Farm Innovators

भाकृअनुप–कृषि प्रोद्यौगिकी अनुप्रयोग अनुसंधान संस्थान, क्षेत्र–9
ICAR-Agricultural Technology Application Research Institute, Zone IX
(Division of Agricultural Extension)
जबलपुर, मध्य प्रदेश – 482 004
Jabalpur, Madhya Pradesh – 482 004

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THEMATIC AREA: IRRIGATION SYSTEM

TAP BASED FURROW IRRIGATION SYSTEM

Name : Shri Sitaram Chouhan
Aadhar No. :
Village : Mirzapur
Block : Indore
District : Indore (M. P.)

Profile

Age: 48 years

Education: 8th

Land holding: 2 ha.

Farming Experience: 23 years

Crops Growns : Soybean, Marigold, Wheat, Chickpea, Potato, Garlic, Onion etc,

Livestock: 5(Nos.)

Social recognition:
Many farmers of the various villages appreciated his innovation after visiting his farm and started the same practice at their own field.

Description of Innovation:

To make efficient use of available irrigation water, he started tap based furrow irrigation system instead of flood irrigation system. He prepared a system of irrigation by his own efforts for irrigating marigold and potato etc. He purchased some HDPE pipes and plastic taps. He fixed taps on the pipe on 24 inch interval and used it for irrigating these crops.

Practical utility of innovation

Tap irrigation system is very simple to make and use. Anybody can prepare himself with the additional cost of Taps (Rs. 20-30/Tap).After using this system he got a very good production of potato (180 q/ha) over the previous yield of potato (150 q/ha) and got good quality of crop. He got 22% increased yield of potato and also saved 35-40% of irrigation water. He saved time and labour also by using this method. He observed that this irrigation system also helped to prevent soil erosion.

THEMATIC AREA: FARM MACHINERY

"GHHANA"

Name : Shri Vijay Kushwaha
Aadhar No. :
Village : Mayarampur
Block : Nerwar
District : Shivpuri (M.P.)
Mobile No. : 8435675348

Profile

Age: 45 Years
Education: Graduation
Land Holding : 2.0 ha
Farming Experience : 25 Years
Crops Grown : Groundnut, Wheat , Pea and vegetables etc
Livestock : IFS, Cow and Bullock pair
Social : Organic Farmer

Description of Innovation

Developed Ghhana implement had a finger shape sharp tine and filled in iron handle with 3.5 feet length and 1.5 feet width, which is manually bullock and tractor operated. Intercultural operation in crops, thinning in dance crop as per utility and necessary of requiring by Ghaana implement.

Practical Utility of innovation

Innovative Ghaana implement is simple to operate and portable. This Ghaana could be able to create distance in row in between crop and control/clearing of weeds in standing condition up to 15-25 days. It requires less use of herbicides material for weed control and drudgery reduction. Many farmers attracted for this and lot of demand able to sell such device cost of Rs. 2500-3000/-

THEMATIC AREA : FARM MACHINERY

MODIFY VENTURY SYSTEM DEVELOPED FOR FERTIGATION

Name : Shri Mukesh Kushwah
Aadhar No. :
Village : Ward No 18 Shyam Nagar,
Block : Begamganj
District : Raisen (M. P.)

Profile

Age	:	36 Years
Education	:	12th
Landholding	:	8.5 acres
Farming Experience	:	4 years
Crop/ Vegetables grown	:	Wheat, Gram, Soybean. Onion, Tomato, Chilli, Brinjal
Livestock	:	Cow (2 No.)
Social recognition	:	Vice President of Kushwah Community

Description of Innovation

Initially he used to given fertilizers and pesticides through company made ventury system with drip irrigation in his vegetables, but he was not satisfied with his production as he was unable to discharge fertilization evenly in his field with his 1 HP motor having low pressure of water to the last point of his crops. For this he developed his own ventury system which was installed before pump set with local material which supplies fertilizer/ pesticides /Biopesticides evenly with drip and sprinkler system.

Practical utility of Innovation

Innovative ventury system is very simple to install and helpful in low HP motor and fertigation through Sprinkler system, by using this system fertilizer/Bio fertilizer supplied to crops/ vegetables with sucking control pressure and without control of water pressure in main pipe. Through this system fertilizers/bio pesticides/ bio fertilizers are distributed even through sprinkler system in equal amount throughout the field.

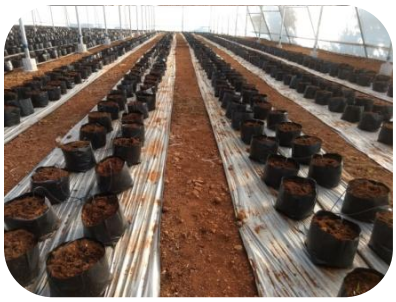
Farmers could able to install this device before pump set at a low cost of Rs 200/-. Which is very cheap against normal practice for fertigation. This also improves production by 25-30 % with proper fertigation. This system Saves Water, save money and Conserve Soil.

THEMATIC AREA : HORTICULTURE

SOIL LESS PRODUCTION OF CUCUMBER AND CAPSICUM IN POLY HOUSE

Name : Sh. Ram Prasad Patidar
Address : Village Setkhedi, Block Bagli, Distt. Dewas
Aadhar number :
Mobile number : 9981619852
Age : 53 years old
Education : 10th
Land Holding (Acre) : 4.0

Problem/ challenge addressed	Reduction in yield of cucumber and capsicum due to soil borne disease
Description of innovative practice/technology	Farmer grows the cucumber and capsicum in poly bag (12 x 15 inch size) using cocopeat in place of soil in poly house (2700 sq. m. size).
Practical utility	This technology increase the yield of capsicum and cucumber by reducing the attack of soil borne diseases and sucking insects-pests. This technology also helps in improving the fertilizer and water use efficiency because of the use of drip irrigation.
Source of information	Jain Irrigation, Jalgaon
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	**Cucumber** Gross Return 3,00,000; Net Return 1,85,000 B:C 2.61 **Capsicum** Gross Return 4,10,000; Net Return 2,85,000; B:C 3.28
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	This technology now spread to approx 6.1 ha area and 51 farmers are adopted the technology in the district
Illustrate with high quality photos with caption, graphs	



Poly bag (12 x 15 inch size) filled with ocopeat

Cucumber plant in poly bag

THEMATIC AREA : HI-TECH NURSERY

SEEDLING TECHNOLOGY UNDER PROTECTED CONDITION: A BOON FOR VEGETABLE, SPICES AND FLORICULTURE

Name	**:**	Sachin Sanghvi
Aadhar No.	**:**	
Village	**:**	Karmdi, Block Ratlam
District	**:**	Ratlam
Mobile No.	**:**	9425195272

Profile

Age :	37 yrs.
Education :	M.Com
Land holding :	1.6 ha
Business experience :	4 yrs.
Products :	Healthy raising seedling through Pro tray.
Asset value :	Rs. 42.0 lakhs
Social recognition :	He is a active & well known extension worker having linkage with KVK, Agril. / Horti. & involve in Other Social activities.
Annual income :	Rs. 12.25 lakhs
Award recognition:	District level award by ATMA, Horticulture & Agriculture Deptt.

Description of achievements/ venture

Shri Sachin Sanghvi established two thousand square meter natural ventilated poly house and one thousand square meter 70% green shade net for growing healthy seedling through pro tray. The nursery has become the place for exposure visit to different stakeholders. This has improved the socio economic status of the farmer with mentality of the nearby farmer to established the nursery with proven technological interventions instead of conventional practices.

Turnover and person employed in details

Mr. Sanghvi growing seedling last four years but during 2014 – 15 he has grown fifteen lakhs healthy seedling through pro tray and its sell at the rate of Rs. 1.25 per seedling. Then his gross income was Rs. 18.75 lakhs and Net income was Rs. 12.25 lakhs. Ten labour involved in seasonally contact basis

THEMATIC AREA : NURSERY MANAGEMENT

AGRI-PRENEURSHIP DEVELOPMENT BY ESTABLISHING NURSERY

Name : Rishi Chaturvedi
Aadhar no :
Village : Sukheda, Block Piploda,
District : Ratlam (M.P.)
Mobile no. : 09826147272

Personal Profile

Age : 47

Education : M.A. (Economics)

Land holding : 2 ha

Business experience : 9 yrs.

Products : Quality Planting Material, Sapling & Seedling.

Asset value : Poly house – 1000 sqm.

Shade Net – 3000 sqm. (Progeny orchard – Aonla : NA-6, NA-7. Pomegranate – Bhagava, Chiku – Kalipatti, Lemon – Kagaji Lemon, Sitaphal – Balanagari.

Rs. 60.00 lakhs

Description of achievements/venture

Shri Rishi Chaturvedi established nursery in the area of 3 ha and sell surplus the planting material of lemon, Pomegranate, Custard Apple, Guava, Aonla, Mango, Gulmohar, Ashok, Kachnar, Neem and seedling of Marigold, Chilli, Tomato to different district of MP and Rajasthan. He has proved himself as an example as a agri preneur among rural youth in Ratlam district. The nursery has become the place for exposure visit to different stakeholders. This has improved the socio economic status of the farmer with mentality of the nearby farmer to established the nursery with proven technological interventions instead of conventional practices.

