

# Achievements@

*By the*  
**KVKs of  
Odisha  
West Bengal  
and  
A&N Islands**



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ICAR-ATARI Kolkata



# **Achievements @75 by the KVKs of Odisha, West Bengal and Andaman & Nicobar Islands**

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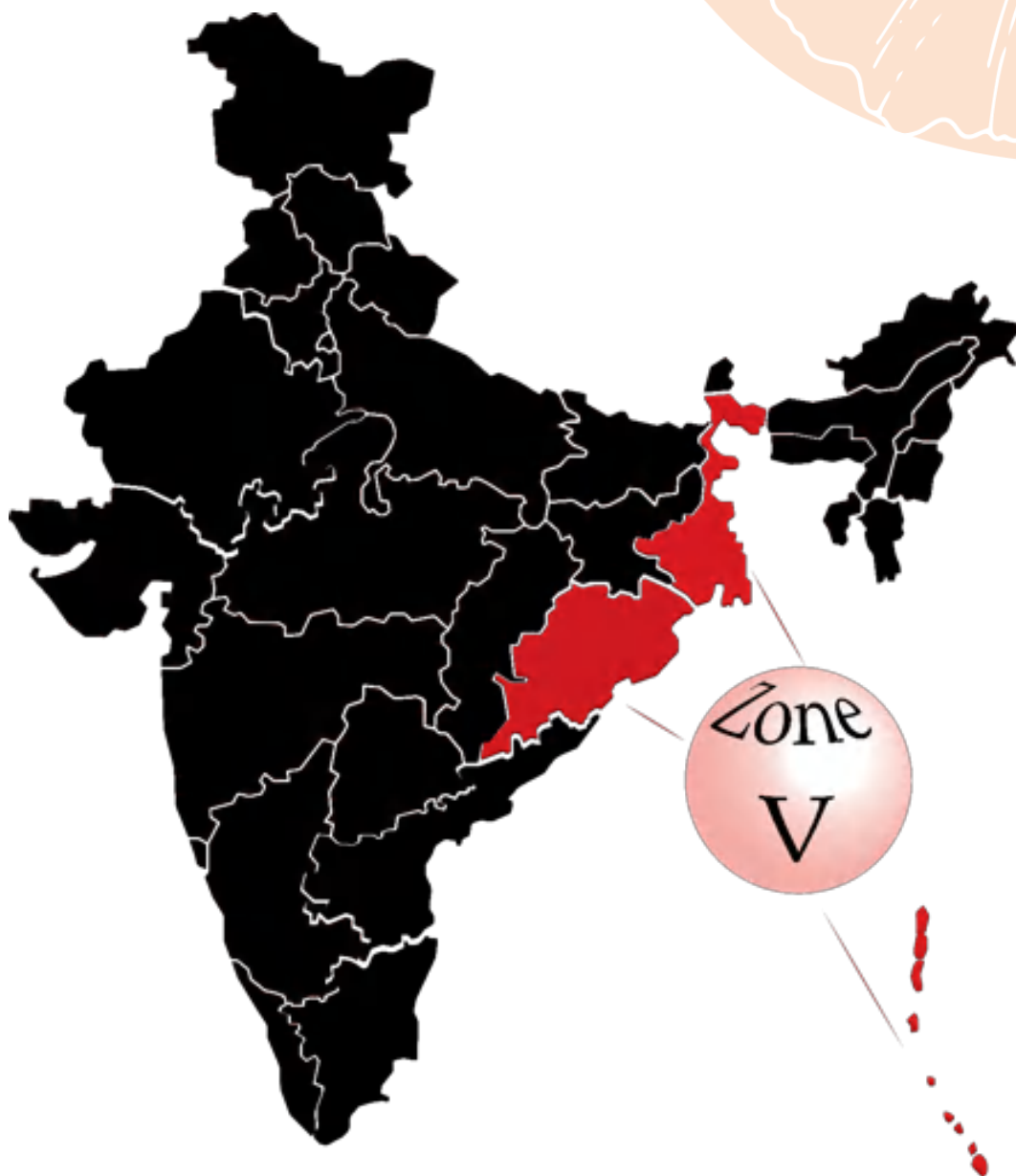
This e-book is a compilation of successful cases nourished by the Krishi Vigyan Kendras of zone V on “Achievements @75 by the KVKs of Odisha, West Bengal and Andaman & Nicobar Islands.” This e-book is designed to showcase the effort and commitment of KVKs in improving the yield, income and broaden the agri-preneurial opportunities in the farming and allied sectors. ICAR-ATARI Kolkata is not liable for any loss arising due to improper interpretation of the scientific information provided in the document. The publisher and editors do not take any responsibility for the contents and issues related to IPR. No part of this publication may be reproduced or transmitted without prior permission of the publisher or editors. Publisher and editors do not give warranty for any error or omissions of information regarding the materials in this e-book.



To commemorate the 75<sup>th</sup> year of India's Independence and the glorious history of its people, ICAR-ATARI Kolkata is publishing the selected success stories in the field of agriculture and allied sectors from Odisha, West Bengal and Andaman & Nicobar Islands.

On the occasion of 'Azadi ka Amrit Mahotsav' this archive of the achievements made through the vast and entrenched KVK network, is dedicated to the nation as a small step towards supporting Prime Minister Narendra Modi's vision of India 2.0, fuelled by the spirit of **Aatmanirbhar Bharat**.





State	Number of KVKs
<b>Odisha</b>	33
<b>West Bengal</b>	23
<b>Andaman &amp; Nicobar Islands</b>	3
<b>Total</b>	59

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### Message

The transformation of India from a food deficit nation to food surplus country can be attributed to scientific research and innovations and advanced extension services. The present research-extension-farmer system enables the farming community to get updated with information about research and recommendations of experts and scientists of diverse fields from SAUs, ICAR Institutes, State Development Departments and others. The direct contact with the farmers enables them to get suitable solutions. The extension personnel on the ground level resolve queries and continuously provide solutions to the farmers creating an appropriate farming environment for the farming community.

The present e-publication titled 'Compilation of 75 success stories' is an effort to highlight the successful cases of farmers, farm women and rural entrepreneurs from Andaman & Nicobar Islands, Odisha and West Bengal. It is a well prepared document to demonstrate that farming can be successful and flourishing in spite of distress and difficulties if the innovations and efforts are properly placed into action.

I compliment and congratulate ICAR-ATARI, Kolkata for documenting and skilfully depicting the case of individual farmer who could taste the fruits of success. The publication of 75 success stories also commemorates the celebration of 75 years of our Independence and it could not have been brought out in a better time than this.

(AK Singh)

Dated : 01.08.2022



**DR. SUBRATA KR. ROY**

**DIRECTOR**

डॉ.एस.के.रॉय

निर्देशक

## Preface

As a part of celebrating 75 years of India's Independence, Government of India has taken up numerous benevolent initiatives for the overall development of the country. Indian Council of Agricultural Research, an organ of Ministry of Agriculture and Farmers Welfare, Government of India has also extended supporting hands through its flagship programmes aimed at the farmers, rural youth and farm women for enhancing production, ensuring better return and creating self-employment opportunity in on and off farm enterprises. Krishi Vigyan Kendra (Farm Science Centre), an integral part of ICAR has played pivotal role in achieving the objectives of those initiatives through its skill and knowledge support to stakeholders including input, information and linkage establishment for hassle free marketing and fund support for the farmers and youth. The endeavors put forth by the KVKs have made its stakeholders quite successful in their arena of enterprises both in terms of economic development and employment generation.

The present e-compilation of 75 success stories is a humble effort to showcase the selected achievements earned through hard work of the farmers and 59 KVKs of Andaman and Nicobar Islands, Odisha and West Bengal. Successful cases when brought together and placed in an electronic media, can motivate numerous farmers, farm women and youth to find inspiration for sustainable livelihood and self-employment through agriculture and allied sectors. All 59 KVKs of Zone V and editors of this compilation deserve appreciation for such a valuable e-document published by ICAR- Agricultural Technology Application and Research Institute (ICAR-ATARI) Kolkata.



Dated: 01.08.2022

(Dr. S. K. Roy)



# Acknowledgement

Krishi Vigyan Kendras over the time empowered many farmers, farmwomen, youth and others through information, knowledge and skill support. Cases of such successful economic and social development are found almost in every KVK district with varied degree of accomplishments. Out of those numerous achievements, 75 successful stories have been compiled and edited giving detailed process of success and its extrapolation. The KVKs of Zone V very critically collected information through personal contact and sent to ICAR-ATARI for necessary editing and compilation. The KVKs also tried hard to focus on as many areas as possible to pinpoint the essence of success from crop cultivation to animal rearing to FPO formation. The editors of this e-publication sincerely appreciate their help and assistance to compile the success stories. In addition, the entire scientific community of this Institute, office staff and entire project staff including SRF, DEO and others in many ways contributed a lot to bring out this e-publication. The editors heartily acknowledge their contribution in their regard.

The Director, ICAR-ATARI, Kolkata deserves special appreciation for his constant support and encouragement in bringing out this publication.

ICAR-ATARI Kolkata  
01.08.2022

**Partha Pratim Pal**  
**Shreya Das**  
**Swayambhu Ghosh**

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Theme 1  
Amalgamating  
the farm



## The concept

The farmers grow crop in their farms. But still the infinite potential of a farm remains hidden to be explored. One way to harness its power is to couple different cropping system with one another. In this system the wastes of one cropping system is used to crop from another system. Scientifically it is called Integrated farming system or IFS. In the region of Odisha, West Bengal and Andaman and Nicobar Islands it is a well-practiced sound strategy for harmonizing the management of land, water, vegetation and livestock. In several cases this system has given a quantum leap in the sustainable earning of farmers.





## Crop and enterprise brought prosperity

Mrs. Laxmipriya Biswal, a housewife, used to assist her husband in cultivation of paddy, brinjal, tomato and other crops. However, her husband mainly cultivated the crops in a traditional way. To support her family, she also reared 20 nos. of local poultry in her backyard. She was always worried about the low returns from such traditional farming. To overcome this situation, she came in contact with Bargarh KVK for modern approach of integrated farming for sustainable income generation and effective use of available resources. She was persuaded to go for use of HYV and hybrid seeds, rearing of improved breeds of poultry with mushroom production by using by-products of paddy i.e., straw. The exposure prompted her to establish a poultry and mushroom unit in 2020-21 with scientific rearing/production practices.

Bargarh KVK trained her in brooding, feeding and litter management with vaccination practices. She was provided with 20 nos. of Kadaknath poultry under FLD programme in 2020-21. She was also trained in scientific mushroom cultivation. Both her units of poultry and mushroom are regularly monitored by KVK. She was linked to NABARD for assistance in mushroom cultivation. The cumulative efforts enabled her to earn much higher income.



### Farmer details

Mrs. Laxmipriya Biswal  
Umrad, Gaisilet, Bargarh  
Odisha  
Mobile No.: 7609018938

### KVK details

Mr. Nrusingh Charan Barik  
Senior Scientist and Head  
Bargarh Krishi Vigyan Kendra  
Bargarh, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkbaragarh.ouat@gmail.com

### The achievement

Gaining profit of Rs. 1, 93, 000 by selling crops, poultry products with mushroom in the near-by markets.





### Impact of training

After acquiring scientific knowledge from the skill development training programme, Laxmipriya now runs a poultry unit with the recommended practices of brooding, feeding and litter management with proper vaccination schedule. She is also able to effectively utilize the by-products of paddy i.e., straw in mushroom production. She is also getting higher return from improved agriculture.

### Motivating others

After adopting the modern approach of farming, she has become a source of inspiration for other farm women of the district. She has started to guide other interested local farmers towards improved farming for sustainable livelihood. She has also initiated vermicompost production by using mushroom substrate and other crop residues.

### Way forward

The judicious combination of crop and enterprises is the key to bringing prosperity in the farming community. Appropriate selection of enterprises and shifting of traditional farming to scientific one has empowered Laxmipriya both financially and socially. Farm women with less land holding can very well adopt such enterprises with or without crop to improve their economic condition. She has become the role model for the farm women in her community.



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## Change of passion changed the fortune

The Covid pandemic situation forced Mr. Manoj Pradhan to leave his MNC job and settle in Boudh district. Though computer science and engineering were his initial passion, he was attracted to agriculture to start a new livelihood. He started meeting people to understand different agricultural practices and to improve his knowledge. He decided to adopt Integrated farming system including crops, horticulture and pisciculture. Also, he took up vermicompost production in his farm. He recycled farm waste into healthy manure through the vermicompost unit and managed over 50% nutrients by recycling the bio-mass available within the farm itself. He tried to reduce excess expenditure by using organic/ bio inputs and adopted water saving technique, drip irrigation. With a desire to diversify his farm from the existing rice-pulse cropping system, he participated in training programmes conducted by Boudh KVK on IFS, improved practices of paddy and vegetable cultivation, vermicomposting etc. Assessing his need and resources, Boudh KVK suggested him to take up the integrated farming system in his 10 acres of land with the required hand holding support. A modest begining of integrated farming systems flourished into a high-profit venture for Mr. Pradhan within short time.



### Farmer details

Mr. Manoj Pradhan  
Gudapada, Bandhapathar  
Boudh, Odisha  
Mobile no.: 7735111810

### KVK details

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Mayuri Sing Sardar, SMS (Ag. Extn.)  
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Odisha University of Agriculture &  
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### The achievement

Gaining a profit of Rs. 28 lakh from 50 acre of his land (Rs.5 lakh from Paddy in 40 acre, Rs.10 Lakh from fishery in 8 acre and Rs.3 Lakh from Horticultural crops and others in 1.5 acre area) per annum.





### Impact of training

The knowledge and skill in a big way opened the opportunity to Mr. Pradhan to become a successful young entrepreneur. His ability to utilize farm resources in a judicial manner helped him reduce the cost of cultivation substantially followed by incorporation of fishery and vermicompost to have organic touch in his IFS model. He has been awarded ‘Best Progressive Farmer in Boudh’ by Agriculture and Farmers welfare department, Odisha in ‘Krishi Odisha-2021’.

### Motivating others

He has motivated many farmers of 3 blocks of the district and mobilized them for development of IFS, especially who have pond. He gave employment to unemployed rural youth of his locality in his farm. Within a short time, he became a successful farmer entrepreneur and set an example of how adopting IFS model could be the way forward for higher income and sustainability.

### Way forward

Unlike traditional farming the input cost in subsequent years was decreased by 25-35% in IFS models due to productive utilization of farm wastes and appropriate utilization of available resources and manpower. Practices like intercropping and vermicomposting increased soil fertility with reduced dependency on chemical fertilizers. Integration of components in farming is bound to bring prosperity in present day agriculture.





## Integrated farming for sustainable livelihood

Mr. Prasanna Kumar Sharma, a progressive farmer of Balipatna block in Khordha district adopted various agriculture and allied enterprises like paddy, pulses, vegetables, fish, duck and dairy in his farm of 4.0 acre area. His visit to KVK during 2018 exposed him towards various technologies and scientific knowledge about integration of different enterprises in agriculture. The exposure not only motivated him towards improved agriculture but also to establish integrated farming system for sustainable income and employment generation.

Mr. Sharma had undergone one-month skill training on fish culture at KVK-Khordha under Agriculture Skill Council of India (ASCI) during 2018-19 to get a firsthand knowledge in scientific package of practices in fish culture and fish seed production. Besides, he attended capacity building training on Integrated Farming System (IFS) at KVK. To expand his farming activity, Mr. Sharma has leased in a community pond of 2.1 acre in his village. The expansion of his system has finally incorporated agriculture, fishery, dairy, poultry in a complimentary way to enhance his annual income upto Rs.4.5 lakh. He has also been able to create additional man-days for the unemployed persons in his model IFS for an all-round development of the society.



### Farmer details

Prasanna Kumar Sharma  
Kurunjipur, Balipatna  
Khordha, Odisha  
Mobile No.: 9861782353

### KVK details

Dr. P.R Sahoo, SMS (Fishery Science)  
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### The achievement

Annually he earns Rs. 4.5 lakhs from 56 q of paddy, 2.5 q green gram, 24 q fish and 20,000 fingerlings, 5400 lit of milk and 12000 duck eggs.



### Impact of training

Mr. Sharma developed the appropriate skill and knowledge in different enterprise and applied them in his field. Adoption of farm made feed, seed rearing of genetically improved fish strain, scientific duck rearing, vegetable cultivation in trellis, line transplanting in paddy and integrated nutrient and pest management has benefitted in higher production with reduction in input cost. Along with his family labour, he has engaged two workers to monitor the day-to-day activities and manage his farm.

### Motivating others

Mr. Sharma's successful practice of integrating different enterprises has attracted many farmers in his locality. He has guided more than 30 farmers from 10 villages of his area to adopt Integrated Farming. Many farmers visit his farm to seek information about IFS to replicate the same at their own situation.

Recently he has constructed a Bio-floc unit for fish rearing and planted 400 numbers of Apple Ber in his farm with guidance from KVK and financial support from Govt. of Odisha.

### Way forward

Integrated farming has brought special recognition for Mr. Sharma in the society. Now he is one of the members of Bhargabi Fish Farmers' Producer Company. Proper integration of enterprises has paid him rich dividend.





## IT professional turned into entrepreneur

Mr. Anwesh Kumar Sahu, an ardent B. Tech graduate of 25 years, left his job in IT Company and wanted to start farming in 8.0 acres of his parental land. But he had no knowledge about scientific farming. Initially he was engaged in paddy cultivation in only 4 acres of land. But the limited profit generated from there was not sufficient to sustain his family throughout the year. In the meantime, he visited Sonepur KVK and got knowledge about innovative technologies in agriculture. His visit to KVK enabled him to get scientific knowledge and skill about the improved poultry farming and IFS. He decided to give the enterprises a try. He set up a poultry unit with 400 quail bird and 100 desi poultry birds in the adjoining area of his house. Gradually he started a small IFS unit including vegetable cultivation in 1 acre of land, a small farm pond in 4000 sq. ft. and a goatery unit consisting of 7 goats. His produces were regularly sold in the nearby local markets of Tarbha Block with remunerative prices.

He opted to attend 3 days skill based training programme on 'Scientific Poultry Farming' at KVK in collaboration with the district ARD department. He had also participated in a 4 days vocational/skill training programme on 'IFS for livelihood security' at Sonepur KVK. The gained knowledge and skill made him confident to go for commercial poultry farming.



### Farmer details

Mr. Anwesh Kumar Sahu

Badbhainro, Tarava

Subarnapur, Odisha

Mobile No.: 7381616925

### KVK details

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### The achievement

Gaining a profit of total Rs.5.14 lakh annually of which Rs. 4.3 lakh is from poultry farming with 16800 nos. of desi bird and quail farming enterprise and Rs. 0.84 lakh is from IFS unit.



### Impact of training

The exposure to KVK and the training imparted by the scientists helped him a lot to acquire knowledge and skill on various aspects of poultry farming like selection of proper breed, brooding technique, artificial hatching, low-cost feeding techniques, common diseases and their prevention, artificial hatching technique etc. He had established hatchery units (1000 capacities for poultry bird and 500 capacities for quail) and maintained the health of poultry by following appropriate disease management and vaccination schedule. IFS unit is also giving sustainable income throughout the year and the excreta of different live units is converted to compost and is being used in vegetable cultivation.

### Motivating others

He is serving as a resource person on 'Scientific poultry farming' and source of motivation for other farmers. He has now started a comparatively larger 'Poultry unit' which provides quality chicks to the adjoining districts. He is also sharing his experience, knowledge and skill with others and providing extension service to the interested farmers.

### Way forward

In the era of shrinking farmer base, Anwesh has become an example of 'engineer turned farmer' story and stands out like beacon of hope to the young graduates who may want to consider agriculture as a career.



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## Diversified farming for sustainable livelihood

Mrs. Minoti Sarkar is a dedicated woman farmer engaged in various agricultural and allied activities. But her economic condition was hardly improved in spite of her hard work. Now, she is commercially cultivating high yielding varieties of jute, okra, onion etc. To enhance the quality of Jute fibre, she is using microbial formulation CRIJAF SONA powder and liquid. Beside this, she is also engaged in Scientific Goat farming, Vermicompost etc.

Since, 2019, KVK North 24 Parganas (Additional) has been imparting training cum demonstration on Improved Jute production technology, Scientific jute retting using CRIJAF SONA powder, training on Nursery raising techniques for vegetables crops, training cum demonstration on improved production technology of okra and onion, Scientific Goat farming and other areas for the farmers and farm women of that district. Mrs. Sarkar was one of the participants of those training programmes. During the year 2021, KVK North 24 Parganas (Additional), provided a low-cost HDPE vermi bed for vermicomposting and she is now using the vermicompost in crops and vegetables. The appropriate management of varied enterprises has led to substantial increase in her annual income also. Now, she is able to expand the enterprises to multiply her annual income for the economic development of her family.



### Farmer details

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Beraberia, North 24 Parganas  
West Bengal  
Mobile No.:8927113512

### KVK details

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SMS (Horticulture)  
KVK North 24 Parganas (Additional)  
ICAR-CRIJAF, Barrackpore  
West Bengal  
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### The achievement

Her income has increased to Rs. 86,106 per year from different enterprises. She has been benefited with various inputs from the KVK and ICAR-CRIJAF such as Improved Jute Seed, Jute seed drill, CRIJAF SONA high quality seeds of vegetables, mineral mixtures for livestock.





### Impact of training

Through training and demonstration, she upgraded her skill and knowledge in taking up line sowing in high yielding Jute variety, improved jute retting technology using CRIJAF SONA powder and liquid formulation to enhance the fibre quality and high income. She also improved her knowledge in scientific cultivation of okra, kharif & rabi onion production, scientific goat farming and vermicomposting. The diversification improved her economic condition substantially.

### Motivating others

After seeing the success of Mrs. Minoti Sarkar, other farmers of the nearby villages i.e., technologies such as High yielding variety of Jute varieties, viz., JRO 204, JRO MU1, Microbial Jute Retting using CRJAF SONA, Kharif onion variety AFDR and Mineral Mixture supplement for Goat.

### Way forward

Use of high yielding variety of jute and line sowing lead to reduced seed requirement and ease in intercultural operations. Advance jute retting technology of CRIJAF SONA improved the quality of jute fibre to fetch higher return. Such appropriate technologies are the key to improved and remunerative agriculture and efforts are needed to make more number of jute farmers aware of these practices for higher monetary profit.





## A farm became complete source of enterprises

Mr. Abhimanyu Aich, a 52 years old small farmer is having 4.0 ac land including an under-utilized pond of 0.06 ac. He was cultivating rice in 3.0 ac and vegetable in backyard for earning his livelihood. In 2016 his village was adopted by KVK and he came in contact with KVK scientists. He participated in various OFT, FLD and skill training programmes of KVK and got exposure to different improved technologies. Adopting the technologies, he diversified his agricultural activity from rice to high valued fruits and vegetable cultivation, mushroom production, vermicomposting, dairy farming, azolla production and fish farming in integrated approach. At present he is practicing Integrated Farming System with components like scientific rice cultivation in 3.0 ac land, improved fish farming in 0.06 ac pond and high valued fruits and vegetables in pond dyke. He is putting 20 mushroom beds every day and utilizing mushroom bed waste for vermicomposting. He is also practicing dairy farming by keeping two crossbred cows and producing azolla in 3 tanks as animal feed. Abhimanyu Aich participated in 3 days skill training on mushroom production during 25<sup>th</sup> - 27<sup>th</sup> Nov. 2020. With the handholding support from KVK and linkage with Dept. of Horticulture and Dept. of Agriculture, he established mushroom production unit and vermicomposting unit.



### Farmer details

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### KVK details

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Odisha University of Agriculture &  
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### The achievement

Sri Aich is earning a net income of Rs. 58,500.00 from rice, Rs. 20,000.00 from vegetables, Rs. 60,000.00 from dairy, Rs. 1,05,000.00 from mushroom, Rs. 15,000.00 from vermicompost, Rs. 18,000.00 from azolla and Rs. 35,000.00 from fish production.



### Impact of training

After undergoing several training and demonstration, Mr. Aich improved his knowledge and skill on agriculture and allied technologies like scientific rice cultivation, mushroom production, vermicomposting, fish farming, azolla production, cultivation of high valued horticultural crops in pond dyke, low-cost farm made fish feed preparation, effective disease and pest management in rice and horticultural crops. He is now able to minimize the cost of production in rice, fish farming, dairy farming by utilizing the farm waste and proper utilization of available resources.

### Motivating others

Mr. Abhimanyu Aich is a source of motivation for other farmers and farm women. Around 30 farmers and farm women started mushroom cultivation and 13 farmers started vermicomposting in Kuanrda and nearby villages inspired by Mr. Aich. After seeing his success 10 other farmers have started pond based Integrated Farming System in nearby villages.

### Way forward

Integrated farming system is the judicious admixture of identified components to ensure round the year income and employment generation. The resources available with the farmers like land, pond, animal should be tried to integrate properly to make agriculture sustainable.





## Sustained endeavour for sustainable agriculture

Agriculture as an avocation among the young people is not a lucrative option now a days. They generally prefer white collar job after completion of their education. But Mr. Manoranjan Behera proved to be an exception who opted for agriculture as profession after completion of his 10+2 education in science.

He started rice and vegetable cultivation in his 6.0 ha land. With a vision to prosper in the field of agriculture, he came in contact with KVK scientists in 2018. For upgradation of his knowledge and skill, he participated in various skill training during 2019-21 at KVK including mushroom production, quality fish seed production, method of soil sampling, analysis and interpretation of test results, quality planting material production in floriculture crops etc. After getting technical guidance from KVK, he started mushroom cultivation, fish farming, high valued horticultural crops, floriculture and dairy farming. Presently he is getting an annual income of Rs. 7.75 lakh from farming activities out of his 6.0 ha land. His hard labour, dedication and technical guidance of KVK have made him a successful farmer with improved economic condition. Combination of varied enterprises can be very lucrative provided they are maintained in a scientific manner. One component can also serve another one in terms of cost of production also. Mr. Behera has successfully proved its efficacy.



### Farmer details

Mr. Manoranjan Behera  
Jhinkiria, Sahapur, Tihidi  
Bhadrak, Odisha  
Mobile No.: 6371267203

### KVK details

Dr. Aurovinda Das  
Senior Scientist and Head  
Bhadrak Krishi Vigyan Kendra  
Bhadrak, Odisha-756111  
Odisha University of Agriculture &  
Technology  
Email id: kvkbhadrak.ouat@gmail.com

### The achievement

Annually Sri Behera is earning a net income of Rs. 1,75,000.00 from rice, Rs. 1,50,000.00 from vegetables and floriculture, Rs. 1,80,000.00 from dairy, Rs. 1,20,000.00 from mushroom, Rs. 1,50,000.00 from fish production.



### Impact of training

Participation in various skill training enabled him to go for mushroom production, cultivation of high valued horticultural crops, floriculture, azolla production and others. The scientific practices adopted followed by cultivation of improved varieties not only fetched assured return but also established him as a successful young farmer.

### Motivating others

The success of Mr. Behera prompted about 45 farmers and farm women to go for mushroom production. He has served as a resource person under Department of Horticulture. The agricultural farm developed by him is serving as the model for other farmers to follow. So far, he has trained more than 300 farm women in mushroom production.

### Way forward

To attract youth, agriculture should be presented as a profit making enterprise. Proper selection of components is key to augment the production and productivity of agricultural crops and commodities. The next step should be to encourage the unemployed youth to take up agriculture and allied sectors in a business mode for the sustained income and employment generation. Once the youth find interest in agriculture, the problem of under and unemployment can be addressed meaningfully.





