and Peri-Urban Applicability:

Ideal for space-constrained areas such as rooftops, balconies and compact backyards, enabling urban households to participate in sustainable food production.

Scalability Through Community Models:

Can be easily adopted by schools, NGOs, SHGs, residential associations and FPOs for kitchen gardens, nutritional gardens and community farming initiatives.

Employment Generation:

Opens up small business opportunities in tyre collection, cleaning, modification and installation, especially for youth and women entrepreneurs.

Minimal Skill Requirement:

The simple, DIY nature of the technology ensures that it can be adopted with minimal training or technical knowledge, making it suitable for large-scale dissemination.

Supportive for Government Missions:

Aligns with national initiatives such as Swachh Bharat Abhiyan, Atmanirbhar Bharat and urban farming components under National Horticulture Mission.

Potential for Integration in Agri-Tech Models:

These units can be combined with vertical farming, hydroponics or drip irrigation systems for enhanced productivity in small spaces.

Awareness and Demonstration Potential:

Easily demonstrable in exhibitions, KVKs, schools and agri expos, which can accelerate interest and adoption.

Scientific Validation required: YES

PATHANAMTHITTA

TRANSFORMING USED TYRES INTO ECO-FRIENDLY PLANTING CONTAINERS



Name of the farmer Mr. Arun Jacob
Address: : Cherukaattu, Kurianoor PO,
Pathanamthitta-689550
Mobile number 9946201634
Age (years) 38 Years
Education B.Tech

Description

This innovation harnesses the waste-processing efficiency and nutritional value of Black Soldier Fly (BSF) larvae to simultaneously address two pressing challenges—organic waste disposal and the high cost of livestock feed. BSF larvae consume vast quantities of slaughterhouse waste, kitchen waste, and other organic residues, converting them into nutrient-rich frass and wash that serve as valuable inputs in organic farming. The larvae themselves are harvested as a high-protein, low-cost feed for poultry and fish,

capable of reducing feed expenses by 30–50%. What makes this innovation unique is its ability to transform waste into wealth, offering a sustainable, circular approach to agri-based enterprises. Economically, a small-scale unit (around 600 sq. ft.) can be set up with an investment of ₹2 to ₹2.5 lakh, producing up to 400 kg of dried larvae annually with a market value of ₹1,000/kg. With a gross income of ₹4 lakh per year and a B:C ratio of 2.0 to 2.5, the payback period is typically less than two years. This model has high replication potential and is especially suited for integration into existing poultry, aquaculture, and organic farming systems, making it an ideal solution for rural youth and agripreneurs.

Potential of the Innovation for Wider Reach / Outscaling

- 1. Effective Organic Waste Management:**
BSF larvae can consume large quantities of organic waste (including slaughterhouse and kitchen waste), offering a scalable solution for waste disposal across urban and rural areas.
- 2. Cost Reduction in Livestock Rearing:**
Replacing conventional poultry and aquaculture feed with BSF larvae can reduce feed costs by 30–50%, making farming more profitable and accessible.
- 3. Eco-Friendly and Sustainable:**
Reduces landfill usage and prevents leaching of organic residues into water bodies, significantly mitigating environmental and public health hazards.
- 4. High Replication Potential:**
The BSF farming model is compact, low-cost, and adaptable, making it ideal for households, SHGs, farmer cooperatives, and FPOs.
- 5. Rich Byproducts:**
In addition to larvae for feed, BSF units produce nutri-



ent-rich frass and wash, which can be used as organic fertilizer beneficial for integrated farming systems.

6. Employment and Entrepreneurship Opportunities:
Can generate rural and peri-urban employment through small-scale BSF farming units, input supply chains, and processing hubs.

7. Alignment with National Priorities:
Supports national missions like Waste to Wealth, Startup India, Atmanirbhar Bharat, and promotes circular economy practices.

8. Educational and Training Value:
High demonstration value for awareness campaigns, FPO training and academic institutions focusing on sustainable agriculture and waste management.