Turnover and person employed in details

Input			Output	
Year	**Particulars**	**Cost (in Rs.)**	**Gross return**	**Net profit**
2010-11	Development of infrastructure	3,00,000	4,32,000	16,000
	Quality Planting material, Sapling & Seedling	1,20,000		
2011-12	Quality Planting material, Sapling & Seedling	1,40,000	3,24,000	1,84,000
2012-13	Quality Planting material, Sapling & Seedling	1,60,000	4,87,000	3,23,000
2013-14	Quality Planting material, Sapling & Seedling	1,70,000	6,50,000	4,80,000
2014-15	Quality Planting material, Sapling & Seedling	1,84,000	8,46,000	6,62,000

Five labour seasonally contact basis.

Social recognition	He is a active & well known extension worker having linkage with KVK, Agril. / Horti./A.H. Deptt., & involve in Other Social activities.
Annual income	Rs. 8.62 lakhs
Award recognition	Jameshed Ji Tata National Virtual Academy for rural prosperity (M.S. Swaminathan research and foundation, Hyderabad. He has got award from Agriculture Deptt. & KVK

Nursery of quality planting material

M.S. Swaminathan award received by Dr. A.P.J Abdul Kalam, President of India

Nursery of different sapling

THEMATIC AREA : FARM MACHINERY

MANDARIN GRADER

Name : Shri Pradip Patidar
Aadhar No. :
Block : Neemuch
District : Neemuch (MP) Pin- 458441
Mobile No. : 7987512380

Profile

Age: 35 years

Education: B.A.

Land holding: 5 ha.

Farming Experience: 15 years

Crops Growns : Wheat, Gram, Pea, Soybean, Mandarin, Guava, Ber

Livestock: Buffaloes, Cows

Social recognition: Many mandarin growers are attracted for this and lot of demand is developed for this device. This grader demonstrates an immediate recovery of invested capital.

Description of Innovation:

During grading, mandarin are sorted according to the fixed grade standard, taking quality factors like weight, size, colour, shape and degree of damage on fruits into consideration to make a homogenous lot. Handling large volume of the produce, this semi-automatic grading machine is used, wherein the fruits are passed down on a slow moving conveyor. This semi automatically grading is very efficient with respect to time, space and quantity and separated into 3 grades.

Practical utility of innovation

Innovative mandarin grader is simple to operate This mandarin grader could be able to grade 300-400 kg/hour. It requires 1 Hp pulley attached single phase motor and fabricated simply by tin and iron rods. The first 1000 kg of produce sorted and packed pays for the capital outlay (the grader), after this each 1000 kg packed results in a return of an additional Rs 257000.

before adopting the technology						
Crop	**Variety**	**Area (ha)**	**Yield (qtl.)**	**Gross cost (Rs.)**	**Gross income (Rs.)**	**Net income (Rs.)**
Mandarin	Nagpur	1.0 ha. (277plants)	277	100000	360100	260100
after adopting the technology						
Mandarin	Nagpur	1.0 ha. (277plants)	304	125000	Grade A – 182000/- Grade B – 243200/- Grade C – 61000/-	361200

THEMATIC AREA : INTEGRATED FARMING SYSTEM

FIELD BASED WATER CHESTNUT CULTIVATION WITH INNOVATIVE CONCURRENT CROPPING AND CROP ROTATION

Name and address : Mr. Chain Singh Bais
Vill.+P.O : Rampayli,
Distt : Balaghat (M.P.), PIN-481 335
Aadhar number :
Mobile number : 9754430298,
Age : 50 Years
Education level : Post Graduation (Geology),
Size of land holding : 4.3 ha.

Problem/ challenge addressed

Limited land and water resources available for crop production, higher cost of inorganic fertilizer inputs, declining trends in crop yields and increasing environmental concerns. Hence, Integrating multiple components of income generation in farming system is seem to be the possible solution to meet food security with assured reduction in cost of production and environmental concerns pollution

Pond sediment and water get polluted with increase in levels of NO3, NO2, NH3 and PO4 due to fish seed productions practices and detrimental to fish farming. Hence Nursery pond enriched with organic matter, nitrogen, phosphorus, and micro and macro nutrients as well, can be a potential fertilizer supplements and soil conditioner, which could enhance the soil environment for crops.

Description of innovative practice/technology

The Integrated farming system was sequenced with the multiple components (Water chestnut; WCN – Paddy + Pigeonpea; Fish seed + Azolla - Paddy + WCN seedling + Pigeonpea; Fish cum WCN + Pigeonpea; aquaculture + animal husbandry) for efficient and sustainable utilization to increase productivity, cropping intensity (more than 200%) and crop diversification.

A. Paddy field with water depth 1-2 feet for WCN (Kharif) + organic paddy production (Rabi) + Pigeon pea (on dike).

B. Nursery fish ponds were used for Fish fingerling + Azolla (Kharif) - paddy + WCN seedling (Rabi) while pond dikes were used for Pigeon Pea + vegetable + flower production.

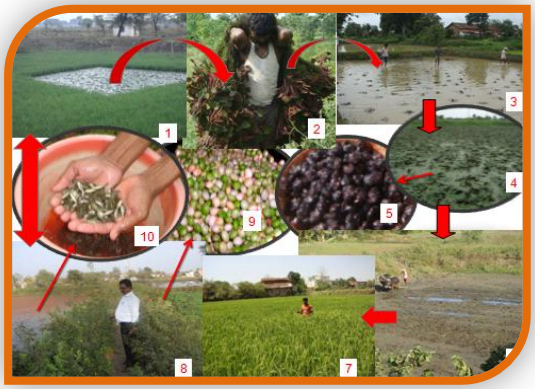
C. Fish cum Water chestnut production + pond dikes with Pigeon pea, vegetable production and flower production.

A sequential view of WCN and Aquaculture based innovative

	IFS and crop rotation system
Practical utility	Increased the net income of farmer fourfold with throughout year cash flow. WCN farming acts as soil reformers as it enriches the soil with organic carbon and other important nutrients. The paddy cultivation in nursery pond utilizes the pond sediment nutrients thus increasing economic benefits. Pigeon pea, vegetable and flower production on dyke increases the income and cropping intensity.
Source of information	Krishi Viyan Kendra, Dept. of Animal Fisheries, Dept. of Horticulture, Dept. of Agriculture, College of Agriculture, Radio, Television, News Paper etc.
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	B:C ratio: 2.96. Diversification and intensification process is essential to maintain high agriculture production growth rate and raising the farmers' income.
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	35 farmers has adopted the WCN farming in paddy field condition in very short period of five years. On the other hand,Many recognised personalities such Honourable Agriculture minister of MP, Shri Gauri Shankar Bisen ji; Chairman & CEO of JilaPanchayat, Collector, Balaghat; Deputy director of different departments (Agriculture, Fisheries, Horticulture etc.) personally visited the farm and appreciated.

Hon'ble Agriculture Minister of MP Visited Water chestnut pond

A view of Marigold production on bunds



INNOVATION THROUGH SUGARCANE SHREDDER MACHINE FOR NATURAL MULCHING & COMPOSTING

Name : Shri Shankar Rao Chouhan,
Village : Andharwadi, Post-Bhatkheda Th- Nepanagar,
Dist : Burhanpur (M.P)
Mobile No. : 9425952398
Email : chouhankrishifarmandnursery@gmail.com

Profile

Age : 56 year
Education : 10th pass
Landholding : 4.5 ha
Farming experience : 25 year

Crop grown : Sugarcane, Soybean, Pigeon, Chilly, Brinjal, Onion & Guava

Livestock : 02 cow, 07 Buffalos & 10 Goat

Social recognition : Innovator of Sugarcane Shredder Machine for Natural Mulching & Composting (Ist in the M.P. State). Owner of Chouhan Krishi Farm and Nursery

Description of Innovation –

Innovation through Sugarcane Shredder Machine for Natural Mulching & Composting (Istin the State)-Sugarcane shredder machine is one of the important machine for improving soil fertility & Soil Conservation. Through sugarcane shredder machine Shri chouhan promoted Organic farming & Conservation agriculture. They communicated to farmers “burn farm waste is harmful. There are so many farmers burn sugarcane leaves and ultimately they loss soil fertility.

Practical Utility of Innovation –

Innovation through Sugarcane Shredder Machine for Natural Mulching & Composting replacing the traditional method of harvested sugar cane field. Through the intervention of sugar cane shredder machine Shri Chouhan educated sugar cane farmers not to burn the cane residue and leaves after harvesting. Shredder Machine cut the sugarcane leaf & convert into Mulching which conserve the moisture, suppress the weed growth and reduces the evaporation. This also improve the microbial activity in the soil which in turn improve the soil fertility and production. Due to its practical utility, sugarcane farmers is adopting this machine and more than 2000 farmers benefited with this technology.


Natural Mulching in Sugarcane

THEMATIC AREA : INTENSIVE HORTICULTURE

POSSIBILITY OF MOSAMBI IN JABALPUR?

