

Ascend

smart decisions at small farms



ICAR- Agricultural Technology Application Research Institute Kolkata
Salt lake, Kolkata – 700 097



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KVK Chatra (Jharkhand)
KVK East Singhbhum (Jharkhand)
KVK Gumla (Jharkhand)
KVK Palamu (Jharkhand)
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Message

I am very happy to learn that ICAR-Agricultural Technology Application Research Institute Kolkata (ICAR-ATARI, Kolkata) is going to publish a document covering the selected cases of the small farmers taking smart decisions for higher farm productivity and profitability. This document, “Ascend..... smart decisions at small farms”, is expected to cater the need-based information relevant to all small holders of eastern zone. The experiences shared in this document can immensely contribute in uplifting socio-economic status of small farmers in the region through creating additional income from the existing resources. KVKs can use the fields of these farmers for imparting training to the farmers for creating awareness and demonstrating these models for large scale adoption.

I appreciate the efforts of the Director, ICAR-ATARI Kolkata and his team for bringing out such a useful publication, at a time when the whole country is gearing up for boosting the income of the farmers.

(A K Singh)

Date : 11.10.2019





PREFACE

Presently a total of 713 Krishi Vigyan Kendras (KVKs) are functional at district level spread across the country as the ground level scientific institution under Indian agricultural research, development and extension system. These KVKs are fully funded by Indian Council of Agricultural Research, New Delhi and are being predominantly hosted by State Agricultural Universities, ICAR Research Institutes, Non-Governmental Organizations and State Department of Agriculture. In this region, a total of 127 KVKs are meant to increase productivity, sustainability and profitability through scientific approaches to agricultural development. Location-specificity, resource availability and farmer's necessity are the major drivers for selecting the technologies to be assessed and demonstrated through farmer's participation in KVKs. Such activities in the field of agriculture, horticulture, animal husbandry, value addition, agricultural entrepreneurship and women empowerment etc. undertaken through KVKs definitely have a positive impact on skill development of farmers and rural youth and transfer of technology leading to increase in productivity resulting in income enhancement. At present, the major thrust area is agricultural development through skill development by KVKs.

The KVKs of this Zone have enhanced the skill in agriculture and this has led to some remarkable achievements by the farmers, farm women and rural youth, specifically in the field of livestock as well as fish production. These significant achievements, accomplished through smart decisions by the small farmers, will prove to be a great source of inspiration and motivation to all the farming community and other stakeholders.

In order to properly recognize the wise decisions, courage, determination and sacrifice of these progressive farmers as well as to inspire and motivate other farmers, ICAR-Agricultural Technology Application Research Institute Kolkata has brought out a publication in the form of a book entitled, "Ascend... smart decisions at small farms". This publication primarily embodies the stories of smart approaches by the farmers to the small farming situation of Andaman and Nicobar Islands, Odisha, Bihar, Jharkhand and West Bengal. The untiring efforts and noticeable contributions made by the KVKs of Andaman and Nicobar Islands, Bihar, Jharkhand, Odisha and West Bengal in the agricultural development of the region are thankfully acknowledged. I sincerely hope that this publication will pave a way forward for other KVKs to replicate the approaches made/ adopted by these smart farmers and will definitely lead to a strategic planning for increasing farmers' income by 2022.

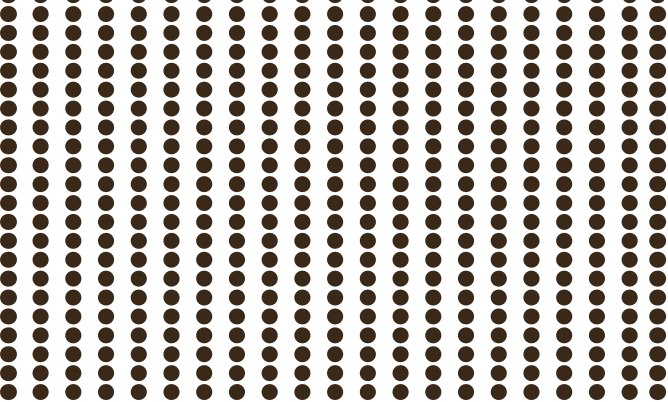
To come out with such a publication would not have been possible without the help and cooperation from the Division of Agricultural Extension, ICAR, New Delhi as well as support and assistance from the staff of ICAR-ATARI Kolkata. I gratefully acknowledge them all for the help in publishing this document.

October 2019

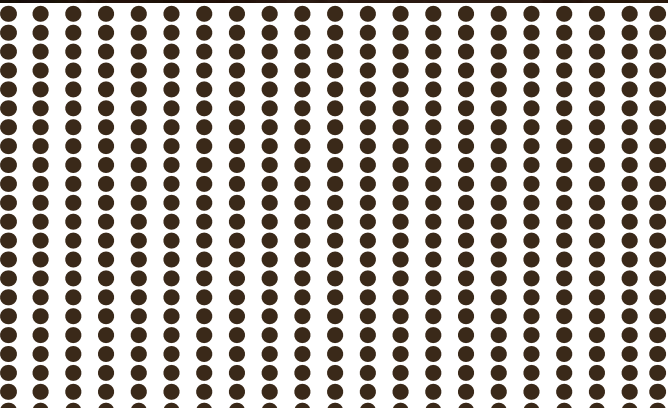
A handwritten signature in black ink, appearing to read 'S. S. Singh'.

(S. S. Singh)
Director





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1.1 Backyard poultry farming fetched additional income

Shri Tapan Kumar Ghosh

Age: 55 years

Vill. - Bishnubati

P. O. - Sattore

P. S. - Sattore

Dist. - Birbhum

Holding size: 1.33 ha

Educational qualification: Graduate

Experience in farming: 35 years



Background

Shri Tapan Kumar Ghosh was practising poultry farming in a traditional way. Backyard poultry farming is one of the most important viable non-crop enterprises of dry semi-arid zone of West Bengal. However, the traditional way of backyard poultry keeping is less remunerative as a consequence of scarcity of superior germplasm. Though, rural backyard poultry segment contributes nearly 30 per cent of the national egg production, still it is a neglected one. The meat of backyard scavenging chickens is highly accepted in the markets and more remunerative than commercial broiler meat because of its taste, lower fat content and texture.

KVK Intervention

Rathindra Krishi Vigyan Kendra, Birbhum intervened through conducting field trials using different breeds suitable for backyard poultry farming and distributing various critical inputs for inculcating the scientific method of poultry rearing in backyard situation. Shri Ghosh was given intensive skill development training programmes on scientific poultry farming and management practices and low cost feed formulation of poultry. He also attended a lot of various awareness programmes and exposure visits to public as well as private sector poultry farms for gaining first hand experiences.

Impact

He started his backyard poultry unit at his own land and constructed a non-conventional low-cost poultry house made of locally available materials, such as bamboo and wood as night shelter and to protect

the birds from predators. Birds were let loose as free range scavenging for utilizing the feed base, i.e., fallen grain, insect, earthworm, kitchen waste, green grass etc. with supplementary feeding of concentrate mixture prepared by the locally available feed resources. Almost one fourth of the amount of concentrate mixture was replaced by *Azolla* (*Azolla pinnata*) and vegetables like *Kalmi* (*Ipomoea aquatica*) and Spinach (*Spinacia oleracea*) etc. De-worming and vaccination of birds were done by Shri Ghosh as per the standard protocol with technological backstopping by the scientist of the Rathindra KVK.

Shri Ghosh started to brood fertile eggs of both Vanaraja and Rhode Island Red by using his local hen; this has initiated breed up-gradation of his chicken breeds. Vanaraja and Rhode Island Red bird fetches a market price of Rs.180 - Rs. 200 /kg., which is similar with local poultry price in market. The price of newly

hatched chick is around Rs. 22 to Rs.25 per chick and table purpose egg fetches a price of Rs. 6 to Rs. 7 per egg. He has got a net profit of Rs.38000 by selling ready bird, table egg and newly hatched chicks from each unit and each batch.