## Integrated farming system enhanced profit

Mr. Paritosh Biswas, a young progressive farmer, was engaged in different types of modern agricultural activities to support his family. He owned 8.0 acres of land where he used to grow rice in 6.0 acre, vegetables and other seasonal crops in 2.0 acre of land. He has 1.5 acre pond under fish farming where he used to grow IMC. He got trained from KVK in seed production of paddy var. *Hasanta* and mushroom production and rearing of poultry birds like Vanaraja. He adopted Pond Based Integrated Farming System along with vegetable cultivation as cash crop for higher income and seed production of Paddy to cater the needs of the farmers in the district. The marketability of the fish and vegetable product is also encouraging in the nearby areas and he has developed good linkage with all developmental departments and he is a member of local vegetable growers' association. He participated in the skill development training programmes conducted on Fish Production and paddy seed production at KVK, Malkangiri. Along with that, he also attended few other fish farming related skill development training programme in KVK Malkangiri which helped him to develop the Pond based IFS unit taking pisciculture, high value vegetable cultivation, mushroom production and poultry for higher income.



### Farmer details

Mr. Paritosh Biswas

MV-7, Tamasa

Malkangiri, Odisha

Mobile No.: 7749012180

### KVK details

Mr. Nigamananda Behera

Subject Matter Specialist

(Agronomy)

Malkangiri Krishi Vigyan Kendra

Malkangiri, Odisha

Odisha University of Agriculture & Technology

Email id:kvkmalkangiri.ouat@gmail.com

### The achievement

His annual income from Paddy seed production, fish farming and poultry rearing and other components is Rs. 8.5 lakh per year. He is able to increase input efficiency, minimize the cost of input and get continuous income round the year.





### Impact of training

The training helped him learning appropriate and scientific method of raising the fish species like IMC, with proper pond Management and Feed management aspects. It also helped him understanding the optimum water quality parameters, Feed conversion ratio (FCR), Benefit of Probiotics etc. He also adopted proper method for paddy seed production and maintained the seed quality to get more income.

### Motivating others

Mr. Paritosh Biswas participates in various training programmes as a resource person in Malkangiri. He has engaged two agricultural workers in his IFS unit for proper maintenance. The marketability of the product is also encouraging in the nearby areas and he has developed good linkage with all developmental departments and he is a member of local vegetable growers' association. Mr. Paritosh Biswas has been awarded as Best Farmer at 60th OUAT Foundation Day 2021, Bhubaneswar.

### Way forward

This system judiciously uses land, water and other resources in sustainable and ecofriendly manner. Apart from the environmental benefit, IFS also ensures employment generation, profitability and complementarity with reduction of cost and improved BC ratio.





## Multi-enterprises multiplied farm income

The journey of Mr. Somnath Banerjee started from the scratch. In the year 2015, he used to earn hardly Rs. 4000-5000 per year from his farm of 1.3 acre and a pond 0.13 ha. But his aspiration for agro-ecotourism brought him in contact with KVK Purulia. After undergoing a series of training programme in animal husbandry, dairy, fishery, vermicompost, nursery raising of vegetables, cultivation of fodder and off-season vegetables, duckery, goatery etc. of 5-15 days' duration, he slowly but steadily started his farm development programme with poultry farming and duckery at a small scale with the input support of KVK. The pond was renovated by the State Govt. for cultivation of IMC and fresh water prawn. He prepared a small polyhouse for raising vegetable seedlings and dragon fruit planting materials. The cumulative earning motivated him further to go for rearing of Black Bengal goat with the support of KVK. In the recent past, he was sanctioned of Rs. 15 lakhs for developing a dairy unit with improved breed as a subsidy from the State Govt. Presently, he is rearing 30 nos. of Black Bengal goat, 12 nos. of cross-breed dairy animals, vermicompost unit, poultry unit, duckery unit and 0.13 ha vegetable cultivation as well as seedling raising, IMC and prawn cultivation in the renovated pond. He is also selling kids in the villages along with chicks, IMC and prawn.



### Farmer details

Mr. Somnath Banerjee

Hatuara, Purulia

West Bengal

Mobile No.: 9800925578

### KVK details

Dr. M.K. Bhattacharjya

Senior scientist and Head

Kalyan KrishiVigyan Kendra

Purulia, West Bengal

Email id: kalyankvkpr@gmail.com

### The achievement

Present income of Rs. 10.4 lakhs per annum from enterprises like goatery, dairy, vegetable seedlings, fishery, vermicompost, poultry and duckery.





### Impact of training

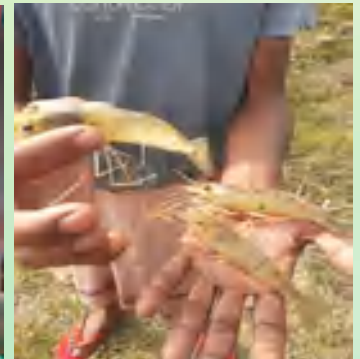
The training provided by the KVK over a period of time has immensely helped him to develop knowledge and skill in all the existing enterprises including scientific goat and dairy farming, nutrient management, disease identification and its treatment to reduce mortality, pond management, ratio of IMC and prawn, preparation of vermicompost with excreta of goat and dairy and raising healthy vegetable seedlings.

### Motivating others

His scientific farming has inspired a lot of many farmers to go for goatery, vermicompost production, fish cultivation, poultry farming, duckery, vegetable cultivation etc. either in an integrated manner or, scattered way. His regular interaction with the farmers has further influenced them to work closely with him and seek guidance as and when required. He has also employed 5 person for maintenance of farm and marketing of produce throughout the year.

### Way forward

In a district like Purulia where paucity of natural resource and climate aberration are the regular features, multiple enterprise are always advisable to the resource poor farmers for their very sustenance. Adequate training, financial support and input availability are the three major areas to ensure for the development of farming community.





# Theme 2

# Fruitful farms



## The concept

Horticulture as a different entity is hardly recognized in agricultural production system. However, a distinct differentiation exists between agriculture and horticulture based on cash earning ability, utilization of ground biomass and manipulation of planting materials. In this zone, horticulture has been established as a preferred mode for quick marketing and earning. Thus, horticulture has become quite attractive both at rural and urban sector for which it has created sizable employment among the youth and women. Horticultural sector is also substantially contributing to the industry for the overall economic growth.





## Dragon fruit- a boon for economic development

Mr. Amjad Ali, a progressive farmer, was mainly engaged in cultivation of rice, jute, wheat and vegetables in his 5.5 acre of land. However, farming with the traditional crops was not fulfilling his aspiration. He was searching for such remunerative crops that can be grown in his farmland to meet his expectation. He was quite enthusiastic after an exposure of Dragon fruit cultivation in social media. To get more information about Dragon fruit cultivation, he contacted KVK Malda to know about detailed package of practices of Dragon fruit cultivation. Interaction, training and demonstration inspired him to start his farming in 0.33 acre of land. This venture earned him an annual income Rs. 30,000 after second year of plantation.

Malda KVK organized capacity building programme in the year 2018-19. The KVK also guided him in raising Dragon fruit orchard properly. Quality Dragon fruit sapling for his farm was supplied by the KVK as a part of demonstration programme. Initially, he was selling his produce directly to the local market but KVK assisted in setting a linkage with SUFAL BANGLA, a marketing outlet of Govt. of West Bengal for easy marketing of his produce. The guidance of KVK coupled with the hard work of Mr. Ali proved beneficial in successfully introducing a new crop in that locality.



### Farmer details

Mr. Amjad Ali  
Balupur, Ratua I, Malda  
West Bengal  
Mobile No.: 9474971321

### KVK details

Dr. Victor Sarkar, SMS (Ag. Extension)  
Dr. Rakesh Roy, Sr. Scientist & Head  
Malda Krishi Vigyan Kendra  
Malda, West Bengal  
Uttar Banga Krishi Vishwavidyalaya  
Email id: maldakvk.ubkv@gmail.com

### The achievement

Earning net income of Rs.8 lakh per acre annually.

Yield of Dragon fruit: around 65 q/ acre.



### Impact of training

The capacity building programme helped him to acquire scientific knowledge about selection of site, proper planting material and whole package of practices of dragon fruit cultivation. Intercultural operation and proper crop production and protection practices were also taught. He could learn to utilize the bank of his pond for productive purpose.

### Motivating others

Sharing the success with the fellow members of Suryadoy Farmers Club created a positive trend towards cultivation of this exotic fruit. The farmers started availing subsidy both from Central and State Govt. for cultivating Dragon fruit. As Dragon fruit is considered good for diabetic patients and boosts immunity, market demand for this crop was created almost within no time to motivate other farmers to start Dragon fruit cultivation in their own land.

### Way forward

Agriculture to make profitable, newer crop/commodities need to incorporate in the existing system. Introduction of an exotic fruit crop like Dragon fruit brought wonder in Malda district owing to its market demand and higher price. Such successful cases when given wide publicity through electronic, print and social media can motivate large number of farmers across districts to opt for such crop/commodity that ensures steady return from the market.





## Floriculture blossomed in a profitable way

Mr. Sumesh Tirwa, a 26 years old youth hails from a small village of Kalimpong District. He has four members in his family. He used to work hard to earn a decent living for his family members. He started a nursery in partnership with the owner of a land. But after the establishment of the nursery, he had to leave it due to certain reasons. In 2020, Mr. Tirwa approached Kalimpong KVK and met the scientists. After detailed deliberation, it was agreed that the KVK would provide the necessary knowledge, skill and infrastructure support for restart of his business in PPP mode in floriculture. He attended a number of training programs on nursery management, flower production, succulent production, pest and disease management in flowers and plants. He was also trained on the use of ICTs in marketing from Kalimpong KVK. The knowledge and skill not only made him a confident flower cultivator but also infused the sense of successful entrepreneur through public-private partnership. His success has gone a long way to introduce commercial floriculture in the hills with sustained employability and profitability. With his hard work, determination and support from KVK, he could establish a successful floriculture unit during the pandemic.



### Farmer details

Mr. Sumesh Tirwa

Tirwa Gaow, Kalimpong

West Bengal

Mobile No.: 7602424044

### KVK details

Mrs. Snehlata Lama, Mrs. Akriti Pradhan, Dr. Basu Deo Kharga  
KVK Kalimpong

West Bengal- 734301

Uttar Banga Krishi Vishwavidyalaya

Email id: djkvk93@gmail.com

### The achievement

A total of 15000 plants have been harvested and a gross Rs. 6 lakh have been earned. A net profit of Rs. 2 lakh have been received during January-July 2022.



### Impact of training

The knowledge and skill provided by the KVK improved his ability to start the nursery in a proper manner. He could learn the scientific practices of flower and plant cultivation including varieties, pest and disease management etc. His marketing skill was also improved through specialized training on ICT followed by access to online marketing of flowers or, plants.

### Motivating others

Presently he is a successful entrepreneur in floriculture and also provides hands-on training to interested individuals, trainees of KVK, students on cutting and grafting, pollination, propagation techniques etc. Out of five individuals trained by him, one has already started one's own business in floriculture and earning sizeable profits. Other four are doing it in small scale. Mr. Tirwa exports his flowers and plants across various states in India. He even sells via online orders, wholesale orders and locally.

### Way forward

Floriculture and orchid cultivation find its root in hilly areas of this country. However, commercial cultivation of such enterprises is not very forthcoming. Proper selection of enterprise and growing it scientifically always pay the desired benefit. Mr. Tirwa put into practice the gained knowledge and skill with sincerity to become a successful entrepreneur in floriculture nursery.





## Turmeric in orchard – uplift farmer's income

The inefficiency in judicious utilization of natural resources in agriculture often results into poor return from agriculture both in terms of production and space utilization. The main natural resource utilized in agriculture is 'Land', hence, proper utilization of land is of utmost importance in agriculture. Malda district of West Bengal is popular for good quality mango orchard where 25-30 years old mango trees are planted at 9 x 9 – 12 x 12 m distance. Due to such spacing huge area is unutilized in these orchards. Mr. Sunil Sarkar, a progressive farmer was mainly engaged in cultivation of field crops and seasonal vegetables along with mango orchard in his 3 ha of land. However, he was looking for better utilization of the interspace in his orchard. To get the knowledge about the crops suitable for intercropping, he contacted Malda KVK. KVK suggested him to cultivate turmeric in mango orchard which was a promising technology for proper space utilization in mango orchard with extra income per unit area.

He participated in a 3-day skill development and awareness training programme on 'Cultivation of turmeric in mango orchard for proper utilization of vacant space' conducted by Malda KVK in the year 2018-19. After attending the training and knowing the benefits, he decided to go for turmeric cultivation in his 2 ha mango orchard.



### Farmer details

Mr. Sunil Sarkar  
Balupur, Ratua I, Malda  
West Bengal  
Mobile No.: 7076388389

### KVK details

Dr. Suddhasuchi Das, SMS (Hort.)  
Dr. Rakesh Roy, Sr. Scientist & Head  
Malda Krishi Vigyan Kendra  
Malda, West Bengal  
Uttar Banga Krishi Vishwavidyalaya  
Email id: maldakvk.ubkv@gmail.com

### The achievement

Earning an extra income of Rs. 1.5 lakh from turmeric along with an income of Rs. 4 lakh from mango. Yield of Turmeric: around 20-25 tones during last three years.





### Impact of training

Knowledge and skill imparted to Mr. Sarkar by the KVK inflicted the sense of confidence in the areas of proper variety selection, attributes of turmeric in controlling termites, reducing the population of trunk borer larvae and other related areas. Cultivation of quality Suranjana variety provided by the KVK produced desirable yield to help him expand the area under turmeric cultivation in his existing mango orchard. Linkage established with the market enabled him to easily sale his produce. Turmeric powder also did find local buyers to fetch better return.

### Motivating others

The success of Mr. Sarkar has been an eye opener for nearly 100 orchard holding farmers of that locality. Apart from additional income generation, quality raw turmeric and its powder are now easily available in the local and nearby markets for its consumption.

### Way forward

Turmeric – mango intercropping in the existing orchards not only helps in utilizing the vacant interspace but also provides additional income. The attack of termite is also substantially minimized in the mango orchard followed by reduced population of trunk borer larvae and soil-borne fungus. Women SHGs can also be formed for commercial value addition of turmeric in the form of powder for household use.





## Quality input leads to quality output

Many rural youths are quitting agriculture now a days and moving to cities in search of better livelihood. Under such challenging circumstances, Mr. Sangram Pradhan, a farmer from Balanda village, Boudh district used his professional expertise to develop mango progeny orchard in 10 acre area to improve his livelihood. He also opted for intercropping with pineapple in his mango orchard to ensure benefit in the event of failure in mango production due to irregular bearing or other environmental factors. He started “Pradhan Nursery” in 2009 with 20 types of fruit crops in 1 acre area. There was potential demand of mango graft under NHM and NREGS Schemes in the district. His nursery was registered by Dept. of Horticulture, Govt. of Odisha for procurement of mango grafts. Initially he produced 3000 nos. of graft in 2009. From 2015 he increased this number to 40,000-50,000/year and supplied to different Govt. and non-Govt. agencies.

Mr. Pradhan participated in a training on ‘Gardening and Grafting and Quality Planting Material Production in fruit crops’ organized by Boudh KVK and Dept. of Horticulture, Govt. of Odisha, respectively, and got an Extension booklet on ‘Establishment of fruit orchard’ from KVK which inspired him a lot to undertake this venture. Along with that, he attended training programs at CHES, Bhubaneswar.



### Farmer details

Mr. Sangram Pradhan  
Purnakatak, Harbhanga  
Boudh, Odisha  
Mobile No.: 8456870072

### KVK details

Tapan Kumar Das, Sr. Scientist & Head  
Mayuri Sing Sardar, SMS (Ag. Extn.)  
Boudh Krishi Vigyan Kendra  
Boudh, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkboudhouat@gmail.com

### The achievement

Net profit of Rs.10 lakh/annum from Mango Orchard and 2 lakh from 4000 Pineapple plant intercropped with Mango from 2.5 acre area along with Rs.1 lakh per acre from Strawberry.

An extra income of Rs. 3 to 4 lakh from his nursery.



### Impact of training

Mr. Pradhan learned the aspects of site selection and scientific management of orchards along with intercropping and QPM production in his farm. He is now producing quality mango graft commercially in large scale for continuous income throughout the year. He undertakes direct marketing of his produce and multiplies plant material for own use to ensure quality and reduced cost. He was awarded as Best Progressive Farmer in Boudh district and Kruti Krushak Samman by Govt. of Odisha.

### Motivating others

He has motivated other mango growers of his area and imparted knowledge about the potential of mango + pineapple intercropping system in enhancing income. He is also trying to give support to other farmers to start their enterprises in small scale. Six farmers of neighboring village planted mango progeny orchard for graft production. He has engaged workers from his village in his farm for proper maintenance as well as marketing.

### Way forward

QPM of mango has a high demand as it leads to higher yield. Beside this, intercropping with pineapple ensures alternate return if the main crop fails. Such practices need to support for the benefit of traditional orchard dependent farmers. The sole orchards may be profitably utilized following the success of Mr. Pradhan in other areas also.





## Vegetable cultivation brought success

Mr. Bablu Modak, a progressive and contact farmer of Cooch Behar KVK adopted the technology for growing summer tomato under poly mulch condition. Varieties selected were Arka Samrat and Arka Rakshak having the trait of triple resistance to diseases and pest. It was made available to him from IIHR by Cooch Behar KVK. The practice of off-season tomato cultivation with suitable varieties and proper management practices enhanced the farm income of that farmer.

He took the knowledge and technology support from KVK and initiated cultivation of off-season tomato in his own land. KVK provided him seed and polythene mulch for an on-farm trial along with plant protection chemical. Entire cultivation practice was closely monitored by the KVK starting from land preparation to harvesting. Supervision of the KVK followed by hard work of Mr. Modak resulted into production of bumper tomato with good quality. The produce was easily sold into local market to fetch substantial profit from tomato cultivation. Now, he is expanding the area under tomato cultivation to sustain the regular income. As tomato in the off season fetches higher price followed by negligible market glut problem, tomato production of Mr. Modak easily found buyers in the nearby markets to encourage him to produce more for enhanced profit.



### Farmer details

Mr. Bablu Modak

Kishmatdasgram, Dinhata-II

Dinhata, Coochbehar

West Bengal

Mobile No.: 7363029005

### KVK details

Ms. Samima Sultana

SMS (Horticulture)

Cooch Behar Krishi Vigyan Kendra

Cooch Behar, West Bengal

Uttar Banga Krishi Vishwavidyalaya

Email id: coochbeharkvk@gmail.com

### The achievement

He got a production of 20.3 ton/ha during month of May with an average market price of Rs. 30.00 per kg in local market with gross income of Rs. 5.25 lakh/ha



### Impact of training

Mr. Modak learned to use poly-mulch in off-season tomato cultivation to suppress weed. It led to minimize the cost of intercultural operations and above all very high water use efficiency. Moreover, use of shed-net in off-season tomato cultivation resulted into very good yield compared to open field condition. Improved crop management practices like pest and disease management, judicious fertilization and post-harvest management taught in the training and demonstration proved to be highly effective in augmenting the production of tomato.

### Motivating others

The success of cultivating off-season tomato in terms of net return prompted several farmers to adopt off-season tomato cultivation practice with suitable disease and pest tolerant variety like Arka Samrat.

### Way forward

Tomato is generally cultivated in the rabi season as one of the major vegetables in the district. However, farmers do not get the adequate profit due to market glut and quality parameters. As an alternative, off-season tomato cultivation proved to be economical. Selection of appropriate variety and proper cultivation practices brought the desired improvement in the economic condition of the farmer. Such small interventions are key to improving the overall economic condition of farmers.

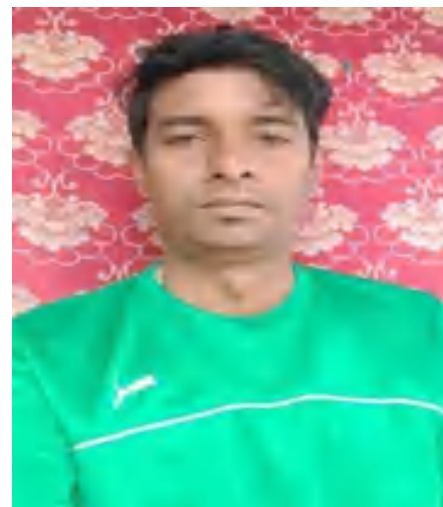




## Small nursery nurtures large scale livelihood

Mr. Satyajit Kar, an ITI (Fitter) by education, nurtures lots of dreams in his eyes. He was unemployed and during this crisis he came in contact with Ganjam-I KVK in the year 2018-19. He participated in different training programmes conducted by KVK from time to time. Finally he started his own small scale nursery and vermicompost unit by the technical guidance of KVK. Mr. Kar is producing different grafts, gootee, seedlings of different horticultural crops and vermicompost. He has achieved financial emancipation by selling these produce to the farmers. After getting scientific interventions from KVK, his current annual income is 1.1 lakh higher than his previous income.

He has successfully completed skill development and capacity development training on Vermicompost production under ASCI at Ganjam-I KVK. Apart from that he was also selected as one of the beneficiaries under the ARYA project of Ganjam-I KVK. He received all the relevant training along with technological backstopping for starting a small scale nursery. He was provided with a low cost poly tunnel along with nursery tools and implements like tulu pump, khurpi, trowel, garden rake, hand sprayer, pro-tray and cocopeat etc. under ARYA. The input support was judiciously utilized by Mr. Kar to establish a number of enterprises for all-round improvement of his economic condition.



### Farmer details

Mr. Satyajit Kar  
Gudiamba, Bhanjanagar  
Ganjam, Odisha  
Mobile No.: 9861432504

### KVK details

Dr. Sutanu Kumar Satapathy  
Senior Scientist and Head  
Dr. Bishnupada Giri, SMS (Horticulture)  
Ganjam-I Krishi Vigyan Kendra  
Ganjam, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkganjam1.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 2.80 lakh per annum from selling grafts, gootee, seedlings, vermicompost and other vegetables.



### Impact of training

After attending skill training, he was producing different planting materials of horticultural crops. He was also producing cucurbits by using single line trellis. Apart from that he had been practicing organic farming in his entire field under the guidance of KVK and using different types of liquid organic manures like Pot manure and *Jivamruta*. He was preparing different organic spray fluid by using ITK for plant protection. He had also provided employment to other youth through this venture.

### Motivating others

He is now acting as a trainer for farmers in training programmes with special focus on grafting and gootee skill. A good number of youth after getting inspiration from Mr. Kar, have shown interest to set up small scale nursery in other blocks. Recently he was awarded as district level Progressive farmer by Department of Agriculture and Farmers welfare, Ganjam.

### Way forward

For higher production, there is a need of quality planting material. There is a dearth of quality nursery in this district. Such type of small-scale nurseries can do wonder as far as making quality planting materials available to the farmers is concerned. Through these activities rural youths can secure a sustainable livelihood and also can generate employment in rural area reducing migration of youth to other states.





## Vegetable cultivation for sustainable livelihood

Mr. Jitendra Palo, an enthusiastic farmer, was engaged in vegetable cultivation but struggling with poor yield due to unavailability of quality inputs, poor technological backstopping and extreme natural calamities. In order to get better income, he came in contact with Ganjam-I KVK for technological support. Considering the prominence of vegetable cultivation in the economy of Mr. Palo, KVK decided to impart training and conduct demonstration on improved vegetable cultivation as the faster means to improve his economic condition. Now he is cultivating different vegetables like chilli, tomato, bitter gourd and cole crops by following the good horticultural practices recommended by KVK. He attended training program on off-season vegetable cultivation conducted by KVK. He also actively participated in Front line demonstration (FLD) program on INM in Bitter gourd. He acquired knowledge and skill on application of growth regulators in different vegetables. In the year 2021-22, KVK provided stress tolerant hybrid of tomato (i.e., Arka Rakshyak), bio-fertilizers inoculated in vermicompost, growth regulators etc. along with proper guidance. Shifting to improved vegetable cultivation practices enabled Mr. Palo to fetch good yield as well as return. Now, he is contemplating on popularizing good horticultural practices among the fellow farmers for the overall economic development.



### Farmer details

Mr. Jitendra Palo  
Golapada, Bhanjanagar  
Ganjam, Odisha  
Mobile No.: 8456813033

### KVK details

Dr. Sutanu Kumar Satapathy  
Senior Scientist and Head  
Dr. Bishnupada Giri, SMS (Horticulture)  
Ganjam-I Krishi Vigyan Kendra  
Ganjam, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkganjam1.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 2.30 lakh within eight months, which is more than Rs. 82,000 compared to his previous year's income.





### Impact of training

The training and technologies provided by KVK has equipped Mr. Palo to overcome emerging challenges related to low yield in vegetable cultivation. Use of stress tolerant varieties minimized the risk of disease and pest incidence, application of growth regulators increased the fruit set in chilli. He also learnt the skill pertaining to inoculation of bio fertilizers in vermicompost, which enhanced the return by manifold.

### Motivating others

Apart from cultivation he has also started preparing planting materials of different vegetables and selling those to nearby farmers. Besides, he is imparting skill training to fellow farmers. He has already inspired many farmers in his village and nearby villages too. For his outstanding achievements he bagged various awards and got recognition at district level.

### Way forward

Vegetable farming is a profitable business provided appropriate technologies and good horticultural practices are followed in every step of cultivation. Shifting to organic vegetable cultivation from the traditional one adds value both to produce and income. Farmers need to make more and more aware of the vegetable cultivation both as seasonal and off- season enterprise to gain monetary return throughout the year. The success of Mr. Palo can stimulate the eagerness among more number of farmers.





## Agro-technologies to fulfil dreams

During a survey in the village Tiangia, of G.Udaygiri block by Krishi Vigyan Kendra, Kandhamal for implementation of Bio-tech KISAN project, Nepala Pradhan, a 46 years old tribal vegetable grower came in contact with KVK scientists and narrated his agricultural problems. KVK advised him to participate in the training programme on production technology for vegetable cultivation after observing his field. Mr. Pradhan was constantly in touch with Krishi Vigyan Kendra, Kandhamal and scientists of KVK also visited his field regularly. He was provided with all the need-based knowledge and skill including integrated nutrient, weed, water and pest management practices. The KVK, Kandhamal conducted demonstrations of off-season cauliflower cultivation, organic turmeric cultivation and raikia bean cultivation in trellis system in his field. All the need based critical inputs were provided by the KVK during the demonstration programme. Regular field visits were also made by the scientists at the time of each and every farm operation. He is now growing vegetables in an area of 5.0 acres of land with improved package and practices. He participated in the 2 days' skill development training programme conducted on "Improved Package of practices for vegetable cultivation."



### Farmer details

Mr. Nepala Pradhan  
Tiangia, G. Udayagiri  
Kandhamal  
Mobile No.: 8763464418

### KVK details

Ms. Sripali Pradhan  
SMS (Agronomy)  
Kandhamal Krishi Vigyan Kendra  
Kandhamal, Odisha-756111  
Odisha University of Agriculture &  
Technology  
Email id:kvkkandhamal.ouat@gmail.com

### The achievement

After all expenses on input, labour, irrigation he got a net profit of Rs.2.6 lakh.





### Impact of training

The training helped him learning appropriate and scientific method of vegetable cultivation including trellis system of cultivation. He also learnt to use its byproducts for vermicompost production. He regularly visits KVK and updates himself with new knowledge.

### Motivating others

Based on his experience, he started offering hand-on training to farmers' groups and youths. Inspired by his success, many farmers from the nearby areas started approaching KVK for starting scientific cultivation of vegetables for sustainable development of livelihood.

### Way forward

Vegetable cultivation in traditional method does not give satisfactory yield and income. Incidence of insect and pest is also observed to a certain extent deteriorating the market value of the produce. Trellis system of vegetable cultivation helps in overcoming such production problem and produce quality vegetables. A modification in the present cultivation system has made Mr. Pradhan a successful farmer with handsome return. The success of Mr. Pradhan has not only improved his economic condition but also inspired others to follow the system for enhanced and quality production of vegetables.