A CASE STUDY ON AN INNOVATIVE FARMER

Name : Shri Sanjeev (Tony) Agrawal S S Electricals
Address : 83 Main Road, Ranjhi bazar, Jabalpur-482005
Email: sanjivdoaba@yahoo.co.in
Mob: 09981121121;09300519111
Aadhar No. -

Problem/ challenge addressed :

The land under possession had steep slope with its highest point 18 feet above its tail end that tapers into the bordering Pariyat River. The kenetic energy of water draining from the adjacent hillocks and forests during rainy season increases flow speed of Pariyat that washes away the large quantum of medium soil of the farm every year. Attempts to grow vegetables failed due to monkey menace from the nearby forest.

Description of innovative practice/technology :

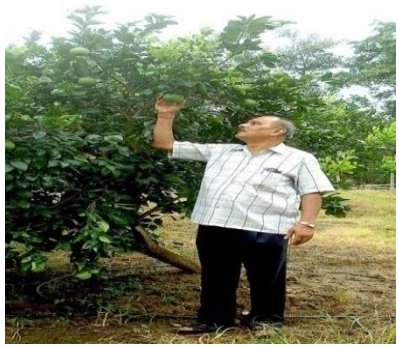
This young businessman in the year 2008 took a huge risk by purchasing and planted 160 saplings of Mosambi variety 'Pune new seller'. Initially it was flood irrigation that he followed by pumping water from Pariyat River, but later after gaining knowledge drip system was installed by investing Rs1.80 lakh in 2013, to increase water use efficiency and cut down his monthly electricity bill.

When his friends and neighbouring farmers were laughing at his risky venture Tony kept nurturing his spirit and hope. In 2011,when the orchard bloomed and fruits were set Tony remove them to promote growth his Mosambi. In the subsequent years from 2012 to 2016, Tony harvested 900,6000, 9000, 13000, 17000 kg Mosambi fruits respectively. The whole seller in Jabalpur lineup his farm with crates to buy Mosambi every October. In the year 2016 he sold Mosambi at the rate of Rs20 per kg from his farm, in October 2017 Tony harvest of 22,000kg. Canker disease kills his plants but ensures regular replacements

Tony has diverse fruit plants in his orchard to help in regular inflow of cash to manage his monthly recurring expenses. There are 100 Anola, 7 Jackfruits, 25 seedless lime, 8 Mango (Dashari,Totapari, Alphonso),2 Chickoo ,5 Custard apple, and 5 Pomegranate plants in his orchard. Apart of open land is earmarked for Turmeric, Ginger and vegetables. After harvesting Turmeric and ginger Tony grows Green gram during summer. His net earning is about Rs 25,000 from 5q dry and processed turmeric

	grown in 0.2 acre . About 15q of ginger he harvests from open field and as intercropping between his Mosambi and Anolaplantations. Selling Jackfruits provides him additional Rs20,000 annually . (Give a photograph)
Practical utility :	How the innovation has improved the situation and led to solution of the problem and what benefits accrued (Two lines)
Source of information :	Give details of people/ organization who either provided initial idea/ inspiration (One line)
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household) :	The annual input expense is Rs 16,000 (Rs 100/ Mosambi plant),Rs 52,000 as annual salary to the permanent labour and Rs 6,600 towards electricity bill the 5HP motor pump. Income –Rs 4,40,000/- from Moasambi Rs 25,000/ from turmeric Rs 20,000/ from Jackfruit **Total Rs 4,85,000/-**
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Tony on request of KVK at two occasions shared his experience with youth and innovative farmers. The trainees also made several visits to Tony's farm to learn to adopt his farming practice

Ginger under drip irrigation



Tony inspecting his mosambi fruits

Turmeric cultivation under drip irrigation

THEMATIC AREA: ENGINEERING (FARM MACHINERY)

BUND MAKER WITH FERTILIZER DRILL

Name	:	Shri Bala Ram Patidar
Address	:	Village & Post-Sarangi, Tahsil - Petlawad,
Distt .	:	Jhabua
Aadhar number	:	
Mobile No.	:	09977096087
Age	:	59 year
Education Level	:	VIII th
Land holding	:	25 acre

Problem/ challenge addressed

Jhabua Hill Zone of M.P. Farmers from Petlawad and Thandla diverted to cash crop production and want to more production in horticulture crops.

Description of innovative practice/technology

Shri Balaram Patidar designed a tractor operated bund maker with fertilizer drill to ridge formation for papaya, tomato, chilli cultivation. This consists two 6 feet long and 1.4 feet width iron plate. One end of each plate joined in "V" shape and fitted with a frame. A fertilizer drum with pully system attach with this system. When bund is formed, we can supply basal dose of fertilizer through fertilizer drill system in the centre of ridge. The distance between bund and quantity of fertilizer is adjustable. It cost only Rs. 8000/-

Practical utility

Due to high demand and return, papaya, tomato, chilli are cultivating by using ridge formation. In Traditional methods it require more time & labour. Thus it saves time and labour and easy in operating. The distance between ridge can be increase and decrease through adjust the distance between plate. The dose of Fertilizer also can be adjustable.

Source of information

Krishi Vigyan Kendra,Jhabua

Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)

Total cost is 8000/-. After using this technology, the yield increased 25-40%
The area of intervention 0.2 to 1.5 ha per household.

Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting

Due to high demand and return from papaya, tomato, chilli are cultivating by using ridge formation by farmers. Around 150.0 ha area and 350 farmers covered by Shri Balaram Patidar innovation.

THEMATIC AREA : AGRICULTURE ENGINEERING

TRACTOR MOUNTED COMBINE HARVESTER WITH STRAW COLLECTOR

Name and address : Rajpal Singh Narwariya,
Village Jamakhedi, Post Garethi, Tehsil Piprai
Block, Chanderi, District Ashoknagar (M.P.)

Aadhar number :

Mobile number : 08103118384

Age : 41

Education level : Passed 12th Class

Land holding (acres): 2 ha

Problem/ challenge addressed	Lack of labour at harvesting time,wages are high at that time . high cost of traditional combine harvester Causes to build a new low cast tractor mounted machine.
Description of innovative practice/technology	Shri Rajpal has developed a tractor mounted power take off (PTO) powered combine harvester, which also has the provision of collecting the straw. This machine is a low cost as compared to available alternatives and i.e traditional combine harvester can be used with a tractor of minimum 45 hp. One acre of land can be harvested in 1 hour with fuel consumption of 3- 4 liter / hour. It has been found suitable for various crops like (wheat, soybean, sorghum and maize etc.). The machine is a Tractor mounted combine harvester with straw collector. The machine consists of three main units; harvesting unit conveying unit and threshing unit together which can do three separate operations viz. reaping, threshing and winnowing as a single process. A simple reaper with folding mechanism has been used as threshing unit. The crops get cut and conveyed to the threshing unit where grains are separated from stalks and stored in collecting tank. A separate tank is fitted over the machine for the collection of straw. There are two separate tanks available one for grain store and other for straw which is a unique feature of machine.
Practical utility	Tractor mounted combine harvester with straw collector technology are widely adopted by local farming community. During the testing of machine at farmer's field farmers are widely satisfied ue low cost, easy of operation and multipurpose machines.
Source of information	Krishi Vigyan Kendra Ashoknagar

Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	This machine used for threshing and harvesting of soybean , wheat gram which can harvest in 01 hour time with casting of Rs 750/-acre only while manual casting for harvesting and threshing is Rs.3000/-acre. This machine also collect husk for animals about 15 quintals from one acre which is casting Rs 4500/- acre. Cost/benefit ratio 4.0
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Farmer are under patent process have new technology is not generated

Tractor Mounted Combine Harvesting inspecting by KVK, Ashoknagar Scientist

THEMATIC AREA: AGRICULTURAL ENGINEERING

ATTACHMENT OF RIDGE- FURROW SYSTEM IN LOCAL SEED DRILL

Name	**:**	Mr Mansur Beg,
Village	**:**	Kuhanjapur, Block- Sheopur, Dist- Sheopur
Mobile	**:**	07354979655
Adhar No.	**:**	
Education	**:**	10th
Land	**:**	5.ha

Problem/ challenge addressed	Low yield due to poor germination, water logging in soybean and long dry spell of monsoon
Description of innovative practice/technology	Farmer attached vertical plates (panza) on back tines of local seed drill to make ridge & furrow and seed germination on ridge by simple seed drill. Over all Rs 400 to 500 expenditure require to convert simple seed drill in to ridge furrow system.
Practical utility	Increases water and fertilizer-use efficiency, Enhance in-situ moisture conservation, Proper drainage and Promote Root development.
Source of information	IISR Indore
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	**Soybean** Gross Return:- Rs 49440/- Net Return :- 28723 B:C= 2.38
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	This technology now spread in 12600 ha land in the year 2017-18



THEMATIC AREA : ENGINEERING

INNOVATIVE SUGARCANE BUD CHOPPER

Name: Shri Roshan Lal Vishwakarma S/o Shri Dhani Ram Vishwakarma,

Village & Post: Mekh, Tehsil - Gotegaon,

District -Narsinghpur **State :** Madhya Pradesh, India,
Postal Code:487114,
Mobile no: 9300724167, **Age:** 51 years old (DOB:08/3/1967) **Education:** Higher secondary (11th Std)
size of land holding :08 acres