Besides, Shri Ghosh diversified his Back Yard Poultry Farming into a breed up-gradation sector also by crossing these two breeds viz. Vanaraja and Rhode Island Red with local birds. Shri Ghosh paved the way for other unemployed youths as well as farmers and farm women to take up poultry rearing of improved breeds like Vanaraja and Rhode Island Red as a viable rural entrepreneurship to generate low input and high output venture for sustainable livelihood development which can be achieved within a very short period of time. This success of Shri Ghosh can be used as a Model for formulating the strategies to double the income of the farmers of the Birbhum District, West Bengal within 2022.





1.2 Adopting modern technologies in diversified farming system proved remunerative

Shri Arup Bhattacharya

Age: 45 years

Vill. - Sobhabari

P.O. - Pandapara-Kalibari

Dist. - Jalpaiguri

Contacts (s): 09474591418

Holding size: 2.7 Acre

Educational qualification: Graduate

Experience in farming: 18 years



Background

Shri Arup Bhattacharya, 45 years old, is an energetic and informative small farmer having 2.7 acres of cultivated land. Shri Bhattacharya is very much interested in diversified farming system and adopting modern technologies in his farm after long term engagement in Mumbai based private sector. He has been engaged in diversified farming system last 18 years along with his family members.

KVK Intervention

Due to his eagerness to learn and adopt modern agricultural technologies, KVK Jalpaiguri was his first place to visit. He was made aware and trained for the improved scientific farming knowledge. First 10 years he was engaged in cattle unit and field crops and some



common vegetable cultivation. Then he has shown his interest in dairy farming with cattle, buffalo, goat and sheep with innovative technologies. To get better market he has started paneer making in his house and supplied to the district retail centre at early morning by his motorbike. He has installed a Bio-gas plant on his farm and the energy is consuming for cooking purposes and saving more than Rs. 6000 annually. Family members are also interested in farm intensification through azolla unit for cattle and goat feed. He has also engaged in vermicompost production unit on his farm. Besides sale, vermicompost and slurry of Bio-gas plant are utilized for nutritional garden, arecanut plantation and azolla unit.

Impact

By doing so, he has been benefitted from his annual income from Rs. 69600 to Rs. 286850.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop-Rice/green fodder	1.5 acre	13500	32800	19300
Crop-areca nut	350nos	19250	52500	33250
Livestock-Cow	12	284700	456250	171550
Livestock-Buffalo	5			
Livestock-Goat- Sheep	14	10950	29200	18250
Enterprise-Vermi compost unit	5 chamber	43800	84000	40200
Enterprise-Bio gas unit	2	1200	6300	5100
Enterprise-Paneer Making	**5 kg paneer produced per day from the milk of housed production of Cow – Buffalo			
Enterprise-Azolla Unit	1	800	-	Still continuing
Total :		374200	661050	286850

* Includes cost of input, labour and others including marketing and transport of the products.

** The income accumulation of the Livestock – Cow & Buffalo

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Rice	2.0	17500	42000	24500
Areca nut	220	9900	33000	23100
Livestock-Cow	4	56400	72000	15600
Livestock-Goat- Sheep	6	4800	11200	6400
Total :	-	88600	158200	69600





1.3 Livestock-based diversification of farming practices brought extra income

Shri Adhir Chandra Mahato

Age: 45 years.

Vill. & P.O. - Kaluhar

Block - Para

Dist. - Purulia

Contacts (s): 9800495947

Holding size: 2.8 Acre

Educational qualification: High school

Experience in farming: 18 Years.



Background

Shri Adhir Chandra Mahato is an energetic and innovative small farmer having 2.8 acres land. He was associated with Kalyan KVK, Purulia, W.B. since 1995 through vocational training. He has been engaged in integrated farming for last 10 years having Orchard (mango, guava, and citrus), vegetables (Summer, Kharif and Winter Vegetables), field crop (Paddy), animal husbandry (Black Bengal goat, Rhode Island Red Poultry birds) and fishery (Indian Common Carps).



KVK Intervention

Initially he only used to grow paddy and vegetable, afterwards he gradually came in contact with KVK Purulia for getting knowledge and skill on the integrated farming with various components. Then he included growing fruit plants of mango, guava citrus, poultry and goatery. He fed the goat with green grasses and crop residues of the field and poultry is reared by semi extensive system. He used to grow turmeric crop in the inter space of orchard. In growing vegetables he always looks for off season vegetables which fetch better price in the market.

Impact

He has received several prizes in the local Krishi Melas in the vegetables show. By doing so he has been benefited from his Integrated Farming in respect of annual income of Rs. 190000 as compared to Rs. 30500 from traditional cultivation.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
1. Orchard: Mango (Amrapalli) Guava (L-49) Acid Lime (Madrasi)	0.50	5000	70000	65000
2. Winter Vegetables: Cabbage (F1 Hybrid) Cauliflower (Madhuri) Tomato(F1 Hybrid)	0.55	8000	30000	22000
3. Summer Vegetables: Onion (Nasik Red) Bottle Gourd (F1 Hybrid) Bitter Gourd (F1 Hybrid)	0.25	2000	7000	5000
4. Kharif Vegetables: Bhindi (F1 Hybrid) Baby corn (Hybrid) Bottle Gourd (F1 Hybrid)	0.55	4000	20000	16000
5. Paddy (MTU-7029)	0.36	3000	7000	4000
6. Goatery (Black Bengal)	22 No.	5000	25000	20000
7. Poultry (Rhode Island Red)	200 No.	30000	80000	50000
8. Fishery (Indian Common Carp)	0.30	2000	10000	8000
Total		59000	249000	190000

* Includes cost of input, labour and others including marketing and transport of the products.



Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
1. Winter Veggies Cabbage (F1 Hybrid) Cauliflower (OP Vars.) Tomato (F1 Hybrid)	0.55	7000	20000	13000
2. Summer Veggies. Onion (Nasik Red) Bottle Gourd (OP Vars.) Bitter Gourd (OP Vars.)	0.25	2000	5000	3000
3. Kharif Veggies. Bhindi (OP Vars.) Corn (Composite) Bottle Gourd (OP Vars.)	0.55	3000	12000	9000
4. Paddy (Local)	0.70	6000	10000	4000
5. Bengal Gram (Local)	0.30	500	2000	1500
Total		18500	49000	30500





1.4 Pond based farming system with innovative technologies earned more

Shri Nibaran Roy

Age: 53 years

Vill. & P.O. - Char Chura Bhandar

Ranihat More

Dist. - Jalpaiguri

West Bengal - 735224

Contacts: 09932636408

Holding size: 3.3 Acre

Educational qualification: Undergraduate

Experience in farming: 26 years



Background

Shri Nibaran Roy, 53 years old, is an energetic and informative farmer residing at Char Chura Bhandar, Ranihat More near Jaldhaka Bridge under Maynaguri block in Jalpaiguri district. He has 3.3 acres of land with a cultivated pond. The main entrance road of the house is beautified with arecanut plantation. He has been engaged in farming system last 26 years along with his family members.

KVK Intervention

KVK Jalpaiguri gave training to Shri Roy and made him aware of integrated farming with various innovative ways. First 12 years he was engaged in field crops and some common vegetable cultivation



practices in Jute- Rice – Vegetable based cropping system then he has interested in pond based farming system with innovative technologies. To get early market he has started cucurbitaceous vegetable cultivation in dyke areas on trellis. Trellis is properly utilizing round the year by vegetable based cropping system with special emphasis on cucurbitaceous vegetables like bottle gourd, snake gourd, bitter gourd, cucumber and dolicos beans. He has collected water hyacinth every year from nearby areas for compost making. Family members are also interested in farm intensification through cattle and goat.