## High value vegetables add value to income

Conventional cultivation practices of paddy, cotton, arhar and maize in kharif and rabi season was the main agricultural activity of Mr. Rajendra Kumar Nimalu of Rayagada district of Odisha. Though he had 4.5 acres of land but return from the farming was far from his expectation due to traditional agricultural practices. With an aim to boost up overall income from the existing/ newer crops, he came in contact with KVK Rayagada through a skill based training programme on cultivation of high value vegetables in the year 2019. Market-oriented vegetable farming not only creates income for smallholder farmers but also helps in building their resilience to external risks. After acquiring the knowledge and skill he opted for cultivation of vegetables like capsicum, broccoli, spine gourd, pointed gourd, carrot and french bean in different season. He also started following scientific cultivation practices for maize and other crops as a fallout of his exposure towards KVK Rayagada. Now he has brought 3 acres of land under such high value vegetables for higher production and sizable market price. Diversification of existing cropping system with selected high value vegetable has paid him rich dividend in terms of quality produce as well as easy marketing. The overall income from the farming has increased manifold with the support of KVK Rayagada.



### Farmer details

Mr. Rajendra Kumar Nimalu  
Pradhaniguda, Gunupur  
Rayagada, Odisha  
Mobile No.:9437263404

### KVK details

Mr. Rajib Tudu  
Senior Scientist and Head  
Rayagada Krishi Vigyan Kendra  
Rayagada, Odisha  
Odisha University of Agriculture &  
Technology  
Email id:kvkrayagada.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 18,000 per month from high value vegetables and other crops.



### Impact of training

Specific areas covered during the training at KVK made Mr. Nimalu expert in use of trellis method for vegetable cultivation, selection of proper improved/ hybrid varieties and the overall management practices. Now he is cultivating vegetables throughout the year followed by adopting practices like line sowing, soil testing based fertilizer application, use of neem coated urea, bio fertilizers and IPDM (Integrated Pest and Disease Management) both in vegetables and other crops.

### Motivating others

Apart from popularizing high value vegetable cultivation, Mr. Nimalu has become instrumental in incorporating the practice of soil test based fertilizer application among the farmers irrespective of crops and vegetables. The return from the newer practice has also encouraged a good number of farmers to adopt such practices.

### Way forward

Diversification of any existing cropping system is a welcome approach to ensure farm income and marketing of quality produce with a grand return. The success of scientific cultivation practice in one crop leads to improvement in other crop cultivation also. Mr. Nimalu with sincere and hard work has paved the way for better income of the large number of farmers in his district.





## Dragon in orchard fortune at the doorstep

Dragon fruit, exotic in nature is becoming popular among the common people though its' cultivation is not so fast spreading in the northern part of West Bengal. Considering the potentiality to cultivate dragon fruit in the Dakshin Dinajpur district of West Bengal, KVK Dakshin Dinajpur included Mr. Gopal Barman in its' demonstration program. He was also in search of a profitable cash crop along with his normal agricultural practices. To make the demonstration program successful, the KVK provided him skill development training on dragon fruit cultivation to make him familiar with this newer cultivation practice. With the consent of Mr. Barman, 33 decimal of land area was put under dragon fruit demonstration with all other needed support/ inputs like rooted cutting, pillar etc. As dragon fruit is produced @60-70 q per acre and having market price of Rs. 175-200 per kg Mr. Barman was very much interested to develop his orchard with the support of KVK Dakshin Dinajpur. The KVK, in turn, is regularly monitoring the growth of dragon fruit plant, fruiting, incidence of pest and disease, nutrition and other related aspects. Though Mr. Barman had to wait one year to harvest dragon fruit at the beginning but from second year onwards he could harvest 7-9 kg dragon fruit per plant which he could sell at a price of Rs. 250 per kg.



### Farmer details

Mr. Gopal Barman  
Tapan, Dakshin Dinajpur  
West Bengal  
Mobile No.: 9735047932

### KVK details

Mr. Siddikul Islam  
Subject Matter Specialist (Horticulture)  
Dakshin Dinajpur KrishiVigyan Kendra  
Dakshin Dinajpur, West Bengal  
Uttar Banga Krishi Viswavidyalaya  
Email id: ddkvk.ubkv@gmail.com

### The achievement

Earning an extra income of Rs. 90,655 per year from the dragon fruit orchard.



### Impact of training

The skill based training enriched Mr. Barman with scientific techniques of Dragon fruit cultivation. The support like pillars and good quality rooted cutting of dragon fruit provided through FLD programme helped him to start dragon fruit cultivation by establishing an orchard in his 33 decimal land area. The knowledge and skill acquired by him also helped him maintaining proper plant to plant distance, equal distribution of planting material in the erected pillars and other required practices.

### Motivating others

The success of Mr. Barman in dragon fruit cultivation has inspired others to follow this new venture. So far 45 farmers have established new dragon fruit orchards taking quality planting materials from him. The easy market of this exotic fruit and higher remuneration have motivated many farmers to go for commercial cultivation also.

### Way forward

Dragon fruit is preferred by common consumers for its taste and anti-cancer quality. This fruit has ready market also that motivates a good number of farmers to go for its cultivation. However, quality planting materials need to make available to take this cultivation a step further. Moreover, financial support is also required to enable the farmers to develop the orchards with pillars to support the fruiting plants.





## Planting materials sustained economic gain

Raising of planting materials at a commercial level is not a common livelihood option of the young people. But Mr. Samiran Samui and Mr. Bijoy Krishna Basu of Onda block, Bankura, opted for commercial horticultural nursery as a source of their income and employment against the present trend. However, the venture could not provide them initially any substantial amount out of the sale of unidentified varieties of horticultural planting materials. The situation changed in the year 2018 when both of them received a skill development training of 7 days duration on entrepreneurship development through nursery management by RKVY /KVK. As per the guidance of KVK they modified their unit to accommodate quality planting materials of spices and plantation crops, herbs, ornamental plants, exotic and native fruits and vegetable saplings etc. They collected 55 varieties of Mango, 6 varieties of Guava and imported varieties of Palm, Gooseberry, Jackfruit, lemon, Rambutan, Jamun, Sapota, Star fruit, Water apple, Avocado, Bael, Cinnamom, Bay leaves, Black Pepper, Bougainvillea etc. to sell as saplings. Apart from getting accreditation from National Horticulture board (NHB), their monthly income has reached to Rs. 1.25 lakh within 3 years. And their nursery has become a model nursery in the district for providing quality planting materials in the red and lateritic zone of West Bengal.



### Farmer details

Mr. Bijoy Krishna Basu and  
Mr. Samiran Samui  
Onda Block, Bankura  
West Bengal  
shyamalimaudyog@gmail.com  
Mobile No.: 9732674082

### KVK details

Dr. Moumita Dey (Gupta)  
Programme Coordinator Incharge  
WBCADC Krishi Vigyan Kendra  
Bankura, West Bengal  
Email id: cadckvk@gmail.com

### The achievement

Now after 3 years of nursery enterprise they are earning Rs. 1.25 lakh together for a month.





### Impact of training

Training received from KVK Bankura has helped them to understand optimum agro-climatic condition, soil health management, site specificity and other associated practices. Training has aided them in gathering technical know-how on method of propagation like veneer grafting, cleft grafting, inarching, air layering, preparation of pot mixture etc. Their dream of creating scientific model nursery with mist chamber, micro-irrigation method, poly house and shade net has become a reality now.

### Motivating others

Shyamalima Udyog nursery of Mr. Samiran Samui and Mr. Bijoy Krishna Basu has become one of the most maintained and scientifically oriented nurseries at the district. They have given employment to 30 numbers of SC/ST rural youth at their farm for production besides enabling large number of farmers to get quality materials.

### Way forward

Shyamalima Udyog has recently signed a MoU with Flipkart and Amazon for selling saplings of native and exotic plants outside the state. Online marketing channels can be utilized to sell other agri and non-agri products also. Based on the suitability of agro-climatic condition and assessing the market, such type of venture needs to popularize among the farmers / youth for a sustainable livelihood, particularly in red and lateritic tracts of the country.



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## Nutri-garden for healthy and wealthy life

Nutri-garden, the advanced form of kitchen garden is to provide the rural family with fresh vegetables rich in nutrients and energy on a daily basis. It is observed that lack of dietary diversification often leads to micronutrient deficiency that causes impaired physical and cognitive development. With the basic purpose to change the food habit and improve overall health status of the rural household, a programme on nutri-garden was initiated by KVK Purba Medinipur in the year 2018-19.

A total of 150 beneficiaries were selected for developing model nutri-garden in the adjacent unused land to the house in 5 villages. Preference was given to those members who had such land in their adjacent dwelling houses. The mission was started with repeated awareness cum training programme for the beneficiaries to make them understand the importance and management of nutri-garden. A no. of group discussion was also organized for identification of season specific crops/ vegetables/ spices/ medicinal plants/ fruit plants. It was done to ensure the balanced nutrition from the produce around the year. Finally, seed and planting material for crops for different seasons were supplied to the beneficiary along with organic fertilizer and pesticides. The activity in each demo unit was then monitored bi-weekly by KVK personnel.



### Farmer details

A group of Farm Women  
Golapchak, Durgachak  
Purba Medinipur, West Bengal  
Mobile No. of one of the  
beneficiaries: 7501782615

### KVK details

Dr. Nitai Mudi, Senior scientist & Head  
Dr. Anjan Kumare Chowdhury, SMS  
(Agril. Extension)  
Purba Medinipur Krishi Vigyan Kendra  
Purba Medinipur, West Bengal  
Bidhan Chandra Krishi Viswavidyalaya  
Email id: [purbamedinipurkvk@gmail.com](mailto:purbamedinipurkvk@gmail.com)

### The achievement

A model Nutri-garden of 2 katha brings nearly Rs. 24000/annum.

Each model Nutri-garden can compensate for 55% of the vegetable requirement of the family.



### Impact of training

Training of KVK impacted a lot on each beneficiary to make them aware of the health benefits of each item of the Nutri-garden. They were also trained on vegetable seedling production for its cultivation in an organic way. From the second year onwards majority of the beneficiaries maintained and even increased the area of their Nutri-garden.

### Motivating others

Within three years of continued effort, KVK has made it possible to involve 15 more villages in this endeavour. Apart from the selected beneficiaries, common villagers are also motivated by seeing the round the year vegetable cultivation and have come forward to start the same in their own setting. School and college students are also involved in this venture. Now this concept of Nutri-garden is spreading in a greater number of villages through different programmes of the KVK.

### Way forward

Developing a model Nutri-garden helps in mitigating both nutrition related issues and creating avenue for income generation. Diversification of diet not only attracts young people towards household food but also reduces the family expenditure. The unused land is also utilized on a productive way followed by engagement of farm women in Nutri-garden. Such programmes need to percolate in all the villages for mal-nutrition free young generation.





## Exotic vegetables brought added value

Earning livelihood through conventional farming from 1.5 acre of area was not at all a profitable practice of Md. Sahidul Islam, a small farmer of Kranti Block of Mal Sub-division of Jalpaiguri district. In addition to traditional practices he lacked improved variety, technical knowhow, knowledge to control pest and diseases and other associated knowledge. In a bid to popularize exotic vegetable cultivation in that block in the year 2019, KVK Jalpaiguri approached Mr. Islam for his land to demonstrate a no. of exotic vegetables. Both the consent of Mr. Islam and training provided to him by the KVK, Mr. Islam started cultivation of high-value exotic vegetables in a low cost poly tunnel under direct supervision of the KVK. His farm became an ideal demonstration unit for exotic vegetables like coloured cauliflower, coloured capsicum, gherkins, summer squash, red cabbage, broccoli, pakchoi, Chinese cabbage, lettuce, parsley etc. under poly tunnel. The quality and variation in the look of the exotic vegetables attracted immediate market both from local areas as well as nearby shopping malls, municipality agriculture market, resorts and hotels of the district and adjoining areas. The success of Mr. Islam has earned him 'Krishak Ratna' award by the Govt. of W.B. in the year 2021 followed by interest grown among a very good no. of farmers of his locality.



### Farmer details

Md. Sahidul Islam  
Malbazar, Jalpaiguri  
West Bengal  
Mobile No.: 9732001922

### KVK details

Dr. Kaushik Das  
Subject Matter Specialist (Horticulture)  
Jalpaiguri Krishi Vigyan Kendra  
Jalpaiguri, West Bengal  
Uttar Banga Krishi Viswavidyala  
Email id: jalpaigurikvk@gmail.com

### The achievement

Gaining a profit of Rs. 1.94 lakh per year from the exotic high value vegetable crops.

Rewarded with Krishak Ratna award (2021) by Govt. of West Bengal, Malbazar Block.



### Impact of training

The training and demonstration on high value exotic vegetables have created a deep impact on the promotion of its cultivation by a good no. of farmers. The farmers are now more focused on cultivation of such vegetables round the year under poly tunnel and with improved income compared to previous traditional practices.

### Motivating others

The KVK and other organizations are utilizing his experience as the resource person of vegetable cultivation related programmes. Farmers of this district are enriched by getting his working experiences along with exposure visit in his farm. More than 30 no. of farmers have started cultivation of exotic high value crops under poly tunnel under the direct supervision of Jalpaiguri KVK.

### Way forward

Exotic vegetable cultivation needs to encourage to avoid market problem of the conventional vegetables followed by its problem of wastage in the farmers' field. The increased awareness about the nutritional value of the exotic vegetables among the common consumers is playing a positive role to include such vegetables in the daily diet of the people. More and more people are opting for exotic vegetables owing to its benefits. The demand is increased manifold in the tourist friendly district of Jalpaiguri to improve the economic condition of such vegetable growers.





# Theme 3

## Redefining old-schools



## The concept

Agriculture being an age old mean of livelihood has been always primary career choice for a large section of countrymen. The fertile land, favorable climate, availability of water along with other factors have influenced the people of this region to go for rice based cropping system in a large chunk of lands. West Bengal is still counted as one of the largest producers of Rice in India due to this reason. The field crop production in other parts of the world has seen cutting edge technologies like mechanization, precision agriculture etc. but in the present economic system of Odisha and West Bengal, large-scale implementation is not observed. However, the constant effort of agricultural scientific fraternity has empowered the farmers to better natural resource management, usage of better varieties etc. Adoption of improved cultivation practices has helped the farming community to bring prosperity in their economic condition.





## Green gram in cropping system changed fortune

Mr. Harihar Bhunia, a 41 years old farmer, had five bigha (0.65 ha) of land in Laxmijanardanpur village of Patharpratima Block, South 24 Parganas district of West Bengal. Earlier he used to follow only Rice (Aman) - Rice (Boro) cropping system to sustain his family. But the high cost of boro rice cultivation and less return forced him to search for other enterprise for an assured as well as high return.

Mr. Bhunia took part in an off-campus training programme along with twenty other farmers on scientific pulse seed production techniques organized by Sasya Shyamala KVK, Ramakrishna Mission Educational and Research Institute during 20-23rd March, 2017 at Dakshin Sibganj village of Patharpratima. The programme motivated him to take up greengram seed production instead of boro paddy in his land. He could know about scientific method of greengram production in a systematic manner during the training programme. Now, he adopted the Rice (Aman) – Green gram cropping system and followed the scientific method of seed production starting from seed treatment, maintaining proper isolation distance, rogueing for purification, harvesting at proper stage and storage at proper moisture level etc. His efforts paid him rich dividend both in terms of production and economic benefit.



### Farmer details

Mr. Harihar Bhunia  
Patharpratima, South 24 Parganas  
West Bengal  
Mobile No.: 9593194800

### KVK details

Dr. Ram Babu Raman, SMS  
Sasya Shyamala Krishi Vigyan Kendra  
RKMVERI  
Sonarpur, South 24 Parganas  
West Bengal  
Email id:  
rkmu.kvknarendrapur@gmail.com

### The achievement

Before training he was able to generate an income of Rs. 35,000/- from boro paddy. After adoption of seed production programme of green gram, he is earning an income of Rs. 1, 08,974/- utilizing the same land and resources.





### Impact of training

Seed production of green gram though was a new area for Mr. Bhunia, knowledge and skill imparted by the KVK made him confident to opt for this venture. The training made him expert in scientific seed production of green gram including maintenance of quality seed, seed treatment with Rhizobium, proper isolation distance, roguing and storage at proper moisture level.

### Motivating others

Now, 60 farmers from different villages of his block (Patharpratima) and about 400 farmers from other blocks of the district are participating in green gram seed production programme in about 50 ha of land. Other farmers are also visiting his seed production farm to get inspiration.

### Way forward

As a result of cultivating leguminous crop like green gram, soil fertility is gradually improving in this region. Farmers are getting higher production from the successive kharif rice crop. Use of chemical fertilizers (nitrogenous) in the next crop is reduced due to residual nitrogen in soil. Thus, it has good economic and environmental impact also followed by higher profit compared to previous cropping system.





## ‘Organic Rice’ – a bowl of health and wealth

Mr. Jagdanand Padhan, a hard-working dedicated farmer, was always worried about the use of chemical fertilizer and pesticide as it increase the cost of cultivation and deteriorate farmers’ health. To curb out such issues, he was enrolled for organic farming vocational training in Bargarh KVK where he learnt preparation and use of bio-pesticide and bio-fertilizer in rice field. He was sensitized for Organic Rice cultivation with processing, packaging and marketing in domestic and inter-state channel. The adoption of organic cultivation helped him in reducing the use of chemicals to rejuvenate natural enemies, agro-ecosystem and soil health. Bargarh KVK trained him in biofertilizer and biopesticide formulation (Jeevamrit, Neemastra, Brahmastra etc.) along with its use in rice field. By observing demonstration units of bio fertilizer and bio pesticides, he developed demonstration units of different formulations at his own place. He has undergone training on IPM and INM without chemical use for conversion from chemical-based agriculture to organic agriculture. He was provided with 5 nos. of waste decomposer under frontline demonstration (FLD) program in 2020-21. The alternate practice has not only reduced the cost of cultivation but also improved soil health for an eco-friendly farming.



### Farmer details

Mr. Jagdanand Padhan

Gudisera, Bargarh

Odisha

Mobile No.: 9776389860

### KVK details

Mr. Nrusingh Charan Barik

Senior Scientist and Head

Bargarh Krishi Vigyan Kendra

Bargarh, Odisha

Odisha University of Agriculture & Technology

Email id: kvkbaragarh.ouat@gmail.com

### The achievement

Gaining profit of Rs. 25,200 per ha.

The cost of cultivation was Rs. 28,000/ha which was lower than conventional chemical-based rice cultivation i.e., Rs. 35,000/ha.



### Impact of training

Training and demonstration units of bio fertilizer and bio pesticides enabled him to develop demonstration units of different formulations at his own place. Application of such organic / bio products improved the quality of rice. He served as master trainer for other farmers in preparation of bio formulation in on and off campus training programmes. He had also visited KVK campus during farmers fair with his exhibits. He was awarded for his efforts by many organizations as successful farmer of Bargarh.

### Motivating others

There was increase in rate of adoption of organic farming by fellow farmers. Nearly 30% farmers of his surrounding villages had adopted organic rice cultivation. He had expanded the processing units and packaging units. He had also started selling packaged organic rice with label to SHGs and ORMAS as a marketing outlet.

### Way forward

Organic rice cultivation has ensured sustainable livelihood in the existing scenario of chemical intensive agriculture. It also led to profit enhancement and economic empowerment with conservation of biological diversity. The higher demand of organic rice compared to conventionally grown rice in market may be attributed to its additional health benefits owing to less pesticide content and food additives.





## Tomato in kharif paid dividend

Pradeep Lakra, a young tribal guy, was engaged in traditional farming to support his family. However, the meagre income from traditional agricultural practices forced him to explore the possibility of earning more from other ventures. He visited KVK Deogarh and gained knowledge about scientific agricultural practices including kharif tomato cultivation. Initially he started tomato cultivation in 2 acres of hilly, undulated up land. He collected good quality seed of var. Arka Rakshak and Arka Samrat, technologies of different types of trellis system, nutrient management practices and plant protection measures from KVK. Off season tomato cultivation fetched him a better market price of Rs 34 per kg even during covid period. The profit earned at the beginning motivated him to sharpen his knowledge and skill further. He participated in skill development training programme on Kharif tomato cultivation practices and Application of Bio-fertilizer consortia in kharif tomato at KVK, Deogarh during 2019-20 and 2020-21. He changed tomato cultivation practices accordingly to get quality as well as good quantity harvest for much higher return from kharif tomato cultivation. The change of season of tomato from rabi to kharif paid him rich dividend due to high market demand and absence of market glut situation commonly encountered in the normal season of tomato cultivation.



### Farmer details

Pradeep Lakra  
Kalchipodadihi, Tileibani, Deogarh  
Odisha  
Mobile No.: 8763147984

### KVK details

Mr. Chinmay Mishra  
Programme assistant (Soil science)  
Deogarh Krishi Vigyan Kendra  
Deogarh, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkdeogarh.ouat@gmail.com

### The achievement

From this 2 acres of land he earned a profit around 2,20,000/- per annum.



### Impact of training

The training helped him learning appropriate and scientific method of kharif tomato cultivation, use of biofertilizer consortia and its effect on improving fruit quality and size. He also learnt how to control wilt in tomato, a major problem in tomato cultivation. Gradually he increased use of micronutrient in tomato field for improved soil health and fruit quality.

### Motivating others

Pradeep is now imparting training in different programmes conducted by agriculture and allied departments as a resource person. District horticulture department and ITDA are helping the farmers since last two years for its horizontal expansion. With the support of Pradeep, now it is cultivated in about 100 acres of Sodo and adjoining panchayats. Red tomatoes of this area now ruling the markets of neighboring districts.

### Way forward

Off-season vegetable cultivation is always remunerative as it ensures return from the market. Appropriate and scientific method of tomato cultivation in kharif can be taken up by the small holders even at small scale to get more return than the conventional crops. Adoption of such practice by other farmers is likely to popularize off-season tomato cultivation followed by improved economic condition. Such practices are bound to benefit small farmers in the long run.





## Tuberose with betel vine improves livelihood

Mr. Jhumur Dalei was engaged in cultivation of paddy and vegetables since long but the meagre profit prompted him to explore other possibility of earning more. He participated in a skill-based training programme conducted on 'Commercial Floriculture' and 'Scientific Betel vine Cultivation' during 2019-20 by Ganjam-II KVK. After getting sufficient technical knowledge and support from KVK, he started tuberose and betel vine cultivation in the homestead area of 1 acre. Earlier, he was getting an annual income of Rs. 33,491 by cultivating paddy and vegetables. Now he is earning an annual income of Rs. 2, 38,128.

He attended the demonstration of high yielding variety of tuberose (var. Arka prajwal) and STBF with 75% RDF + FYM (1 kg/ m<sup>2</sup>) + Vermicompost (VC) (300 g/m<sup>2</sup>) + Azospirillum (2 g/plant) + PSB (2 g/plant). He also attended another 2 demonstrations on betel vine on STBF (50%) + MOC (1.5 t/ha) + VC (10 t/ha) + consortia of azotobacter, azospirillum and PSB (4 kg/ha) inoculated to 300 kg VC, mixed with 15 kg lime incubated at 30 % moisture for a week and applied in the rhizosphere and on IDM for Collar rot in betel vine by furrow application of T. viride (4 kg enriched in 50kg FYM/ha as basal application) along with 2 sprays of Tebuconazole (1 ml/L).



### Farmer details

Mr. Jhumur Dalei

Hinjilicut, Ganjam

Odisha

Mobile No.: 9348118544

### KVK details

Dr. Sushree Choudhury

SMS (Horticulture)

Ganjam-II Krishi Vigyan Kendra

Ganjam, Odisha

Odisha University of Agriculture & Technology

Email id: kvkganjam2.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 2.38 lakh annually from 4 acre of land.



### Impact of training

The training on Commercial Floriculture helped Jhumur in selection of site, varieties, field preparation, selecting proper sized bulbs, planting time and spacing along with scientific management of various aspects related to floriculture. By getting training on scientific Betel vine cultivation he adopted scientific technologies and is able to get good yield of betel vine.

### Motivating others

Farmers of surrounding villages were very much impressed by the yield of tuberose (var. Arka prajwal) along with soil test based nutrient management practice and integrated disease management practices for Collar rot in betel vine. These technologies became popular among the farmers of nearby 17 villages of different blocks like Chatrapur, Sanakhemundi, Hinjilikatu, Rangeilunda and Patrapur.

### Way forward

Commercial floriculture with tuberose and betel vine cultivation proved to be economically beneficial for the small holders. The Midas touch of appropriate technology can go a long way in improving the yield as well as return from the selected enterprises. As betel vine is consumed at a large scale by the common persons in Odisha and West Bengal, marketing of this product is quite easy in the states. Likewise, tuberose is also having its own market. The combination proved to be a real success.





## Sweet Corn as sweetener in family income

The livelihood of Mr. Sukadeb Biswas was mainly dependent on cultivation of paddy, groundnut, green gram and a few vegetables. In his parental land of 4.0 acre, he used to put hard labour to earn sizable income from agriculture. However, the traditional agricultural practices could not provide him the monetary gain against his hard labour. KVK Malkangiri was demonstrating Sweet Corn (*Zea mays* var. saccharata) crop cultivation (var. Sugar -75) in the locality of Sri Biswas from where he could know the prospect of sweet corn cultivation in earning adequate income. He also understood the demand of sweet corn in his local market and decided to diversify his cropping system incorporating sweet corn as one of the crops. Initially, he participated in a training programme on “Package and Practices of sweet corn cultivation” followed by allowing KVK Malkangiri to conduct demonstration in 1.0 acre of land. During the demonstration programme he further attended training programme on Fall Army Worm (FAW) management as well as Integrated Nutrient Management (INM) at KVK, Malkangiri. The training and demonstration helped Sri Biswas to earn substantial profit in the very first year which motivated him towards area expansion under sweet corn cultivation. Adoption of improved variety was the key to his successful venture of cob selling at a remunerative price.



### Farmer details

Mr. Sukadeb Biswas  
Malkangiri Village-9  
Malkangiri, Odisha  
Mobile No.:8926180154,9668271584

### KVK details

Mr. Nigamananda Behera  
Subject Matter Specialist (Agronomy)  
Malkangiri Krishi Vigyan Kendra  
Malkangiri, Odisha  
Odisha University of Agriculture & Technology  
Email id:kvk Malkangiri.ouat@gmail.com

### The achievement

By adopting the improved sweet corn cultivation of Var “Sugar -75”, he got a yield 22000 numbers of cobs per acre with good quality. By selling the cobs in local markets @Rs. 5-6 per cob, he received a gross return of Rs. 1,10,000/- with a net profit of Rs 65,000/- per acre.





### Impact of training

Participation in training and demonstration provided Mr. Biswas the knowledge and skill about scientific method of sweet corn cultivation including nutrient management, pest management, spacing, time of planting and prevention against FAW. Quality sweet corn seed under TSP programme was provided for its cultivation. The KVK established linkage with the local and nearby market for easy sale of his produce.

### Motivating others

This new enterprise has inspired a good number of farmers to give sweet corn cultivation a try as a remunerative option. Finally total area under sweet corn cultivation in the entire district increased as a promising cash crop for the farmers.

### Way forward

Crop diversification in the traditional agricultural practices may lead to prosperity among the farmers. In the present situation cultivation of sweet corn as a promising cash crop in upland situation attracted the farmers to go for sweet corn cultivation along with the traditional crops cultivated during kharif and rabi season. However, the adequate hand-holding, improved cultivation practices and supply of quality seeds are the prerequisites to establish a new crop in an existing system. Such cases need to extrapolate in the entire area to motivate others to practice it.