9. Export and Commercial Prospects:
With increasing global demand for sustainable protein sources, BSF-derived products have potential for export and commercial-scale ventures.

Scientific Validation required: YES

RAMANAGARA

GRAVITY FED IRRIGATION SYSTEM – SUSTAINABLE AND COST EFFECTIVE METHOD OF IRRIGATION FOR HIGHER PRODUCTIVITY

Name of the farmer : Mr. Ramesh
Address : S/o Gangahanumaiah, Anchepalya,
Magadi, Ramanagara
Mobile number : 9844163848
Age (years) : 54 Years
Education : B.Sc.



Description

Electricity and water are the major inputs for profitable agriculture. Mr. Ramesh has successfully utilized his undulating land for gravity fed irrigation system. He has constructed water storage tank in higher elevation of capacity 80,000 ltrs and laid laterals, controlling valves and fertigation unit. With this system he is irrigating 10 acres of land. The system works on gravitational force and does not require any electricity. Also, he has adopted modern irrigation technique of Micro-lazars which helps in water saving and maintaining soil structure.

Potential of the Innovation for Wider Reach / Outscaling

More than 650 farmers, department officials, scientists visited his farm and have taken his advise

Scientific Validation required : Yes



Advanced drip irrigation technique-Micro-lazars under Gravity-fed irrigation



Tank used for Gravity fed Irrigation



Gravity-fed Irrigated plot

SHIVAMOGGA

NATURAL FIBRE-BASED VEGAN LEATHER - 100% BIODEGRADABLE



Fostering Social Cohesiveness and Empowerment:

We source our raw materials from women self-help groups in the rural regions of South Interior Karnataka. This initiative is not only a vital part of our supply chain but also a powerful means of promoting women's empowerment and enhancing the sustainability of the rural economy. By collaborating with these self-help groups, we contribute to the financial independence of women, strengthen communities and foster social cohesiveness. Our commitments to this cause helps uplift families and build a resilient, inclusive community, paving the way for a brighter future for all.

Product Features:

- Sustainability: 100% biodegradable, making it a sustainable choice for eco-conscious consumers.
- Thickness: Available in sheets with varying thicknesses from 0.7mm to 1.4mm (± 0.1 mm).
- Sheet Size: Standard sheet dimensions are 3 x 8 & 2 x 8 feet, ideal for a variety of applications.
- Customization: Choose from a range of colors and embossed prints. Customization is available for both colors and embossing with a minimum order quantity of 100 sq. meters.

This vegan leather is perfect for crafting sustainable products such as fashion accessories, upholstery, bags, footwear and much more. With our commitment to quality, ethics, and the environment, we can feel confident in choosing a product that aligns with your values.

Potential of the Innovation for Wider Reach / Outscaling
Bio-degradable process, very large plant material available

Scientific Validation required : No

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Name of the farmer : Mr. Suresh, S. R
Address : M/s Bhoomi Agri Venture, No.4,
Nagaraja Complex, Opp. to Shubhamangala
Kalyana Mandir, Vinobhanagara,
Shivamogga – 577 204, Karnataka
Mobile number : 94482 03888
Age (years) : 53 years
Education : B.Sc., MBA
Experience : 30 years

Description

Fiber extraction from pineapple leaf and arecanut husk for leather preparation, retting process and fungal inoculation. This natural fibre-based vegan leather offers an eco-friendly alternative to traditional leather while promoting sustainability and supporting rural economy. Crafted with care and precision, each sheet of our vegan leather is 100% biodegradable, ensuring minimal environmental impact.



SHIVAMOGGA



SINGLE CELL SHEEP FARMING

Name of the farmer : Mrs. Arunadevi
Address : Pamadhama Farm,
Balekatte Road, Dodderi village
Bhadravathi taluk
Shivamogga district. Karnataka
Mobile number : 94489 16310
Age (years) : 45 years
Education : B.Sc., (Agri), LL.B.
Experience : 16 years

Description

Single Cell Ram Farming – an individual concept of rearing sheep in a single cage indoors with a controlled diet, rather than relying on grazing. This approach prevents aggression of the animals. This technique of rearing animal maintains hygiene health from parasitic infections and achieves faster body weight for meat purpose.