Impact

Average annual income through farm intensification jumped from Rs. 91500 to Rs. 203750.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop-Rice	1.7(acre)	16000	38000	22000
Crop-Jute	1.2(acre)	7500	19000	11500
Crop-Cucurbitaceous vegetables like cucumber, bitter gourd, bottle gourd, Beans etc. on trellis	0.8(acre)	85000	195000	110000
Crop-Arecanut	65plants	2750	11000	8250
Livestock-Cow	03nos	36500	52500	16000
Livestock-Goat	06nos	4500	13500	9000
Fish(Pond)	1(0.6 Acre)	16200	43200	27000
Total	Jute-Rice under (1.7 acre)	1,68,450	372200	203750

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop-Rice	2.2(acre)	20700	49500	28800
Crop-Jute	1.5(acre)	9500	23750	14250
Crop-Areca nut	35plants	1250	4800	3550
Crop-vegetables like potato, cabbage, cauliflower etc	0.5(acre)	12500	32700	20200
Fish(Pond)	1(0.4 Acre)	12,800	37,500	24,700
Total	Jute-Rice under(2.2 acre)	56750	148250	91500

* Includes cost of input, labour and others including marketing and transport of the products.





1.5 Shifting to multiple cropping with livestock component added to farm income

Shri Khagen Das

Age: 42 years

Vill. - Enata

P.O.- Kadodiha

Block- Jamboni

Dist.-Paschim Medinipur

Contacts: 09547689571

Holding size: 3.5 acre

Educational qualification: Madhyamik

Experience in farming: 8 years



Background

Due to backward geographical situation and high degree of rainfed condition in the red lateritic zone of this area, people are bound to maintain their livelihood options through limited crop cultivation and most of them are unemployed. In this situation, Shri Khagen Das, an enthusiastic farmer having 3.5 acre land, has proved his ability and interest towards the adopting new modern technologies since last 8 years.



KVK Intervention

He has been able to change his mono-crop field situations towards the multiple cropping pattern through crop diversification, varietal replacement and contingent cropping after acquiring training, FLD and capacity building programme from KVK. He also associated sal leaf plate making with such farming. Though it is an age old practice of his family but now he is practicing this through adopting electric dice. He has also established newly mango orchard of two years old with a capacity of 1 acre.

Impact

By doing this, he is earning Rs. 74800 per annum which is Rs. 51650 more than traditional practice and maintains 5 family members for sustainable livelihood support.

Economics of the farm at present

Crop/Livestock /Fish/Enterprise	Area (Acre)/ No.	Cost of production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Crop	2.5 acre	18500	39300	20800
Livestock	25 no.	6200	17000	10800
Enterprise (Sal leaf plate)	1 no.	4000	16000	12000
Orchard	1 acre.	Two year plantation		

*Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/Livestock /Fish/Enterprise	Area (Acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop	2.5 acre	14200	22900	8700
Livestock	7 no.	2700	4100	1400

* Includes cost of input, labour and others including marketing and transport of the products.



1.6 Breeding farm of Large White Yorkshire pig provided social security to rural youth

Shri Amit Das

Age : 44 years

Vill. - BonHooghly

P.O. - Sonarpur

Dist. - South 24 Parganas

Contacts (s): 07980369741

Holding size : 1.0 ha

Educational qualification: Graduate

Farming experience: 1 year



Background

Shri Amit Das, an educated youth of Bon Hooghly, Sonarpur, South 24 Parganas was like his other friends in the village and was busy with seeking a job for him. His interest for any agri-entrepreneurial approach was quite far from life. However, belonging to a farmer's family helped him in acquiring knowledge on such farming.

KVK Intervention

He was attracted to pig farming after a training course on pig farming by SS KVK Narendrapur, South 24 Parganas in the year 2018. He stopped job seeking and focused on gathering technological knowledge regarding white pig farming. In the last of 2018, he started his own pig farm named 'Das Piggery' on a leased land of approximately 1 ha.

Impact

He bought 30 female and 5 male pigs from State Govt owned Haringhata Piggery. He used to feed concentrate mixture to pigs. To minimize feeding cost he also started to feed azolla and hotel wastes. His farm was highly integrated with timely vaccination and deworming. On average he sells five to six piglets to his customers. He also sells adult pigs to local markets as per the market needs. His income level is Rs. 15000 per month presently.

His endeavour for becoming a successful pig farmer is now a reality. Upon mastering the artificial insemination technology for pigs, he will soon become more than a successful pig-rearer, but a true breeder who could be able to disseminate best pig germplasm in the concerned area. Already five farmers in Sonarpur block took pig farming as their livelihood option after seeing Amit's success.

Pig farming was always a neglected sector in West Bengal. However, successful pig farming by Mr. Amit Das inspired many young and energetic rural youths to adopt this farming in and around Sonarpur block. Mr. Das formed a Pig Farmers' group in South 24 Parganas district who shares their knowledge regarding pig farming via Whatsapp.





2.1 Integration with livestock and vermicompost production increased farm income

Smt. Basanti Panna

Age: 42 years

Vill. - Khutikewal

Block - Hunterganj

Dist. - Chatra

State - Jharkhand

Contacts (s): 9798721954

Holding size: 03 Acre

Educational qualification: Non Matric

Experience in farming: 30 years



Background

Smt. Basanti Panna of Hunterganj Block of Chatra district of Jharkhand was practising the conventional farming system at her farm. From her 3 acres of land, she earned Rs. 174100 per year earlier. She was growing rice, pigeon pea, brinjal etc. alongwith her livestock rearing.

KVK Intervention

She was very interested to generate more income from the farm land. With this interest, she came in touch with KVK Chatra and got training on vermicomposting and organic production of vegetables. The integrated farming system was also learnt by her from the KVK experts.



Impact

Now, she started to earn more than Rs. 5 lakh per annum through adopting integrated farming system. She integrated crop, vegetable, dairy animal, fish and pig for effective utilization of resource and regular income. She also produced vermicompost and made her farm organic. She was a resource person of vermicompost production technology and provided technological backstopping of self help group of women for vermicompost production. Now-a-days more than 30 self help groups are earning more than Rs. 5000 per month through producing vermicompost after getting help from Panna.

Economic s of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Kharif				
Paddy	1.5	18200	27300	9100
Pigeon Pea	0.5	12700	26500	13800
Brinjal	0.30	16200	33000	16800
Tomato	0.25	16650	34600	17950
Zinger	0.25	14800	31900	17100
Rabi				
Wheat	0.5	11900	25800	13900
Onion	0.25	14200	27400	13200
Cauliflower	0.25	13800	28600	14800
Cabbage	0.25	14200	28900	14700
Garlic	0.20	12700	29700	17000
Tomato	0.30	13200	23500	10300
Potato	0.5	15500	31200	15700
Buffalo	02 Buffalo	2050/ Buffalo / Month	7400/ Buffalo / month	5350/ Buffalo / month
Cow	03 Cow	2000/Cow/Year	5500/ Cow /Year	3500/ Cow /Year
Pig	5 Pig	2500/Pig/Year	6800/Pig/Year	4300/Pig/year
Vermi compost	1.0	28000	95000	67000

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Kharif				
Paddy	1.5	15600	23000	7400
Pigeon Pea	0.5	10600	21000	10400

Crop/Livestock/ Fish/Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Brinjal	0.15	13700	21500	7800
Rabi				
Wheat	0.5	9500	19700	10200
Onion	0.15	12000	21000	9000
Tomato	0.25	11000	20500	9500
Potato	0.30	13500	22500	9000
Buffalo	01 Buffalo	1800/ Buffalo / Month	5200/ Buffalo / month	3400/ Buffalo / month
Cow	02 Cow	1900/Cow/Year	4900/ Cow /Year	3000/ Cow /Year
Pig	2 Pig	1700/Pig/Year	4600/Pig/Year	2900/Pig/year

* Includes cost of input, labour and others including marketing and transport of the products.