## Onion in kharif brought prosperity

Sundargarh district has 52% uplands out of which 75% of the land is covered with traditional paddy in *Kharif*. This provides a vast scope of crop diversification though major areas are untapped. KVK Sundargarh-II explored the feasibility and scope of Kharif onion in this Agro-Climatic Zone. Onion is a highly remunerative crop for Sundargarh farmers being cultivated in around 1472 ha. But the cultivation practice of Onion was only confined to Rabi season. Since last few years, it has been observed that insufficient supply of onion resulted in serious price hike during off season. Realizing this situation KVK, Sundargarh-II introduced kharif onion var. Agri Found Dark Red and L-883 in the adopted villages. Mr. Natha Charan Behera was one of the farmers to go for this crop diversification. As the farmers were not aware about the package and practices of cultivating of kharif onion, they were thoroughly trained about it. The seedling raising was done in raised bed equipped with poly tunnel to protect them from rain fall and give it a conducive environment to grow. Transplanting was done in the last week of August in broad based furrow method. All the cultivation practices like Nutrient Management, Integrated Pest Management, Integrated Disease Management schedule were recommended in time. During the growth period no significant disease pest attack was observed.



### Farmer details

Mr. Natha Charan Behera  
Ranto Block- Lathikata  
Sundargarh, Odisha  
Mobile No.:9937013443

### KVK details

Mr. Sanjay Kumar Pradhan  
Subject Matter Specialist (Horticulture)  
Sundargarh-II Krishi Vigyan Kendra  
Sundargarh-II, Odisha  
Odisha University of Agriculture &  
Technology  
Email id:  
kvksundergarh2.ouat@gmail.com

### The achievement

The Onion was harvested in the month of December. The average yield was about 173 q/ ha. In December itself the price of the Onion was around Rs. 17/- per kg and the farmers got a bumper return. The net profit was Rs. 1, 71,000 per ha.



### Impact of training

The farmers were well equipped with the knowledge and skill provided by the KVK regarding onion cultivation. They could also learn the method of seedling raising, transplanting, irrigation and other management practices. Convinced with the technology and support given by KVK, a large group of farmers started onion cultivation in the kharif season with remunerative price.

### Motivating others

The decision of the farmers to adopt kharif onion cultivation in upland has resulted into horizontal spread in around 60 ha in nearby villages. Moreover, the higher price allured the traditional farmers also to go for crop diversification at a small scale.

### Way forward

This technology saves the farmers from panic selling at under-rated price. After adoption they could feel the difference in price and marketing of onion in a positive note. This has created enthusiasm among farmers and they have given positive thought towards adoption of kharif onion in the district. The essence of introducing crop diversification in upland is proved to be successful and it has opened up the path of cultivating non paddy crops in uplands to augment income and prosperity. Selection of crop and commodity based on agro-ecological assessment is bound to bring prosperity.





Theme 4  
Snowball on the  
plates



## The concept

Mushroom are the fruiting bodies of some fungus. It has been observed that nearly hundreds of varieties are there that can be consumed as food. They are not only a great choice for improving your savoury reputation but also contains a lot of nutrients. Being rich source of protein, folic acid, vitamins and fiber, it is now an option for the farmers to make the mushroom as a low cost enterprise. In the said 3 states and union territories four types of mushroom cultivation is common Oyster Mushroom, Paddy Straw Mushroom, Milky Mushroom and Button Mushroom. Depending on the location of sales these white minions can fetch high profit for the cultivars. In last several years, mushroom cultivation has been proven very profitable and adoptable technology. The KVK scientists have given sincere efforts to teach the growers and help them move forward.





## Mushroom became a viable livelihood option

Mr. Prabin Kumar Roul, a traditional farmer, was dependent on paddy cultivation round the year to sustain his family. But frequent natural calamities, disease pest infestation and other factors forced him to incur substantial loss. Visit to KVK Balasore opened an opportunity to improve his economic condition. His interaction with KVK followed by exposure to the mushroom demonstration unit inspired him to go for mushroom cultivation. He started cultivation of paddy straw mushroom (PSM) in an open area followed by oyster mushroom. His produce was regularly sold in the local market of Langaleswar, Nayabazar of Balasore and Baripada, with remunerative price. In a skill development training programme conducted by Balasore KVK for rural youths on 'mushroom cultivation' during 2016, he was trained successfully on scientific mushroom cultivation, types of mushroom, its production, marketing and value addition practices. To upgrade his skill, 2 nos. of demonstration on PSM cultivation and humidity management through fogger installation were conducted at his farm. At various point of time, he procured quality spawn of PSM and Oyster from KVK for mushroom cultivation. BalasoreKVK helped him to establish a 9000 sq.ft. mushroom unit by supplying shade-net, Fogger system, mushroom spawn and other essential components.



### Farmer details

Mr. Prabin Kumar Roul  
Baliapal, Balasore  
Odisha  
Mobile No.: 8328902564

### KVK details

Dr. Amita Rani Patra  
SMS (Home Science)  
Balasore Krishi Vigyan Kendra  
Balasore, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkbalasore.ouat@gmail.com

### The achievement

Gaining profit of Rs. 30,000/- per month.

Production: 36.0q PSM and 12.2q oyster mushroom from 4000 nos. and 450 nos. bed per annum respectively.



### Impact of training

Prabin acquired the scientific knowledge behind straw treatment, mushroom bed preparation, use of crumple straw, proper harvesting and packaging of mushroom in polythene and polyester packing tray. He also improved his skill on different substrate use and handling of spawn bottle. He also gained knowledge about oyster mushroom cultivation in winter season and use of the spent straw for compost preparation. After the training, he established a shade net unit and installed fogger system for proper humidity management.

### Motivating others

The practice adopted by Prabin has influenced other youths and farmers of nearby villages. Budding entrepreneurs, SHG members of Baliapal and Basta block also visited his unit for learning technical skills on mushroom farming. Around 23 farmers visited his farm to learn about mushroom cultivation. He is also helping new mushroom growers on marketing of produce in distant markets like Baripada.

### Way forward

Due to high production rate and low disease infestation, mushroom cultivation is gaining popularity. It can be a viable option for reducing poverty and strengthening livelihoods through the generation of a fast yielding and nutritious food and a reliable source of income.





## Mushroom converts adversity into opportunity

Mr. Manas Ranjan Das of Cuttack district had 2 acre of land and was mainly engaged in cultivation of Paddy straw mushroom apart from traditional agriculture. He was facing problems like less production, contamination etc. in mushroom cultivation. To get a suitable solution, he contacted Cuttack KVK. The prospect of improved mushroom cultivation as an enterprise motivated him to invest more in mushroom production. He attended a vocational training on round the year mushroom production conducted by KVK Cuttack in 2017. Though he was differently abled, his enthusiasm and dedication for innovative mushroom production made him an ARYA beneficiary of KVK Cuttack.

He also participated in KVK's skill training programme conducted on "Mushroom Cultivation and its Value Addition" from 23rd to 27th February, 2021 under ARYA programme, where he acquired technical knowledge and skills on Mushroom production, its value addition, packaging, labelling, getting fssai license etc. Linkage with different line departments like NHB, District horticulture department and others was also established. Now he is cultivating both paddy straw and oyster mushroom according to the season throughout the year. He has named his farm after his wife 'Ritanjali mushroom farm' who is also engaged in value addition of mushroom.



### Farmer details

Mr. Manas Ranjan Das

Jagatpurgram, Tangi-Choudwar  
Cuttack, Odisha

Mobile No.: 9348473169

### KVK details

Dr. Sujata Sethy, Sr. Scientist & Head  
Dr. T. R. Sahoo, SMS (Horticulture)  
ICAR-NRRI Cuttack Krishi Vigyan  
Kendra  
Cuttack, Odisha  
Email id: kvkcuttack@gmail.com

### The achievement

Gaining a profit of Rs. 3.48 lakh annually.

Established a permanent structure in 300 m<sup>2</sup> mushroom cropping area.

Received the innovative farmer award by ICAR-NRRI Cuttack on the occasion of 77<sup>th</sup> Foundation day.







### Impact of training

Manas acquired knowledge and skill essential to maintaining hygiene during different processing practices. The technical skill helped him preparing different value-added products from mushroom like powder, pickles, biscuit, cookies, noodles, dry mushroom etc. He learned about proper labelling of the product and importance of a brand name mainly for processed products and also the relevance of *fssai* license. Later on, he applied and obtained *fssai* license for his products with a brand name of Ritanjali Mushroom Farm Processed Products.

### Motivating others

As a resource person he trained nearly 700 persons till date. Interested SHG members also visited his unit for acquiring technical skills on mushroom cultivation and value addition of oyster mushroom. He engaged workers in his mushroom production unit. Nearly 1200 members from different Govt. as well as non-Govt. organizations witnessed his successful mushroom unit and process of value addition.

### Way forward

Mushroom as a nutritious food item finds its place in the regular diet of commoners. Value addition in the form of powder, pickles, biscuit, cookies, noodles, dry mushroom etc. is another innovative way for financial gain and additional employment generation. Such low cost enterprises need to popularize for the betterment of rural youth and women.





## Mushroom turns banker to entrepreneur

Mr. Biproyjoti Bhowmik, an Assistant Manager of a Nationalized Bank, came in contact with Cooch Behar KVK with the aspiration to become an agri-preneur. After detailed interaction, discussion and visit to demo units of the KVK, he decided to have handholding support in mushroom cultivation from Cooch Behar KVK. With a gentle thrust he started a modest mushroom production unit with 500 cylinders.

Presently, he is cultivating mushrooms on a large scale with more than 50,000 cylinders in his own farm as well as through the farmers in the mushroom production network group developed by him. The harvested mushroom is supplied to various parts of Bhutan and the North Eastern states of India. Side by side, he has also established one quality mushroom spawn production laboratory (state-of-the-art) with a capacity to produce 1000 kg spawn per day with liquid mother culture technology. As a part of business diversification process, he has started producing value added products of mushroom like noodles, pappad, pickles, dry mushroom, mushroom powder etc. All the products - fresh mushroom, mushroom spawns and the value-added products are exported to North Eastern states and other states of the country through state-of-the-art packaging system and also online marketing channels (Amazon, Flipkart) etc.



### Farmer details

Mr. Biproyjoti Bhowmik  
Rajarhat, Jatrapur  
Cooch Behar, West Bengal  
Mobile No.: 7503409741

### KVK details

Dr. Ganesh Das  
SMS (Agril Extension)  
Cooch Behar Krishi Vigyan Kendra  
Cooch Behar, West Bengal  
Uttar Banga Krishi Vishwavidyalaya  
Email id: coochbeharkvk@gmail.com

### The achievement

Presently, his net earning ranges between Rs. 2.0-2.5 lakh per month.



### Impact of training

Apart from technical aspects of mushroom as well as spawn production like variety, temperature, hygiene etc., and possibility to grow mushroom round the year in the congenial humid weather of Cooch Behar was explored. The knowledge and skill imparted through handholding training encouraged him to commercially expand his mushroom and spawn production unit.

### Motivating others

With continuous technical backstopping from Cooch Behar KVK and other stake holders, Cooch Behar district is being developed as a mushroom producing hub of North Bengal involving hundreds of farmers in mushroom cultivation, value addition and marketing. The achievements of Mr. Biproyoti Bhowmik have not only motivated a large number of farmers but also ensured a stable livelihood option for the unemployed rural youth.

### Way forward

Mr. Biproyoti Bhowmik has set his name as a successful mushroom grower in Cooch Behar District and popularized various types of mushrooms (Black and White) in his village as well as various parts of Cooch Behar, North Eastern states and neighboring countries like Nepal. Such successful endeavors need to extrapolate in other parts also to attract farmers, women and youth for a sustainable income and employment generation.





## Spawn production empowered women

Mrs. Amita Rout, a 32 years old home maker was managing her family with scanty income but wanted to improve her situation by suitable means. She came across with KVK scientists during an off-campus training programme on mushroom production in her locality. However, she was concerned about the availability of quality spawn to take mushroom production as an alternative. After taking training at KVK and CTMRT, OUAT Bhubaneswar, she was engaged in mushroom spawn production along with mushroom production by involving 2 SHG members. With the help of KVK, she approached DIC, Kendrapara to get financial support for setting up mushroom spawn production unit. The initial knowledge and skill were provided by KVK, Kendrapara on mushroom spawn production. However, for better expertise, KVK nominated her name for training at CTMRT, OUAT, Bhubaneswar on mushroom spawn production. DIC, Kendrapara supported her with Rs.9.9 lakh to overcome the financial crisis in setting up mushroom spawn production unit. KVK, Kendrapara also facilitated her in procurement of the required machineries in mushroom spawn production unit as well as its installation at Padini village. Such external support not only motivates the women to go for self-run enterprise but also infuses the sense of women empowerment.



### Farmer details

Mrs. Amita Rout  
Padini, Keredagad, Rajnagar  
Kendrapara, Odisha  
Mobile No.: - 7847010866

### KVK details

Dr. Surya Narayan Mishra  
Senior Scientist & Head  
Kendrapara Krishi Vigyan Kendra  
Kendrapara, Odisha  
Odisha University of Agriculture &  
Technology  
Email id:kvkkedrapara.ouat@gmail.com

### The achievement

She is producing around 5000 spawn bottles per month with an average net income of Rs. 25,000/- and providing employment to two farm women.



### Impact of training

After receiving the training on spawn production and scientific mushroom production, Mrs. Rout now able to identify good quality spawn. She is emphasizing now on use of quality spawn and infection free mushroom production. She is also giving training to other farmers on paddy straw, oyster and milky mushroom production.

### Motivating others

Mrs. Rout formed a Mahila Mandal by taking 120 nos. of farm women of the locality and engaged them in mushroom production in cluster. All the mushroom growers in this cluster procured mushroom spawn from Mrs. Rout and she also supplied spawn to other mushroom farms of the district.

### Way forward

Mushroom cultivation is an appropriate enterprise for the women as both home keeping and production of mushroom can be carried out simultaneously. However, quality spawn production is the integral part of commercial mushroom cultivation which should be addressed by other govt./non-govt. organizations.. Formation of women's group and availing the financial support of concerned department can go a long way to improve the economic condition of rural women followed by employment generation for others.



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## Woman entrepreneur in mushroom production

Ms. Sunita Naik, a mushroom entrepreneur of Jharsuguda belonged to Talpatia village. She was popular entrepreneur of mushroom spawn as well as mushroom production in the area. Mushroom cultivation is a technology of growing mushrooms using plant, animal and industrial waste. Krishi Vigyan Kendra, Jharsuguda supported her with training and input to become an entrepreneur. Specific skill training on Mushroom Production, Mushroom Spawn Production and Value Addition of Mushroom enabled her to successfully produce both spawn and fresh mushroom. She had established her own production unit by availing a loan of Rs. 12 Lakh with assistance of District Horticulture Department and Bank in subsidized rate. The success made her master trainer to impart training to the visiting farmers, rural youth and other visitors both at KVK and in her unit. The women SHGs were influenced by the technology and they decided to go for mushroom production as a livelihood option of the members. The marketing channel of fresh mushroom and value added product established in collaboration with KVK and line department helped her expand the unit to take up the enterprises viz. spawn, mushroom and value-added product at a commercial scale. The success has led to an annual income of Rs.2.5 lakh.



### Farmer details

Ms. Sunita Naik  
Talpatia, Block-Jharsuguda  
Jharsuguda, Odisha  
Mobile No.: 9438047109

### KVK details

Mr. Monoj Kumar Barik  
Senior Scientist and Head  
Jharsuguda Krishi Vigyan Kendra  
Jharsuguda, Odisha  
Odisha University of Agriculture & Technology  
Email id:kvkjarsuguda.ouat@gmail.com

### The achievement

She is earning an amount of Rs.2.5 lakh per annum from mushroom spawn and mushroom production



### Impact of training

The training programme covered the areas of site selection, infrastructure development, requirement of equipment, raw materials etc. Assessment of demand of product in the market, availability of resources for production, marketing facility were also taught in detail. Skill was imparted about bed preparation, straw cutting, watering, plucking and other techniques during the training followed by spawn production technology and value addition to the surplus produce.

### Motivating others

The large-scale mushroom production unit of Ms. Sunita Naik is itself an enterprise of motivation. The scientific method adopted by Sunita in her entire process of mushroom spawn production to value addition and its marketing has influenced a good number of farm women and rural youth to start such enterprise that has steady income and employment.

### Way forward

The success of Ms. Sunita Naik is an example of hard labour, acquired skill and determination to rise economically. Her capacity to extend the enterprise and its marketing are well recognized both at KVK and among her co-villagers. Off-farm enterprises have immense opportunity to generate employment and profit if they are continued in the right earnest. Ms. Sunita has proved that a small beginning can lead to a formidable success.





## Mushroom became a profitable enterprise

An aspiring youth of Bhalerikudia village, Odisha, was fully engaged in agricultural activities and used to cultivate rice, ragi, pigeon pea, blackgram, greengram and sunflower in his 5.0 acres of land. However, the traditional agricultural practices could not fulfill his desire to earn more. In search of an alternative enterprise, he came in contact with KVK Raygada to know other possibility for a gainful income. Mushroom cultivation was coming up in that area as a profitable enterprise and it was mutually decided to go for mushroom cultivation for Mr. Pitabas Sabar. Necessary knowledge and skill were imparted to take up mushroom production alongside traditional agricultural practices. The beginning was quite remunerative as he learned to produce paddy straw and oyster mushroom throughout the year. The skill development training programme imparted by KVK Raygada in 2018-19, helped Mr. Sabar in a big way to expand area under mushroom cultivation. Other related aspects that he could learn include preparation of mushroom bed, proper selection of mushroom species, disease control etc. In the course of time, this venture turned into a commercial unit with cultivation of both paddy straw and oyster mushroom as per the conducive season. Round the year production of mushroom fetched a profit of Rs.14,500 per month.



### Farmer details

Mr. Pitabas Sabar  
Bhalerikudia, Gunupur  
Raygada, Odisha  
Mobile No.:9778366873

### KVK details

Mr. Rajib Tudu  
Senior Scientist and Head  
Raygada Krishi Vigyan Kendra  
Raygada, Odisha  
Odisha University of Agriculture &  
Technology  
Email id:kvkraygada.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 14,500 per month from the cultivation of paddy straw and oyster mushroom round the year.





### Impact of training

The participation of Mr. Sabar in KVK organized training programme enabled him towards proper selection of sites, housing, improved species and overall improved mushroom cultivation practices. He could also learn season specific cultivation of mushroom species followed by maintenance of proper hygiene etc.

### Motivating others

Farmers and members of SHGs used to produce mushroom in a scattered and localized way but the success of Mr. Sabar brought the desired change among the farmers to go for improved method of mushroom production for their better livelihood. So far, 50 such farmers and a few members of SHGs are actively engaged in mushroom production example of Mr. Sabar.

### Way forward

Mushroom cultivation to become commercially successful, the supply of quality spawn, formation of mushroom producers' group and regular monitoring are the pre requisites. Quality and huge quantity of production will definitely attract profitable market and instant return. The marketing channels, however, need to be established and strengthened. Line departments, KVKs and others need to come together to provide the required support to the mushroom grower for a commercial and sustainable enterprise development.





## Change of enterprise changed the fortune

Agriculture Skill Council of India (ASCI) through KVKs has enabled a large no. of rural youth to go for self-employment. In most of the cases, however, the youth could not sustain such venture for a long time. But the story of Mr. Sudhakar Biswal, an aspiring person of Dhenkanal district of Odisha glorifies such endeavor of ASCI. Initially, Mr. Biswal was trying his luck through goatery but could not succeed due to frequent disease outbreak, improper management and low quality breed in his enterprise. However, he got the opportunity to get himself enrolled as a trainee under ASCI for mushroom growers at KVK Dhenkanal. He successfully completed the training of 25 days to learn the entire procedure of paddy straw mushroom (PSM) cultivation followed by exposure visit to a no. of successful mushroom growers across Odisha. In between he could know that mushroom was a well-accepted food item in the daily diet of common people across the district. His new venture of PSM started after the training with raising of PSM in 15- 20 beds per day for a net profit of Rs. 10000 per month. He scaled up his business to 30 beds per day round the year. The support of KVK in monitoring PSM cultivation helped him to earn Rs. 45000 per month. He has also purchased one mechanized paddy straw cutter from his profit.



### Farmer details

Mr. Sudhakar Biswal

Kharidali, Babandha

Dhenkanal, Odisha

Mobile No.:9556816087

### KVK details

Dr. Bimalendu Mohanty

Senior Scientist and Head

Dhenkanal Krishi Vigyan Kendra

Dhenkanal, Odisha

Odisha University of Agriculture & Technology

Email id:kvkdhenkanal.ouat@gmail.com

### The achievement

A net profit of Rs. 2000/- from mushroom with a total income of 45000/- per month. He has given employment to 10 persons in his unit.





### Impact of training

The skill training provided under ASCI by KVK taught Mr. Biswal the entire process of PSM cultivation starting from bed preparation to harvest the mushroom. The training also provided the skill and knowledge about maintenance of moisture, hygiene and importance of quality spawn and its' availability as well as marketing channel of produce.

### Motivating others

The success of Mr. Biswal has encouraged many youths of his area and nearby blocks to go for mushroom production. Now more than 200 growers produce PSM in the district. This has made Dhenkanal district as a potential hub both for mushroom and spawn production.

### Way forward

Mushroom as a low cost enterprise with high nutrient content is an accepted food item both for vegans and non-vegans. In addition, various by-products can also be made from mushroom with specialized training from KVK or other organizations. This will help the growers to earn additional income also. Moreover, mushroom production does not require any costly ingredients for which it can easily be adopted by the resource poor women and youth. However, skill support at the initial stage and spawn availability throughout the year need to be ensured to make it a most viable livelihood option.





## Mushroom spawn as promising enterprise

Mushroom cultivation to become an attractive as well as alternate livelihood option. In rural Bengal, though mushroom is produced in different corners, could not become a well-accepted and mechanized enterprise due to non-availability of spawn in the vicinity. Moreover, as the women are mainly involved in mushroom cultivation, collecting spawn from far-off places also plays difficulty for them. Assessing the situation, Mr. Ganesh Bag of Hooghly district, W.B., decided to go for production of quality mushroom spawn in his rural setting. The conventional agriculture he was practicing earlier couldn't provide him sufficient earning which was another reason to choose mushroom spawn production as his livelihood. Initially, he tried to produce spawn of his own but faced problem of fungal contamination, bad odor and inferior quality of spawn. To get rid of the situation he came in contact with KVK Hooghly and became a beneficiary of ARYA project funded by ICAR. Later on, he took the training on mushroom spawn production from the KVK and renovated his indigenous spawn production unit with input support of KVK like wooden box, glassware etc. In the course of time he became the authentic source of mushroom spawn for the growers of far-off places also. In sustaining his enterprise, KVK also advised other growers of mushroom to purchase spawn from him.



### Farmer details

Mr. Ganesh Bag  
Naldanga, Chinsurah, Hooghly  
West Bengal  
Mobile No.: 8820273603

### KVK details

Dr. Samsul Haque Ansary  
Senior scientist and Head  
Hooghly Krishi Vigyan Kendra  
Hooghly, West Bengal  
Bidhan Chandra Krishi Viswavidyalaya  
Email id: hooghlykvk@gmail.com

### The achievement

Gaining a profit of Rs. 2.0-2.5 lakh per year through production and selling of mushroom spawn.

Production: 1500 kg of Oyster mushroom spawn and 1000 kg of Milky mushroom spawn.





### Impact of training

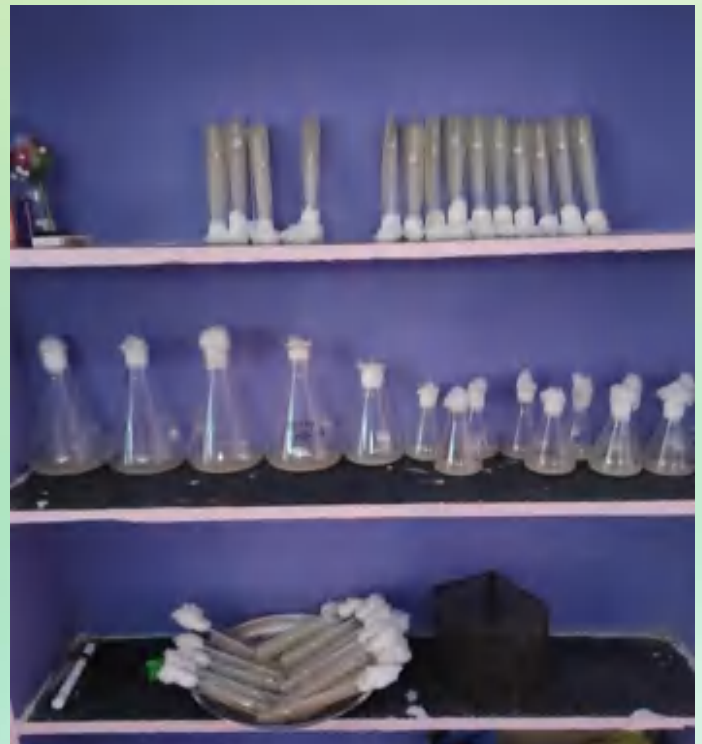
The technical expertise and required input support provided to Mr. Bag, helped him producing good quality spawn in abundant quantity. His earlier experience also helped him to prevent contamination spawn ignoring the hygiene. The packaging of spawn was also done scientifically to avoid transportation loss and by maintaining utmost care against in any unwanted incident. He became an expert spawn producer after undergoing training at KVK.

### Motivating others

Spawn production *vis-à-vis* mushroom production has become popular in his locality after successful production of spawn by him. Many rural youth approached KVK both for training and spawn production facility in their places witnessing the success of Mr. Bag. He has truly become an inspiration for the unemployed youth to take up mushroom production commercially.

### Way forward

Availability of quality spawn in rural areas to produce sufficient quantity of mushroom is limited to well-established laboratories only. It is quite difficult to get such spawn for the common people. Establishment of small spawn production unit at the rural areas and providing the required knowledge and skill by KVK/ line departments will definitely popularize this practice among many people.





## Mushroom cultivation earned award

A land less couple of Uttar Dinajpur was unable to decide their livelihood for quite a long time. Though they took 0.03 ha of land on lease but the return was not at all sufficient for their survival. In search of a viable enterprise the lady Mrs. Anima Majumder attended eight days long training programme of UDP on mushroom cultivation in the year 2016. Impressed by the prospect of mushroom cultivation she started oyster mushroom cultivation in 500 beds utilizing the leased in land. From the very beginning, she was very particular in maintaining hygiene in her mushroom unit, which enabled her to get higher and quality production. Her husband on the other hand, explored various market channels to sell fresh mushroom at a profitable price. The mushrooms so produced could be sold in their local area as well as urban markets of Siliguri, Darjeeling and other places. Her success of 3 years motivated her to expand her unit to 2000 no. of beds with inclusion of milky and button mushroom production based on seasonality. In between she learned different aspects and types of mushroom farming, spawn production as well as value addition at KVK.



### Farmer details

Mrs. Anima Majumder  
Chopra, Uttar Dinajpur  
West Bengal  
Mobile No.: 9593953163

### KVK details

Dr. Anjali Sharma  
Subject Matter Specialist (Home Science)  
Uttar Dinajpur Krishi Vigyan Kendra  
Uttar Dinajpur, West Bengal  
Uttar Banga Krishi Viswavidyalaya  
Email id: udpkvk@gmail.com

### The achievement

Gaining a profit of Rs. 15,000 per month.

Awarded with Innovative farmer award, Mahindra Samridhi National Award (2019) under Youth category for mushroom cultivation and value addition.





### Impact of training

The knowledge and skill imparted to her is instrumental in increasing mushroom production and maintaining hygiene. Moreover, she could reduce the cost of cultivation up to 25% with paddy straw as the substrate and opting for hot water treatment with minimum use of chemicals. Her overall saving was Rs. 4500 in cultivation of 1000 mushroom cylinders.