This technology ensures controlled feeding by balanced diet with specific nutrients, leading to better growth rates and overall health. Also requires more initial setup, single cell feeding can reduce the daily labor needed for herding and managing grazing sheep.



Potential of Innovation for Wider Reach/Out Scaling :

- Less space for rearing,
- Less feed consumption and
- Higher body weight
- Easily can be adopted by every farmer

Scientific Validation required : No



WATER PURIFICATION IN FRESH WATER FISH FARMING

Name of the farmer : Mr. Jayamohan
Address : Valiyakalunk, Aryanad,
Thiruvananthapuram
Mobile number : 9446217255
Age (years) : 64 years
Education : Pre-degree

Description

Purification process

The dirty water from the pond is piped into the first bucket. There, dirt such as algae is absorbed by green algae and sponges. The remaining dirt is treated in the first barrel. The purified water from the first bucket is piped to the bottom of the first VP. From there, the water coming up is thoroughly cleaned and becomes less dirty. The purified water from the first barrel goes through a pipe to the second barrel. Like the first one, it completely cleans the pool water. Thus the completely purified water goes back to the pond itself. By recycling the water in this way, dirt does not remain in the pond. So there is no excess of ammonium in the pond. Fish are also growing well. Due to the constant water purification, the pool does not accumulate excessive amounts of ammonium.

Other alternative systems developed in the field

There are three motors. Motors are used to stay in the water, oxygenate the water, and pump the water. According to Jayamohan, as there is only one-time investment here, the profit will be recouped in three harvests and there will be profit. Tilapia is cultivated here. He said from his experience that tilapia is getting good growth and good demand through this farming method. He opined a farmer who cultivates 700 fishes can earn up to Rs 75,000 from a single harvest and also it is an innovative method of fish farming that helps the farmers to get better yield at less cost.



Potential of Innovation for Wider Reach/Out Scaling :

We have reported a low-cost innovation that can be widely adopted by small-scale farmers. It can be scaled up to benefit more people. Rural youth can also use this innovation to earn income, improving their economic situation. Sharing it on social media can help spread the idea, inspiring more farmers and entrepreneurs to use it. This can lead to growth and encourage innovation in rural areas

Scientific Validation required : Yes

KVK TIMES
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Principle of operation:

Different types of solid waste and sediments both soluble and insoluble in water, when passed through different stages according to the molecular and particle size, helps in purification as well as ensure suitable quality for fish farming.

Advantages over existing technology:

It is possible to maintain the Ph of the water and also ensure the quality. It helps to continue farming without wasting water.

Maximum manufacturing cost:

Rs 14630 /unit [Rs. Fourteen thousand six hundred and thirty]

THRISSUR



NUTMEG VARIETY 'PULLAN'

Name of the farmer : Mr. P. V. Jose
Address : Pullan House, Potta (P.O.), Chalakkudy 680722
Mobile number : 9447227717
Age (years) : 82 years
Education : Intermediate
Experience : Over 58 years in spice cultivation, with a focus on nutmeg and other plantation crops.

Description

Development of a high-yielding nutmeg variety named Pullan, through selection and mass propagation for distribution to farmers. He also developed a cost-effective dryer for drying nutmeg, other spices and copra.

Specifications:

Regular bearer with stable yield across seasons

Large fruit size and good mace quality with oval shaped nut, nut weight: 10.85 g, mace weight: 1.36 g per mace, recommended for: cultivation throughout Kerala

Nut Yield: 8-10 kg/tree

Tree canopy manageable; suitable for high-density planting. Canopy shape: conical, growth habit: erect



Unique Selling Proposition (USP):

High yield potential 8-10 kg/tree/year (from 10th year onwards)

Better marketable fruit and mace characteristics

Locally adapted and proven performance in Kerala agro-climatic conditions

• Economic Feasibility:

o Initial Cost: ₹ 600 per graft plant

o Maintenance Cost: ₹ 1000 per year (including irrigation, nutrition, pruning)

o Yield Income: ₹ 5000 year from 10th year onwards per tree (approx.)

