

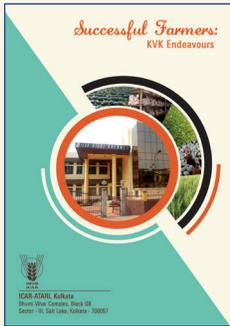
Successful Farmers: KVK Endeavours

Editor

K. S. Das, S. K. Mondal, F. H. Rahman
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Preface

With a sustained and continued thrust upon the KVKs of this country in general and the KVKs of this zone in particular by the national government, quite a number of farmers/ farm women/ rural youths have been made into successful farmers as well as entrepreneurs whose accomplishments and achievements need to be documented in the form of highlights for future sharing with other farmers/stakeholders. This documentation of the cases of success further reinforces the farmer-led extension of the successful technologies in the fields of agriculture, horticulture, animal production and health, fish production, value addition etc. The dissemination of agricultural information from farmer to farmer has been proved to be one of the most efficient means of promoting fast and enhanced rate of adoption. The successful practice of innovative/ improved technologies will be a source of inspiration for the entire farming community and the stakeholders interested in agriculture. There are ample cases of successful farmers/ farm women/ entrepreneurs where they have brought prosperity in the entire community through application of proper technology in the fields of crop production, animal rearing, fish cultivation etc. In order to appreciate the courage, determination and dedication shown by the farmers to excel in life, the ICAR-Agricultural Technology Application Research Institute (ATARI), Kolkata made a stride to document some important cases of successful technologies for showcasing the potentiality of the farmers spread across the states of Bihar and West Bengal in various fields of agriculture and allied sectors. This document is intended to showcase the capability of farmers to overcome odds and to achieve the success in farming.

Lastly, the contributions made by the KVKs and other corners for bringing out this compilation are thankfully acknowledged.

- Editors

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CROP PRODUCTION

SEED PRODUCTION: A VENTURE FOR INCOME GENERATION

Name: Sri Jogen Ghosh

Address: Vill.- Kartik Danga, P. O.- Raipur, District- Birbhum, West Bengal

Use of good quality seed is necessary to achieve satisfactory crop yield. Seed replacement rate is still behind the recommended rate for most of the crops. Similar situation exists in Birbhum district. The farmers do not get good seed at reasonable rate. They are often cheated by the malpractices of seed sellers. Seed production and seed replacement rate are correlated. In this context, Rathindra KVK arranged training programmes to train the farmers to produce quality seeds of different crops. After completion the training programmes, Sri Jogen Ghosh, a small farmer from Kartik Danga village of Birbhum district produced seeds of paddy,

wheat, sesame, black gram, green gram of different varieties as per the instruction of the KVK scientists and sold nearly 1065 kg pure seeds as TL seeds to different farmers of 10 different villages in the year 2006-07. In this way, he earned extra Rs. 15700 from seeds beside the normal production of different crops. Now, he is popular as an honest seed producer among the farmers. Regional Training Centre, NABARD, Bolpur also presented him as a successful farmer in a Workshop held at RTC, Bolpur. From his success, other farmers showed their interest to produce quality seeds for additional earning.

Crop	Variety	Quantity sold (Kg.)	Amount earned (Rs.)
Paddy	Khitish	700	7000
	Niranjana	100	1000
Wheat	Sonalika	50	1000
Black gram	WBU 108	55	1650
Green gram	PDM-84-139	70	2800
Mustard	RW-351	60	1500
Sesame	B-67	30	750
Total		1065	15700



NURSERY PRODUCTION AS A SOURCE OF LIVELIHOOD INCOME _____

Name: Sri Anil Das

Address: Vill.- Palashdanga, P.O.- Konarpur, Block- Sainthia, District- Birbhum,
West Bengal

The Krishi Vigyan Kendra Birbhum organized long duration skill-oriented entrepreneurship development-cum-training programme on nursery management for the rural youths. Sri Anil Das who had no idea about the multiplication as well as production of planting materials before his training at KVK. In the next year of training, he produced 18000 nos. planting materials in his nursery. After sale of total planting materials (fruit plants like papaya, limes, lemons etc., forest saplings like sonajhuri, sissou etc. and vegetable seedlings like brinjal, chlli, cauliflower, cabbage, tomato

etc.), he earned Rs. 21000 as net profit. Getting inspiration from that, again he produced 25000 nos. plants in his nursery in the subsequent year and sold the planting materials with a net profit of Rs. 34000. Beside these, he trained four persons who worked with him in his nursery. Out of those four people, two persons were women. Those women belonged to two Self Help Groups called *Maa Durga Swanirbhar Dal* and *Maa Sitala Swanirbhar Dal*. Those SHGs produced 28000 numbers of plants and supplied to their local Panchayats and earned a substantial amount of money.