### Motivating others

The formation of Common Interest Group (CIG) namely, “Pragati Mushroom Farmers’ Group” was the fallout of motivation in this venture. The cumulative produce is now sold to the market of Nepal and Bhutan also. She motivated other group members to go for training on value addition in mushroom in KVK to produce mushroom pickle, nuggets, papad, soup etc. They have got fssai certificate also for packaging and marketing of their produce.

### Way forward

Mushroom as an enterprise can play an important role in women empowerment and gender mainstreaming. Formation of group of women in such ventures further enhances the opportunity to employment. However, marketing and regular supply of quality spawn need to ensure to sustain the enterprise with the involvement of all stakeholders.





# Theme 5

# Omnivores' delight





## The concept

Animal husbandry is the practice concerned with animals raised for meat, fibre, milk etc. In Eastern India fish farming, duckary, poultry for eggs and meat, cow farming for milk are commonly done. Though the states are largely populated by non-vegetarian the cultivation of eggs, meats fishes are still not adequate. The lack of assured market/ fluctuation of prices for produce and other adverse seasonal conditions are impacting the small and marginal agricultural farmers. This is the reason why there is a tendency among the farmers to shift towards livestock and animal husbandry in West Bengal, Odisha and Andaman & Nicobar Islands. The scientists are convincing the farmers with help of better technologies, breeds, vaccines etc. for further improvement. The availability of inputs is facilitating the shift also. In a nutshell, a chunk of farmers has become prosperous enough with the help of animal husbandry.





## Prosperity through fish fingerling production

Mr. Rabindra Kumar Sahoo had 4 ha of pond and was interested in fish fingerling production. Regular discussions with KVK Scientists regarding pond management with preventive and control measure for fish fingerlings production helped him to improve the production and ultimately increase his income. Gradually he became the role model of rural youth of Nayagarh district, Odisha. Mr. Sahoo attended the skill-based training program on 'Fish Fingerlings production' conducted for rural youth of Nayagarh district under Attracting Retaining Youth in Agriculture (ARYA) project. The training was followed by exposure visits to various progressive fish farmers' pond and research institutes like ICAR-CIFA, Bhubaneswar. Visit and interaction boosted him in implementing scientific pond management techniques for fish fingerling production. Fish net, drag net, plankton net, micronutrient and feed, CIFAX medicine, fish seed, happa (outer and inner) etc. were provided to him as start-up inputs. He was also provided with tanks and oxygen cylinders for fish fingerling transportation. The technological and input support helped him to a great extent to initiate commercial rearing of fish fingerling for his own economic improvement as well as making quality fingerlings to his fellow farmers.



### Farmer details

Mr. Rabindra Kumar Sahoo  
Bahadajhola, Nuagaon, Nayagarh  
Odisha  
Mobile No.: 8327707146

### KVK details

Dr. Anil Kumar Swain  
Senior Scientist and Head  
Nayagarh Krishi Vigyan Kendra  
Nayagarh, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvknayagarh.ouat@gmail.com

### The achievement

Harvesting 90 q of fish seed from 4  
ha pond with net annual income of  
Rs. 8.2 lakh.



### Impact of training

Technical knowledge and skill were imparted on pond management, feed management, water quality testing, off season fish seed production through sprinkler arrangements in the cultured pond and related areas. Linkage with bank for facility of loan was also established for large scale production of fingerlings. Market linkage for selling of his fish seed both inside and outside the district was also created. He developed an IFS unit incorporating poultry, vegetables and fruit crops in addition to fish pond.

### Motivating others

The practices adopted for fish seed production by Mr. Sahoo has inspired other rural youth of neighboring villages resulting in adoption of this enterprise as one of the livelihood options by rural youth in the district. He has engaged 3 persons in his enterprise to support him. He is able to excavate another 5 ponds for fish fingerlings production and is planning to produce round the year fingerlings with required structural facilities during the adverse climatic condition.

### Way forward

Fish fingerlings production is a remunerative enterprise to motivate the rural youth for year round income and sustainable employment generation. Availability of quality fish seed in the off season will fetch good market price also for improved economic condition.





## Agri-preneurship developed on wings of poultry

Backyard poultry rearing is a type of organic farming with no harmful residue in egg and meat. Poultry as an important supplementary source of income is reared by rural youths. Mr. Ajit Kumar Dalabehera, a traditional farmer of Balugaon, Nayagarh, was engaged in paddy cultivation in his 2 ha of land. But he was not satisfied with the low returns and searching for a supplementary livelihood. During this time he came in contact with Nayagarh KVK.

Mr. Dalabehera participated in a skill-based training program on 'Backyard Poultry Rearing' conducted for rural youth of Nayagarh district under Attracting and Retaining Youth in Agriculture (ARYA) project. Brooding unit (drinker, feeder, chick gourds, azolla), vaccines, medicines were provided for backyard poultry rearing as start-up inputs to strengthen the poultry unit. Night shelters for poultry birds were set up at farmers' field. Highly productive dual purpose poultry chicks of Vanaraja and Kadaknath breed were provided as inputs to initiate the enterprise. An egg hatching unit of 600 egg capacity was set up by KVK in his unit to mitigate the need of quality chicks. With the input support by the KVK, Mr. Dalabehera multiplied his yearly earning manifold to attract other farmers to go for this enterprise. The KVK has also extended supporting hand as and when required to establish him as a successful entrepreneur.



### Farmer details

Mr. Ajit Kumar Dalabehera  
Balugaon, Nayagarh  
Odisha  
Mobile No.: 7978263508

### KVK details

Dr. Anil Kumar Swain  
Senior Scientist and Head  
Nayagarh Krishi Vigyan Kendra  
Nayagarh, Odisha  
Odisha University of Agriculture & Technology  
Email id: kvknayagarh.ouat@gmail.com

### The achievement

Earning net income of Rs.5.25 lakh per unit per 1500 nos. of poultry bird per annum.



### Impact of training

The essential practices like site selection, housing and scientific management followed by regular vaccination, feeding management and preventive as well as protective measures were taught during the training programmes. Project formulation and marketing strategy helped him towards bank linkage and better marketing channel for his produce. Exposure visits to progressive poultry farmers' unit as well as to institutes also facilitated him to gain practical knowledge on utilization of existing farm pond for Integrated Farming model like poultry cum fish model for income enhancement from both poultry and fisheries.

### Motivating others

The practices adopted for backyard poultry rearing by Mr. Dalabehera has inspired other rural youth of neighboring villages. He is able to employ 2 nos. of rural youth to support him. He is also providing extension service to interested poultry youth from his experience. This enterprise has gained popularity among the youth as one of the most profitable enterprises in the village.

### Way forward

Backyard poultry rearing is a viable option to rural unemployed youth with proper knowledge, skill and funding support. The creation of proper market can make this venture a highly remunerative one with the possibility to generate income and employment.





## Homemade incubator – an innovation

Mr. Amit Ghosh was an electrician by profession but could not get sufficient work in his village to sustain his family. He started cultivation of paddy, mustard and potato in his 1 acre of land to maintain the livelihood of his family. He visited Rathindra KVK to know about improved agriculture and other avocations to increase his income. The KVK identified his technical skill and suggested him to develop Incubator and to start poultry rearing in both backyard and deep litter system. The encouragement of KVK helped him to develop a homemade incubator for fast hatching of eggs. After hatching of eggs in the incubator, he started regular supply of poultry chicks like Vanraja, RIR, Aseel and Kadaknath. KVK also helped him to create linkages with different Women Self Help Groups and Agricultural Technology Management Agency (ATMA) for installation of his homemade Incubator.

KVK gave him 3 days intensive skill development training programmes and supplied a part of initial inputs like free vaccine along with vet. medicine e.g., antibiotic, anticoccidial drugs, vitamins and mineral supplements. He was also supported by technical know-how to develop a homemade Incubator. The marketing of his homemade incubator was also extended by Rathindra KVK by linking with different SHGs, ATMA and other poultry farmers.



### Farmer details

Mr. Amit Ghosh  
Galundi (Paschim Para), Galundi  
Bolpur, Birbhum  
West Bengal  
Mobile No.: 9547322311

### KVK details

Dr. Subrata Mandal  
Senior Scientist & Head  
Rathindra Krishi Vigyan Kendra  
Palli Siksha Bhavana (Institute of  
Agriculture)  
Visva-Bharati  
Email id: rathindrakvk@gmail.com

### The achievement

Now-a-days he is earning Rs. 22000/- from his poultry keeping and related venture.



### Impact of training

The training helped him to learn scientific management of various aspects of poultry rearing. Beside this, technical support to develop homemade incubator by the KVK made the venture a profitable one. Use of homemade incubator boosted up the fast production of chicks in rural area. The low-cost incubator facilitated continuous production and supply of poultry chicks. Rearing of poultry birds and supply of chicks earned him sizeable income within short span of time.

### Motivating others

Mr. Ghosh participated in various training programme as a resource person. After installation of his low-cost homemade incubator, he trained and assisted the SHG members in successful hatching of eggs. It has also inspired others to take up poultry rearing as an alternative livelihood option.

### Way forward

Success of Mr. Ghosh as a rural entrepreneur can be used as a model for formulating the strategies to increase the income and overcome the problem of malnutrition and poverty of the farmers of rural area. Backyard poultry rearing is a very common means of livelihood but homemade Incubator adds an innovative touch to it. This technology is economically viable, socially acceptable and leads to faster hatching of chicks which ensures regular supply of chicks with very less mortality.





## Dairy and mushroom brought white revolution

Mrs. Suprava Dani, an enthusiastic lady aged 45 years, had 3.5 acres of land and cultivated mainly paddy in only 2 acres of land. In addition, she had a small dairy unit with 5 cows in the backyard to get some additional income. Her visit to Sonapur KVK and scientific knowledge and skill acquired about the improved dairy farming and mushroom cultivation motivated her to start the venture. She had set up a bigger dairy unit with 23 nos. of cross bred cows and 2800 nos. of paddy straw mushroom beds in the adjoining area of her residence. Her produces were regularly sold in the local markets of Laturpet with remunerative prices. From the dairy farming with 23 nos. of cross bred cows, she earned an annual net income of Rs. 2.75 lakh. In addition, she also earned a net income of Rs. 2.24 lakh from 2800 nos. of quality paddy straw mushroom beds.

She opted to attend 3 days skill-based training programme on “Scientific Dairy Farming” at KVK in co-ordination with the district ARD department. She also participated in a 4 days vocational/skill training programme on “Scientific Mushroom Cultivation” at KVK. The programmes enriched her knowledge and sharpened her skill in dairy management as well as mushroom production. The success is very much reflected in her annual income from the enterprises. A housewife became a successful entrepreneur to excel in life.



### Farmer details

Mrs. Suprava Dani  
Laturpet, Biramaharajpur  
Subarnapur, Odisha  
Mobile No.: 7751075590

### KVK details

Mr. Trinath Khandayatiray  
SMS (Plant Protection)  
Sonapur Krishi Vigyan Kendra  
Sonapur, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvksonapur.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 4.99 lakh annually from dairy and mushroom enterprise.





### Impact of training

The training helped Mrs. Suprava to acquire knowledge and skill on various aspects of dairy farming and mushroom production enterprise e.g., selection of proper dairy breed, its management, low-cost feeding techniques, common diseases and their prevention in dairy farming and selection of good quality spawn, straw management, bed preparation, diseases and their management in beds etc. in mushroom cultivation. She had established a dairy unit and maintained the health of the dairy cows by adopting suitable disease management and timely vaccination schedule. She had also developed a mushroom unit and maintained disease free mushroom beds by rectifying its pH with addition of lime at recommended dose and method of application.

### Motivating others

She was serving as a resource person on 'scientific mushroom cultivation' and source of motivation for other farm women. She had started a comparatively larger 'dairy unit' with 23 superior cross bred cows. She was also sharing her experience, knowledge and skill with others and providing extension service to the interested dairy farmers.

### Way forward

Scientific dairy farming and mushroom cultivation can be an alternative livelihood and profit making venture not only for rural women, but also for the rural youth for employment and income generation.





## Catfish breeding in rooftop rainwater

Mr. Gauranga Naskar is the sole earning member of his family of 5 and had to eke out a living by undertaking small agricultural activities in his 0.13 ha lowland and fish culture in his small pond. To increase his earning through fish seed production, he received training on Asian catfish breeding from RAKVK in 2017. Provision of clean freshwater is a necessity for successful seed production of catfish. He was identified as the beneficiary of two projects namely, NICRA and ARYA to provide with different inputs for operating a catfish hatchery by harvesting rooftop rainwater. The storage tank can be continuously filled during the rainy season so that it can be utilized for carrying out 5-6 breeding cycles of catfish. He was provided with the necessary 4 days skill training on Asian catfish breeding along with critical inputs like glass trays, brine shrimp, fish breeding hormone, water reservoir, rooftop rainwater harvesting structure, breeding equipment etc. Regular counselling on the problems faced during execution of the programme was done by the fishery expert of RAKVK. In the initial stages, marketing linkage was also facilitated. Since then, people from his village and faraway places are procuring catfish seeds from him and he has, thus, been able to provide his family with a sustainable source of income.



### Farmer details

Mr. Gauranga Naskar

Kaikhali, Kultali, South 24 Parganas  
West Bengal

Mobile No.: 9733916917

### KVK details

Mr. Prasanta Chatterjee, SMS  
(Fishery) Dr. Prabir Kumar Garain,  
SMS (Plant Protection)

Ramkrishna Ashram KVK, Nimpith  
South 24 Parganas, West Bengal Email  
id: nimpithkvk1979@gmail.com

### The achievement

Gaining a profit of Rs. 60,000 per month during the fish breeding season of about 6 months.

From only 1 kg of catfish approximately 20000 seeds valued at Rs.60000.00 may be produced within 20-30 days.



### Impact of training

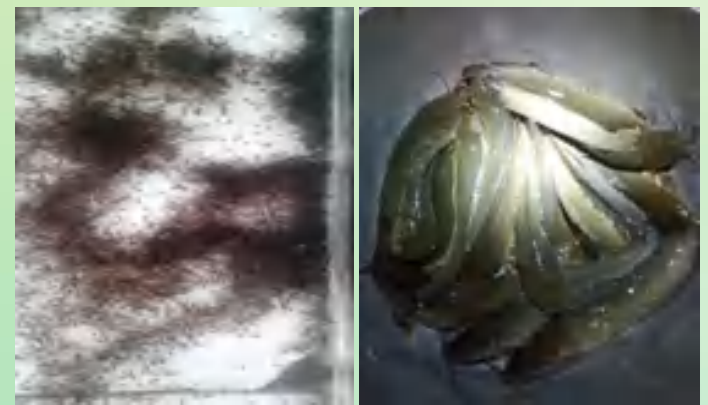
Proper identification of sex of brood fish, management process of brood fish, administration of hormone to the brood fish, mixing of sperm and ovum for fertilization, hatching of brine shrimp for feeding the larvae, water harvesting and management for larval rearing etc. were the prime areas covered during the training programme. The process of injecting the brood fish, fertilization etc. was done following interactive demonstration with the youths so that they could easily adopt the learning.

### Motivating others

As seeds of catfish are in high demand, youths from neighboring areas and even faraway places visited to see the achievements of Mr. Gauranga Naskar. Many of them have made their own arrangements to start their venture of producing catfish seeds in their house. RAKVK started including such enthusiastic and energetic youths in the ICAR-ARYA project to support them for establishing catfish hatchery. Since 2017, 32 such units have been established under the ICAR-ARYA project by the RAKVK.

### Way forward

Breeding of Asian catfish in the backyard by utilizing the harvested rooftop rainwater is an innovation by itself. Fish farmers of Island areas can very well adopt this method to overcome the scarcity of quality water in catfish seed production.





## Poultry at terrace: a bit of farm at urbanscape

Mr. Subhadeep Mondal's paternal RCC house, located in the suburb of Barasat town, was the only land available to them. He decided to utilize the roof top for the poultry house. In consultation with the KVK expert he constructed a makeshift poultry unit with proper ventilation and biosecurity. He also installed digital thermometer and hygrometer to maintain the balance of temperature and humidity. He started a unit of 100 chicks initially. On receiving guidance on proper brooding, feeding, vaccination and health care, he could make a profit of Rs. 10400.00 against the initial investment. Formulation of balanced feed as suggested by the animal science expert drastically reduced the feed cost and increased the Feed Conversion Ration (FCR). He has opened live bird sale counter near his house. He is assisted by his brother and mother in his daily activities. He has attended an online training programme on Diversified Poultry Farming on 25.08.2021. Along with that, he also visited KVK time to time to seek guidance from the experts and experts also visited his farm several times. The mutual interaction has paved the way for a viable commercial poultry unit in a landless situation. Mr. Mondal has proved that judicious application of mind can bring wonder in any enterprise provided technological support is forthcoming.



### Farmer details

Mr. Subhadeep Mondal  
Rudrapur, Malikapur, Duttapukur  
North 24 Parganas, West Bengal  
Mobile No.: 8910736896

### KVK details

Dr. Debojyoti Borkotoky  
SMS (Animal Science)  
KVK North 24 Parganas (Additional)  
ICAR-CRIJAF, Barrackpore  
West Bengal  
Email id: kvk24prg2@gmail.com

### The achievement

He rears 300 nos. of chicks of kuroiler birds in the terrace space of 800 sq.ft in deep litter system. He sells live birds @ Rs. 150.00 per kg worth Rs. 64125.00 per batch and a net profit of Rs. 30780.00 per batch. He is therefore earning Rs.1,84,680.00 per annum.



### Impact of training

The training, demonstration and diagnostic visits helped him learning appropriate and scientific method of raising the improved chicken varieties. It also helped him understanding the optimum brooding procedures (light, temperature and humidity parameters), feed conversion ratio (FCR), formulation of poultry feed with locally available materials, benefit of probiotics, vaccination schedule and disease control measures.

### Motivating others

With the success of Mr. Subhadeep Mondal, local youth are also linking up with KVK for rearing chicken and diversify poultry in their backyard and terrace. He has engaged one person in the production unit for proper maintenance of the structure as well as marketing.

### Way forward

Terrace poultry farming as an innovative approach has judiciously used space and other resources. In this system production rate is high and disease occurrence is very low. The initiative taken by Subhadeep Mondal has proved that urban youth can also have gainful employment and income through terrace poultry farming. Terrace poultry farming can be a viable enterprises in the peri-urban areas also where land is not so easily available for such farming. It has also the potentiality to attract the youths of peri-urban areas to give it a try.





## Goat farming for improved livelihood

Khargram Block of Murshidabad district is tribal dominated with animal rearing as the common livelihood option. In implementing Tribal Sub Plan (TSP) programme in that village KVK Dhaanyaganga came in contact with a good no. of animal bearers but with scanty return from the farming. It was attributed to rearing of indiscript breed, non-scientific rearing practices and overall due to ignorance about proper management of goat. However, it was observed that the tribal people were very much eager to take up animal farming in an improved way for the development of their livelihood. Detailed assessment of the present situation and knowledge of tribal people about goat rearing inspired the KVK to organize specialized training programme on Black Bengal goat rearing and management for 50 tribal women followed by providing input like Black Bengal Goat, concentrate feed, vaccine etc. Finally, in collaboration with IVRI Eastern Regional Station, the KVK decided to provide 60 Black Bengal goats along with 2100 kg of concentrated feed to the identified 50 beneficiaries under 5 SHGs. It was made mandatory for the tribal woman to return a certain no. of kids to the KVK for the continuous expansion of the TSP programme. The process in the long run motivated good no. of tribal woman and youth to take up goat farming as their primary avocation with technical and input support from the KVK.



### Farmer details

Ujjwal Ghosh

*Matir Golpo* FPC

Khargram, Murshidabad

Mobile No.: 7404137103

### KVK details

Dr. Sujan Biswas

Senior Scientist and Head

Dhaanyaganga KVK

RKMVERI, Sargachhi, Murshidabad

West Bengal

Email id:

rkmveri.kvksargachhi@gmail.com

### The achievement

Currently they are earning more than Rs. 4 lakh per year



### Impact of training

All the requisite areas of goat farming like feeding, housing, breeding and disease management were covered during the training programme organized both at KVK and village. The overall scientific management practices of goat rearing enabling the beneficiaries to go for proper feed, follow the vaccination schedule, raised structure to keep the goats and looking after the kids. It led to substantial reduction in kid's mortality and proper growth of goat.

### Motivating others

Within a span of 3 years, the no. of goat increased from 60 to 248 in the village after returning 60 kids to KVK. The arrangement of returning back the kids helped the KVK to distribute the kids among 50 more beneficiaries of 5 SHGs. The fast extension of goatery influences other people also. A local FPC has also been involved in this programme for selection of beneficiary and distribution of kid.

### Way forward

Black Bengal is a very popular breed of goat in W.B. It requires very little space to rear as the size of goat is very small. Its feed requirement is also very low making it possible even to the poor farmers to rear it. The skin and meat of Black Bengal goat are of very high quality for which it is a very popular animal to rear. Even in the remote areas, marketing of meat and skin doesn't have any problem.





## Quality fry ensured quality fish in the plate

Mr. Suresan Behera, aged 38 years, is known as a progressive fish seed grower and vender in his locality since 2010. His capacity to raise fish fingerlings and yearlings from fish spawn and fry in the leased farm Nursery and rearing ponds helped him availing assistance from the State Fisheries Department, Govt. of Odisha. In order to further increase the income from his existing enterprise, he approached Ganjam-II KVK for required scientific knowledge and to make a visit to the site for possible interventions in existing pisciculture.

Ganjam-II KVK extended the helping hand by providing training, making inputs available to him and making linkages with bank and other organizations. He attended the skill development and capacity building training programs organized by the KVK. The KVK also provided him quality materials like fast growing and hybrid variety of fish seeds, fry and fingerlings through FLD program. After participating in the FLD programs he raised fish seed of total 8 species by adopting recommended practices. Following the scientific interventions of KVK he adopted the practice of intercropping of Java punti along with mixed carp culture and the output has been reflected in his income. Beside this, he has also gone for fish seed rearing, vegetable cultivation and dairy enterprises.



### Farmer details

Mr. Suresan Behera  
Tareipatapur, Chhatrapur  
Ganjam, Odisha  
Mobile No.: 9861962700

### KVK details

Mr. Sidhartha Sankar Das  
SMS (Fishery Science)  
Ganjam-II Krishi Vigyan Kendra  
Ganjam, Odisha  
Odisha University of Agriculture & Technology  
Email id: kvkganjam2.ouat@gmail.com

### The achievement

Gaining a profit of Rs. 5.18 lakh annually with an increased BC ratio of 2.14 in comparison to earlier profit of Rs. 2.35 lakh with a BC ratio of 1.98.







### Impact of training

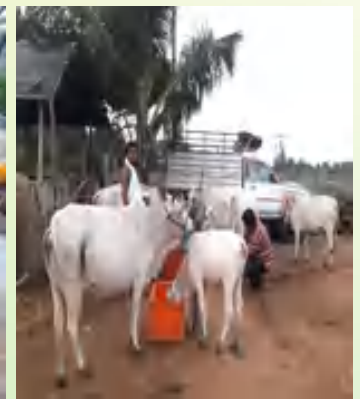
Mr. Behera was enriched with the scientific knowledge/ interventions given by the KVK and improved his skills through the skill development and capacity building training programs and FLD conducted by the KVK. In addition to increased production from carp, he got an average of 0.36 ton of Java *punti* within a span of 4-5 months. His area of profit included fish seed rearing followed by vegetable cultivation, grow out culture of carp and dairy enterprises.

### Motivating others

After observing his success in fish farming, the farmers and rural youths of his own village and neighbouring villages are showing interest in taking up the fish culture and approaching the state fisheries department and KVK for technical and financial assistance to do composite fish culture.

### Way forward

Scientific pisciculture with appropriate knowledge and skill brought the desired prosperity in the economic condition of Mr. Behera. In addition, the confidence gained through the successful endeavour of fish farming prompted him to expand his area of farming including crop and animal husbandry. Such endeavours need to showcase in the adjoining districts to usher into a new horizon of livelihood. Appropriate combination of crop and enterprise can bring the desired prosperity.





## Poultry farming- a viable enterprise

Adequate land holding does not necessarily provide expected income from agricultural practices. The story of Mr. Abani Pradhan, a farmer of Kusuli village, Sambalpur district of Odisha is such an example. In spite of having 20 acres of land, he hardly could earn adequate profit due to the situation of land. Mr. Pradhan was in search of an alternative enterprise to fulfill his expectations to earn more. At this juncture, he came in contact with KVK Sambalpur and could know about poultry farming without much financial involvement. The KVK, in turn, adopted him ARYA Project and provided hands on training in poultry farming. With the input support like chicks, feeder, drinker, feeds and medicines from KVK, he initially started a poultry unit of sizable birds of Kadaknath and Vanaraja breeds. To upgrade his knowledge as well as sharpen his skill, he also participated in other training programmes organized by line department, ATMA and KVK from time to time in poultry rearing. He applied his knowledge and skill articulately in rearing day-old chicks as well as brooding through regulation of temperature, maintenance of ventilation, management of feed and vaccination schedule. He also maintained a hygienic atmosphere in his poultry farm like washing the drinkers, providing clean cool water and vaccinating with sanitary measures. The scientific practices followed by him not only reduced mortality but also ensured supply of quality chicks.



### Farmer details

Mr. Abani Pradhan  
Kusuli, Sambalpur  
Odisha  
Mobile No.:7008162003

### KVK details

Dr. Jyotiprabha Mishra  
SMS (Animal Science)  
Sambalpur Krishi Vigyan Kendra  
Sambalpur, Odisha  
Odisha University of Agriculture &  
Technology  
Email id:kvksambalpur.ouat@gmail.com

### The achievement

He is rearing chicks and selling 21 days old chick at Rs. 60/chick. He is also selling eggs at Rs.10/egg and meat Rs. 300/ kg and Rs.600/ kg (Kadaknath). His earning is Rs. 244000 every year through poultry farming now.



### Impact of training

Mr. Pradhan learned appropriate and scientific method of raising the poultry birds, understood the brooding technique to minimize the chick mortality rate, method of feed and litter management as well as proper vaccination schedule through the training programme. He also learned the difference between broiler and layer and the technique of market demand assessment of poultry birds.

### Motivating others

The success of Mr. Pradhan had made him a well-known poultry farmer in and around his village. Apart from serving as a resource person in KVK organized training programmes, he also served as a resource person for local FPOs and farmer's organizations. His family members were also extending supporting hands in maintaining the structure of poultry units as well as marketing poultry birds.

### Way forward

Any enterprise when chosen based on local demand and minimum resource availability, it is likely to provide livelihood security for the small landholders as well as landless farmers. Poultry farming with scientific methods and improved breeds can be a lucrative avenue both for income and employment generation. Additional support in terms of marketing and group formation can further augment the possibility of commercial poultry farming even in the remote localities.





## Sustainable livelihood through fish seed production

Production of monosex *tilapia* in 0.39 acre area was the only profession of Mr. Sanwar Hossain Mahaldar of Murshidabad district of West Bengal. But increasing feed cost and non-availability of quality fish seed restricted him from expanding his fishery unit. He tried to breed fishes like *singhi*, *magur*, *koi* and *pabda* several times but could not succeed due to lack of expertise. To find solution against this failure, he came in contact with Murshidabad KVK. In the year 2021, he took part in a Skill Training for Rural Youth 'Entrepreneurship development through seed production of *pabda* and *koi*'. This programme was conducted in collaboration with Directorate of Research, Extension and Farms, West Bengal University of Animal and Fishery Sciences, Kolkata. The programme provided the necessary expertise not only in fish seed production but also developing hatchery in his own water area. The other areas covered were pond management, fish seed formulation, larval feed management, disease management, brood fish selection, induced breeding technique and maintaining water quality. His endeavour to produce quality fish seed helped other fish farmers to get fish seed. Such culture also prevented the rare species from becoming extinct in the long run.