Potential of Innovation for Wider Reach/Out Scaling :

• Suitable for midland and highland areas of Kerala and similar tropical regions.

• Increasing demand for quality nutmeg and mace in domestic and export markets.



Scientific Validation required : No

TUMKUR-1



DESIGN AND DEVELOPMENT OF A PEPPER PLUCKING AND HARVESTING EQUIPMENT

Name of the farmer Arun Kumar, S. R
Mobile number 9900824420, 9110813445
Age (years) 49 years
Education B.Sc (PCM)
Experience 26 years

The inspiration for designing a pepper harvesting equipment originated from the fact that the pepper cultivating field does not have any equipment for plucking pepper. It is usually seen that the cultivators harvest pepper with their hands that leads to loss of yield in pepper fruits. Later he has come up with innovative low cost plucking equipment. This equipment is simpler in making by using a pipe and a saree to collect harvested pepper that leads to control of loss of fruits. Cost of the plucking machine is 100/-

Potential of Innovation for Wider Reach/Out Scaling:

The proposed pepper plucking machine can reduce the labour and yield loss

Scientific Validation required : Yes



ECO FRIENDLY CONTROL OF RATS IN COCONUT AND ARECANUT PLANTATIONS (RAT TRAPS)

The Rats and squirrel menace is a major problem in coconut and arecanut orchards. The farmers used to incur 15-20 percent of yield loss every year. The rats used damage around 3000-4000 tender nuts beared in 400 coconut palms and 4-5 quintals of arecanut beared in 1200 plants. Hence, to overcome this huge loss, without use of any insecticide/poison baits, an organic and eco-friendly Rat traps were designed and developed with low cost investment. An old bamboo/wooden basket is taken. To the four corners of the wooden basket a binding wire is tied. All these four binding wires are connected to a single plastic thread. The plastic thread is put on to a coconut frond and it can be pulled up or down. Inside the bamboo basket a rat trap is placed. Desiccated coconut piece is attached to the rat trap. The rats get attracted to this desiccated coconut and finally they are locked inside the trap. The dead rats are removed and buried inside the soil so as to prevent the spread of diseases and also it becomes manure to the farm.

Potential of Innovation for Wider Reach/Out Scaling:

The proposed rat trap reduces the yield loss in coconut and arecanut and it is eco friendly rather than using chemical control

Scientific Validation required: Yes



TUMKUR-1



TILLER MOUNTED SEED DRILL TO REDUCE DRUDGERY OF LIVESTOCK

Name of the farmer Shiva kumar swamy M. N
Mobile number 9663465227
Age (years) 49 years
Education B.A Graduate
Experience 6 years

Power tiller operated seed drill which is helpful in sowing of agricultural crop and fodder crop and also helpful in covering larger area of 4-5 acre per day and costs 700 per day whereas sowing by animal drawn tiller will cover 2 acre per day and costs 1500/- per day. This power operated implement is cost effective in manufacturing and easily functioning in all type of soil

Potential of Innovation for Wider Reach/Out Scaling:

The proposed power till operated seed drill can cover a large area in less time compare to animal drawn seed tiller and is economical compare to tractor drawn seed drill

Scientific Validation required : Yes



AC RAIN JET IRRIGATION SYSTEM: A FARMER'S INNOVATION FROM TUMKUR

Name of the farmer Venkatesh, C. T
Mobile number 6362139488
Age (years) 54 years
Education B.Com Graduate
Experience 30 years

In the face of water scarcity and rising costs in agriculture, innovative solutions from grassroots level are proving to be game-changers. One such inspiring example is the AC Rain Jet Irrigation System, he experimented with different components and techniques, eventually developing a unique system that mimics natural rainfall which he named the AC Rain Jet Irrigation System. The "AC" in the system stands for Air-Cooled, a nod to the way the system uses airflow and water pressure to produce fine, rain-like droplets. Using locally available materials such as PVC pipes, micro nozzles, and low-horse power motors, the system creates a rain jet spray that evenly distributes water across the field.