2.2 Piggery based integrated farming enhanced farm income potentially

Shri Jerome Soreng

Age: 71 years

Green Dream Farm

Village- Gorgora Baliguma

Dist. - East Singhbhum Jharkhand

Contacts : 09835141347

Holding size : 2.15 Acre

Educational qualification : M.A.

(Psychology)

Experience in farming : 10 years



Background

Shri Jerome Soreng, a retired professor of psychology from Workers' College, Jamshedpur is a famous personality for his Pig based farming system. After retirement he devoted himself in developing an integrated farming with pig, fish, duck, poultry, vegetable and crop as components of his farm.

KVK Intervention

With the help of KVK East Singhbhum, he adopted proven technologies like improved breeds of pig (T & D), poultry (Vanaraja) and duck (Khaki Campbell) and technologically superior management for better profitability. Time bound operations in vegetable (Improved & disease & pest resistant varieties) and cereal crops (SRI, technology



in paddy cultivation), rotational cropping, micro irrigation (Drip), farm mechanisation (Power tiller & others small farm implements) are some other innovations behind the successful farming.

Impact

Round the year utilization of farm resources and all the components bring net annual income of Rs. 595900 as compared to Rs. 15600 from crops and vegetables 10 years back.

Economics of the farm at present

Crop/ livestock/ fish/ enterprise	Area(acre)/ no.	Cost of production* (Rs per unit)	Return (Rs per unit)/ annum	Net income (Rs per unit)
Pig farming	25 female+ 4 male, 30 fatteners, 45 piglets	180000/annum**	650000	470000
Poultry-Vanraja in backyards	35	12000/annum	Egg- 18000 Birds- 10000	16000
Duck- khaki Campbell ducks	25	10800/annum	Egg- 20000	9200
Fish	500	5000/ annum	25000	20000
Vegetable (Tomato, leafy veg. Bean, brinjal& cucurbits)	20 decimals, 3 vegetables crops in a year	11500/ annum***	50000	38500
Cereals				
Paddy (kharif)	100decimals	6000	18000	12000
Maize (, ,)	30 decimals	1800	7000	5200
Wheat (rabi)	70 decimals	5000	16000	11000
Maize (, ,)	50 decimals	3000	17000	14000
	Total	235100	831000	595900

*Includes cost of input, labour and others including marketing and transportation of the product.

**Pig feed is managed with canteen, hotel and farm residues

*** Cost on use of chemical fertilizers is almost negligible as compost of animal excreta is being utilized.

Income level before adopting such farming

Crop/ livestock/ fish/ enterprise	Area (acre)/ no.	Cost of production* (Rs per unit)	Return (Rs per unit)	Net income (Rs per unit)
Paddy	130 decimals	2500	15quintals 10500	8000
Wheat	30 decimals	1500	3.5quintals 3600	1100
Vegetables	20 decimals	4000	9500	5500
	Total	8000	23600	15600

*Includes cost of input, labour and others including marketing and transportation of the product.





2.3 Fish farming with sericulture fetched higher profit

Shri Deepnarayan Prasad

Age: 50 years

Vill. - Serka

P.O. - Bishunpur

Dist.- Gumla

Pin - 835231

Contacts: 7856027416

Holding size: 04 acre

Educational qualification: B. Sc. (Biology)

Experience in farming: 8 years



Background

Shri Deepnarayan Prasad is a small farmer having 4.0 acres of land. He is very much interested in farm intensification and adopting modern technologies. He sensed a low level of income being realized by adopting conventional farming system.



KVK Intervention

With the active and constant support from KVK Gumla, he has been engaged in integrated farming for last 8 years having paddy, mustard, vegetable and pulses (like Arhar, Urd, Moong) and fish farming as well as sericulture.

Impact

By doing so he has been benefited immensely as is reflected from his annual income of Rs. 212000 from integrated farming as compared to Rs. 66000 from traditional cultivation.

Economics of the farm at present

Crop/Livestock/ Fish/Enterprise	Area (acre)/ No.	Cost of production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Paddy/Pulses	01	28000	46000	17000
Vegetables	01	25000	45000	20000
Fish (Composite)	02	105000	280000	175000
Total	04	158000	371000	212000

*Includes cost of input, labour and others including marketing and transportation of the product.

Income level before adopting such farming

Crop/Livestock/ Fish/Enterprise	Area (acre)/ No.	Cost of production (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Paddy/Pulses	02	8000	16000	8000
Fish Farming	02	91000	159000	58000
Total	04	99000	175000	66000





2.4 Dairy farming with crossbred cows changed the income substantially

Shri Umesh Sahu

Age: 45 years

Village- Bishunpur

P.O. - Bishunpur

Dist. - Gumla

Contacts : 09905723969

Holding size : 01 Acre

Educational qualification : Middle

School

Experience in farming : 12 years



Background

Shri Umesh Sahu is a small farmer having 1 acre of land including own residence and dairy shed. He is very much interested in dairy farming through adopting modern technology.

KVK Intervention

He has been engaged in dairy farming for last 12 years by getting training from KVK Gumla.



Impact

By doing so he has been benefitted as reflected from his annual income of Rs. 450500 from dairy farming using crossbred cows as compared to Rs. 61200 from traditional dairy farming.

Economics of the farm at present

Crop/Livestock/Fish/Enterprise	Area (acre)	Cost of production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Dairy (Crossbred)	01	277500	728000	450500

*Includes cost of input, labour and others including marketing and transportation of the product.

Income level before adopting such farming

Crop/Livestock/Fish/Enterprise	Area (acre)/No.	Cost of production (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Dairy	01	128150	189350	61200





2.5 Integrated farming with rice and livestock increased profitability

Shri Sanjay Kumar

Age: 38 years

Vill. - Redma

P.O. - Bishunpur

Dist.- Palamu

Near Sohsa Bazar

Contacts: 8863091230

Holding size: 3.0 acre

Educational qualification: B.A. (Hons)

Experience in farming: 9 years



Background

Shri Sanjay Kumar, previously an educated unemployed youth tried his hand in grocery shop business, but he was a failure. Then he came in contact with KVK Palamu and expressed his desire to initiate dairy business.

KVK Intervention

He was trained in the enterprise by the active technological support and coordination by KVK Palamu. Then he acquired 3.0 acre land on lease basis and started initially dairy and vermicompost and other enterprises like mushroom. He had shown his curiosity in cyclic use output-input of by-products of various farmed enterprises.



Impact

After getting equipped, he started rice production, mushroom, fisheries and organic vegetable production (for self use) and this resulted into soaring his income more than six times of previous income. At present his income reached upto 435000. He also registered a rice production of near to world record.

Economics of the farm at present

Crop/ livestock/ fish enterprise	Area (acre)/no.	Cost of production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Rice(SRI) (yearly)	1.5	8000	68400	60400
Vermicompost(monthly)	0.1	800	5600	4800
Mushroom(monthly)	0.2	300	2400	2100
Dairy(2+1) Monthly	0.2	12000	24000	12000
Fisheries (yearly)	1.0	35000	215000	180000

*Includes cost of input, labour and others including marketing and transportation of the product.