GUAVA SHOWED THE WAY OF IMPROVING LIVELIHOOD INCOME _____

Name: Mr. Rafique Alam

Address: Vill.- Singhia, P.O. - Singhia Kulamani, Distt. - Kishanganj, Bihar

Mr. Rafique Alam was born in 1980 in a poor family and accompanied by younger three brothers, four sisters and parents. His primary schooling was done from Kishanganj up to only 9th standard class. He could not get education due to unavailability of money and his family liabilities. He came in contact with KVK, Kishanganj during 2007 and obtained idea of establishment of fruit orchard for his livelihood. He also contacted some entrepreneurs who were his relatives in West Bengal. Mr. Alam obtained the land of about 4 acres on lease from villagers and procured mother plant of guava variety from Nadia. Initially, he planted 800 mother plants on his leased land using the scientific fruits technology with a cost of Rs. 50000 Besides this work, he also started processing of raw turmeric and sold in local market.

In juncture of production management strategies with guava orchards he innovated the idea of crop regulation through twisting of branches for good flush and fruiting. He became able to get two harvests of guava fruits in 18 months

resulting 120 kg fruits per plant at the age of two year old orchard. He uses to sell fruits in Kishanganj (Bihar) and Islampur, Kanki, Siliguri and Dalkohla (West Bengal) market @ Rs. 25-30/ kg. He also started technique of graft gutty in guava from the skill obtained from KVK, Kishanganj



and prepared 3000 air layers every year and sold the planting materials @ Rs. 70-80 per sapling. He is popularizing the innovative ideas for orchard management and graft gutty preparation in fruit plants. He earned about 9 lakh annually from the guava orchards (5.5 acre) through his innovative agro techniques. Other farmers are also obtaining innovative ideas from him for develop of horticulture.

Economics of farming

Crop	Area (acre)	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Guava	5.5	60000/ acre	240000/ acre	180000/ acre
Planting material	3000 Plants (per plant cast 15/plant)	70-80/ Plant	225000	180000

After benefited from these activities, he purchased 4 acre of land and obtained another 4 acre land on lease.

Mr. Alam plans to undertake the cultivation of high value vegetable crops

and off season vegetables under polyhouse with the able guidance of KVK Scientists of Kishanganj considering the market demand in Kishanganj district and nearby West Bengal.

Income level before adopting such farming

Crop	Area (acre)	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Paddy	4	20000	40000	20000



FLORICULTURE: A LUCRATIVE BUSINESS IN HILLS

Name: Mr. Arun Chhetri

Address: Vill.- Bong Basti, Block- Kalimpong-I, District- Darjeeling, West Bengal

Sky is the limit for those who believe in themselves. True to this saying, a driver turned florist Mr. Arun Chhetri from Bong Basti has shown that nothing is impossible to a willing and aspirant soul. A taxi driver by profession for about 12 years discovered that the future of his family would be in dark with a mere income of less than Rs. 2000/ month if he continued in the same field. As his fate would have taken a U- turn, this profession brought him many opportunities to visit various nurseries as he toured his passengers. Getting to know about the income generating capacity through cultivation of flowers, he started his first nursery with few local flowers like gladiolus and marigold from 2006 as an extra source of income in a plot of five decimals. The profit incurred inspired him to produce more flowers in a larger scale. Meanwhile, through many practising farmers he came into contact with a SHG-JICA, which in turn introduced him to KVK and his first 3 days training on cultivation practices and plant protection on vegetables and flowers in the year 2012. Further, he was sent to Ludhiana in 2012 to attend a seminar on production and packaging of flowers and vegetables by Darjeeling KVK. After return, he took a loan of Rs. 1.7 lakh from a bank. Planting materials, sprayers with pesticides were provided by KVK with which he expanded his business by incorporating many varieties of flowers like azalea, gerbera, anthurium, zygo, marigold, chrysanthemum, hanging creepers and vegetables like cabbage,

cauliflower, broccoli, tomato, dalle etc. Again, in the year 2013, he was sent for exposure training to Kolkata by KVK to get a hands-on-training on cultivation management.