### Farmer details

Mr. Sanwar Hossain Mahaldar  
Bhagwangola-I, Murshidabad  
West Bengal  
Mobile No.:9609097476

### KVK details

Dr. Uttam Roy, Senior scientist & Head  
Mr. Samiran Patra, SMS (Fishery Sc.)  
Murshidabad Krishi Vigyan Kendra  
Murshidabad, West Bengal  
West Bengal University of Animal &  
Fishery Sciences  
Email id: kvkmsd.wbuafs@yahoo.com

### The achievement

Gaining a profit of Rs. 14,500 per month.



### Impact of training

Along with the technique of induced breeding, Mr. Mahaldar also learned to reduce feed cost with application of organic juice, production of zooplanktons, food and feeding habit of fishes, pre- and post-stocking management, disease management, water quality management and proper selection of brood fishes for quality seed production.

### Motivating others

Establishment of low-cost hatchery unit in the existing fish pond has become an example for many fish farmers of his locality. Apart from acting as a master trainer in various training programme he also provides practical demonstration of fish seed production in his pond.

### Way forward

Fish seed production of catfish and other species like *koi* and *pabda* is a welcome step to prevent extinction and to provide high nutrition in the diet of the consumers. The difficulty to produce quality fish seeds of such species can very well be overcome through arranging training. To make it a viable option for income generation, the associated areas should also be taken care of to create a conducive environment for fish seed production. Such venture at a small but wide scale can attract many farmers to go for fish seed production to cater to the need of fish seed in Murshidabad as well as adjoining districts.





## Women empowerment through poultry

This is the success story of a young, energetic, dynamic and progressive farm woman who belonged to a poor farm family and could not continue her study after higher secondary level due to economic constraints. Mrs. Sunayani Roy (Mandal) lives in Khanpur village of Balurghat, Dakshin Dinajpur. Her family depended on agriculture and wage labour for livelihood. To support her family she had reared poultry at her backyard but was unable to continue it due to lack of supply of chicks and duckling, proper shelter, high mortality rate, lack of access to health care facilities and lack of knowledge. During this distressed condition she visited Dakshin Dinajpur KVK. After listening her problems KVK gave her training on poultry rearing. Her strong willpower and the motivation received from KVK helped her to start poultry rearing scientifically. She started with 200 units of dual purpose improved poultry Rhode Island Red (RIR) in her premises and now has expanded her farm capacity, installed incubator with 1000 capacity and is rearing Khaki Campbell duck also.

She participated in a 4 days training programme on improved backyard poultry management practice in 2020 conducted by Dakshin Dinajpur KVK, UBKV and Department of Animal Resource Development, Dakshin Dinajpur. She was provided with inputs like chicks, medicines and feed.



### Farmer details

Mrs. Sunayani Roy (Mandal)  
Balurghat, Dakshin Dinajpur  
West Bengal  
Mobile No.: 8617520421

### KVK details

Dr. Swarup Singh  
Subject Matter Specialist (Animal Sc.)  
Dakshin Dinajpur KrishiVigyan Kendra  
Dakshin Dinajpur, West Bengal  
Uttar Banga Krishi Viswavidyalaya  
Email id: ddkvk.ubkv@gmail.com

### The achievement

Earning an income of Rs. 106500.00 per year from the sale of culled live birds and eggs.



### Impact of training

The skill development and capacity building training has enriched Mrs. Sunayani with scientific techniques of poultry rearing. She is managing her livestock farming as per guidance from KVK. She offers homemade balance feed and azolla to the birds. Her success motivated other women SHG for initiating Poultry rearing.

### Motivating others

The meat and egg of RIR poultry were highly accepted by the local public and her success has motivated the fellow villagers especially the women folk to rear poultry as a means of nutritional security and income generation. Looking at her success more nos. of unemployed educated youths have also been motivated to take up poultry farming for entrepreneurship development.

### Way forward

Poultry and duck rearing are ideally suitable for landless farmers and the farm woman as in a small piece of land as well as water area both these enterprises can be successfully taken up. Apart from providing regular income, such enterprise can also provide the possibility to engage the family members. Installation of hatching unit with external financial support, however, is prerequisite to ensure quality chick production with very low mortality rate. Along with fetching remuneration, such enterprises ensure a better nutrition for the farm families with inclusion of meat and egg in daily diet.





## Biofloc induced women empowerment

Sabita Pramanik, a housewife, was engaged in different types of modern agricultural activities to support her family. However, the meagre income from agriculture prompted her to explore the possibility of earning more from other ventures. Her visit to KVK and knowledge gained about bio-floc culture in fishery motivated her to give it a try. Bio-floc is an environment friendly aquaculture technique based on in-situ microorganism production. It is the utilization of microbial processes within the pond/tank itself to provide food resources for cultured organism while at the same time acts as a water treatment remedy. Sabita has opened a bio-floc unit in the backyard of her residence at Sonamukhi, Bankura. Her produce is regularly sold in the local market of Sonamukhi, with remunerative price.

She participated in the 3 days' skill development training programme conducted on "Bio-floc fish farming and its management practices at WBCADC KVK, Bankura. Along with that, she also attended few other fish farming related skill development training programme funded by RKVY 2021-22. KVK, Bankura helped her to establish the 10,000 lit. bio-floc unit by supplying constructing materials of bio-floc unit, fish seeds and other essential components. She cultured *koi* (*Anabas testudineus*) in the bio-floc unit.



### Farmer details

Sabita Pramanik  
Sonamukhi, Bankura  
West Bengal  
Mobile No.: 9732001922

### KVK details

Mr. Abhrajyoti Mondal  
Technical assistant (Fishery Science)  
WBCADC Krishi Vigyan Kendra  
Bankura, West Bengal  
Email id: cadckvk@gmail.com

### The achievement

She released 6000 nos. of koi fingerlings in her 10,000 lit. tank and when the size of fishes reached 100-150 gm, she sold it in market. She is earning Rs. 300000 every year through bio-floc technology of fish farming now.





### Impact of training

The training helped her learning appropriate and scientific method of raising the fish in the bio-floc unit. It also helped her understanding the optimum water quality parameters, Carbon – Nitrogen (C: N) ratio, feed conversion ratio (FCR), benefit of probiotics and raw salt, making of molasses, uses of different types of water testing kits and floc measurement instrument. Diseases identification and its prevention was also learned by her.

### Motivating others

Sabita participates in various resource training programmes as a resource person. SHG members under gram panchayat of Sonamukhi Block also come to her unit for learning technical skills on culture system. She has engaged one worker in her production unit for proper maintenance of the structure as well as marketing.

### Way forward

This eco-friendly fish culture system judiciously uses land and water. In this system production rate is high and disease infestation is very low. The less requirement of pond space and availability of shaded area in the rural areas made it popular. The initiative taken by Sabita Pramanik has proved that rural women can also have gainful employment and income through bio-floc farming.





# Theme 6

# Agro-economics



## The concept

Once Kennedy had said “the farmer is the only man in our economy who buys everything at retail, sells everything at wholesale, and pays the freight both ways”. While the president was referring it in the aspect of farmers, this gives an essence of the gaps that could exist in the chain of farm to fork. In recent times, the liberal Indian economy has been succeeding enough to attract several youths from non-agricultural background to agricultural field for the purpose of business. Thousands of successful start-ups have been formed in the country. In this part of the country it has been seen that people are getting motivated towards rural economy and bridging the gap with help of mobile apps, machineries or other means. This is becoming helpful for both the parties. The farmers are getting market linkage or easy input whereas the startup is gaining return on investment. While the venture capital is not a commonly available ‘thing’ in West Bengal or Odisha, many technocrats have jumped into agri-startups through bootstrapping. The continuous growing number in agri based startups in this region surely needs more policy based intervention to make them more lucrative.





## The couplepreneurs of Kalimpong

Mr. Krishna Bhattarai and his wife Mrs. Bheema Bhattarai are progressive farmers of village Kagey, situated almost 40 km away from Kalimpong district headquarter. They always had a dream to become successful agro-entrepreneurs apart from being farmers. After learning about various activities of Krishi Vigyan Kendra, they interacted with the Scientists and invited them to visit their village. They were interested to grow *Tulsi* plant in their field. The KVK Scientists visited their field and found that it was suitable for growing *Tulsi* (Basil). Thereafter, they started to cultivate *Tulsi* plants in large scale for the production of *Tulsi arak* and *Tulsi* tea. Initially they could obtain *Tulsi arak* through indigenous method of distillation and sun drying the *Tulsi* leaves for making *Tulsi* tea. They were successful to certain extent to produce *Tulsi arak* and *Tulsi* Tea. They had managed to set up a cottage manufacturing unit under the guidance of KVK called the *TULSI* which was registered under West Bengal Khadi and Village Industries Board in the year 2014. The enterprise has premium quality Ayurvedic herbal formulation of *Tulsi Arak*. This unit cultivates, collects, processes, manufactures *Tulsi Aark* and Tea. *Tulsi Arak* and Tea are *fssai* licensed products. A natural herb like *Tulsi* has been effectively marketed with scientific value addition to make it popularize among the common people.



### Farmer details

Mr. Krishna Bhattarai and  
Mrs. Bheema Bhattarai  
Gyandong, Kagay  
Kalimpong Block II.  
Mobile No.: 7602052744

### KVK details

Dr. Basu Deo Kharga  
Programme Assistant  
KVK Kalimpong  
West Bengal- 734301  
Uttar Banga Krishi Vishwavidyalaya  
Email id: djkvk93@gmail.com

### The achievement

They made a profit of Rs. 2, 88, 000 from 12000 bottles of *Tulsi* ark. Additionally, from 60 kg *Tulsi* tea they have earned Rs. 62,400.



### Impact of training

The KVK provided technical knowhow, bottling, packaging, labeling and even marketing of the produce. Scientific management of *Tulsi* cultivation, hygienic practices during production, value addition and packaging of *Tulsi* tea and Arak. Kalimpong KVK and West Bengal Khadi and Village Industries Board jointly market the products of *Tulsi* in different districts of West Bengal.

### Motivating others

Seeing the business prospects of *Tulsi*, around 20 farmers of 3 villages of this district have started cultivating '*Ram Tulsi*' (*Ocimum sanctum*) in an area of 8 acres of land. Several farmers of villages like Kagay, Gyandong and Pabak of this district are now interested to cultivate "*Ram Tulsi*" along with their traditional crops.

### Way forward

Hilly areas are known for invaluable herbal and medicinal plants. But they are yet to be commercially exploited at the local level. Support from other organizations, however, may motivate hilly people to go for commercial production of selected plants. With the growing demand of such Ayurvedic products among common people, it can motivate the farmers like Bhattarai to develop sustainable enterprises in their surroundings for others to follow. Support from outside will foster such efforts to get recognition and financial benefit.





## Dairy farming ensured nutrition and return

Mr. Bivash Paul, aged 52 years, was engaged in their family business of sweet shop after completion of his graduation. There was a constant problem in procuring milk to make products from it. He harboured a thought of keeping cows for continuous supply of raw material for their shop and started with 2 crossbred cows. Gradually he purchased land and expanded his farm and now he is rearing locally procured 40 crossbred cows, 19 heifers and calves. He is having 6 bighas of irrigated land which was almost unutilized. He came to know about the importance of green fodder in high producing dairy cattle in a training organized by North 24 Pgs. KVK and started utilizing his land for production of different fodders throughout the year. High yielding cows need concentrate feed also but the cost of commercially available cattle feed was high. So he consulted with the local veterinary officers and KVK experts for preparation of feed by himself. Now he is purchasing different ingredients and making the feed by mixing them in proper proportions as directed by the experts.

He participated in 3 days Dairy farming training organised by KVK. After that he set up his cattle farm. Later, he attended a training organized by North 24 Pgs. KVK and acquired knowledge on the importance of balanced diet for livestock.



### Farmer details

Mr. Bivash Paul  
Ashokenagar, North 24 Parganas  
West Bengal  
Mobile No.: 7407500133

### KVK details

Dr. Babulal Tudu, Sr. Scientist & Head  
Dr. Kaushik Pal, SMS (Animal  
Husbandry)  
North 24 Parganas Krishi Vigyan Kendra  
Ashokenagar, WBUAFS  
North 24 Parganas, West Bengal  
Email id: kvkashoke@gmail.com

### The achievement

Gaining a profit of Rs.12.40 lakh per year from dairy enterprise.  
Daily milk production of his farm is around 200 litre.



### Impact of training

The training helped him to learn about the scientific cattle farming. He also learned about balanced ration formula for cattle of different condition, importance of green fodder and mineral mixture. After taking training of mixed farming, he also introduced poultry farming and goat farming along with cattle farming in his 1.6 ha farm area. Maximum of the milk produced is used for preparation of different sweets for their shop and the rest is sold in the local market @ Rs. 40.00 per litre.

### Motivating others

Mr. Paul is a leading dairy entrepreneur in local area. He is an example of cattle farmer who has completed the production to marketing channel by himself. He has created several man days by deputing 8 regular workers in his farm. He has also become the member of a prestigious committee of West Bengal University of Animal and Fishery Sciences (WBUAFS).

### Way forward

Mr. Paul is aiming at free range production system in cattle farming and A1 milk production. He is establishing a vast fodder area for marketing also. Dairy farming in a scientific way has, therefore, been proved very successful not only to pour nutrition into one's cup but also to ensure sustainable livelihood with good economic stability.





## Planting seeds today with a belief in tomorrow

Mukesh Kumar Dhal, a 28 years old young and dynamic farmer was involved in agriculture as a part of his family profession. Previously he was growing rice for domestic consumption purpose in 9 acres of land to meet the food requirement of his family and surplus was sold as grain at a very low price. He has one underutilized pond of 2.0 acre. He has now become a leading registered seed grower of rice and fish fingerling producer of the district. Since 2019 he is practicing rice seed production (Foundation Seed to Certified Seed) in an area 5.5 acre of land during kharif season. He is now able to select good quality seed, preparation of improved nursery bed (Dapog method) for production of quality seedling, use of mechanical rice transplanter, proper herbicide for weed management, STBR of fertilizer with right source and right method of application, maintaining proper isolation distance and doing rouging at proper time, following need base plant protection measures and proper harvesting and safe storage of seed with appropriate moisture level. He is also producing improved quality fingerlings along with high value vegetable crop Capsicum under poly house. KVK, Kendrapara facilitated procurement of foundation seed from OSSC ltd, Govt of Odisha and helped him during registration process for seed production programme.



### Farmer details

Mr. Mukesh Kumar Dhal  
Ender, Haladia  
Kendrapara, Odisha  
Mobile No.: 8637261848

### KVK details

Dr. Surya Narayan Mishra  
Senior Scientist & Head  
Kendrapara Krishi Vigyan Kendra  
Kendrapara, Odisha  
Odisha University of Agriculture &  
Technology  
Email id:kvkkedrapara.ouat@gmail.com

### The achievement

Now there is realization of Rs. 6,30,000 annual net profit from rice seed production, fish fingerling production and capsicum under polyhouse.





### Impact of training

After receiving the training on scientific rice production, Mr. Dhal is now able to distinguish between good quality seed and poor quality seeds. He is emphasizing now on use of seed treating chemical for seed treatment before sowing. He is using both organic manure and chemical fertilizer in balanced manner. He is also capable of identifying off types and doing the necessary rouging for maintenance of quality of the produced seed. He is practicing scientific pond management for fingerling production and capable of growing good quality capsicum under poly house.

### Motivating others

Mr. Dhal has become an example and inspiration for the others in the locality. He has mobilized 4 farmers to start seed production of rice and fingerling production of fish from this year. By his venture, more than 150 farmers of his locality are benefited by getting good quality seeds of rice and fish for their production purposes.

### Way forward

Technology, skill and information support when blended together can convert a traditional farmer into progressive one. Marketing support is also a critical factor that needs to address with right earnest to bring more number of farmers under diversified farming.





## FPCs: The roadmap of empowerment

Madhya Daukimari FPC is located at Dhupguri block of Jalpaiguri district. Dhupguri is the most potential block with respect to agriculture and allied practices. In 2020, KVK identified Madhya Daukimari FPC as a potent medium for the farmers to connect the market. The members were regularly connected with various programs organized by KVK. The FPC members were worried regarding non - existence of good marketing linkage that prevented them from obtaining remunerative price of their quality agro-produce. Jalpaiguri KVK took this opportunity and approached the Reliance Smart for creating marketing channel for the FPC members. Detailed deliberation and frequent interaction led to a common agreement in the form of a MoU between FPC and Reliance Mart. The FPC became a registered supplier for Reliance Smart in the course of time. The business activities were undertaken by the FPC with active participation of their Board of Directors along with vegetable growers of the FPC. Demand driven cultivation, collection and grading of products in accordance with the norms of Reliance Smart were done by the FPC under supervision of KVK to reduce rejection of produce and ensure supply of quality produce round the year. The members of the FPC are well endowed by now with the cultivation of market-demand based crops and commodities.



### Farmer details

Mr. Kamalesh Roy  
Madhya Daukimari FPC  
Dhupguri, West Bengal  
Mobile No.: 9091210890

### KVK details

Dr. Biplab Das  
Senior Scientist and Head  
Jalpaiguri Krishi Vigyan Kendra  
Ramshai, Maynaguri  
Jalpaiguri, West Bengal  
WBUAFS  
Email id: jalpaigurikvk@gmail.com

### The achievement

The average turnover of FPC through this market linkage programme is around Rs. 3 lakh annually. Both the vegetables cultivation area and individual income of farmers under the FPC have significantly increased.



### Impact of training

The KVK provided the necessary knowledge and skill to the vegetable growers for round the year vegetable cultivation. Emphasis was given for on field training on various aspects of vegetable cultivation including seedling raising, transplanting, nutrient management, harvesting, sorting and grading.

### Motivating others

Linkage between FPC and Reliance Mart has solved the marketing problem of the vegetable growers to a great extent. This has also inspired farmers of other areas to grow such vegetables that have adequate demand round the year. As per the advice of KVK, Reliance Mart is opening collection centers for door-step marketing by the farmers.

### Way forward

Marketing is always considered as one of the major constraints towards ensuring profit to the farmers from their marketable produce. Bringing the farmers under such umbrella of FPO / FPC empower them in many ways like demand driven crop / vegetable production, instant profit, quality produce and door-step marketing. Such small but meaningful beginning can go a long way for the economic uplift of the small and marginal farmers. Crop cultivation under any organization like FPO or FPC not only protects the farmers economically but also ensures regular return.





## Age no bar to start agri-business

Vermicompost production as an agri-business opportunity never came in the mind of Mr. Netrananda Lenka, an old retired person until he visited KVK Koraput in the year 2017 followed by participation in Swachata Pakhwada at the KVK to convert various waste into vermicompost. This initial visit prompted him to know more about waste management in the form of vermicompost production in the demonstration unit of KVK. He minutely observed how the organic waste, kitchen waste and home wastes are systematically collected and put into structured container for its decomposition. He also keenly watched the entire procedure from the beginning of bed formation to timely watering to finally obtaining vermicompost. As age was a bar for his physical movement, he used to contact KVK through telephone and also became a member of Whatsapp group for posting his queries as well as photographs of his vermicompost unit.

Initially he started vermicomposting with three beds by following flooring method. He put 10 quintal of dung (including other wastes) and 10 kg of earthworm in each bed of 30 x 2 feet size. His venture paid off within a short span of time in terms of production and sale of vermicompost as well as earthworm. He earned nearly Rs. 42,000.00 from his enterprise that motivated him to go for extension of the unit.



### Farmer details

Mr. Netrananda Lenka  
Patraput, Dangarchinchi, Jeypore  
Koraput, Odisha  
Mobile No.:8249412369

### KVK details

Dr. Manas Ranjan Nayak  
Subject Matter Specialist (Forestry)  
Koraput Krishi Vigyan Kendra  
Koraput, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkkoraput.ouat@gmail.com

### The achievement

From all the three beds he got 26 quintals of vermincompost and 68 kg of earthworm which he had sold @ Rs. 10/kg and Rs. 500/kg respectively. He earned Rs. 41,600.00 from his enterprise which he had started after his first trial.



### Impact of training

Mr. Lenka could learn the nature of different substrates, lifecycle of earthworms and processing technique of vermicompost. Also, the aeration, moisture maintenance etc., was taught by the KVK to him. Because of the growing demand and acceptance of vermicompost in farming community, vermicomposting has become a quite popular as a profitable enterprise.

### Motivating others

Mr. Lenka is not only confined to his own vermicompost based enterprise but he is also inspiring others to take up vermicomposting as a commercial venture and promoting organic cultivation. Nearby villagers, inspired by him, has started vermicomposting. He has also guided people from other district who has visited his vermicomposting unit. Often he delivers lecture in different programs.

### Way forward

Acceptance of low cost technology like vermicompost production not only ensures additional income but also paves the way for environment friendly agricultural practices. Various wastes commonly found in the road and field can very well be utilized for preparation of vermicompost with the help of quality earthworms. With the growing demand of vermicompost among the farmers, unemployed youth can very well take up this venture to have sustainable income and employment.





## Agri-input business for self-employment

Seeking white collar job after graduation is a common trend among the youth and Mr. Sayed Hossain, a graduate of Murshidabad district was no exception. He tried to his level best to get absorbed in any Govt. job but did not succeed. Moreover, he was supposed to economically support his family also. But lack of employment opportunities prevented him to shoulder his family responsibility. In between he attended a number of training programmes conducted by Dept. of Agriculture, Govt. of West Bengal and KVK Murshidabad that inspired him to go for self-employment by setting up an agri-input business centre. To fulfill his aspiration he had undergone DAESI course in 2017-18 to get the required license to start his agri-input business. Finally, in the year 2019, he could start his center in his locality. DAESI course taught him knowledge and skill about different agricultural practices, identification of insect-pest and disease in the crops, use of appropriate plant protection chemicals, proper dose of fertilizer and other crop cultivation practices. Mr. Hossain could become a genuine advisor for the farmers whenever he was approached and frequently he used to visit farmers' field for on the spot solution to the farming problems. Mr. Hossain has become truly a para-extension worker for the service of the farming community in his district.



### Farmer details

Mr. Sayed Hossain  
Daulatabad, Murshidabad  
West Bengal  
Mobile No.: 8001974525

### KVK details

Dr. Uttam Roy, Senior scientist and Head  
Mr. Abu Taleb, SMS (Soil Science)  
Murshidabad Krishi Vigyan Kendra  
Murshidabad, West Bengal  
West Bengal University of Animal &  
Fishery Sciences  
Email id: kvkmsd.wbuafs@yahoo.com

### The achievement

Gaining a profit of Rs. 2.10 lakh per annum.



### Impact of training

DAESI course not only enabled Mr. Hossain to know about various agricultural practices as well as management but also provided the scope to interact with different experts and the existing input dealers to serve the both ends. His agribusiness retail shop has become the serving point for the farmers in terms of genuine and appropriate fertilizers, insecticides, pesticides, micronutrients and advised to the farmers about appropriate doses of application along with serving 30-40 farmers on a daily basis his sale of agri-inputs has also increased manifold.

### Motivating others

Self-employment through agri-business has become a lucrative opportunity for many rural youth in that area. The demand for enrollment in the DAESI programme by the rural youth has substantially increased to accommodate aspiring youth in the future programme.

### Way forward

Successful completion of DAESI programme has not only encouraged youth to go for self-employment but also made them para-extension professionals to cater to the immediate needs of the farmers in the farming operations. Moreover, the sale of quality inputs like fertilizers and other chemicals is also ensured by such dealers. Such opportunity needs to be extended in every block to attract the unemployed youth towards self-employment as well as sustained income generation.





## Innovation brought prosperity

North 24 Pgs. District of W.B. is having a large no. of rice mills to process huge quantity of parboiled rice. Such processing produces substantial amount of paddy husk, broken rice and rice bran as the major by-products. Broken rice has a good market demand for its use as an ingredient of livestock feed. However, separating broken rice from rice bran/husk is not an easy task. Considering this difficulty, Mr. Dey, a 71 years old farmer cum innovator developed a new type of machine named 'Paddy Clear' for separating broken rice. It is operated by a 2HP motor fitted with a hopper. There is a shaft that regulates the quantity of husk to be supplied to the machine. A blower is fitted in two sides open chamber (front & back) that pass the air with husk between two plates fitted in front of chamber to throw husk. After that the broken rice is deposited in the base and collected through a sloping tray.

The idea of this machine came to his mind while attending a training programme organized by KVK North 24 Pgs. on scientific agricultural practices. During the training the issue of rice husk, or, rice bran mixed with broken rice came for discussion which inspired Mr. Dey to find a solution through developing this innovative machine for the benefit of farmers and mill owners. He was quite confident about developing such machine that would be easy to operate and effective in separating rice husk.



### Farmer details

Mr. Binoy Krishna Dey  
Habra, North 24 Paragana  
West Bengal  
Mobile No.: 9434136051

### KVK details

Dr. Anindya Nayak, SMS (Fishery Sc.)  
North 24 Pgs. Krishi Vigyan Kendra  
Ashoknagar, North 24 Paragana  
West Bengal  
West Bengal University of Animal and  
Fishery Sciences  
Email id: kvkashoke@gmail.com

### The achievement

He got patent for his product and the product is available in the market for sell. At present the price of the machine is Rs. 9,800/ piece. He produces 100 machines. His annual turnover is around 10 lakh.





### Impact of training

Mr. Dey came to know the problems of non-availability of suitable machines during his participation in various training programmes. The fellow participants/farmers when raised the issue of small machines for field operation as well as processing, Mr. Dey used to think innovatively for the solution. This has led to development of Tornado, a modified rotavator, turmeric grinder and machine to feed fuel to rice mill ovens. Mr. Dey has got the patent also for his machines.

### Motivating others

This machine is popularly used in whole North 24 Parganas district as well as different districts of West Bengal. Apart from this Mr. Dey also sells it in Jharkhand, Uttar Pradesh, Bihar and Tripura states. Young farmers after observing the functioning of this machine are in the process of developing need-based machinery for converting agricultural operations and processing drudgery free.

### Way forward

Mr. Dey has proved that necessity is the mother of invention. The attitude to solve the problems of others and innovative thinking can lead to development of user friendly machineries keeping economy into consideration. The efficacy of the machine also mattered that made it popular among the farmers. Such type of machines are the need of the day to make rice processing affordable to all.





## *E-marketing* assures better remuneration

A young private sector worker Mr. Sanjib Kumar Majumder somehow saved his job during the COVID 19 but without any remuneration. However, without succumbing to the situation, he decided to start a new endeavor in the form of poultry farming with the help of KVK North 24 Pgs. An online training programme and regular interaction with KVK enabled him to develop a duck farm covering an area of 0.26 ha unused water body. He started maintaining 5-6 breeds of duck like Khaki Campbell, White Pekin, Local Breed etc. in that leased in water body. The selling of ducklings in the local market was not fetching that much remuneration followed by higher mortality of ducklings in the normal hatching process. To overcome the present condition he opted for two different endeavors at a time - invented one self-designed mini incubator for production of quality ducklings and registered himself in one online platform namely, “Call Kisan” for marketing his products to the customers of wider area. In between he initiated hatching of chicks and collecting kids from other farmers for *e-marketing*. He started receiving considerable demand for duckling, chick and kid from far off areas also. Alongwith ducklings etc. he started selling quality fodder cuttings also to the farmers for fodder cultivation as a feed to the animals.



### Farmer details

Mr. Sanjib Kumar Majumder  
Bamongachi, North 24 Parganas  
West Bengal  
Mobile No.: 9239676817

### KVK details

Dr. Anindya Nayak, SMS (Fishery Sc.)  
North 24 Pgs. Krishi Vigyan Kendra  
Ashoknagar, North 24 Paragana  
West Bengal  
West Bengal University of Animal and  
Fishery Sciences  
Email id: kvkashoke@gmail.com

### The achievement

Through the “Call Kisan” app he is selling to the willing farmers. He made his products available through online selling also as a result he is getting a wider market area. His annual turnover is around 3.75 – 4 lakh.