Problem/ challenge addressed	• In sugarcane cultivation higher seed quantity use for sowing. • No seed treatment through fungicide. • Transportation of sugarcane seed is costly. • Higher cost of cultivation due to huge quantity of seed.
Description of innovative practice/technology	Manual and power operated sugarcane bud chopper
Practical utility	• Sowing of sugarcane buds 7 qt.in place of 75-120 qt. • sugarcane set. Sugarcane bud seed treatment through fungicide/Bio-fertilizer. • Remaining 90% seed material can be utilize for making Gur/Sugar. • Reduced 30% cost of cultivation. • Transportation of sugarcane seed easy and low cost
Source of information	He has got the training/attended seminars and krishi mela on sugarcane cultivation by the help of Krishi Vigyan Kendra, Narsinghpur.
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	Sugarcane sowing through bud B:C ratio 4.62 Sugarcane sowing through set B:C ratio 2.70
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	This innovation made by the farmer to the farmers and extension worker spread all over the India as per the detail given below:

Sugarcane bud chopper

Seed treatment of sugarcane bud

Removal of bud through sugarcane bud chopper

THEMATIC AREA : AGRICULTURE

SUGARCANE TRANSPLANTING TECHNIQUE (STP) ORGANIC FARMING

Shri Rakesh Dubey S/o Shri Kushlesh Dubey
Kartaaj, Kareli, Narsinghpur,

Mobile no: 9425448313
Date of Birth : 20/08/1970(48 year)
Education: Graduate (Mathematics)
size of land holding (49.42 acres)

Description of innovative practice/technology

He has developed new technique of raising sugarcane by sett transplanting method.

Practical utility

Economical feasible technology because in this method 1 quintal seed per acre and Rs. 1800 labour charge is required while traditional method requires 40 quintal seed per acre & labour charges of Rs. 5000 per acre.

Source of information

He has got the training/attended seminars and krishi mela on sugarcane cultivation as a member of sugarcane producer group by the help of Krishi Vigyan Kendra, Narsinghpur.

Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)

Economics of STP method

Particulars (Rs/acre)	Traditional method	STP method
Cost of cultivation	42950	24645
Gross Return	149500	218500
Net return	106550	193855
B:C ratio	3.4:1	8.86:1

Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting

Spread farmer awareness programmes about organic farming by telecasting awareness programmes at Doordarshan, Aakashwani and Prasar Bharti through time to time interviews.

	
Sugarcane setts	**Uprooting of sprouted sets**
	
Transportation of sprouted setts	**View of sugarcane crop planted by STP**
	
Sugarcane setts	**Uprooting of sprouted sets**
	
Transportation of sprouted setts	**View of sugarcane crop planted by STP**

THEMATIC AREA- HONEY BEE FARMING

LANDLESS FARMERS TO SUCCESSING BEEKEEPER

Name : Mr. Beniram Kushwah

Village and post : Mirghan
District : Morena (M.P.)
Mobile No. : 9575723422

Age: 38 years
Education: High School
Land holding: Land Less
Business
Experience: 10 years

Asset value : Rs. 550000/-
Products :

- Honey, Wax
- Bee Colonies

Annual Income: Rs. 1750000/-

Social recognition:
Recognized his work by society and follow several rural youth and landless farmers.

Institute involved :
Krishi Vigyan Kendra, Morena provided for time to time all technical

Description of Innovation:

Change of employment scenario of the Morena district from farm labour to paid agriculture to beekeeping, starting Beekeeping from 2 boxes to 400 boxes resulting in high income from honey, wax and marketing of bee colonies. Today district is well known for beekeeping and honey production in whole M.P. and India.

Practical utility of innovation:

Innovation of Honey bee farming along with pulses, oilseed, fruit crops, spices and vegetable crops provides farmers a handsome additional return 15000 to 25000/ha. Beekeeping is sported pollination crops grown in the area. The area of mustard, medium duration pigeon pea and berseem are increase for final ability to the beekeeping. The Honey Bee colonies increase up to 80000 last 10 years and more than 5000 farmers/rural youth are associated in Bee farming and their produce. Honey and wax are widely marketed by the inter linkage with Rajasthan, Haryana, Delhi, U.P. and Punjab Beekeepers and marketing persons. The only Bee farmer in Morena (M.P.) has produced about 30 crores rupees of honey and wax in annum.

THEMATIC AREA- INTEGRATED FARMING

SUCCESS STORY OF FARMERS PAPAYA FRUIT PRODUCTION OF HYBRID VARIETY RED LADY TIWAN 786 AND OTHERS VEGETABLES AND AGRICULTURE CROPS

Shri Dinesh Patidar S/O Shri Mohanlal Patidar
Village Mandvi, Post Mandvi,
Tehsil Manawar and Distt.: Dhar (MP)
Age-(43Years), **:** 05.06.1975
Educational Level-12th

Mo- 098934-48942
Land - 8.0 acre

Problem/ challenge addressed

Lack of accommodative attitude of outsiders including extension organizations, research organizations, policy makers to farmers' knowledge, perceptions and values is a major challenge that slows down farmers innovation process. An attitude that acknowledges farmers.

Due to all the papaya growing sample continuous emphasis on changing the old varieties with improved one and hybrids used only improved /hybrid seed and hence the productivity is increased. Due to use of high yielding varieties, he got higher yield as compared to potential yield.

Description of innovative practice/technology

Shri Dinesh Patidar is a progressive and innovative farmer of Nimar Valley of the district. He started traditional agriculture on 8 acre land during 1998) in 0.5 hectare land and applied organic fertilizer and installed drip irrigation of this land to destroy unnecessary weeds and pest-Improved efficiency of resource use

- Reduced ecological impact
- Smaller corbon footprint
- Sustained or enhanced profibility smaller corbon footprint
- He is a Farmer progressive and innovative area, where all FYM and raw material of field collected and decomposed.
- Then it is used in the field. He is every year purchase 150 trolly of FYM to improve fertility status of the field
- The scientific techniques viz., water conservation through drip irrigation, sprinkler system, proper well drainage system and crop diversification, cattle dairy etc on their field.
- The New techniques viz., raised bed system, ridge and furrow system and other extension tools have great impact by which widely adopted by the farmers.

	Seed treatment- all fruit, vegetables agriculture crops seed treated used by farmer. He is also used bio-pesticide like neem oil, tricoderma to control of pest. **Improved efficiency of resource us water conservation and harvesting techniques-** To conserve the water, he developed a trench around whole field and stores the water then it used for irrigation through drip and sprinkler system. This technique very popular and the irrigated area under crops is increased due to awareness about water conservation, water harvesting techniques, so farmer in hence technique water well adopted the field
Practical utility	Farmer led innovation in agriculture is the process through which individuals or groups within a given locality discover or develop and apply improved ways of managing the available resources, building on and expanding the boundaries of their indigenous knowledge. Farmer led innovations are not of a technical nature but rather are socio-economic and institutional innovations. The concept of farmer innovation is applied to agriculture technology processes that aim to improve rural livelihoods for sustainable development while ensuring inter-institutional and farmer learning
Source of information	Information centre for Krishi Vigyan Kendra ,dhar (m.p) latest information and technology
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	**More Productivity More Profit:** Shri Patidar gain higher productivity in Papaya,tomato, Chilli, Garlic, as compared to state productivity. He sold his produce Indore, Dhar, Bhopal, Mumbai, and Delhi mandies and earned 15-18 lakh per annum and secured his livelihood security.
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	District level best farmers Award 2012-13 by **Hon'ble Chief Minister Shivraj Singh Chouhan** during Kisan Mela at Dhar. 
Illustrate with high quality photos with caption, graphs	**Dairy:** Shri Patidar having four Cows (Jercy), ten Goat and two buffalo (Murrah) for purpose of milk production. He got 24.0L milk daily and sold at milk collection center. **Crop diversification:** Diversification of agriculture has been proved sustainable approach for eco-friendly practicing agriculture and income generation. Realizing the fact that Crop diversification by in-corporating pulses, oilseeds, vegetables and other cash crops in a scientific cropping pattern can play an important role in increasing farm incomes and employment while providing food and nutritional security to farmer family. Shri patidar play a model roll to demonstrate the crop diversification in the district. He is grown crops, vegetables, spices and fruit plant. The cropping intensity is 300. All these happened due to the increased irrigation facilities and awareness about new scientific technologies. Shri Patidar is maintaining its own **nursery** for the saplings and seedlings of Tomato, Chilli and Onion. Some nurseries are developed under guidance of shri Patidar in the district.

- He introduced plastic mulching in vegetable crops like chilli, tomato etc and this technology adopted by neighbor farmers .Now days this technology adopted by almost all farmers of tomato and chilli growers.

- Intercropping is a tool for minimizing of risk in agriculture. Shri Patidar used this technology for fully utilizing the available resources. Intercropping of Ginger with Cabbage, Tomato & Sponge Gourd, and ginger with maize and cabbage with Coriander etc. It gives higher returns over sole crop and risk cover also during unfavorable condition.