All operations regarding cultivation is carried out by his family members and one permanent labour with a temporary hiring of 20-25 labourers during the peak period for harvesting, packaging and marketing purposes. Through this profitable activity he was able to repay his loan on time and also helped him to improve his standard of living.

Though his products are mainly sold in the local market of Kalimpong, he also exports them to various states like Sikkim,



Bihar, and Jharkhand in India and in the neighbouring countries like Nepal, Bhutan and Bangladesh. He now owns a land of 35 decimal which he utilizes for growing flowers and vegetables. His annual profit ranges from 2 to 2.5 lakhs.

Sri Chettri has become a role model to the small and marginal farmers and rural youths of his locality. He has already



organised two training courses on gerbera cultivation for SHG of two villages namely Bong Busty and Deorali for a period of 20 days. Among them Ms. Anu Chettri has already adopted his techniques on flower cultivation and many other farmers are on their way to follow his footsteps. KVK Darjeeling felicitated Mr. Chettri on the occasion of Krishi Mela, 2014, held at Relli



Tar, Kalimpong where he was honoured by Sri Bimal Gurung, President, Gorkha Janamukti Morcha. Mr. Chettri says that apart from expanding his own business he is interested in upliftment of many other



poor farmers like him so that they can improve their socio-economic standard through self-employment and income generation.

INTEGRATED FARMING FOR SUSTAINABLE SOURCE OF INCOME

Name: Sri Sahadeb Basak

Address: Vill.- Buincha Basak Para (Fulia), Block- Shantipur, District- Nadia, West Bengal

Sri Sahadeb Basak has set an example as dedicated and innovative farmer. Born in 1960, Sri Basak is well educated and has graduated in Sociology with Honours in 1982 from University of



Kalyani. He completed Master's Degree in the same subject from the same university in 1985. Later on, he chose agriculture as profession and started devoting his time focusing on a better farming. He did a certificate course in Organic Farming from IGNOU of BCKV study centre in 2011 and came in contact with Nadia Krishi Vigyan Kendra.

In a total 3.0 ha of land area, he practices Integrated Farming. He usually grows field crops like paddy, green gram, lentil and sesame etc. covering 1 ha area. He is cultivating some new age horticultural crops viz. strawberry, berry and dragon fruit along with mango, jackfruit and papaya in 1.2 ha land area. He maintains a small dairy unit with 4 cows, a good duckery unit rearing about 200 numbers of Khaki Campbell ducks and a noticeable fishery area covering 1.6 ha land, rearing

major and minor carps like chital, vetki, prawn, koi etc. There is a mushroom unit also as a part of his farming venture.

As a progressive farmer he always tries to improve his skill and eager to know every aspects of farming from various sources, trainings, experts, departmental personnel etc. He eventually set a good example of improved cultivation/ farming by incorporating those knowledge with his own innovation in front of other farmers. He adopted so many new technologies in farming. Sri Basak adopted organic farming system (including agriculture and horticulture crops, livestock, fisheries, duckery, mushroom cultivation, bio-gas plant, vermi-composting etc.) with traditional knowledge in the farm since 2000.

He was motivated by the scientists for cultivation of aromatic rice and started aromatic rice-based cropping system since April 2012 under RKVY Project on "Bengal Aromatic Rice" of Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal. As a result, he got the organic certification of aromatic rice-based cropping system from the Certification Agency, IMO Control Pvt. Ltd., Bangalore. As a progressive farmer, he always tried



to do something more and by adopting advanced technologies he started commercial cultivation of temperate crops (viz. strawberry, brocolli, brushel sprouts etc.) in the field since 2010.