### Impact of training

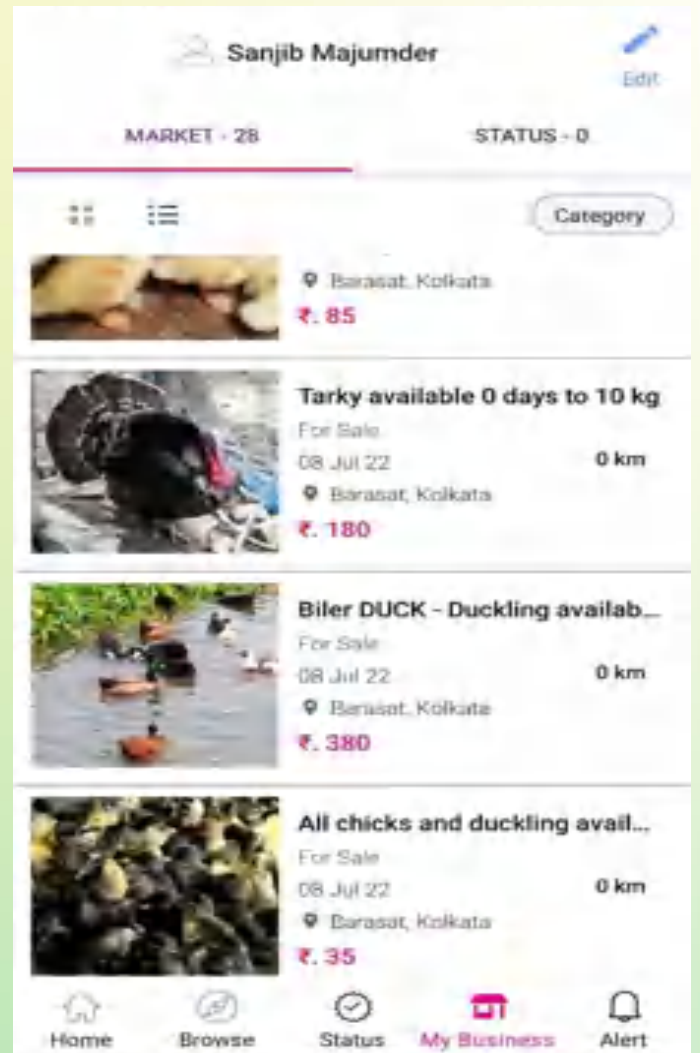
Interaction and participation in training at N24Pgs. KVK were instrumental in providing an alternate employment to Mr. Majumder. The basic knowledge gained during online training enabled him to scientifically rear poultry birds for its online marketing. The motivation he received from the KVK inspired him to go for online marketing of other commodities also like fodder cutting and kid. e-marketing was fully exploited by Mr. Majumder to create market.

### Motivating others

He has become the inspiration for several rural youths. With his endeavor and skill he became a successful livestock entrepreneur. Now- a- days he is maintaining both his farm and job. He encouraged some of his friends and local youths to come into this poultry farm and produce more number of birds for selling through the e-marketing mode.

### Way forward

Call Kisan has opened up immense possibility for online marketing of a no. of products. Darth of appropriate market often prevents the youth to go for self-business but the present day apps available everywhere can very well be utilized to overcome the marketing problem. A tech-savy youth like Mr. Majumder has proved that any problem could be addressed even from the rural areas.





## Agriculture as a profession proved lucrative

Shifting of profession from Information Technology (IT) to agriculture is not very commonly found. The white collar job has its' own appeal among the young generation and quitting such job is quite a difficult for the aspiring youth. But Mr. Udit Bhanu Singh, an IT professional posted in Singapore took a surprising decision to leave the job and take farming as a new career. His visit to his ancestral barren land of 9 acres turned his desire towards profitable agriculture. Traditional cashew farming and a small dairy unit were the only resources he had at the beginning of his new project. To convert this barren land into a modern farming system, he sought the guidance of KVK Dhenkanal and within three years he could develop his farm with a combination of horti-vermi-poultry-pasture cultivation. Based on the nature of the land, the KVK prepared the farming map incorporating vegetables, turmeric, mango, cashew, lemongrass, dairy and poultry for synergistic integration and optimal utilization of existing as well as created resources. Implementation of the well-thought plan was the key to his success to aspire in the new venture. Mr. Singh after working round the year and with the help of five employed persons, is earning nearly Rs. 10 lakh per annum, from 9 acres of land.



### Farmer details

Mr. Udit Bhanu Singh

Jababar Chowk,

Dhenkanal, Odisha

Mobile No.: 7008933268

### KVK details

Dr. Bimalendu Mohanty

Senior Scientist and Head

Dhenkanal Krishi Vigyan Kendra

Dhenkanal, Odisha

Odisha University of Agriculture & Technology

Email id:kvkdhenkanal.ouat@gmail.com

### The achievement

A net annual income of 9-10 lakh from 9 acres by adopting Integrated Farming Practices



### Impact of training

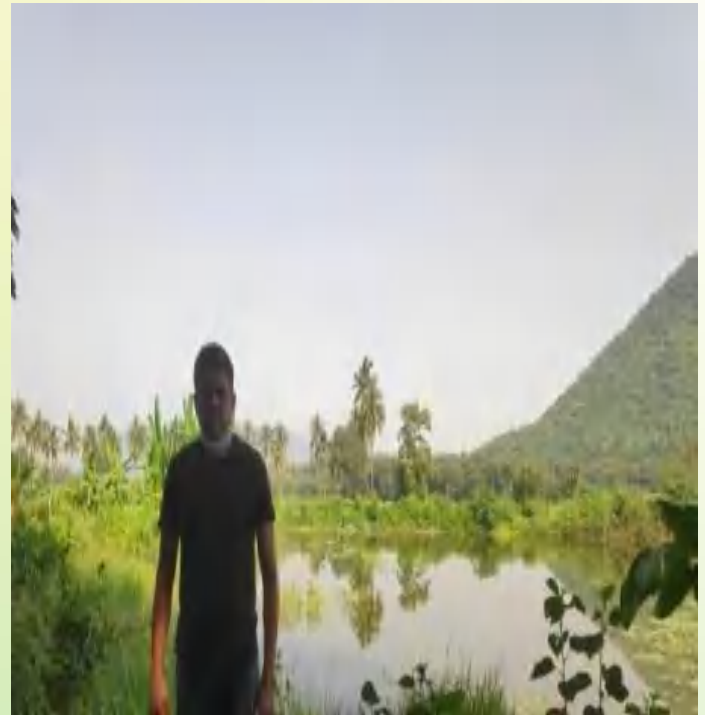
The guidance of KVK and visit of Mr. Singh to KVK as well as other profitable IFS models encouraged him to go for improved dairy with establishment of fodder bank, minimize cost, using azolla in the ration of chicks, adoption of micro irrigation system in cashew and vegetables as well as farm mechanization, oil extraction unit from lemongrass to augment the income from per unit area. His integrating farming system has been successful in all aspects and has become a sustainable source of income much higher than his earlier profession.

### Motivating others

The successful farming of Mr. Singh has drawn the attention of hundreds of farmer within and outside the district. The farmers are developing IFS based on land situation and availability of resources. Mr. Singh is sharing his experience with the farmers to further motivate them towards the profitable agriculture through IFS.

### Way forward

Unutilized and barren land can very well be converted into productive farm provided appropriate enterprise is chosen and integrated. Based on the technical knowledge received from organization like KVK or agri-research institute farmers can earn sustainable income throughout the year from one or more components integrated in scientific manner.





## Innovative farm machinery benefited farmers

Excessive and prolonged precipitation during kharif often cause stagnation of water in low-lying paddy field resulted into lodging of rice plants. Mr. Dinabandhu Pal, a conventional paddy grower of Ausgram block of Burdwan, was the regular sufferer of such incidence for which he had to incur loss in paddy cultivation year after year. Though he was aware that advancement of sowing of rice might save him from lodging due to inundation but lack of appropriate machinery like zero-tillage machine for early sowing of paddy. In addition, cultivation of potato as the succeeding crop was affected for labour scarcity for making ridges to get the desired yield. His visit to Burdwan KVK and coming across zero-till seed cum fertilizer drill machine clicked his innovative mind to device a cost-effective machine that could be used manually and suitable for small and marginal farmers. Discussing with experts and blacksmith, he developed a proto-type of conventional zero-till seed cum fertilizer drill which is made of wood and has 2 chambers for holding fertilizers and seeds. It can be manually driven or driven with bullock cart. There are wheels attached with rubber band which help in placing seed and fertilizer in line. It can sow 1 acre of paddy in 4.5-5 hours with one labour. Apart from that it has suitable tynes for making potato ridge and can make ridges for potato sowing in 1-acre area in 4 hours.



### Farmer details

Mr. Dinabandhu Pal  
Warsihpur, Ausgram  
Purba Bardhaman, West Bengal  
Mobile No.: 7699870386

### KVK details

Dr. Dipankar Ghorai  
Subject Matter Specialist (Agronomy)  
Burdwan Krishi Vigyan Kendra  
Burdwan, West Bengal  
ICAR-CRIJAF  
Email id: kvkburdwan@gmail.com

### The achievement

He is earning nearly Rs. 5 lakh per annum from his machines and selling rice.



### Impact of training

KVK took his innovation to different villages for mass awareness of other small holder farmers through demonstration. The technology not only saved energy but also helped in enriching the soil health by reducing the loss of soil organic carbon due to no-till of soil.

### Motivating others

The developed proto-type has become a boom for the resource poor small and marginal farmers of the district. Many farmers are approaching him to custom hire his innovative machine for their own cultivation of crops. Nearly 25% of small and marginal farmers have been benefitted in his locality from this machine. The KVK is also creating awareness about such innovative device to encourage young farmers to come forward and develop low cost farm tools and machineries.

### Way forward

Fertilizer and seed placing in single application saves labour cost and no-till technology typically provides cost savings in soil preparation because there is no need to plough or cultivate the soil before sowing. Such innovation reduces the cost of labour, intercultural operation like weeding, manuring and irrigation. Development of such cost-effective farm machineries will go a long way to reduce the cost of cultivation and enhance the return.





## The paradigm shifts with FPCs

Mr. Sankar Jana, a benevolent youth of North 24 Parganas used to take interest for his earnings from off-farm activities rather than conventional agriculture. However, his sole effort could not make him a successful entrepreneur due to various reasons. To find a suitable alternative he motivated the farmers of his locality to come under a farmers' club and apply improved agricultural practices for betterment of their agriculture led economy. Later on, he formed an FPC with 555 farmers to undertake multifarious activities like custom hiring center, input supply (bio-fertilizer, bio-pesticides, mushroom spawn, seeds and planting materials), vegetables and fruit retailing, handicraft making, food processing, renting vending vehicle etc. The FPC also owned oil and a dal mill to diversify the business opportunity. In most of the areas, KVK North 24 Parganas (Additional) provided the required knowledge and skill to the FPC members followed by other organizations. In agriculture related enterprises and livestock the KVK provided regular assistance in terms of advisory and critical input support. The diversified production and its appropriate marketing have made the FPO (Kojagori) a well-known farmer friendly platform both in terms of per annum income and use of advanced agricultural and allied technologies in their enterprises.



### Farmer details

Mr. Sankar Jana (Director)  
Kojagori Farmer Producer Ltd.  
Babpur, Duttapukur  
West Bengal  
Mobile No.: 8617742089

### KVK details

Dr. Tanmay Samajdar  
Senior Scientist and Head  
North 24 Parganas (Additional) Krishi  
Vigyan Kendra  
ICAR-CRIJAF, Barrackpore  
West Bengal  
Email id: kvkn24prg2@gmail.com

### The achievement

They earn nearly Rs. 100 lakhs per year from different enterprises like custom hiring, oil mill, input supply, vegetables retailing, trainings and others.





### Impact of training

Training undergone by the members of FPC both at KVK and other organizations has immensely benefitted them to successfully practice the enterprises for the overall growth of the FPC and economic health of the members. An FPC of 555 members is successfully surviving because of the regular support from KVK and associated organizations during their need and requirements.

### Motivating others

With the success of Kojagori FPC Ltd., other FPC Viz. Sabka Apna FPC Ltd., Vidyadhari Fish Producer Company Ltd. etc. has sought assistance for guidance and technological intervention for upliftment of their FPC.

### Way forward

Formation of FPC is a welcome approach for the small and marginal farmers as it ensures end to end support and services to them covering marketing, processing and other associated areas. It also helps the farmers to enhance production, productivity and profitability taking care of the entire supply chain. Regular up gradation of knowledge and skill along with banking support will encourage the scattered farming community to come under the umbrella of such a productive organization for the betterment of the farmers.





## FPC channelized the success of women

Farmers Producers Company (FPC) in the rural sector of W.B. plays a pivotal role in empowering the farmers towards better return from agriculture as well as to diversify agriculture. However, the beginning needs whole hearted effort by 1 or 2 dedicated persons to make it a reality. Mrs. Nasreen Laila is such a leader who took the lead in Kantul village of Hooghly to form a farmers' producers company with technical support of Hooghly KVK to bring 200 farmers under the umbrella of this FPC. To begin with, the FPC started spice processing as a commercial venture to sell the produce in the local as well as adjoining areas.

Specialized training for the required skill was provided by Hooghly KVK in collaboration with Dept. of Horticulture, RIDF project, BCKV and Dept. of Agricultural Marketing. The member collected raw spice materials like coriander, cumin, turmeric, red chilli etc. from other districts as well as Govt. farms like WBCADC, Boinchi. Some of the members also produce spices of their own for its processing by the FPO. In diversifying the activities, the women members took skill training on processing and preservation of fruits and vegetables, vegetable nursery, poultry farming, capsicum cultivation etc. The members from all the enterprises are earning Rs. 3 lakh per annum, much higher than their previous income.



### Farmer details

FPC members

Kantul, Polba-dadpur, Hooghly

West Bengal

Mobile No.: 9674136970

### KVK details

Dr. Samsul Haque Ansary

Senior scientist and Head

Hooghly Krishi Vigyan Kendra

Hooghly, West Bengal

Bidhan Chandra Krishi Viswavidyalaya

Email id: hooghlykvk@gmail.com

### The achievement

Gaining a profit of Rs. 1.5-2.0 lakh per annum through processing and selling processed spices (i.e., Chili powder, coriander powder, turmeric powder, black pepper powder etc.)





## Impact of training

Specialized skill imparted by Dept. of Horticulture, B.C.K.V. and agricultural marketing board to the FPC members made them expert in processing of spices followed by preservation of fruits and vegetables. The women members also became proficient in making mustard pickle, lime squash and pickle. Line departments and commercial banks guided them about fund flow to keep the FPC vibrant. Marketing channel like Amazon e-marketing platform, Sufal Bangla, Mrittika Bhawan, Kolkata and others were effectively utilized for the sale of their product directly.

## Motivating others

All the enterprises taken up by the FPC under the leadership of Mrs. Laila have become very popular in the entire area. Farmers from other villages are opting for spice processing and poultry rearing either as a group activity or, in the individual front. The self-belief of Mrs. Laila to run business to empower woman community is the tangible impact created in the entire district.

## Way forward

The dedication of Mrs. Laila earned her reputation across the state through the conferment of 'Best Mother Group', 'Best Woman Farmer' by State Govt. and Hooghly KVK. Women empowerment should be brought by women only and Mrs. Laila has set the example for others to follow.





## Market driven extension – need of the hour

Agriculture and allied sectors witnessed many innovations in the marketing channel especially in Vegetable enterprise during COVID pandemic. “Dhipara Monalisa Mahila Swanirvar Dal” of Sonamukhi Block, Bankura has set such an example to prove that ‘If there is a will there is a way’. In that crunch situation, the price and demand of vegetables were very low at Sonamukhi local market but at metro city like Kolkata the price of vegetables was quite high. At that time WBCADC and KVK Sonamukhi came up with a unique marketing approach to ensure the concept of buyers meet the sellers bypassing the middlemen involved in the process. They jointly conducted the activity where they bought all the vegetables from SHGs on weekly basis and sold it to Kolkata. According to the SHG members, price provided by the institution was much higher than the local market. To sustain the marketing channel the SHG members received improved vegetables seeds and seedlings from the KVK along with the skill development training on nutrition garden, nutri thali, organic farming, processing and packaging of vegetables to extend shelf life, exotic vegetable farming etc. Moreover, Refrigerator Insulated ToTo Rickshaw was also provided to the groups to enable them to supply fresh product at consumer’s door steps directly without the involvement of middlemen.



### Farmer details

Dhipara Monalisa Mahila Swanirvar  
Dal, Sonamukhi  
Bankura, West Bengal  
Mobile No.: 8945998452

### KVK details

Dr. Moumita Dey (Gupta), Head (I/C)  
Bankura KrishiVigyan Kendra  
Bankura, West Bengal  
WBCADC  
Email id: cadckvk@gmail.com

### The achievement

The group has received as increased monthly income of Rs.20, 000 after selling the product at consumer door steps and at distant market like Kolkata.



### Impact of training

Comprehensive training provided for marketing of all kind of product like agricultural, mushroom, livestock products, fisheries etc. helped the members of the SHG groups to be aware of importance of quality assurance, marketing channels, consumer relation, benefit-cost analysis etc. All these individual segments of training has helped them to fetch a handsome income through vegetable enterprise. Such kind of shift from only production to production and marketing approach is much more sustainable.

### Motivating others

This spectacular achievement by the Dihipara Monalisa Mahila Swanirvar Dal has motivated many other village women of nearby areas. They have come forward voluntarily to join the group with their own farm product. Now they have approached the KVK for assisting in FPO formation and registration for which documentation has already been started.

### Way forward

Market driven extension approach has got tremendous effect in innovative technology adoption and income generation. Only the removal of middle man has increased the income by 37% as stated by the group. Therefore, it is the need of the hour to make our extension approach market driven for better realization of returns on the part of SHGs and farmers.





## Multiple enterprises multiplied farm income

The journey of Mr. Shayam Chandra Lala, a successful farm grower started in the year 2010 as the head of one farmers' club established and nurtured by Uttar Dinajpur KVK. Mr. Lala took active interest in improved as well as diversified farming to overcome the problem of profitability in the conventional farming. He attended a good no. of training programmes at KVK before becoming an aspiring CFLD farmer and seed producer in Seed Hub project. The transformation began with shifting of traditional agriculture to profitable agriculture through seed production of pulse and oilseed crops, mechanized rice transplanting, raising of boro seedling under poly mulching, organic farming, mango orchard and cultivation of scented and aromatic rice (Tulaipanji). In a bit to overcome the marketing of agricultural produce, he also opted for value addition like mustard oil, aromatic rice, *dal*, *bodi*, organic fruits and vegetables. Both the value added products and organic produce found local and far away markets like *Sunday Hut*, Star Hotels and Resorts. He also developed a no. of collecting points to deliver his produce on the bus routes of National Highway. The marketing channel established has made the sale of his produce easier. Diversification of enterprises and improved/organic method of cultivation has reduced the cost of cultivation and increased the profit.



### Farmer details

Mr. Shyam Chandra Lala  
Altapur-II, Uttar Dinajpur  
West Bengal  
Mobile No.: 9932609342

### KVK details

Dr. Dhananjay Mandal  
SMS (Plant Protection)  
Uttar Dinajpur Krishi Vigyan Kendra  
Uttar Dinajpur, West Bengal  
Uttar Banga Krishi Viswavidyalaya  
Email id: [udpkvk@gmail.com](mailto:udpkvk@gmail.com)

### The achievement

Gaining a profit of Rs. 3.5 lakh per year. Annual turnover is Rs. 10 lakh.

Received several awards like *Krishak Ratna*, *Kriti Krishak*, *Vibrant Gujrat*, *Mahandra Samriddhi* and many more in regional and national level.



### Impact of training

Training obtained by Mr. Lala for a fairly long period enabled him to go for quality pulse seed production, developing mango orchard, introducing scented rice, farm mechanization, vermicompost production, organic vegetable production and value addition to a no. of fruits and crops. The cumulative turnover has reached to Rs. 30 lakh per year with a net profit of Rs. 12.5 lakh. He has also purchased 0.9 ha agricultural land for earning more from farming.

### Motivating others

The success of Mr. Lala has gone a long way to motivate 18 farmers and farm women to adapt diversified farming and value addition. The selling point like hotels, resorts, *Sunday Hut* have become accessible to other farmers also to earn sizable income from their agriculture and allied produce.

### Way forward

Assessing the potentiality of land and diversification of farming are key to become successful entrepreneur in agriculture. Traditional agriculture very often fails to produce adequate return to the farmers making them averse to agriculture. However, appropriate diversification and incorporation of enterprise like scented rice production not only ensures steady income but also takes agriculture to a business mode. Crop diversification should be carried out wherever the possibility exists.





# Theme 7

# Miscellaneous





## The concept

Apart from all the said domain there are several heroes who are cultivating farming and allied sectors for benefiting rural economy. From making bangles with lacs to commercializing popular herbs, selling honey to opening venture with spouses –there are countless instances spread over the region that needs to be highlighted for eradicating problem of unemployment. These uncategorized segments are especially important for the farming produce of local importance. With the help of export and bigger markets these people can contribute significantly to the nation’s economy and make agriculture a sizable contributor to the GDP.





## Diversified farming leads to united wealth

Application of modern technology and scientific method of farming are essential to make agriculture a profitable business. However, small and marginal farmers in general, don't get such technological support during their farming practices. Mr. Dharanidhar Nayak, a progressive farmer by nature was keen to diversify his rice farming owing to its low productivity. His sheer interest motivated him to come in contact with a no. of ICAR-institutes, SAU and state farm of Odisha to implement the idea of crop diversification in place of mono-cropped rice. Finally, KVK Cuttack showed him the way for better farm income maintaining rice production in a scientific manner and including sweet corn, finger millet, dairy as diversified enterprises. In due course, he went for drip and sprinkler irrigation, resource conservation technology, fodder cultivation and value addition of milk to further enhance his annual income. A quite big chunk of land (1.0 acre) was utilized for sweet corn cultivation which became the second most important crop of his farming. In a phased manner, he acquired the skill for looking after the present enterprises from KVK Cuttack followed by their regular monitoring and guidance. Apart from the use of Chaff cutter, he also opted for drudgery reducing solar sprayer, soil test based fertilizer application and storage loss method of the milk and processed product.



### Farmer details

Mr. Dharanidhar Nayak

Sundarda, Niali

Cuttack, Odisha

Mobile No.: 8895197533

### KVK details

Dr. D. R. Sarangi, SMS (Soil Science)

Dr. R. K. Mohanto, SMS (Animal Science)

ICAR-NRRI Cuttack Krishi Vigyan Kendra

Cuttack, Odisha

Email id: kvkcuttack@gmail.com

### The achievement

Gaining a profit of Rs.2,15,786 annually.

Cost saving of Rs. 6000 due to switch over from chemical fertilizers to manures.

Received the innovative farmer award by ICAR-NRRI Cuttack on the occasion of 70<sup>th</sup> Foundation day.





### Impact of training

Among various technologies, Mr. Nayak became expert in scientific rice cultivation with improved varieties, integrated nutrient management, need-based fertilizer application, scientific sweet corn cultivation, clean milk production, use of micro-irrigation method and resource conservation technology after participating in good no. of training programmes at KVK. As a fallout, the productivity was increased followed by reduction of cost of production.

### Motivating others

Integration of various enterprises in a scientific manner has motivated the farmers of his village and surrounding areas to go for improved agriculture/dairy in an improved way. Sweet corn cultivation has become quite popular on that locality for large scale cultivation in Rabi. Co-operative marketing of sweet corn has attracted Reliance Company to purchase the entire produce from the farmers' field at a remunerative price.

### Way forward

Diversification of farming enhances the profitability of the farmers provided appropriate crops, vegetables and other enterprises are integrated. Rice though a staple crop for Odisha, introduction of sweet corn during Rabi enabled the farmers to increase their farm income manifold compared to rice-rice-rice cultivation. Improved cultivation practices and marketing also created interest.





## Income generation through vermicomposting

North and Middle Andaman is by default an organic zone and hence the demand of Vermicompost is quite high. To enable the farmwomen/ housewives to produce vermicompost at household level, KVK North and Middle Andaman conducts frequent training programme on vermicompost production. Mrs. Purnima Chaudhary, a farmwoman, attended such a training programme during 2019. In addition to looking after household activities, she used to help her husband in all agricultural and allied activities. She had shown keen interest to learn the technique of vermicomposting during the training and later started her enterprise.

Initially, site selection was done by the KVK specialists. Knowledge was imparted about the organic waste management. Technical guidance along with inputs like portable vermi bed, earthworms etc. were provided by KVK. Method of vermicompost production, stocking, storage and marketing were carried out under the supervision of KVK. The dedication of Mrs.Choudhary followed by regular monitoring by the KVK made her expert in producing quality vermicompost both for her own agricultural field and sale among fellow farmers at a reasonable price. Within a certain span of time her income increased manifold to enable her to expand her venture. Now, she is selling both vermicompost and vermi wash on a regular basis in her neighbourhood.



### Farmer details

Mrs. Purnima Choudhary  
Hari Nagar  
North and Middle Andaman  
Mobile No.: 9531916822

### KVK details

Dr. Pooja Kapoor  
SMS (Home Science)  
ICAR-Krishi Vigyan Kendra  
Nimbudera  
North and Middle Andaman  
Email id: nimbudarakvk@gmail.com

### The achievement

She is able to earn an income of Rs.8000.00 per month from selling vermicompost and vermi-wash.



### Impact of training

Knowledge and skill were provided on production of vermicompost including selection of suitable earthworm, site for vermicompost production, beds for vermicompost production, worm food, watering the vermi bed, harvesting vermicompost, packaging and marketing etc. The programme inflicted the required confidence to start her own vermicompost unit. And it took very less time for her to succeed in this new venture.

### Motivating others

After adopting the technology and taking vermicompost as a venture, she has not only secured her livelihood but also set an example for coming generation as well as for farmers and farm women of the area. Keeping in view of her devotion and contributions to the field of Agriculture and its allied sectors, the ICAR-CIARI, Port Blair has felicitated her with a trophy and a certificate of appreciation on the 23rd June 2022 during its 45th foundation day.

### Way Forward

Vermicompost is an integral constituent of organic farming that can be produced at the household level with proper knowledge and skill. Such enterprise is quite women friendly also. The success of Mrs. Choudhary is an eye opener for other farmwomen and housewives intend to who contribute economic towards empowerment of their family.





## Saga of alternate medicine- Ekangi

Diversification of crops is not a very common practice in rural W.B. In spite of efforts put forth by the concerned stakeholders, crop rotation is not that much observed. Same was the case with Mr. Bipadtaran Ghosh, a traditional rice grower in kharif season for more than 10 years. The practice slowly reduced the productivity of rice vis-à-vis annual income from agriculture. Though he was in search of any suitable crop to partially replace paddy, lack of adequate information and exposure prevented him from taking any decision. At this juncture, he came in contact with Birbhum KVK and got the idea of Ekangi (*Kaempferia galanga* L.) cultivation in a part of rice field. He also took part in a training on cultivation of profitable medicinal plant and volunteered 0.28 ha of land for demonstration on Ekangi by KVK in kharif season. The demonstrated plot produced 36.79 q of Ekangi rhizome that earned him a net income of merely Rs. 2.0 lakh. The income was much beyond his expectation as he used to get a production of 15-16 q rice per ha for a net return of only Rs. 95000. The success of Ekangi cultivation in kharif season was spread through mass media like radio programmes broadcasted by All India Radio, local Television Channel; Doordarshan Kendra, Santiniketan; E-TV Bangla, and Daily Newspapers like Anandabazar Patrika etc. Introduction of ekangi brought the economic prosperity in no time.