Income level before adopting such farming

Crop/ livestock/ fish enterprise	Area (acre)/no.	Cost of production (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs. Per unit)
Rice(SRI) (yearly)	1.5	11500	22800	11300
Vermicompost(monthly)	-	300	2100	1800
Mushroom(monthly)	-	200	1000	800
Dairy(2+1) Monthly	0.2	9300	15000	5700



2.6 Apiary converted to scientific method of honey production

Shri Radhakant Giri

Age: 33 years

Village: Bhand Boreya

Block: Budmu

Panchayat: Khakhra

Dist. - Ranchi

Contacts (s): 7750959075

Holding size : 3.75 Acre

Educational qualification : Intermediate

Experience in farming : 7 years



Background

Shri Radhakant Giri belongs to a very small village where resources are very limited to earn money. The economic condition of his family did not allow him to do further studies. So he decided to start his own business but he needed some training for his self reliance.

KVK Intervention

At that time he heard about Ram Krishna Mission Ashram, Divyayan Krishi Vigyan Kendra and reached there for training. He took training in honey bee keeping because apiary was done by his forefathers also. He was trained in scientific method of honey production. Afterwards he started his business in honey production and selling of honey bee generations. Today Shri Giri is running his business very effectively with 55boxes of honey bee. Being a high quality of honey, he supplies honey to Divyayan, Dabur and Kashmir Apiary. He has been also engaged in integrated farming for last seven years having vegetable production, fruit production, paddy production and dairy farming also.



Impact

In his orchard mango, guava and litchi trees are present and their production is 4 tons, 8 tons and 6 tons respectively. Besides this, 30 tons tomato, 80 tons hybrid tomato, 20 tons pea, 30 tons potato and 18 tons ginger has been produced. Shri Giri has inspired and motivated 185 farmers of different states to adopt new and scientific techniques of agriculture. He has proved to people that Bee keeping does not destroy the crop rather it helps in the process of pollination hence increases production. Looking at his effort and success he was rewarded by the then President of India, Ms. Pratibha Devi Singh Patil in 2007.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Honey Bee Keeping	350 boxes	409333	1637333	1228000
Crop & Vegetable production	3.5	188000	528000	340000
Total				1568000

*Includes cost of input, labour and others including marketing and transportation of the product

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop Production	3.0	61538	141538	80000



3.1 Integrated farming brought smile to Koraput farmer

Shri Sadhu Mari

Age: 37 years

Vill: - Jhankarguda

P. O.: - Pottangi

Dist.: - Koraput, Odisha

Contacts : 9437857202

Holding size: 1 ha Area

Educational qualification: Intermediate

Farming experience: 5 years



Background

Shri Sadhu Mari of Jhankarguda, Pottangi, Koraput owned a total 1 ha of land. He practised integrated farming, KVK supported him to grow improved varieties like Bhairabi of Finger millet, drought tolerant paddy var DRR 42, wilting tolerant variety like Swarna Sampad, sweet corn var. Sugar 75, with suitable cropping system. KVK also supported him for back yard rearing of poultry breed Vanaraja and goat breed Black Bengal with proper vaccination and feeding. From his own interest he has also made a vermicomposting unit for farm waste decomposition.

KVK Intervention

KVK Koraput in collaboration with district veterinary, horticulture and watershed department guided and supported him for developing a farming system model of 1ha and with that farming system he uplift there social life and motivate the neighboured farmer to develop farming system. His success influenced neighbouring farmers so much that many other farmers get interested and adopted the IFS model in their farm.



Impact

In the 1st year and 2nd year he got Rs. 70030 and Rs. 142300, respectively. His success influenced neighbouring farmers so much that many other farmers get interested and adopted the IFS model in their farm.





3.2 Floating fish feed boosted growth of fish as well as farmers

Shri Batakrusna Swain

Age: 42 years

Village- Machhapada

Block- Delanga

Dist. - Puri

Contacts : 8480341672

Holding size : 1.5 ha Acre

Educational qualification: Graduate

Farming experience: 10 years



Background

Pisciculture is an important livelihood activity for economic upliftment of farmers in Puri district. The success of fish farming mostly depends on stocking of good quality fingerlings/yearlings in proper density and ratio, feeding and water quality management. Farmers mostly use Groundnut oil cake and rice bran as supplementary feed for which the FCR is comparatively more. In order to make the fish culture more profitable, the Floating feed technology for feeding fishes was made available to the farmers.



KVK Intervention

Shri Batakrusna Swain of Village- Machhapada, Block- Delanga, Dist- Puri was motivated by KVK to take up this technology. Floating feed is the modern generation feed for producing farmed fish. Greatest advantages with the feed is efficient nutrient delivery system made possible to fish, low FCR and considerable reduction in grow out period. The farmer has stocked 5000 numbers of yearlings of Catla, Rohu, Mrigal and was applying floating fish feed @ 1% of body weight daily. The FCR by using floating feed was 1.2 where as it was 2.1 by use of Groundnut oil cake and Rice bran.

Impact

With the use of Floating fish feed the farmer became able to reduce the cost of cultivation by Rs 24000 per ha with a reduction of culture period of 2 months. The farmer got a net profit of Rs223000 per ha per year. Floating feed is safe because feed ingredients can be pasteurized or sterilized during feed extrusion operation thus reducing the effects of feed on the health of aquatic animals and water quality. Better water quality is maintained, helps in low occurrence of diseases resulting in better survival and a healthy pond bottom. The technology has been widely accepted by other fish growers of the district. Now more than 1200 ha water area is utilized for pisciculture by use of Floating feed and the demand for floating feed is increasing day by day. Farmer- Scientist interaction, training programmes are also conducted for dissemination of the technology.





3.3 Scientific fish production through polyculture enhanced profitability

Shri Krutibash Pradhan

Age: 43 years

Vill. - Talagarh

Block - Angul

Dist. - Angul

Contacts : 6370948779

Holding size: 1.8 ha

Education qualification: Middle School

Farming experience: 15 years



Background

Shri Krutibash Pradhan of Angul district was owner of 1.8 ha of land. He was practising conventional farming with rice only by using the pond water with no scientific fish culture. But his inclination towards improved farming had been the way for increasing the farm income.

KVK Intervention

Shri Pradhan was motivated by the scientists of KVK Angul for taking up training and knowledge sharing in different aspects of fisheries like inclusion of improved varieties of fish species in polyculture, scientific methods of fish culture, stocking of Jayanti rohu, use of yearlings instead of fingerlings, feeding management, regular liming and manuring, use of lime and CIFAX for disease management and other pre- and post-stocking management measures. Accordingly he adopted the practices suggested by the KVK.

Impact

Shri Pradhan earned a net annual income of about Rs. 424000 through his praiseworthy Diversified Pisciculture Practices as compared to that of Rs.70000 three years ago. His adoptable practices had been an example for other small farmers of near-by villages and across the district. He became a well known farmer of his village and he had been figured as great source of inspiration for fellow farmers. The successful farming by Shri Pradhan has already drawn the attention of many farmers within and outside the district and spread to approximately 7 ha area in near-by villages.





3.4 Farm mechanization reduced labour cost and increased farm income

Shri Sanjit Mohanty

Age: 38 years
Vill.- Khadala
P.O. - Bodhei
Block - Kujanga
Dist. - Jagatsinghpur
Contacts : 9439082531
Holding size : 2.0 ha
Educational qualification: Graduate
Farming experience: 10 years



Background

Shri Sanjit Mohanty of Jagatsinghpur was previously engaged in conventional rice cultivation using labour for whole of his farming operations. He was keeping a close watch on the labour cost of his farming. Soon he realized that the cost of labour was excessive and was very eager to reduce it.

KVK Intervention

With this intention, he visited the KVK Jagatsinghpur and discussed his concerns over the farm mechanization opportunities in the small farms like his. The scientists of KVK Jagatsinghpur trained him and exchanged their knowledge on the use of farm machineries and



implements for better return in rice cultivation and processing of pulses post-harvest. They also discussed with Shri Mohanty about the Manual seed spreader for mat nursery preparation, Self-propelled rice transplanter for mechanised transplanting on custom hiring basis. He also acquired knowledge on Paddy power weeder for weeding in line transplanted rice for drudgery reduction, labour saving and increase in yield. Later on, Drip fertigation system in vegetable cultivation for precise use of water and fertiliser; Mini dal mill for processing of green gram and black gram; Power boom sprayer for spraying and Power thresher for paddy threshing were dealt with as per the requirement of the farmer.