THEMATIC AREA : JAGGERY PRODUCTION

Name : Awdesh Verma
Village : Betul Bazar
District: Betul
Mobile no. : 9753872629

Personal Profile

Age :	41 Years
Education :	M. Com
Land holding :	24 Acre
Business experience :	10 Years
Products :	Jaggery Production
Asset value :	22.8 lakhs
Social recognition :	Progressive farmer
Annual income :	6.0 lakhs
Award recognition :	Awaited

Description of achievements/venture

The farmer is purchasing the sugarcane from local farmer, and then he is producing the Jaggery. The colour and texture of Jaggery is varying with the demand of market. The packing of Jaggery block is 1.0, 5.0 kg and 10 kg.

Turnover and person employed in details

1-1.25 crores per year, the unit is being run for 120 days in a year

160 X 120 = Man days

THEMATIC AREA : HORTICULTURE

PRODUCTION OF BETLE VINE

Name: Kamlesh Chaurasia

Add: Panumariya, Katni,

Mobile: 9993002817

Age: 48, **Education**: BA pass,

Area: 2 acre under bareja and 2.5 acre under vegetables

Problem/ challenge addressed	1.Poor market price 2. Dropping of 15-20% leaves during winter 3. Incidence of diseases 4. Post Harvest Management/ processing
Description of innovative practice/technology	Use of bioagents *viz*., *Trichoderma* and *Pseudomonas*
Practical utility	Management of crop during crises period
Source of information	Team of Krishi Vigyan Vendra, Katni and JNKVV Jabalpur
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	2.45:1
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Through training and exposure visit in KVK Katni

Visit of scientists and identifying the problem

View of Bareza

THEMATIC AREA : HORTICULTURE

MECHANIZED POTATO PRODUCTION

Name : Satish Singh Bais,
Village – Biloda sadak, tahsil sarangpur
District- Rajgarh
Mob: 9826292470
Age: 30 years
Education level: Graduate
Size of land holding: 10 Acres

Problem/ challenge addressed	Higher cost of cultivation for production of potato in sowing and earthing
Description of innovative practice/technology	Automatic potato planter with slight modification to make higher ridge and earthing attachment
Practical utility	Saved the cost of earthing of potato, timeliness in energy is also saved
Source of information	Krashi Vigyan Kendra , Rajgarh & CIAE, Bhopal
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	3.1 due to saving of higher cost of manual laboring in sowing and earthin of potato
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	The technology is adopted by the adjoining potato growers as the innovator earned Rs. 1.67 lacs through renting his planter to potato growers

THEMATIC AREA – BEE KEEPING

HONEY PRODUCTION- A SOURCE OF ADDITIONAL INCOME"

Name - Baburam Prajapati
Village - Deri Road Chhatarpur
District – Chhatarpur (M.P.)
Mobile no. - 7089254813

Personal Profile

Age	45 yr
Education	M.A., B.Ed.
Land holding	-
Business experience	1 year
Products Honey 6.0 q Annual	
Social recognition	-
Annual income	1.0 lakh
Award recognition	-

Description of Innovation:

He reared honey bee even in the period of maximum temperature by adopting refined techniques of Apiculture. He produced 6q honey in a year and earned Rs.- 1.0 lakh. He is the only person who started apiculture in distt. Chhatarpur.

Practical utility of innovation:

Working as Master Trainer and providing training to Rural youth through KVK, Chhatarpur. Chhatarpur for the first time broadcasted his innovative story in Bundelkhand Region. This innovation is very much useful to the farmers for getting the more money around the year. His innovation gave him and others farmers an opportunity to shift from field crops to bee keeping. From this technology farmer have received annually income Rs 1.50 lakhs and 365 man days employed/year under this practices.

THEMATIC AREA : HORTICULTURE

VALUE ADDITION IN BER

Smt. Rani Rana,

Village - Madumar, Tikamgarh,
Age-36,
Land size- 3.0 ha
Mobile-8349711164

Problem/ challenge addressed	Agro-ecological farming situation - irrigated Blackgram – wheat. Ber is not processed and consumed as such fetched less price.
Description of innovative practice/technology	Innovation of Ber sarvat provides a additional income to the farm women. i.e. two times.
Practical utility	Farm woman is also recognized under self help group “Tulsi”. The income from ber sarvat raised to Rs. 45000/- per annum
Source of information	NRLM and KVK
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	Cost of Production Rs. = 25000/- Gross return Rs. = 45000/- B:C ratio = 1.8:1
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	For marketing of the sarvat SHG linked with NRLM Tikamgarh

Processing of Ber as Sarvat

Packed Ber Sarvat

THEMATIC AREA : FARM MACHINERY

TUBEWELL MOTOR BINDING

Shri Ram Kumar Kushwaha,

Village - Kanti, Tikamgarh
Mobile-9926860876,
Age-42,
Land size- 1.5 ha

Problem/ challenge addressed	Agro-ecological farming situation - irrigated Blackgram – wheat. Tube well motor binders are 25 km from village. Binding required 4-5 days which hampers irrigation of the farmer's fields and affects crop condition too. Availability of local motor binding facilities helps farmers.
Description of innovative practice/technology	Innovative motor binding is simple to operate and light weighted. This machine is able to complete the binding of 10 motors per day. He started this motor binding work started since last 10 years.
Practical utility	Many rural youths learned binding motors from such cost effective methods. It cost less Rs. 500 per motor than commercial shopkeepers.
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	Cost of binding Rs. = 1000/- (3 hp motor) Gross return Rs. = 1600/- (3 hp motor) B:C ratio = 1.6:1
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Innovation spreads and adopted by the 5 farmers of different villages. The cost of making machine is Rs. 500/- per machine and Sale price is 700/- per machine

THEMATIC AREA : ORGANIC FARMING

A SYMBOL OF DIVERSIFIED ORGANIC FARMING

Name and address – Shri Jiyalal Rahangdale
Village –Bagadmara, Post-Rajegaon, Th.- Kirnapur,
Dist- Balaghat, (M.P.), Pin Code- 481115

mobile number- 817972028
Age – 62 year

Problem/ challenge addressed	Initial years of organic farming low income from per unit area, weed infestation is high
Description of innovative practice/technology	He has developed Tifan Introduced Summer squash, Colored chilly, Broccali, Sweet corn, etc in Balaghat. District. He is much familior with Organic biopesticides, Organic Mannure (Panchamrat, Matka khad) , Varmicompost & use of varmiwash, bio-agents *Trichoderma*, *Pseudomonas* etc. He is using staking in vegetable Crops Like Tomato & other cucurbitaceous crops through using Drip irrigation System & plastic mulching to reduce the weed population & increase water and nutrient use efficiency in the field. His field is identified as Farm of Mukya Mantri Khet Tirth.
Practical utility	He is using staking in vegetable crops like Tomato & cucurbitaceous crops. He using plastic mulching to reduce the weed population, increase water and nutrient use efficiency in the field. Efficient utilization of vermiwash in vegetables crops and banana through irrigation drip system. He is doing organic farming a decade and saved 65 per cent of irrigation water, 45 per cent agricultural cost and increased 25 per cent crops yield as compared to other the farmers in same village who applied chemical fertilizers. Farmers of the district are now sowing interest in organic farming.
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	**Field crops:** 0.5 acre Paddy + Gram, Net Income 26500/- B:C- 1:2.90 **Horticulture crops:** 4.5 acer Grass Income 9,47,520.00 B:C- 1:2.94 , Net Income 6,25,230/- **Livestock + Goatary :** 1.0 lakh by Milk, vermicompost, sale of goats and other product

Intercropping of Sweet corn and Bitter gourd Organic

Organic Chilli production with drip irrigation

Vibrant Gujarat Award

THEMATIC AREA : AGRICULTURE (ICM)

PIGEON PEA CULTIVATION THROUGH SYSTEM OF PIGEON PEA INTENSIFICATION (SPI)

Profile of innovator 	**Name: -** Gulab Singh **Address: -** Village- Kathothiya , Post –Kathothiya, Distt.- Shahdol (M.P.) **Mobile number: -** 07869493388 **Age: -** 52 yr., **Education level:** - 11th **Size of land holding (acres):-** 12 acre
Problem/ challenge addressed	Low income of farmers due to long duration mono crop
Description of innovative practice/technology	Inter cropping of vegetables such as coriander, radish and in pigeon pea (var- TJT-501) planted through SPI. Chickpea (var- JG-14) a heat tolerant , recommended for late sown condition, was taken as second crop
Practical utility	By judicious selection of method of planting and varietal selection of short duration of Pigeon pea with intercropping of vegetables leds to higher number of crop plants per unit area. It gives additional yield income/unit area than sole cropping and also serves as an insurance against failure of crops in abnormal year. Further it reduces soil runoff and controls weeds. Inter cropping system utilizes resources efficiently. Chickpea was also taken as second crop after harvest of Pigeon pea which also enhances the income of farmer.
Source of information	Krishi Vigyan Kendra, Shahdol
Economics/ Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	Net income earn was Rs 75600/- per ha. on the cost of cultivation of Rs 26650/- from Inter cropping vegetable in Pigeon pea. B:C ratio turns to 3.84.
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Now a day's 1190 farmers covering 475 ha of Shahdol District have adopted this system and engaged in earning income through intercropping of vegetables.