### Farmer details

Mr. Bipadtaran Ghosh  
Kartikdanga, Raipur, C. D. Block  
Bolpur, Birbhum, West Bengal  
Mobile No.: 8101987627

### KVK details

Dr. Prabuddha Ray  
Subject Matter Specialist (SMS)  
Rathindra Krishi Vigyan Kendra  
Palli Siksha Bhavana (Institute of  
Agriculture)  
Visva-Bharati  
Email id: rathindrakvk@gmail.com

### The achievement

Bipadtaran Ghosh is able to generate a Net Income of nearly Rs. 2.00 Lakhs per year.



### Impact of training

Ekangi being a new introduction in rainfed and upland condition, specific knowledge and skill for its cultivation was required. Each and every aspect of Ekangi cultivation including land preparation, spacing, depth of sowing, fertilizer and weed management, method of harvesting and grading were appropriately taught to all those 18 farmers involved in Ekangi demonstration programme. Training and demonstration helped all the farmers to harvest substantial yield of Ekangi and from 2015, the area under this medicinal plant is steadily increasing.

### Motivating others

In the year 2015-16, only 3 farmers of Birbhum district started Ekangi cultivation as Partner Farmers of the FLD Programme initiated by the Rathindra KVK in 0.26 ha area. It was increased to 4 ha area with 15 farmers in that village in the year 2016-17 and further Ekangi was cultivated in 6.7 ha land in that village with 25 farmers. Beside that it is now spread to 7 other villages involving 30 farmers of surrounding 3 other blocks of the district.

### Way forward

Ekangi has a huge economic and environmental potential over mono-cropping of kharif Rice with respect to conservation of natural resources like ground water as it is totally a rain-fed crop. Thus, its cultivation needs promotion in such areas for much higher return.





## Ornamental fishery added colour to wealth

Mr. Dipankar Majumder, a 30 years old rural youth of Ashokenagar, North 24 Parganas, was thinking of starting an enterprise of his own. He came to North 24 Parganas KVK to learn about ornamental fish culture in the year 2011. Initially, he planned for ornamental fish culture through aquarium cage set up. Starting with goldfish and assessing the demands of ornamental fish, he gradually installed 30 nos. of aquarium and started to rear different species like Guppy (Cobra), Molly (Golden, Balloon), Angel, Cichlids etc. After taking another training from KVK about breeding, he started selling the fish outside the state also like Chennai, Assam, Kerala, Bihar and Mumbai. Besides, he has also trained around 150 numbers of rural youth and established a market network within district.

Apart from undergoing training on ornamental fish farming as well as breeding of fish, he was in constant touch with KVK for advice and guidance. With the proper guidance of KVK scientists he is now producing 50000 pcs. of Chichlids, 20000 pcs. of Molly, Guppy and 100000 pcs. of Goldfish every year and selling it @ Rs. 350.00/pc. of Cichlid, Rs. 25.00/ pc. of Molly, Rs. 8.00/ pc. of Guppy and Rs. 8.00/ pc. of Goldfish. His ornamental fish farming has become a source of attraction and sale counter for the aspiring fish farmers of his vicinity.



### Farmer details

Mr. Dipankar Majumdar  
Ashokenagar, North 24 Parganas  
West Bengal  
Mobile No.: 7407500133

### KVK details

Dr. Babulal Tudu, Sr. Scientist & Head  
Dr. Kaushik Pal, SMS (Animal Husbandry)  
North 24 Parganas Krishi Vigyan Kendra, Ashokenagar, WBUAFS  
North 24 Parganas, West Bengal  
Email id: kvkashoke@gmail.com

### The achievement

Gaining a profit of Rs.6 lakh per year from ornamental fish culture.





## Impact of training

Appropriate and scientific method of raising the ornamental fish in the aquarium and tank system imparted during the training helped her understanding the optimum water quality parameters, Carbon – Nitrogen (C:N) ratio, feed conversion ratio (FCR), oxygenation system automation, breeding techniques, uses of different types of water testing kits. Diseases identification and its prevention was also learnt by him.

## Motivating others

Mr. Majumdar participated in various training programmes as a resource person. Different State and Central Govt. organizations also deputed him as technical and resource person in different programmes. He had also successfully trained rural youth to become self-dependent through independent fish farming in aquaculture. 50 nos. of rural youth from different parts of the district started the ornamental fish farming with him.

## Way forward

Mr. Majumdar along with KVK is trying to set up his farm at a bigger level. As the farmers are now more prone towards fishery and animal husbandry than agriculture, there is ample scope of the ornamental fish farming for rural youth. However, adequate knowledge and skill need to provide to take up ornamental fish farming for steady income by others.





## Organic betel vine in hi-tech *boroz*

Mr. Swapan Bhunia, a progressive farmer of Sagar Island, used to grow betel vine in traditional system, which is neither sustainable, profitable nor environment friendly. Betel vine, an important commercial crop of South 24 Parganas district, is usually grown in Boroz, an artificial shade house, erected with bamboo, jute stick, paddy straw and other bio-degradable items. This structure is highly fragile during cyclones as well as prone to various diseases and insect pests. In this backdrop he participated in a training at RAKVK and came to know about ecofriendly production of betel vine using organic inputs and got a durable boroz structure (made of GI pipes fitted with green shade net) from the NHM Scheme of Horticulture Dept., Govt. of W.B. After converting his traditional boroz into Hi-tech one as well as following bio-intensive cultivation, he got leaves of better shape, weight, colour and luster.

Mr. Bhunia used to think of applying biopesticides and biocontrol agents, but organic inputs are not readily available in nearby markets. With regular consultation with KVK scientists, he started preparing own bio-pesticides like *Trichoderma* sp., *Metarhizium* sp., etc. Presently, instead of chemical fertilizers, he depends on vermicompost, oilcakes and bio-fertilizers for his betel vine cultivation. Such application has improved the quality of leaves also for easy marketing.



### Farmer details

Mr. Swapan Bhunia

Sagar, South 24 Parganas

West Bengal

Mobile No.: 9800650883

### KVK details

Dr. Chandan Kumar Mondal, Sr.  
Scientist & Head

Dr. Prabir Kumar Garain, SMS (Plant  
Protection)

Ramkrishna Ashram KVK, Nimpith  
South 24 Parganas, West Bengal

Email id: nimpithkvk1979@gmail.com

### The achievement

Gaining a profit of Rs. 5.0-5.5 lakh per year due to increased production, lower cost of cultivation and improved leaf quality.





### Impact of training

Mr. Bhunia and other farmers are realizing better profitability from betel vine with the reduced use of agro-chemicals, minimum recurring cost for maintenance of boroz structure and higher market value of leaves due to good colour, shape, texture and luster. The training and guidance have enabled him to shift towards hi-tech boroz. As a recognition of his pioneering work, he received 'Krishak Ratna' award from the Dept. of Agriculture, Govt. of W.B. The iron structure gives strength to the boroz to withstand frequent cyclones of the coastal area. The structure can last for 10-15 years. Also, the maintenance cost is minimum in comparison to the traditional boroz.

### Motivating others

Since 2012, more than 500 units have been demonstrated in South 24 Parganas district in collaboration with Dept. of Horticulture, Govt. of W.B., through NHM programme. At present, around 2000 farmers have set up this type of hi-tech boroz either by availing Govt. subsidy or by their own.

### Way forward

South 24 Parganas district is prone to frequent natural disaster like cyclone. It not only destroys crop and animal but also severely damages the traditional betel vine boroz. As many farmers solely depend on betel vine cultivation, improved structure has given the opportunity to flourish this livelihood.





## To Bee or not to Bee

Bee keeping in Beldanga-I block of Murshidabad was a non-specific income generating activity for the rural youth. Though it was practiced by certain youth in a scattered manner, it was never thought of as a viable livelihood in that block. KVK Dhaanyaganga organized a one-week training programme in Andulberia village sponsored by Natural Bee Board to showcase the possibility of bee keeping as an alternate livelihood option. With the support of a local FPC, a good no. of youth under the leadership of Mr. Sukhamoy Mondal took part in the weeklong training programme and finally, a group of youth was identified to start bee keeping at the initial phase. Those identified youths were provided with 15 nos. of honey bee boxes, bee frame with living bees & other basic equipment to carry out bee keeping. Slowly, the no. of honey bee boxes was increased from 15 to 25 to obtain a better foraging during mustard cultivation in the winter season. The success also led to procurement of a small honey extraction machine of their own and creating marketing channel to sell their unprocessed honey. All the necessary support including training and monitoring was provided by KVK Dhaanyaganga during the entire process. The support of KVK and dedication of the group members made honey production a profitable enterprise.



### Farmer details

Mr. Sukhamoy Mondal  
Vivekananda Farmers Club  
Andulberia, Beldanga 1, Murshidabad  
Mobile No.: 8640890011

### KVK details

Dr. Sujan Biswas  
Senior Scientist and Head  
Dhaanyaganga KVK  
RKMVERI, Sargachhi, Murshidabad  
West Bengal  
Email id:  
rkmveri.kvksargachhi@gmail.com

### The achievement

Rural youths were earning an average income of Rs. 2000 to 3000 per month and after successful adoption of the intervention those rural youths have started to earn a monthly income of Rs. 8000 to 9000 per individual.



### Impact of training

Successful apiary needs specific knowledge and skill on the part of the intended youth. Hence, the participants were taught about life cycle of bees, handling of beehives, beehive nutrition, selection of apiary site, nature of migration of bees and production and sale of honey and bee hive. The participants themselves practiced all the apiary management techniques during the course of their training in field condition. The overall scientific apiary enhanced the income of the youth to the extent of nearly 95% within a span of 2 years.

### Motivating others

This venture was started from Andulberia Gram Panchayat area but gradually those trained people started to disseminate their knowledge and skill among the interested people of other areas also.

### Way forward

In the era of large scale utilization of chemicals in agriculture, population of beneficial insects has reduced manifold. Bee greatly helps in cross-pollination of various crops. Apiary also ensures the availability of quality honey used for various medicinal and household purposes. This venture can become a lucrative income generating avenue provided suitable knowledge and skill are imparted to the unemployed rural youth. FPCs can help in a long way towards group mobilization and purchasing the raw honey for its better marketing.





## Successful farming in an organic way

Agriculture in Koraput district of Odisha is generally practiced both in organic and inorganic manner. The farmers as per their resources opt for application of chemicals like fertilizers, insecticides, pesticides etc. However, they apply much lesser amount of chemicals than the prescribed one. Hence, organic farming can very well be introduced in this district. In a bid to popularize organic cultivation, KVK Koraput identified Mr. Purna Chandra Guntha (36), a farmer of Durkaguda village, who used to cultivate various crops and vegetables in his 3 ha of land for a long period. As per the advice of KVK he started applying FYM during land preparation followed by crop residue management/recycling of farm wastes through waste decomposer. He further opted for vermicompost and organic extract preparation like *Jeevamrit*. Waste decomposer supplied by KVK Koraput was multiplied for mass production and its application. In the course of time, he started preparing and using organic/ herbal extracts like neem extracts to protect the plants. The newer practice adopted by him has resulted into better decomposition of *in-situ* farm resources and making soil enriched in macro as well as micronutrients. Organic cultivation and sale of herbal products have made Mr. Guntha a profit earner compared to his earlier days of agricultural practices. Other farmers can accept such practices both for higher return and soil health management.



### Farmer details

Mr. Purna Guntha  
Durkaguda, Khudi, Potangi  
Koraput, Odisha-764036  
Mobile No.: 6370455573

### KVK details

Smt. Sunita Dandasena  
Subject Matter Specialist (Agronomy)  
Koraput Krishi Vigyan Kendra  
Koraput, Odisha  
Odisha University of Agriculture &  
Technology  
Email id: kvkkoraput.ouat@gmail.com

### The achievement

He is getting production of 133 quintal/year/2ha land, Gross Income -Rs 2,86,140/ and Net return-Rs. 1,09,240 /-.



### Impact of training

Preparation and technique learned by Mr. Guntha in KVK organized training programme would be successfully implemented and applied in the field crops and vegetables. Moreover, he could prepare sufficient quantities of vermicompost and herbal pesticide to cover the existing crops in the field.

### Motivating others

A modest beginning by organic farming by Mr. Guntha has inspired other farmers of his village to go for organic farming. Initially though he had to face certain difficulties in respect of yield but the quality of crops and commodities compensated to a considerable extent. Now the village is expanding its area under organic cultivation at faster rate.

### Way forward

Appropriate combination of organic and herbal products can improve the quality of produce manifold. Apart from quality produce such application also enriches the soil and protect the environment from the hazardous effect of various chemicals. Addition of organic pesticides like Neemastra, Brahmastra and biocontrol agents like *Trichoderma viride* and *Pseudomonas fluorescens* provides additional and much better protection against the common pest and disease to make agriculture a cost-effective enterprise.





## Vermicompost became a profitable venture

Mr. Sitanshu Shekhar Manik, a school teacher cum social worker was a familiar face in his locality of Dabuapukur, Panskura, Purba Medinipur. He had 1.0 ha of land for cultivation of pulses, oilseeds, aromatic rice, exotic as well as off season vegetables alongside his profession. After retirement from school service, he developed one poly house for vegetable followed by taking up vermicompost production at a commercial scale. Vermicompost is the product of earthworm digestion and aerobic decomposition using the activities of micro- and macro-organisms at room temperature. After getting specialized training on vermicompost production from Purba Medinipur KVK, he constructed 8 nos. of low cost vermicompost pit of 12 ft. x 4 ft. Vermicompost produced by Mr. Manik got immediate market owing to his familiarity as a teacher and social worker. Vermicompost produced by him got a premium price of Rs. 7 per kg. In the course of time, he expanded the number of pits and could produce 10 tons of vermicompost per cycle for a duration of 3 months to produce 30 tons of high quality vermicompost. With the change in profession, Mr. Manik not only explored a suitable livelihood but also found the productive way to utilize the retired life both for his own financial gain and benefit of the farmers in terms of organic vegetable cultivation.



### Farmer details

Mr. Sitanshu Shekhar Manik  
Dabuapukur, Panskura  
Purba Medinipur, West Bengal  
Mobile No.:8016721468

### KVK details

Dr. Nitai Mudi, Senior Scientist & Head  
Mr. Tarun Sarkar, SMS (Agronomy)  
Purba Medinipur Krishi Vigyan Kendra  
Purba Medinipur, West Bengal  
Bidhan Chandra Krishi Viswavidyalaya  
Email id:  
purbamedinipurkvk@gmail.com

### The achievement

Gaining a profit of Rs. 2.10 lakh per annum from 8 nos. of vermi pit.





### Impact of training

Adequate knowledge and skill of vermicompost was taught by KVK Purba Medinipur during the specialized training provided to Mr. Manik. He could learn about different types of earthworm, their efficiencies, procedure for pit preparation, size of pit, vermiwash, different materials used in vermipits, scientific management of earthworm etc. He was also taken to successful vermin-entrepreneurs to infuse the sense of determination towards commercial vermicompost production.

### Motivating others

Mr. Manik started the business in a structured manner from production to marketing of the produce. Being familiar as a social worker in his area, produced vermicompost got quick popularity in the brand name of “PRERANA”. Now the nearby rural youth are showing interest in this enterprise. He is also acting as a resource person in various training programs organized by KVK.

### Way forward

Apart from catering the needs of vegetable growers in terms of vermicompost, it can also be a value added product if it is fortified with Zn and B based on the status of soil fertility. Such beginning from a person of well repute is bound to draw success as the local farmers consult with him regarding various agricultural practices. Such type of successful cases need to extrapolate for the benefit of large number of farmers.





## Lac generating lakh to a lac farmer

Purulia district in West Bengal is blessed with a very good number of forest trees like kusum (*Schleichera oleosa*), palas (*Butea monosperma*) and ber (*Zizyphus jujuba*) etc. suited for lac cultivation. Though this district was known for production of lac even upto a few years back, it could not be commercialized against the potentiality. But the rise in demand for natural resins in the last decade has created enormous opportunity to produce lac commercially. Mr. Bikram Khuntidar, an energetic youth of the district has successfully become an entrepreneur of lac cultivation as well as extension of scientific lac cultivation techniques in this district. His perseverance to excel in self- business he participated in a number of training programme of 5-15 days duration at KVK Purulia, Line department and ICAR-IINRG, Ranchi to learn the scientific techniques of lac cultivation culminating the problems of climate change, pest and disease attack etc. Quality brood lac was also made available to him by KVK and ICAR-IINRG to take up lac cultivation at a large scale. He also learned the scientific method of agroforestry seedling raising to successfully cultivate and process lac both kusumi and rangeeni strains for a sustained livelihood. In the process he has involved village woman and SHG members to rigorously extend the scientific lac cultivation practices for benefit of all.



### Farmer details

Mr. Bikram Khuntidar

Jhalda-1, Purulia

West Bengal

Mobile No.: 7029861741

### KVK details

Dr. M.K. Bhattacharjya, Senior scientist and Head

Dr. Laboni Maity, SMS (Plant Protection)

Kalyan KrishiVigyan Kendra

Purulia, West Bengal

Email id: kalyankvkpr@ gmail.com

### The achievement

Gaining a profit of Rs. 2.10 lakh per annum from lac cultivation through selling brood lac of kusumi and rangeeni strains and also processed lac.



### Impact of training

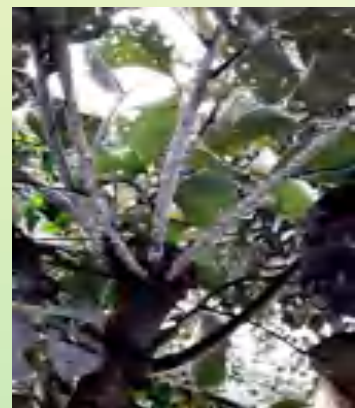
Training received and quality brood lac provided to him enabled him to appropriately use brood lac in the identified host trees followed by pest and disease management and understanding the insect-host plant relationship for quality lac production. Nutrient management of host plant was also adequately taught to him for managing the entire process of lac cultivation in a proper way.

### Motivating others

The untiring efforts of Mr. Khuntdar has made lac cultivation immensely popular among the rural youth and woman. They are now utilizing the host plants available in their land for lac cultivation to generate additional income for their family. So far 50 men and women are working with him to extend scientific method of lac cultivation among their fellow farmers/youth/woman.

### Way forward

Lac cultivation is a profit generating enterprise provided it is practiced in a scientific manner. Availability of quality brood lac and selection of appropriate host plant also influence lac cultivation. Lac is not only utilized for handicrafts but also regular demand in the industries. However, facility needs to create to process the raw lac at the village/ block level to attract more number of youth and woman towards lac cultivation.





## Success with jute handicraft and kantha stitch

Burdwan district of West Bengal is known for predominantly growing rice and jute among other crops and vegetables. However, raw jute fiber is directly sold in the market by the farmers at a fluctuating price. The concept of value addition in jute fiber was not forthcoming, particularly among the women farmers for additional income and employment generation. A few women in Jagulipara village of this district were somehow engaged in jute handicrafts making in their own way for a very meager income around Rs. 3000-3500 annually from the sale of a few handicrafts in the local market. Though Mrs. Hasan Ara Chowdhury and Sakila Begam, the group leaders Navodaya SHG were trying to give jute handicrafts making a mechanized shape, non-availability of required skill prevented them from achieving their objective. KVK Burdwan came to know about this localized practice and offered the skill training to all the group members on jute handicraft making and kantha stitch for productive use of leisure time of the farm women as well as development of quality handicrafts. Later on, the group was linked to NABARD for financial assistance and displaying the products in various mela, technology week and other such occasions. KVK also arranged quality raw materials for kantha stitch from the adjoining district Birbhum. The combined efforts made them empowered economically.



### Farmer details

Mrs. Hasan Ara Chowdhury  
Jagulipara, Ramgopalpur  
Purba Bardhaman, West Bengal  
Mobile No.: 8641086412

### KVK details

Dr. S. M. A. Rahman  
Senior Scientist and Head  
Burdwan Krishi Vigyan Kendra  
Budbud, Purba Bardhaman  
West Bengal  
Bidhan Chandra Krishi Viswavidyalaya  
Email id: kvkburdwan@gmail.com

### The achievement

Mrs. Hasan Ara Chowdhury is now able to generate an income of Rs. 11000/- per month.



### Impact of training

The programme covered the selection of jute fibers and cloth materials for kantha stitch, different types of design selection, drawing, different product preparation like mat, flower vas, pen stand and ornaments, preparation of different types of knots, embroideries, knitting etc. They were also motivated to utilize extra time for product development and marketing.

### Motivating others

Preparation of different kinds of jute handicrafts and kantha stitch products have become popular in a number of villages among the women. They are regularly approaching both the leaders and KVK for acquiring skill as well as marketing of their produce. They also act as a Master Trainer for vocational training on making of Jute handicrafts and Kantha Stitch products conducted by KVK Burdwan, NABARD and Block administration.

### Way forward

Handicrafts are the preferred showpieces for the urban dwellers and if quality products like jute handicrafts and kantha stitch are brought to the vicinity of urban people, it gets instant market. Formation of SHG and linking them to the organizations like NABARD, KVK, State departments will usher into a mechanized arrangement to make such handicrafts popular across the society.





## ‘Ornamenting’ self-reliance

Meera Patra was a home maker having a traditional pond and agriculture land but most of the time she used to spend in the agricultural field with her husband. She was also a member of SHG in her village. The idea to start ornamental fish farming struck into her mind all of a sudden and she put her thought into practice in the year 2008. At the beginning, she faced serious challenges like selection of species, poor seed quality, water quality management, high feed cost, colour quality of fish, high mortality rate and predator attacks (snake and crab), natural disaster, marketing etc. However, she did not retreat from this venture and carried out ornamental fish farming in the *hapa* of her pond. Sasya Shyamala Krishi Vigyan Kendra, RKMVERI conducted a three days’ skill development training programme on Ornamental Fish Farming and Management sponsored by NFDB during 18-20 January, 2015 where Meera Patra and 10 other farm-women of their SHG were the participants. The training programme helped her in adopting scientific techniques in various aspects of ornamental fish farming and income generation. Alongwith technical skill and knowledge, she also gained the required confidence to carry on her aspiring venture for the betterment of her family.



### Farmer details

Mrs. Meera Patra

Dakshin Raypur, South 24 Parganas  
West Bengal

Mobile No.: 9230843127

### KVK details

Dr. Swagat Ghosh, SMS

Sasya Shyamala Krishi Vigyan Kendra  
RKMVERI

Sonarpur, South 24 Parganas  
West Bengal

Email id:

rkmvu.kvknarendrapur@gmail.com

### The achievement

Gaining profit of more than Rs. 17,000/- per month against the initial income of Rs. 7000 per month.



### Impact of training

The training programme covered various aspects like selection of proper species, availability of good quality of seed, water quality management, feeding etc. Through the trials of SSKVK with marigold petal meal, she could learn to resolve the problem of colour dullness of fishes. In June 2017, they got subsidies of an amount of Rs. 85.2 lakh in a Pilot Project on Ornamental fish breeding and rearing centre for 20 farm women from the National Fisheries Development Board (NFDB) under the supervision of Sasya Shyamala KVK.

### Motivating others

Now, Mrs. Patra participates in training programmes as resource person to share her experience and skill related to Ornamental fish farming. Nearly 132 farm women are now following her unit as a village level model center of ornamental fish rearing and breeding.

### Way forward

In ornamental fish farming, a clear understanding of habits and biology of the fishes is required. It can be practiced even in urban areas with little alteration of backyard or roof of a house. Culture of ornamental fishes can be a promising as well as sustainable source of alternative income generation for people like housewives and unemployed youths.





## Successful cooperative with women's cooperation

This is the story of a Muslim lady of Hooghly district, West Bengal who had to face the social as well as economic hazard to become successful. Mrs. Nasreen Laila, 43 years old, started her beginning both with farming in her small piece of land and working as a casual farm labour in her area. The failure of her initial venture to cultivate vegetable prompted her to opt for other livelihood options. She formed a group of similar women, 'Sonar Modina SGSY' with 12 members. Activities like chikon work, embroidery, stretching of bed sheets, bed cover etc. followed by poultry rearing became their alternative source of income. To carry out improved vegetable cultivation alongside, they underwent skill training at KVK Hooghly and WBCADC, Boinchi.

The success enabled them to take lease of around 2 ha of land. KVK and other associated dept. further empowered them in diversified farming activities like off-season vegetable cultivation, processing of fruits, vegetables and spices, handicraft making, nursery raising etc. both with training and input support. In 2019, the group registered a Samabay (Co-operative) named 'Sonar Modina Chickon and Multipurpose' with 18 farm women. Later on, all the group members were associated with ARYA project for the benefit of training and inputs for vegetable production and poultry rearing.



### Farmer details

Mrs. Nasreen Laila  
Kantul, Polba-dadpur, Hooghly  
West Bengal  
Mobile No.: 9674136970

### KVK details

Dr. Samsul Haque Ansary  
Senior scientist and Head  
Hooghly Krishi Vigyan Kendra  
Hooghly, West Bengal  
Bidhan Chandra Krishi Viswavidyalaya  
Email id: hooghlykvk@gmail.com

### The achievement

Gaining a profit of Rs. 3.0-3.5 lakh per annum through handicrafts making, high value vegetable cultivation, poultry rearing, vegetable nursery, fruits and vegetable processing.







### Impact of training

Mrs. Laila and members of ‘Sonar Modina SGSY’ got the training to improve their skill both in nursery raising and poultry rearing at the beginning. Other areas like off-season vegetable cultivation, erecting poly house, preparing low poly tunnel, management of chicks, vaccination and other related areas were taught both by KVK and State dept. Appropriate skill and knowledge enabled them to expand areas under improved vegetable cultivation in 2 ha of leased land as well as construction of multi-tier and roof-top poultry farming.

### Motivating others

The tireless effort of Mrs. Laila in overcoming the perilous economic condition had a great impact among other farm women of her locality. Her leadership empowered other women to overcome the social taboo and establish their own enterprise against the odds. Conversion of ‘Sonar Modina SGSY’ to a co-operative namely ‘Sonar Modina Chickon and Multipurpose’ is itself the indicator of motivating so many women to come forward for woman empowerment.

### Way forward

To solicit external support, one needs to come forward to do something different for one’s own development. Formation of group is only possible when members under a vibrant leadership decide to face any difficulty for their economic development.





## Dr. Partha Pratim Pal

### Principal Scientist (Agril. Extension)

Dr. Pal is engaged in the field of technology dissemination over three decades. With the profound knowledge and application in agricultural communication he has captivated the KVK workers for creating a sound extension mechanism. Dr. Pal has taken several initiatives to strengthen the KVK model in the region of Eastern India.

He has authored several books and research papers. This book is a brainchild of him that can effectively showcase the successful efforts of ICAR and KVK system in post-independence era. His contribution has been recognized as the fellow of Indian Society of Extension Education.

## Dr. Shreya Das

### Sr. Research Fellow

Dr. Das is currently working in the domain of agri-business exploration. Over the region of Odisha and West Bengal she is trying to establish different enterprises of local importance with help of the KVKs. With her ground level know-how, she has helped to evaluate the cases for this book. Dr. Das was extensively associated with compilation of the manuscript. Her craftsmanship is evident in every pages of this book.



## Dr. Swayambhu Ghosh

### Sr. Research Fellow

Dr. Ghosh is associated with a Pan-India based assessment on the impact of *Krishi Kalyan Abhiyan*, a programme taken up by the GoI for upliftment of farmers in several underdeveloped districts. He was connected in the process of designing, screening and compilation of this book. His expertise in different domain of agricultural science as well as his tech savvy skills have helped this book to achieve this height.





Azadi Ka Amrit Mahotsav means elixir of energy of independence; elixir of inspirations of the warriors of freedom struggle; elixir of new ideas and pledges; and elixir of Aatmanirbharta. Therefore, this Mahotsav is a festival of awakening of the nation; festival of fulfilling the dream of good governance; and the festival of global peace and development.