Potential of Innovation for Wider Reach/Out Scaling:

The proposed AC Rain Jet Irrigation System will reduce water consumption by 40–60% compared to flood irrigation, much cheaper than commercial sprinkler or drip systems, making it ideal for small farmers, Can operate on low-power electric or solar pumps, reducing dependence on grid electricity

Scientific Validation required: Yes



TUMKUR-1



TRACTOR-OPERATED TAMARIND HARVESTER: A BREAKTHROUGH INNOVATION

Name of the farmer S. H. Chandrashekariah
Mobile number 9448659502
Age (years) 67 years
Education B.Sc., LLB
Experience By Birth

Harvesting tamarind from tall trees has always posed a serious challenge to farmers. With trees often reaching heights of 20 to 30 feet, traditional methods like climbing with ropes or ladders not only demand intense labor but also carry serious risks. Witnessing the struggles of laborers in harvesting tamarind, designed a tractor-mounted crane that could safely lift a person or tool up to 20 feet to facilitate easy tamarind harvesting. The core of the system is a hydraulic crane mounted on a tractor, capable of extending vertically up to 20 feet. This enables direct access to tall tamarind branches. One person operating the machine can harvest tamarind from one tree in just 5–10 minutes, which normally takes an hour or more using manual methods.

Potential of Innovation for Wider Reach/Out Scaling:

The proposed tamarind harvesting crane reduces harvesting time, Increased safety and convenience and Better returns due to faster collection during the right stage of maturity

Scientific Validation required: Yes/No



TUMKUR-II

ARTIFICIAL RECHARGING FOR ENHANCEMENT OF GROUND WATER



Name of the farmer Mahesh.N.M
Address: : D.Nagenahalli,Anupanahalli,
Kolala Hobli, Koratagere ,Tumakuru
Mobile number 97410 48653
Age (years) 47 years
Education Diploma (Automobile)
Experience 35 Years

To effectively utilize check dam surplus water and prevent wastage, Mr. Mahesh conceptualized and implemented an innovative recharge mechanism. He laid a pipeline connecting the open well to an adjacent defunct bore well on his farm. This system enabled the excess water from the open well to flow directly into the bore well, which acted as a vertical recharge shaft, facilitating deep percolation of water into the underlying aquifers.

Mechanism of Artificial Recharge

- Water Source: Seasonal overflow from the open well during peak monsoon periods.
- Recharge Structure: A previously non-functional bore well with a depth exceeding 600 feet.
- Conveyance Mechanism: A PVC/HDPE pipeline is connecting the open well directly to the bore well.
- Function: The system allowed gravitational flow of excess water into deeper aquifers, enhancing groundwater recharge.



Potential of Innovation for Wider Reach/Out Scaling:

The farmer-led initiative proved highly successful and had a ripple effect in the local ecosystem:

- Recharge of 22 bore wells: Within a short span of time, 22 bore wells in neighbouring farms showed improved water levels due to lateral aquifer connectivity.
- Restoration of irrigation: Approximately 8 ha of agricultural land, which was previously left fallow due to lack of irrigation, was brought back under cultivation.
- Community benefit: Multiple farmers in the vicinity ben-



efited from improved groundwater availability, leading to increased cropping intensity and reduced dependence on external water sources.

- Scalability: The model demonstrated is cost-effective, farmer-friendly, and replicable in other regions with similar hydrogeological conditions.

Scientific Validation required: Yes



BICYCLE WHEEL PIN SPRAY IRRIGATION

Name of the farmer : Mr. Gunapal Kadamba
Address: : Shirilala, Karkala, Udupi Dist.
Karnataka
Age (years) : 78 years

Bicycle wheel pins are used as water jet nozzle for controlled and efficient spray of water in irrigation in Araca plantation in Udupi dist. Karnataka

Problems addressed:

Traditional plastic drip irrigation piping systems get clogged, and control of water flow is difficult. This innovation has efficiency in terms of water usage and electricity consumption

The farmer was facing problems with is spray irrigation of Araca plantation due to constant clogging of the spry jets.