Visit of Scientist

Flowering stage

Chickpea crop

THEMATIC AREA: SERICULTURE IN MULBERRY

SERICULTURE WITH INTERCROPPING OF VEGETABLES

Name: Shri Anil Kumar Pendro
Village : Mohagaon, Block: Samnapur
District –Dindori
Mobile no. 9165630993

Profile

Age : 39 year

Education : Primary

Land holding : 4.8 ha.

Farming

Experience :

Crop Growns : Vegetables and cerealsProduction of high quality Cocoon, mulberry nursery and vegetables

Description of Innovation:

Shri Anil Kumar Pandro S/o Shri Asha Ram Pandro a Tribal farmer from village Mohagaon Block – Samnapur, located 35 km from District- Dindori (M.P.) came to know about Sericulture through JNKVV, Krishi Vigyan Dindori (M.P.) and Department of Sericulture Dindori (M.P.). Resource Person he made up his mind and started Sericulture in Mulberry in the Year 2008-09 with the available resources. He managed mulberry from the block Head Quarter the beginning. He has using mulberry variety M-1635 and V1 for rearing silk worm larvae.

Practical utility of innovation:

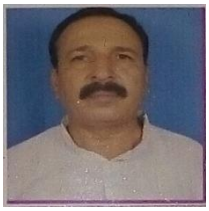
Production of high quality Cocoon, mulberry nursery and vegetables. Net income of Rs 2 Lakh yearly. Unutilized eroded land has been utilized this enterprise can bring revolutionary changes as 70 % of the representative land of District resembles to this .The enterprise can bring about social change. Inter cropping with vegetable/Drip irrigation. Nursery raising in net house.Vermicompost fertilizer is also used for cereals and vegetables crops.

Cutting of Mulberry

Nursery raising of Mulberry

THEMATIC AREA : AGRICULTURE

SYSTEM OF WHEAT INTENSIFICATION ENHANCED PRODUCTIVITY



Name and address: Shri NL Bhati s/o Jageshwar Bhati,
Gram & Post- Balagaon,
Block and District-Harda (MP)

Mobile number : 9926898983
Age: 48 Years, **Education level :** Jr High School
Size of land holding (acres): 8 Acres

Problem/ challenge addressed	Under soybean–wheat cropping he was receiving low yield from per unit area. Although he is small farmer so needs more production from small piece of land.
Description of innovative practice/technology	1. The sowing of wheat was made 1x1 fit plant-row distance by dibbler. 2. Breeder seed of wheat was used @ 20 kg/ha. 3. Plant to and Row to row distance was made by tagged rope. 4. Due to large no. of tillers per hill crops yields more productivity from per unit area of land.
Practical utility	The wheat productivity was enhanced by 25 qt/ha. And seed was reduced by 83.33 percent /ha of Rs 4000/ha
Source of information	Krishi Vigyan Kendra-Harda given him initial information and backstopping to adopt this innovation.
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	He was reaped 75 quintal wheat/ha on the place of 50 quintal/ha earlier, so he received 50 percent more yield/ha from same piece of the land. And sold his produce @ 1550/qt of total worth Rs 75x1550=116250/-. He got net profit (Gross income-gross expenditure) of Rs 116250-25500=90750/ha. B:C ratio [4.56:1]
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	This technology found very well for enhancing the productivity of wheat crop from small piece of the land. Marginal and small farmer's category was motivated with this technology and now 12 farmers are practicing this technology in Harda.

THEMATIC AREA : NTFP AND VALUE ADDITION

ENTREPRENEURSHIP DEVELOPMENT THROUGH LAC CULTIVATION

Name : Purshottam Mandavi
Village : Tirkadand, Block – Charama
District : Uttar Bastar Kanker
Qualification : B.A

Mo. no. : 07587026328

Problem/ challenge addressed	Crop diversification through semialata cultivation in upland situation,where they grow black gram/horsegram with very low production
Description of innovative practice/technology	Plantation of Semialata in 1 x 1 m and intercropping with vegetables
Practical utility	Lac cultivation in semialata gave three times more profit than traditional crop cultivation i.e. Blackgram/ Horsegram/Finger millet/upland rice
Source of information	Krishi Vigyan Kendra, Indian Lac and resin institute Ranchi
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	B:C ratio achieved 1.5 times more than the traditional crop (B:C ratio 3.8 in semialata cultivation whereas 2.25 in rice cultivation)
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	60 farmers in 30 ha adopted this technology in the district

Lac cultivation in semialata

Primary processing of lac

Lac cultivation in Galvang

THEMATIC AREA : INTEGRATED FARMING SYSTEM

DOUBLING INCOME THROUGH IFS APPROACH

Name – Asharam Netam

Village – Mohpur, Block – Kanker

District – Uttar Bastar Kanker

Qualification – B.A.

Mo. no. – 9406106911

Problem/ challenge addressed	Low income from existing cropping pattern in rice-pulses
Description of innovative practice/technology	Farmer adopted Integrated farming system in which cultivation of traditional crop in half area of their land holding along with fish cum duck, dairy, poultry unit in remaining half area
Practical utility	Sustainable production system and farmers obtaining 2 to 3 times more income than existing cropping pattern
Source of information	Krishi Vigyan Kendra
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	B:C ratio obtained by farmer is 4.43 whereas in traditional crop cultivation the B:C ratio as 2.20
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	110 farmers adopted this technology in the district

Improved dairy unit

Crop cultivation

Vegetable cultivation

THEMATIC AREA: CROP DIVERSIFICATION

"ROUND THE YEAR MARIGOLD PRODUCTION"

Name : Shri Govind Biswas,
Gram : Ravindranagar,
Post : Madanpur,
Vikas Khand : Surajpur

PROFILE OF INNOVATOR

Age: 30 years

Education: 5th

Land: 2.5 acres

Experience in agriculture: 27 years

Crops: vegetable crops, wheat, Marrigold, Gladiolous etc.

Irrigation: tube well

Animal husbandry: Cow, chicken, goat

Member of Social Co-operation Committee

Description of innovation

Shri Govind Biswas is a progressive marginal farmer having 2.5 acres of agricultural land, he was cultivating vegetables for the last several years with tireless efforts, but due to fluctuations in market value and disease & pest attacks, his annual net profit was only 60 to 70 thousand rupees. After coming in contact with the Krishi Vigyan Kendra Ambikapur, and receiving guidance of flower-growing techniques, he started marrigold flower cultivation with varieties arashivad, bhaskar, basanti, etc. in just 1.04 acre, which fetches him a total of 3 lakh. Now he is doing marigold production along with gladiolous in 1.50 acres and getting net profit of Rs 4.0 lakh per year. Therefor after adopting crop diversification from vegetable to floriculture he is getting more profit.

Practical utility of innovation

In marrigold cultivation, flower is harvested round the year by one time planting, which reduce production cost and inhance more income. Flowers are also used to make garland, bouques and other decorative materials which generates employment for farmer throughout the year

THEMATIC AREA : AGRICULTURE AND ANIMAL HUSBANDRY

"ZERO BUDGET AND ORGANIC FARMING" "ORGANIC FARMING OF PURPLE RICE AND PURPLE WHEAT" "ORGANIC POULTRY FARMING OF KADKNATH CHICKENS"

Name: Mohan Lal Chandrakar
S/O : Shri D.P. Chandrakar
Address: Village- Keshwa,
Post office- Khatti
Distt; Mahasamund, Chhattisgarh
Age: 49 Years.
Education: MBA (Master Of Business Administration).
At present I am doing organic farming in my own land around 35 acres of agriculture land and leased land 15 acres from other farmers.

Problem/ challenge addressed	The soil of my land is not fertile and my father is unable to get good yield. After resigned from my job as General Manager from a reputed multinational company I joined my father in agriculture in the year 2010 and started experimenting on land for better yield. I bought poultry waste and cow dunk from poultry farmers and cow owner and decomposed the same to make manure from it. Since then my production has increased and also my agriculture income has also increased to 150% in one hand and on the other side the cost of farming has also come down to significant level.
Description of innovative practice/technology	Organic farming of purple rice and purple wheat under the umbrella of Urza Krishi Farmer Producer Company Limited has formed to do collective farming and organized marketing of our agri-products, so that it could benefits all the farmer members associated with FPO. At present cultivating organically purple rice and purple wheat which has medicinal value. As these two basic food items contains high antioxidants which helps to increase immunity in human body to fight against cancer, blood pressure, sugar, anti aging and stress relief. **Purple wheat** has got very high anti-oxidant, as the normal wheat has Anthocyanins 5-15 ppm and purple wheat developed by NABI scientist has 40-140 ppm. Our mission is organic farming in zero budgets, which will be achieved only when farmer will adopt cows as their part of life, not only cow's milk but its urine, cow dunk, its horne, and after death of cow its decomposed body as manure is very fertile from organic point of view.