Impact

Shri Mohanty had practised the use of various farm implements in his whole land area where he cultivated rice, black gram, green gram, green vegetables etc. He also practised processing of dal after harvesting of pulses. This has significantly reduced the labour cost leading less cost of production and higher profit. He earned about Rs. 294490 per year by following such approaches. Farmers of nearby villages are impressed by seeing the use of farm machineries and are purchasing more numbers of paddy transplanter and weeder for labour saving and increase in yield. He has also adopted organic cultivation of vegetables in 0.5 acre area after getting one month skill development training from KVK which is eco-friendly. Seeing his success, about 8 farmers from near-by villages have shown interest towards farm mechanization. He himself is involved in custom hiring of farm equipments in his village.





4.1 Farm intensification with modern technologies brought smile

Shri Rajesh Kumar

Age: 32 years

Vill. & P.O. - Kushar

P.S. - Tariyani

Dist. - Sheohar.

Contacts : 9474265906

Holding size : 2.5 Acre

Educational qualification : Intermediate

Experience in farming : 5 years



Pusa, Samastipur. He also participated IIVR Varanasi, for seed production in Vegetable and organic farming, Mushroom production, training, workshop held at Varanasi.

Impact

He has honoured by them at Varanasi KVK and other institute by doing his excellent work and increase annual income Rs.194000 after adoption advance technology in agricultural Before adoption of technology his income was Rs.16000 only.

Economics of the farm at present

Year-I

Crop /Livestock/Fish/Enterprise	Area/(acre)/No.	Cost of Production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Wheat	2 Acre	13000	20000	7000
Paddy	2 Acre	15000	22000	7000
Cattle (Cow)	1	20000	22000	2000
Horticulture Crop	0.5 Acre	20000	53000	35000
Mushroom Production	-	2000	3000	1000
Vermi-compost	-	10000	25000	15000
Total		80000	145000	67000

Year -II

Crop /Livestock/Fish/Enterprise	Area/(acre)/No.	Cost of Production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Wheat	2 Acre	13000	25000	12000
Paddy	2 Acre	14000	30000	16000
Cattle (Cow)	1	20000	30000	10000
Horticulture Crop	0.5 Acre	16000	60000	44000
Mushroom Production	-	2000	5000	3000
Vermi-compost	-	10000	30000	20000
Total		75000	180000	105000

Year -III

Crop /Livestock/Fish/Enterprise	Area/(acre)/No.	Cost of Production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Wheat	2 Acre	14000	35000	21000
Paddy	2 Acre	16000	40000	24000
Cattle (Cow)	1	40000	70000	30000
Horticulture Crop	0.5 Acre	25000	800000	55000

Background

Shri Rajesh Kumar is a small farmer having 1ha.of land. He is Very much interested in farm Intensification and modern technologies. He has been engaged in integrated farming for last five years having, vermicompost production and mushroom production unit. He produced cereals Rice wheat Pulses lentil, moong, vegetable and dairy farming.

KVK Intervention

In association with KVK Sheohar, he has adopted SRI method in rice Kharif and SWI method in wheat Rabi. He has also interested in training as well exhibition show with at district level Programme. He has also participated in the organic farming workshop in 2006 at RAU,



Crop /Livestock/Fish/ Enterprise	Area/(acre)/No.	Cost of Production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Mushroom Production	-	5000	15000	10000
Vermi-compost	-	15000	40000	25000
Total		115000	27000	170000

Year -IV

Crop /Livestock/Fish/ Enterprise	Area/(acre)/No.	Cost of Production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Wheat	2 Acre	15000	37000	22000
Paddy	2 Acre	16000	50000	34000
Cattle (Cow)	1	30000	75000	45000
Horticulture Crop	0.5 Acre	26000	85000	59000
Mushroom Production		6000	12000	6000
Vermi-compost		16000	30000	40000
Total		109000	277000	18000

Year -V

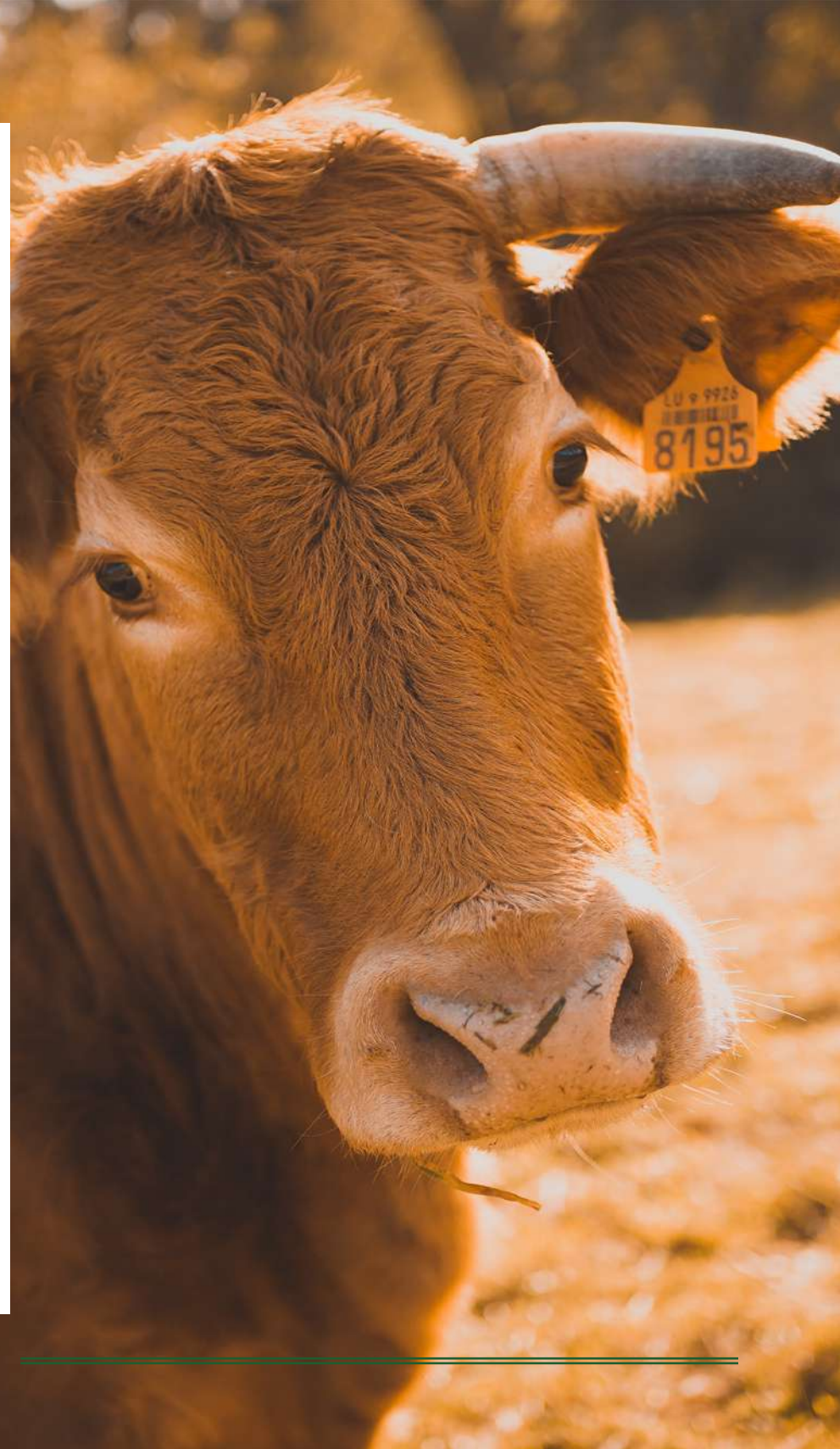
Crop /Livestock/Fish/ Enterprise	Area/(acre)/No.	Cost of Production* (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Wheat	2 Acre	15000	40000	25000
Paddy	2 Acre	17000	55000	37000
Cattle (Cow)	1	40000	80000	40000
Horticulture Crop	0.5 Acre	30000	85000	45000
Mushroom Production		15000	45000	30000
Vermi-compost		18000	36000	18000
Total		135000	331000	194000

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop /Livestock/Fish/ Enterprise	Area/(acre)/No.	Cost of Production (Rs. Per unit)	Return (Rs. Per unit)	Net income (Rs.per unit)
Wheat	2 Acre	6000	10000	4000
Paddy	2 Acre	7000	11000	4000
Cattle (Cow)	1	5000	8000	3000
Horticulture Crop	0.5 Acre	10000	15000	5000
Total		28000	44000	16000

* Includes cost of input, labour and others including marketing and transport of the products.