Additionally, water and electricity consumption were extremely high. To overcome these hurdles, shri. Gunapal Kadamba invented the innovation of bicycle pin spray irrigation system. In this system the farmer employed bicycle wheel pins as water jets attached to water supply tubes. These metal hollow pins serve as water jets delivering required quantities of water continuously without being damaged by the animal menace and other clogging. The system has several advantages. The damage due to animals is minimized. Judicious use of water and electricity is made possible the methods. Water can be directly directed to the plants with shortest time. The monitoring of water jets supply is easily done using these methods as water jets are visible from faraway places. Further, maintenance of this system requires minimum labor and expenses.



UDUPI



USE OF BURNT PADDY HUSK AS PADDY NURSERY MAT BED

Name of the farmer : Mr. Raghavendra Devadiga
Address : Kundapura, Udupi Dist.
Karnataka
Age (years) : 44 years

Paddy husk burnt ash as waste product from rice mill is used as bed, instead of soil bed, in raising paddy nursery on mats required for mechanized transplantation of paddy in Udupi region

Problems addressed:

Sieving of large amount of soil and preparation of soil bed is cumbersome for large scale production of nursery mats. In this innovation, readily available paddy husk burnt ash is readily used as bed

Mr. Raghavendra Devagida, aged 44 yrs, from Kundapura, Udupi dist. has been raising paddy nursery as an entrepreneurship activity in coastal Udupi district for years. He noticed that huge amount of paddy husk burning in rice mills produces large quantity of burnt ash that are wasted and created disposal problems. He thought of using these ashes as bed for nursery raising of paddy because using soil, soil sieving and preparation of soil bed is cumbersome during monsoon in the region. He successfully employed using burnt ash as nursery bed. The innovation can replace soil beds that are cumbersome to prepare. The use of husk can also address the waste disposal of large quantity of husk as produced in the rice mills of coastal area.





PERFORATED PIPING FOR SLUDGE REMOVAL IN SHRIMP CULTURE PONDS

Name of the farmer Mr. Sadashiva Aithal
Address: : Kodi, Udupi Dist. Karnataka
Age (years) 62 years

Perforated PVC pipes assembled in fish bone design to draw bottom sludge accumulated in shrimp ponds to improve water quality

Problems addressed:

Sludge accumulation in shrimp ponds deteriorates water quality and shrimp mortality. It is hard to remove sludge with standing crop. This innovation is an insitu method of sludge removal

Mr. Sadashiva Aithal, aged 62 years, from Kodi, Udupi, has been a successful entrepreneur in shrimp farming for the last 18 years. He has been extraordinarily successful in *Penaeus vannamei* crops in his two acres of shrimp culture ponds. In the initial days he had the problem of water quality issues due to the buildup of ammonia and hydrogen sulfide because of deposition of sludge in the bottom of the pond. Sludge deposition occurs due to feeding of pelleted feed, left over feed, and fecal matters of the animals. The farmer had difficulty in removing these sludges to keep the water quality at optimum levels. The farmer invented a novel method of using perforated PVC pipes in a fish bone design, laid on the bottom of the pond. The one end of the pipe is connected to the suction pump which completely drains the sludge out of the pond. The advantages of the system include easy and complete drain of the sludge without using any physical labor force. Secondly sludge can be removed without disturbing the water column which otherwise can cause turbidity of the pond that eventually clogs the gills of the animals.





TURMERIC AND COMMON SALT AS FUNGAL DISINFECTANTS IN MURREL FISH NURSERY REARING

Name of the farmer : Mr. Mahesh Hebbar
Address : Kukkehalli, Udupi Dist. Karnataka
Age (years) : 42 years

A formulation containing Turmeric paste (5%) and common salt (3%) is used as dip (4 hrs) to control fungal infections on Murrel fish fingerlings in nursery rearing ponds.