ORGANICE FARMING OF BASTAR KADKNATH CHICKENS

At present I have also started organic farming of bastar

	kadknath chickens, as I don't give them feed from the market which have high dose of hormones and antibiotics, but I feed them with rice broken (kanki) and broken cornflakes (bhutta) easily available in villages, so that cost of farming should not go up.
Practical utility	Medicine and organic manure made out of cow urine and local tree leafs (which animal do not eat) has helped me to increase quality of the production of crop specially paddy and wheat.
Source of information	Krishi Vigyan Kendra, field exposure and internet
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	1. **Organic Purple Wheat (Per ha):** Cost of cultivation 44000/-, average yield is 25 quintal, gross income 87500/- @ 3500/quintal. B:C ratio is 1.99. 2. **Organic Scented rice (paddy) (Per/ha):** Cost of cultivation 32500/-, average yield is 37.5 quintal, gross income 93750/- @ 2500/quintal. B: C ratio is 2.88. 3. **Organic Purple rice (paddy) (Per/ha):** Cost of cultivation 32500/-, average yield is 40 quintal, gross income 160000/- @ 4000/quintal. B:C ratio is 4.92.
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Initially FPO was formed by the 13 farmers and spread the information through social media. By this personal contact of scientist from KVK and other innovative farmers it spread to larger area and till date around 50 farmers have been joined in this company

Organic cultivation of purple rice

Organic cultivation of purple wheat

Organic cultivation of purple wheat

महासमुंद के सिरपुर मोहोत्सव में दिनांक ३१ जनवरी को उत्क्रिस्ट फार्म मैनेजमेंट के लिए MLA और संसदीय सचिव श्रीमती रूपकुमारी चौधरी और बागबहरा के MLA श्री चुन्नी लाल साहू के हाथो पुरिस्कृत हुआ

THEMATIC AREA : LAC CULTIVATION

LIVELIHOOD WITH REFERENCE TO LAC CULTIVATION

Name – Milan Vishwakarma
Address – Village Kurrubatha,
Block -Bagbahra –
Distt.- Mahasamund

mobile number – 09770122497/7697583758
Age – 43yrs
Education level – 12th
Size of land holding – 10 acrs

Problem/ challenge addressed	Less irrigation water and Non Availability Labours
Description of innovative practice/technology	Converted 10 Acre paddy field in to Semialata transplantation for lac cultivation

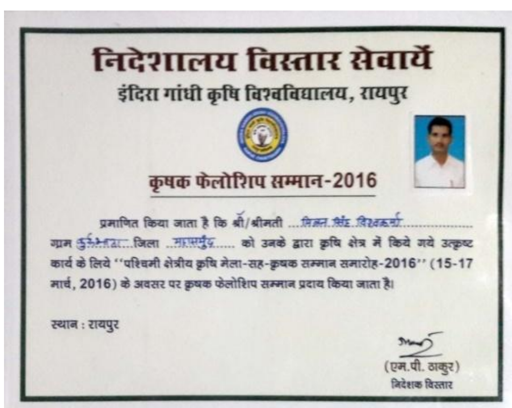
Practical utility	Now he is generating employment to farm women and rural youth and earning more than Paddy or any other agricultural crops with minimum water requirement
Source of information	Took Training from Indian Institute of Natural Resines and Gum, Namkum – Ranchi and Krishi Vigyan Kendra Mahasamund
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	1:3.3
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Now he is giving training to rural youth, farm women, and other farmers, result of this approximately 20 farmers are been started lac cultivation in about 50 acres along with cultivation in 250 kusum tree and 1200 hundred Ber trees

Got training from national lac research institute in 2005

Lac cultivation in semialata plants with drip irrigation

Received Krishak Samridhi award from Agri. Minister C.G state in 2016

Lac cultivation in kusum tree



Received Krishak fellowship award from DES, IGKV – Raipur in 2016

Harvesting of produce and employment generation to farm women

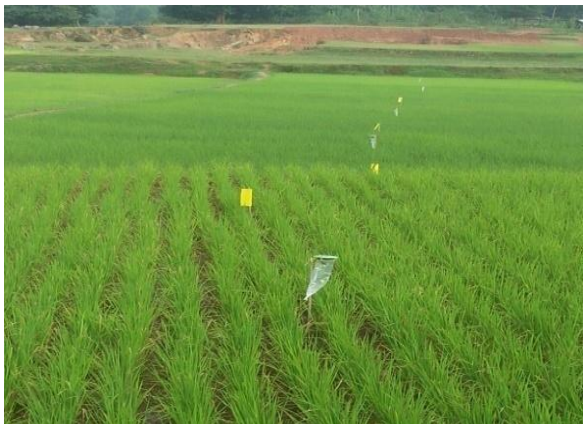
THEMATIC AREA : ORGANIC FARMING

ORGANIC BASED FARMING OF SCENTED JEERAPHOOL RICE

Name: Kendu
Address: Ayyari, Shankargarh,
Dist: Balrampur- Ramanujganj

Mobile number : 09754327671
Age: 28
Education level: 12th
Size of land holding: 6 acre

Problem/ challenge addressed	Poor Market rate of jeeraphool dhan
Description of innovative practice/technology	Adopt Organic farming for cultivation of scented Jeeraphool rice
Practical utility	Organic produce of Jeeraphool rice has higher market rate as compare to others rice. Market rate of Jeeraphool rice= 7000 Rs/q
Source of information	District Administration, KVK, Agriculture Dept & NRLM Balrampur
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	Total cost- 45000 per ha Total income- 140000 per ha Net return- 95000/- B: C- 1: 3.11
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Mostly farmers of Ayyari village adopting Organic farming for cultivation of jeeraphool rice due to higher market value (70 Rs/ Kg) and higher demand of Jeeraphool rice. Proper marketing of Jeeraphool rice through the SHGs over the C.G. state



Organic based farming of Traditional Variety of Scented rice i.e. Jeeraphool Rice

THEMATIC AREA : PLANT PROTECTION

USE OF LOW COST BOTTLE PHEROMONE TRAP FOR ECO-FRIENDLY PEST MANAGEMENT

Name – Domar Dewangan,
Address- Gram – Bodra, Dhamtari, **Distt-**Dhamtari
Mobile No.- 7354629522
Education level:- 12th

Age- 32 years
Size of land holding (own)- 10 Acres

Problem/ challenge addressed	Heavy infestation of Insect pests in Rice crop & High cost of Insecticides Required.
Description of innovative practice/technology	Dhamtari district having Rice –Rice cropping pattern, due to which insect pest stress level is higher in crop. Farmers applied high levels of Agrochemicals to manage the pests. Due to High level of insect pest infestation & High Cost of pesticides farmers getting less profit and also it cause soil and water pollution. Keeping this in mind KVK Dhamtari Invented Low Cost Bottle Pheromone trap. In this technique a simple plastic water bottle is used making a 1 X 3inch windows near neck area. One lure for pest specific is hanged through the cap of the bottle. The air flow containing lure molecules attracts the moth. The moth trapped in the bottle and fall down at bottom of the bottle, we fill 2 inches of water to enhance the efficiency of the device.
Practical utility	The Bottle pheromone trap is useful for maximum number of borers for which the lures are available in market. The cost is 60-70% less than the conventional pheromone traps.
Source of information	Krishi Vigyan Kendra, Dhamtari
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)	Cost Per Hectare: Bottle Pheromone trap: Rs. 375/Ha Conventional Pheromone Trap: Rs. 1125/Ha Profitability: 200 %
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	Acceptance Level: Highly Convincieve & Cost Effective Technology Horizontal Spread: Approximate 150 farmers adopting this technology in 60 ha crop Area

Farm Innovation by User group (Pond Vs Field condition):-

S. No.	Particulars	Pond Condition	Field condition
1	Cultural Practices	Difficult	Easy
2	Insecticide-Pesticide application	Difficult	Easy
3	Weeding	Difficult	Easy
4	Crop taken in a year	Digging is possible only after water level down up to	3 times in a year

		waist area, sometimes only once in a year	
5	Digging	Difficult only by the skilled labour	Easy to harvest
6	Intercropping	Lotus-waterchestut-Fish	Lotus- Water chestnut
7	Economics(Net monetory profit/ha)	Rs.15,000-20000	Rs.80,000-90,000

Acceptance Level- High
Horizontal spread of Technology- Approximate 150 Acres of wetland is properly utilized by the Dheemar community of people.
No. of Farmers adopting- 66 Farmers of particularly Dhamtari city.

Establish in field

Close view of bottle feromon trap

Close view of dead kitten in the bottom of the bottle

THEMATIC AREA : HORTICULTURE- AQUATIC CROP CULTIVATION

UTILIZATION OF WETLAND THROUGH WATER SPINACH CULTIVATION

Name – Shri Ganesh Jangde C/O - Shri Bishram Jangde
Address- Near Government Primary School, Hatkeswar Ward ,Dhamtari,
Distt-Dhamtari
Mobile No.-7970008169
Education level:- Intermediate level

Age-45 years
Size of land holding (own)- 1 Acres
On Lease – 3 acres

Problem/ challenge addressed

Round the year waterlogged area, that makes the land unfit for Paddy and Vegetable cultivation

Description of innovative practice/technology

The Wetland area is utilized by the farmer through Water spinach cultivation. Water spinach is a semi aquatic crop which is suitable for waterlogged area. The farmers are mainly cultivated it for its high value leafy vegetable purpose.