4.2 Green fodder production round the year enhanced income from dairy farming

Shri Azad Prasad

S/o Harideo Singh

Age: 53 years

Vill. - Vidyapur

P.O. - Hussainabad

Block - Ariyari

Dist. - Sheikhpura

Contacts - 9570541540

Holding size : 5.0 Acre

Educational qualification : Intermediate

Experience in farming : 15 years



Impact

He was benefited Rs. 454100 by doing so after adopting modern technology as compared to Rs. 72100.00 from traditional method

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Rice	2.5 Acre	27500	70000	42500
Fodder	2.5 Acre	30000	Used in self dairy	
Wheat	1.5 Acre	12000	37600	25600
Lentil	1.0 Acre	7000	23000	16000
Livestock	15 Animal	260000	660000	400000
		336500	790600	454100

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Rice	5.0 Acre	36000	66000	30000
Wheat	5.0 Acre	32000	74100	38100
Total		68000	140100	72100

* Includes cost of input, labour and others including marketing and transport of the products.

Background

Shri Azad Prasad is a small but smart farmer having 5.0 Acres of land. These land are cultivated with green fodder production round the year alongwith cereals. He also developed a dairy farm having 15 crossbred cows of which dung is utilized for making vermi-compost which is used in the crop field as organic fertilizer. He is specialized in Dairy management.

KVK Intervention

After getting training from KVK Sheikhpura, now he incorporates Azolla in animals' feed and is also handling a cooperative milk society.





4.3 Agri-based enterprises coupled with dairy farming increased profit

Shri Amar Nath Sah

Age: 42 years

Vill. - Sarnarayan

P.O. - Saraiyan

Dist. - Saran.

Contacts : 9576172227

Holding size : 1.0 Acre

Educational qualification : Graduate

Experience in farming : 10 years



Background

Shri Amar Nath Sah made a net profit of Rs. 530000 per annum from his compost unit, Dairy unit and from agriculture based enterprises (Flour mills, oil mills and rice mill). Shri Amar Nath uses Agricultural wastes+ Dung from dairy unit+ Waste material from poultry unit in vermicompost production. He has also wheat, rice and mustard processing unit to make flour, rice, and oil as primary product, while he uses the secondary products such as mustard bran as a nutritious concentrate feed for cattle, rice bran in poultry.

KVK Intervention

KVK Saran has been in constant association with Shri Sah for upgrading his knowledge and skill in vermicomposting as well as secondary agriculture.



Impact

Before adopting such technology his income is very less Rs. 154000 Per annum approximately.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Cow(1 year)	3	27000	72000	45000
Vermicompost unit(1 year)	10	10000	45000	35000
Oil mill+ Rice mill+ Flour mill(1 year)	1	90000	270000	180000
Poultry(1 year)	1	88000	270000	182000
Bringle+ Tomato+ Patal+ Spices	0.4	10000	38000	28000
Wheat+Maize+Rice+Pea Potato(1 year)	0.6	15000	75000	60000

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Cow(1 year)	3	12000	36000	24000
Crop(1 year)	1	20000	150000	130000

* Includes cost of input, labour and others including marketing and transport of the products.





4.4 Keeping dairy cows with organic vegetable production enhanced farm income

Md. Imran Sadri

Age: 68 years

Vill. & P.O. - Shahpur Baghouni

Dist. - Samastipur, Bihar

Contacts : 9006281347

Holding size : 5.0 acre

Educational qualification : B.A.

Experience in farming : 40 years



KVK Intervention

With the technical inputs from KVK, Birauli, Samastipur, he established an integrated vermicompost unit and two azolla pits to fertilize his land organically. He was also made equipped with the knowledge of dairy farming and the benefits of such integration. The rejuvenation of old orchard, he inherited, also boost his horticulture production immensely.

Impact

Today he is a role model for small farmers of his locality. He increased his farm income by several folds alongwith the improvement in quality of his farm output.

Background

Md. Imran Sadri, having meagre holding of 5 acre, is a technology savvy farmer. To enhance his income from the available farm enterprises, he adopted resource conservation methods, organic manuring and high yielding milch cows. Utilising the benefit of subsidy scheme on farm machinery by the Govt. of Bihar, he purchased one zero-till machine. Using this machine he cultivates wheat, gram and pea.



Economics of the farm at present

Crop/ livestock/ fish enterprise	Area (acre)/No.	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Field crops				
Paddy, wheat, vegetable & oil seeds	4 acre	12500	30000	17500
Livestock				
Cow	2	7500	17500	10000
Horticulture Crops				
Mango, litchi	1 acre	53720	85311	31591

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ livestock/ fish enterprise	Area (acre)/ No.	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Field crops				
Paddy, wheat, vegetable & oil seeds	4 acre	8750	22500	13750
Livestock				
Cow	2	5000	12500	7500
Horticulture Crops				
Mango, litchi	1 acre	54285	77142	22857

* Includes cost of input, labour and others including marketing and transport of the products.





4.5 Recycling poultry waste for manuring agricultural land increased sustainability

Shri Devendra Prasad

Age: 37 years

Vill. - Poksi

P.O. - Kesauri

Block - Pakribarawan

Dist. - Nawada

Contact no. - 9546277173

Holding size: 3.0 Acre

Educational qualification: Intermediate

Experience in farming : 12 years



Background

Shri Devendra Prasad a young enthusiastic farmer is owner of 3.0 Acre of land. He has been engaged in poultry farming since five years in addition to farming. Previously, he was not doing his farming following the new technologies.

KVK Intervention

After associating with the KVK Nawada, he utilizes the poultry waste in the farming .His poultry unit capacity of 2500 birds. He produced 2500 poultry birds in one round and seven rounds in a year.



Impact

His annual income is Rs. 503400 from cultivating agricultural land as well as poultry farming as compared to Rs.31470 from traditional practices.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop				
Paddy	2.0	30300	64800	34500
Wheat	1.0	12250	22400	10150
Lentil	0.50	4900	21000	16100
Gram	0.50	4850	22500	17650
Live Stock				
Poultry Keeping	2500 bird in one round (07 round in the year)	1855000	2280000	425000
Total		1907300	24,10,700	503400

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Crop				
Paddy	2.00	13250	22400	9150
Wheat	1.00	5550	9520	3970
Lentil	0.50	2250	8000	5750
Gram	0.50	2670	9600	6930
Greengram	1.00	5850	11520	5670
Total		29570	61040	31470

* Includes cost of input, labour and others including marketing and transport of the products.