Problems addressed:

Murrel fish fingerlings are highly susceptible for fungal infections in nursery rearing. Use of antifungal chemical agents are not permitted for organic production of fish

Mr. Mahesh Hebbar aged 42 years from Kukkehalli village of Udupi dist. is an award-winning fish farmer of the coastal region of Udupi dist. He has both nursery rearing and grows out activities in major freshwater fish species. As there is huge demand for Murrel fish seed in the region he engaged himself in nursery rearing of Murrel seeds. However, during rainy season due to low tempera and sudden rain fall fungal infections of Murrel fish fingerling is widespread problem and the farmer encountered huge loss every season. Fish fingerlings die due to this infection that is hard to control. Antifungal agents are not recommended for organic production and for food purposes. Hence the farmer innovated traditional methods such as using turmeric powder (5%) and common salt (3%) in water and dip the fish seed for 4 hrs. of exposure. This treatment could treat the fish fingerlings, and they survived the infection. The farmer successfully harvested fish seeds every year due to this innovation.



MODIFICATION IN GRAFTING TECHNIQUES (WEDGE GRAFT WITH LONG SLIT) FOR BETTER YIELDS IN BLACK PEPPER



Name of the farmer : Narayana Dattatreya Hegde
Address : Nadigadde, Antravalli, Kumta,
Uttara Kannada, Karnataka
Mobile number : 8277394054/8762274054
Age (years) : 53 years
Education : 12th Std (PUC)
Experience : 15 years

Description

Black pepper productivity in Uttara Kannada district is in continuous declining trend due to old and senile plantations and the prevalence of Phytophthora disease.

One of the prominent and eco friendly management options is, grafting black pepper on resistant rootstock *Piper colubrium*. When farmer has adopted this technology in 2010, he observed graft incompatibility i.e. breaking of scion and root stock union part as the scion grows thicker than the stock plant in the grafted vine.

Innovation : He has evolved wedge graft (inverted V shape) with long slit by trial and error method. Grafting is done at a height of 1.5 feet to prevent the black pepper anchoring roots touching the soil directly thus avoiding the source of inoculation. After the complete development of scion i. e., cultivated (*Piper nigrum*), every year one graft is added to the existing root stock and is continued up to 3-5 grafts per root stock for better growth of vine and also good harvest in future.



Potential of the innovation for Outscaling :

The grafted pepper seedlings of Sri N. D. Hegde are growing successfully either on living or non-living standard in 8 states viz., Karnataka, Goa, Kerala, Tamil Nadu, Orissa, Telangana, Maharashtra and Andhra Pradesh.

15-16 lakhs grafts are sold till today without any complaints of disease or growth parameters.

In Karnataka too along with traditional growing districts viz., Uttara Kannada, Udupi, Mangalore, Shivamogga, Chikkamagaluru, Kodagu black pepper has spread to non-traditional areas like Davanagere, Haveri, Vijayapur, Tumkur, Ramanagar, Bengaluru, Kolar, Chitradurga, Dharwad and many more because of Mr. Hegde's disease free pepper grafts.

Scientific validation required : No

Recognitions :

- IARI- Innovative Farmer Award for innovative technology in black pepper cultivation during March, 2015
- "Raita Ratna-2021" prestigious award organized jointly by Kannada Prabha, Asia Net Suvarna News channel from Hon'ble Chief Minister of Karnataka on 12.2.2021 at Bengaluru. N.D. Hegde is one among the 15 awardees and the award was conferred as crop scientist
- Best Farmer (Shreshtha Krishika) of Uttara Kannada District Award 2017-18 and "Innovative farmer" 2013 award by University of Agricultural Sciences, Dharwad

UTHARA KANNADA

TRANSFORMATIVE APICULTURE AND BEE-BASED THERAPIES

Name of the farmer : Dr. Madhukeshwara Janaka Hegde
Address : Madhu Bee Nursery & Savimadhu Industries
Targod, Sirsi, Uttara Kannada, Karnataka
Mobile number : 9480746335