Water spinach is high value leafy vegetable crops, which is grown on semi aquatic area to utilize the potential of wetlands. It helps to earn income from that particular piece of land with a handsome amount. It is highly demanding leafy vegetable crop in district and surrounding districts.

The farmer used to transplant the cuttings of Water spinach in the field at the spacing of 15x15 cm plant to plant and Row to Row in the field . After 2 months, the leaf is ready to harvest. Total 10-12 cutting is done from complete crop cycle of Waterspinach.

Practical utility

Intervention conducted by Krishi Vigyan Kendra, Dhamtari on 5 Km. buffer area of Dhamtari city, and observed that about 100 ha area comes under wetland area through natural and artificial sources.

- *Ipomea aquatica* commonly known as Water spinach (Karmatta Bhaji) belongs to family Convolvulacea. This plant is semi aquatic, tropical plant grown in water or on moist soil.
- This plant possess a good medicinal property which includes inhibition of liver disease, constipation, gastric trouble, intestinal disorder and also used to cure urinary tract infection. To see the medicinal importance of karmatta bhaji it is liked by every category of people during summer season in Dhamtari distt.
- Water spinach is mainly grown under low-lying area of city and irrigated by urban and industrial waste water which drives

significant economic activity, support about 50 farm families livelihood.

- They cultivate Water spinach from 50 years ago and they earn Rs. 30,000-40,000 within 4 months at 25 decimal land.
- But they use contaminated water as irrigation purpose for water spinach cultivation.
- Package of practice is now developed by **KVK Dhamtari** to grow **water spinach** under field condition.

Source of information: Krishi Vigyan Kendra, Dhamtari intervented scientific cultivation of Lotus **on** KVK Farm

Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household): Net Return-Rs.1,50,000-1,80,000/ hectare , B:C Ratio-3.0

Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting

Farm Innovation by Farmer (Pond Vs Field condition):-

S. No.	Particulars	Before Intervention	After Intervention
1	Cultural Practices	Fallow	Easy
2	Insecticide-Pesticide application	Fallow	Easy
3	Weeding	Fallow	Easy
4	Crop taken in a year	Fallow	2 crops
5	Digging	Fallow	Easy to harvest
6	Intercropping	Fallow	Lotus- Water spinach
7	Economics(Net monetory profit/ha)	0.00	Rs.1,50,000-1,80,000

Transplanting of water spinach

Field view of water spinach

Farmers field view

THEMATIC AREA :
HORTICULTURE- AQUATIC CROP CULTIVATION

UTILIZATION OF WETLAND THROUGH LOTUS CULTIVATION

Name – Neelesh Meenpal,
S/o Shri Ramdev Meenpal
Gram –Ratnabandha Hardev lal para, Dhamtari, Distt - Dhamtari
Mobile No.-7999118571
Education level:- Intermediate level

Age-23 years
Size of land holding (own)- 1 Acres
On Lease – 4 acres

Problem/ challenge addressed	Round the year waterlogged area, that makes the land unfit for Paddy and Vegetable cultivation
Description of innovative practice/technology	The Wetland area is utilized by the farmer through Lotus cultivation. Lotus is an aquatic crop which is suitable for waterlogged area. The farmers are mainly cultivated it for its flower, seed and Rhizome which is mainly used as raw and cooked form for salad and vegetable purpose. The lotus is very much a part of Indian cultural tradition. It is a rooted hydrophytes and having multiple uses in the state of Chhattisgarh. Rhizome is used as Vegetables, seeds for preparation of Ayurvedic medicines to cure many diseases and also having religious and social values. It is also good for farmers from economic point of view and they earn money from harvesting of Rhizome by selling the roots, leaves, flower, fruit and seeds. The most significant contribution made by the Fishing community of the district (Dheemar) is to use the natural and artificial wetland area of the district by growing Lotus foe earning economic profit. As per the report of Wetland survey of India 2010, about 26,909 ha area comes under wetland area. Therefore for proper utilization of wetland area of the district, research work on scientific cultivation of aquatic crops like- Lotus, Waterchestnut, Water spinach has been performed by the Krishi Vigyan Kendra along with user group manly on aquatic crops, and also extended to farmer's field. Intervention conducted by Krishi Vigyan Kendra, Dhamtari on 5 Km. buffer area of Dhamtari city, and observed that about 100 ha area comes under wetland area through natural and artificial sources.
Practical utility	Lotus Cultivation is high value vegetable crop, the value of rhizome is vary season to season according to market availability. In Chhattisgarh all the part of lotus are used for various purposes, roots are edible and used to make vegetables, pickles, used as a raw for salad making by cutting and slicing.

Fruits are edible and eaten raw to cure many diseases, and normalize blood sugar level.

Flowers are used to make garland and there is heavy demand of flower during Navratri and Diwali festival for worshipping purpose.

Leaf lamina is used to serve food by many communities. Tender leaf, petiole and flowers are also edible and used medicinally to remove intestinal worms, better urination, vomiting and dizziness.

Source of information

Krishi Vigyan Kendra, Dhamtari intervented scientific cultivation of Lotus **on** KVK Farm

Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household)

Rs. 88,000-90,000/ hectare ,

Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting

Farm Innovation by User group (Pond Vs Field condition):-

S. No.	Particulars	Pond Condition	Field condition
1	Cultural Practices	Difficult	Easy
2	Insecticide-Pesticide application	Difficult	Easy
3	Weeding	Difficult	Easy
4	Crop taken in a year	Digging is possible only after water level down up to waist area, sometimes only once in a year	3 times in a year
5	Digging	Difficult only by the skilled labour	Easy to harvest
6	Intercropping	Lotus-water chestnut-Fish	Lotus- Water chestnut
7	Economics (Net monetory profit/ha)	Rs.15,000-20000	Rs.80,000-90,000

Rhizome treatment with fungicide

Field view of full grown lotus crop

Inspection of Hon'ble V.C. Sir in farmers field during rhizome harvesting

THEMATIC AREA: CROP MANAGEMENT
ONION CUM CORIANDER LEAVES PRODUCTION TECHNOLOGY

(PRODUCE ORGANIC FERTILIZERS AND PESTICIDES)

Shri Indrasan Kushwaha,

Village - Ajirma

Post - Raghavpuri, **District-**Surguja

PROFILE OF INNOVATOR

Age : 50 years

Education : Primary

Land holding : 1.5 acres

Farming experience : 30 years

Crops grown : Maize, Wheat, Okra, cucurbits, onion, coriander, sweet pea, cabbage, cauliflower and other seasonal vegetables

Livestock : Dairy cattle

Social recognition : Member of Farmer's Cooperative Society

Description of innovation

Farmers grow onion as sole crop, but the KVK Surguja gave an innovative idea to Mr. Kushwaha for sowing one row of multi-cut coriander along with the border of onion plot. He received 2-3 Kg green coriander leaves from small size of 3x4 m. plot. Thus this combination gave an additional income of Rs. 15,000/ha. with additional harvest of 25 to 40 q./ha. green leaves as companion crop with onion.

Practical utility of innovation

There is shortage of coriander leaves in the market during late winter. Thus growing of multi-cut coriander hybrid variety along with the border of onion beds can successfully give the 25 to 40q./ha yield of green leaves without hampering the growth of main crop, because of slow growth of onion up to 45 days after transplanting. This innovation provides an extra income without involving much cost. This is an ideal example of getting recurring benefit with amicable adjustment of companion crop without affecting the profitability of main crop.

THEMATIC AREA : AGRICULTURE/ HORTICULTURE/ LIVESTOCK

PRECISION FARMING

Name and address- Shri Bodh Ram Kanwar/ Lt. Shri Mureet Ram Kanwar. **Village –** Hardibazar , **Block –** Korba **District-** Korba, C.G
Mobile number- 9425540588
Age- 81 Years, **Education level –** Post Graduate
size of land holding (acres) – 8 acres

Problem/ challenge addressed :	Rainfed farming system Soil- light soil (Sandy loam) Single cropping system- Paddy Village Hardi bazzar is a coal mine area so on that area water and air pollution is the major problem .and due to having coal mines it is very difficult to grow crops due to coal dust it chocks photosynthesis process of the plant.
Description of innovative practice/technology :	To solve such problem he started presicion farming of vegetable by adopting drip irrigation system under shade net house.
Practical utility :	Drip irrigation saves upto 50% water and under shade net house plant were protected from coal dust.
Source of information :	Krishi Vigyan Kendra, Korba Horticultural Department , Korba
Economics/Profitability of innovative practice/ technology (costs and return) (per intervention or area or household) :	Vegetable production : (2.5 acres)per season Cost of cultivation -63123/- Return-81877/- B:C Ratio -1:2.27 Crop production(7 acres) - Cost-75000/- Return-78550/- B:C Ratio -1:1.98
Potential : Acceptance level, horizontal spread of innovation and number of farmer adopting	It is an inspiration of the local farmers Number of farmers (10) adopting this technology . This technology is suitable for dryland and water deficit area.

Cultivation of Bottle gourd under drip system

Farmer making nursery of tomato plant in root trainer with cocopit

Brinjal cultivation at farmer field