4.6 Cultivation of vegetable coupled with livestock production uplifted livelihood

Shri Vibhash Kumar

Age: 35 years

Vill. - Sadhua

P.O. - Tulsibari

Block - Madhepura

Dist. - Madhepura

Contacts - 8298647504

Holding size : 2.0 Acre

Educational qualification : Intermediate

Experience in farming : 10 years



Amaranthus/ palak from August to February, and bottle gourd + okra & sponge gourd + okra + Amaranthus from February to July. He works hard in his land in day hour and self market his vegetable in evening hour to Madhepura city which is located only two KM away from his village. He is getting maximum benefit by self marketing of own vegetable production. He has four goats, two buffalo and one pair bullocks also.

Impact

His annual income from above enterprise is Rs. 3.0 lakh as compared to Rs. 20000 from traditional cultivation. By getting this income, he purchased 0.25 acre of cultivable land, made own brick house and his sons getting well education from a reputed public school of Madhepura district.

Background

Shri Vibhash Kumar, a farmer aged 35 year of village Sadhua had 2.0 acres of cultivable land. He had been growing traditional crop like paddy and wheat 10 years before there by his income was very low.

KVK Intervention

After getting training of new technology from KVK, Madhepura, he started cultivation of vegetable, goatery and livestock production from last five years. He is very much interested to grow the vegetable intercrop (e.g. cauliflower + Amaranthus and cabbage +



Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area(Acre)	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Cauliflower + Amaranthus/ Palak	0.25	3100	75000	71900
Cabbage + Amaranthus + Palak	0.25	3200	52500	49300
Bottle gourd + Okra + Amaranthus	0.25	3300	77000	73700
Sponge gourd + okra + Amaranthus	0.25	3150	72000	68850
Goat	4(No.)	1200	12500	11300
Buffalo	1 milch	23375	48600	25225
Total		37325	337600	300275

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Wheat	1 Acre	9120	15900	6780
Paddy	1 Acre	8220	14740	6520
Bullocks	2 Nos.	16000	22700	6700
Total		33340	53340	20000

* Includes cost of input, labour and others including marketing and transport of the products.





4.7 Low cost poultry and goat farming gave better economic return and livelihood security

Smt. Maya Devi

Age: 30 years

P.O. - Bhagalpur

Dist. - Bhagalpur

Contacts : 9709362422

Holding size : 1.0 Acre

Educational qualification :

Intermediate

Experience in farming : 2 years



Background

Smt. Maya Devi was born in a farmer's family. She was very much interested in making her own identity through agricultural practice. After five years of her marriage her family got separated and suffers from economic crisis. Then, she started Kirana shop in 2006. In the year 2010 - 2011, she planted 32 mango plants and guava plants but due to insect infestation 10 plants died.

KVK Intervention

She came to KVK, Sabour and got some techniques to save her orchard and succeed in doing it. KVK also advised to do establish low cost poultry and goatery farm for better economic return and livelihood security.



Impact

She earned about Rs. 28000 additional income annually as compared to her earlier propositions. She also became a symbol of success for other farm women of similar social inclination.

Economics of the farm at present

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Poultry farm	01 (1500 birds)	40000	110000	70500
Goatery farm	01 (42 Sirohi, 62 Black Bengal, 10 Jamunapari and 20 Cross breed goats)	46000	78000	32000

* Includes cost of input, labour and others including marketing and transport of the products.

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of production* (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Kirana shop	1	36000	40000	4000

* Includes cost of input, labour and others including marketing and transport of the products.





5.1 Seed production of Pangas fish enhanced farm income

Shri Srivash Das

Age: 46 years

Vill. - Madhupur

P.O. - Diglipur

Dist. - N & M Andaman

A & N Islands

Holding size: 1 ha

Educational qualification :

Undergraduate

Experience in farming : 15 years



Background

North & Middle Andaman is the hub of farm production in A & N Islands and fisheries as a component plays vital role in doubling farmer's income of island farmers. Vast area of more than 100 ha for freshwater fish culture is centralized in N&M Andaman district and there lies high potential of fish production although present average productivity of freshwater resources is poor (< 500 Kg/ha) and need appropriate intervention for higher income of fish farmers. *Pangasius hypophthalmus* (locally known as Pangas) already existed in this area and preferred by local populace due to their certain traits such as fast growth rate, less spines, meat quality etc. but unavailability of seed was the major bottleneck for adoption of culture practices of Pangas in this area.

KVK Intervention

Foreseeing demand of fish seedlings particularly Pangas and other fishes in A&N Islands, Shri Das wanted to establish an Eco-hatchery in his farm. On construction of eco-hatchery he approached KVK N&M Andaman for providing technical supports for seed production of *Pangasius* and other species. KVK made several attempts to guide him in every stage of fish breeding and seed production programme. Scientific advisory and other inputs from KVK included method of fish breeding and seed production, stocking and post stocking management in pond, water quality management, preparation and application of suitable plankton booster, preparation of feed, feeding management in nursery, handling and management of fish brooders etc.

Impact

Fish seed production programme is a seasonal activity where farmers can involve him for 5-6 month in a year. Return from fish seed production and rearing is good as compared to table size production of fish. During last year, the farmer received an income of Rs 532100 during initial phase of establishment from an area of about 1 ha land. KVK intervention made in Mr. Das farm benefitted more than 140 farmers through supply of Pangas and other fish seedling. Following him many farmers are investing more capital in fish farming and some want to replicate same model in his farm.

Fish species	Fixed cost (Rs)	Variable cost (Rs)	Gross return (Rs)	Net return (Rs)	BCR
Pangasius	995000	201200	650000	448800	3.27
Catla		11000	55000	44000	
Rohu		10200	24900	14700	
Puti		11000	35600	24600	
Total		233400	765500	532100	





5.2 Pond-based integrated farming system proved to be model for sustainable livelihood

Shri Ashok Kumar Roy

Age: 48 years

Vill.- -Badmas Pahar

Dist. - South Andaman

A & N Islands

Holding size : 1.5 ha.

Educational qualification :

High School

Experience in farming : 28 years



Background

Shri Ashok Kumar Roy, a small progressive farmer blessed with an inquisitive mind, belonged to Badmas Pahar Village of South Andaman district. He earned his livelihood by backyard poultry farming (desi poultry birds – 20nos.), mud crab culture and cultivating traditional vegetables like amaranthus, nalibhaji, okra, brinjal, chilli, bitter gourd, pumpkin and bottle gourd on his land (1.5 ha) following indigenous methods. With this meagre income (Rs.80000 – Rs. 120000 per annum), he used to sustain his family life (6 family members).



KVK Intervention

Since 2011, he used to have regular contact with KVK Port Blair for development of his agricultural land for maximum returns and has undergone many training programmes in the areas of poultry farming, pisciculture, crab fattening and vegetable cultivation etc. He meticulously began to put into practice the knowledge, skill in his farming. Initial orientation from the experts of KVK and their frequent visits set him on the path towards progress. Besides, KVK Port Blair provided him all the inputs of high yielding and climate resilient vegetable seeds and seedlings.

Impact

He had established pond-based integrated farming system on his land under KVK supervision. The major components are fish, poultry, vegetables and fruits. He adopted composite fish culture (Catla, Rohu and Mrigal) in his small pond of 0.5 acre and got an average yield of 250kg fish per year. The yield of vegetables and fruits was 4.5 ton per year with this small area of land. He has also adopted backyard poultry (Nicobari fowl-50nos) and duckery (Khaki Campbell duck-50 nos) in his pond-based integrated farming system model. The total cost of cultivation was Rs.150000 per annum. However, the gross return obtained was Rs. 350000 per year with net profit of Rs.200000. He also made optimum use of all the farm waste into organic manure and utilized in vegetable cultivation. An award-winning man received many awards from ICAR for his relentless efforts towards agriculture under the vulnerable Island ecosystem. He achieved sustainability and livelihood in pond-based integrated farming system and also an inspiration for others in this Island.



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