Recognitions :

- UAS Dharwad Shreshta Krishika award 2019
- Karnataka Ratna award 2019
- State level Progressive beekeeper award from Horticulture Department, Lalbhadg 2019
- Rashtriya Udyog Ratna award by Economic growth Foundation, New Delhi 2022
- North Karnataka business award 2022 by Suvarna News and Kannada prabha
- Vijaya Karnataka Super Star Raita for state level 2022



Specifications

Manages over 1500 beehives across 40 acres
Expertise in collecting bee products: pollen, royal jelly, beeswax, bee venom
Developed the first honey jam (exported to England)
Developed a Bee Calendar ensuring year-round nectar supply

Invented special hive box for stingless bee
Founded Madhu Bee Nursery and Savimadhu Industries
Api-therapy treatments attract national and international patients

Potential of the Innovation for Large Scale Adoption :

Over 20,000 individuals trained in apiculture and medicinal plant cultivation

Employment generated for 114 individuals

National recognition through PM Narendra Modi's Mann Ki Baat programme

Estimated business value of ₹18 crore

Successful implementation of api-therapy draws both Indians and foreigners

Domain : Value addition and effective utilisation of natural resources



Need for Refinement or Validation by Research Institutes :
No formal validation needed; widely adopted through practical success and government collaborations

VIJAYAPURA-I

CHICKPEA (BENGALGRAM) NIPPING AND LEAVES COLLECTIVE MACHINE



Name of the farmer : Mr. Girish Badragond
Mobile number : 8277394054/8762274054
Age (years) : 45 years
Education : SSLC
Experience : 15 years



Description

Chickpea crops excessive branching can reduce the overall crop yield also it also harbours eggs of *Helicoverpa armigera* and other harmful growths like weeds can extract the essential nutrients from healthy crops thereby reducing productivity. It is therefore essential to cut down these unwanted and excessive growths in plants. The trimmed leaves are collected in tray above that is sold in market as vegetable giving additional income to farmers. Currently trimming/cutting is done manually which is laborious and time consuming. There is need for a faster and more efficient solution for getting rid of the problem.

Key features

- Low weight
- Use locally available cutting tools
- Solar panel (12v,5w) built on top of the helmet
- Low maintenance cost

Potential of Innovation for Wider Reach/Out Scaling Benefits

- Increase yield upto 10%
- 4 acres per day can be trimmed using the trimmer whereas with manual trimming only 1-1.5 acres can be trimmed.
- Can be operated with minimal sunlight also, No grid power is required
- Chickpea leaves collected and value to farmers income.

Solution

Solar powered plant trimmer is a solar power operated trimming machine that simplifies the trimming process by saving time and improving yield. It is equipped with easily replaceable, locally available and very affordable cutters. It works even when it is cloudy. The pruned leaves are used as vegetable and sold in local market, gives additional income to farmers

Scientific validation required : Yes



WAYANAD

KETTINATTI



Name of the farmer : Mr. Aji Thomas
Address: : Malika
Ambalavayal P. O., Nenmeni
Karadipara, Wayanad – 673593
Kerala.

Description

Kettinatti means to fix the seed in a universal compound for the germination of the rice seed. This principle has been continuously tested and modified since 2016. The rice grown through the kettinatti method has vigorous growth compared to the traditional method of rice cultivation. Also, more number of tillers, increased panicle length, more number of grains, more vegetative growth with minimum use of fertilizers, no pesticides has been observed, though the crop period may extend upto a further 10 to 15 days. As a result, more than twice the yield of rice and more straw can be expected from this cultivation method as compared to the traditional one.



The special properties of the rice plant that is established in this way are mainly:

- Rice grows continuously without facing stress periods.
- Resists drought.
- Gains high pest resistance.
- Enriches the soil.
- Increases production and straw in all varieties of rice.
- Gives the rice a unique taste .



Alappuzha