After the success of aromatic rice cultivation, he started conserving and cultivating some indigenous rice cultivars

(viz. Radhatilak, Gobindabhog, and Kalobhat etc.) and also supplied milled rice to the Department of Agril. Marketing, Govt. of West Bengal during 2012 and 2013.

A glimpse of his farming venture is given bellow:

Economics of farming

Crop/ Animal Husbandry	Year	Expenditure	Gross Income	Net income	Cost: Benefit ratio
Field crops		Rs./ ha.	Rs./ ha.	Rs./ ha.	
Paddy	2011	36000	90000	64000	2.50
Paddy	2012	38000	100000	62000	2.63
Greengram	2011	14500	40000	29000	2.75
Greengram	2012	16000	45000	29000	2.81
Horticulture crops					
Strawberry	2011	120000	320000	220000	2.50
Strawberry	2012	100000	320000	220000	3.20
Vegetables	2011	33000	95000	62000	2.87
Vegetables	2012	35000	105000	70000	3.00
Fisheries					
Major and minor carps, Chital, Vetki, Prawn etc.	2011	250000	500000	250000	2.00
Major and minor carps, Chital, Vetki, Prawn etc.	2012	220000	550000	330000	2.50
Livestock					
Dairy (Cow)	2011	45000	55000	10000	1.22
Dairy (Cow)	2012	50000	65000	15000	1.30
Mushroom					
Oister Milky Mushroom	2011	38000	84000	46000	2.21
Oister Milky Mushroom	2012	48000	112000	64000	2.33

NOTE: [Paddy = Gobindabhog, Radhatilak, Kalabhat, Kalanunia etc. ; Vegetables= Red cabbage, Brocolli, Cherry, Tomato, Celery Parsely etc. ; Fruits = Papaya, Strawberry, Dragon Fruits, Ber, Mango, Jackfruit etc.]

His success influenced neighbouring farmers so much that many other farmers get interested and adopt new advanced technologies. Besides traditional crop cultivation, other farmers also take a chance to grow some newly introduced temperate crops. The cultivation of strawberry has been spread to the neighbouring farmers' fields of Santipur Block in Nadia district and Balagarh Block in Hooghly District. Sri Basak also supplied planting materials of strawberry to Jalpaiguri KVK, RKM Dayananda Ashram, Hooghly during 2011 and CADC Nadia during 2013. Sri Basak tried another new age crop, dragon fruit and his success influenced the farmers in Santipur Block of Nadia district so much that they started growing it from 2012.

His interest of cultivating indigenous rice varieties has been spread into fellow farmers also. Some of them started the cultivation of Kalobhat (black rice) in Balagarh Block in Hooghly district.

As a true innovative farmer, Sri Basak made a new intervention in organic farming by using of liquid organic manure, which later on practiced in the system of production and management and named as Amritaapani. It is a mixture of leguminous leaves (1 kg), cow dung (5 kg) and cow urine (1 liter) in 20 liters of water kept for 7 days and it is then sprayed mixing with water (1:10 ratio) directly to both agricultural and horticultural crops as organic nutrient in the farm.

As a farmer, he contributed a lot for the organic farming system by innovative ideas and practices. Amritaapani, the liquid organic manure is one of them.

Another is conservation, recycling and using of farm waste in different manner, like-

- ★ Use of cow dung and urine mixed with water in bio-gas plants.
- ★ Use of bio-gas for boiling of water used for sterilization of paddy straw for mushroom cultivation.
- ★ Use of duck litter and *Azolla* as fish feed in farm ponds.
- ★ Use of mushroom wastes and *Azolla* as duck feed.
- ★ Use of vermin-compost as manure in agricultural and horticultural crop fields.
- ★ Use of pond water for irrigation.

He also tried to mingle the traditional practice with modern technologies and succeeded in prevention of outbreak of disease and pests e.g.



- ★ Use of fresh neem leaf-based insecticides (1:10 volume in water) inherited from ancestors produced in farm as botanical pesticide against different types of insect-pests.
- ★ Use of tobacco leaf-extract as bio-pesticide (1:10 volume in water) produced in the farm to controls the insects of cauliflower, cabbage, lettuce etc.
- ★ Use of fresh tulshi (*Oscimum sanctum*) leaf (50 gm) mixed with cow milk (200 ml) and water (10 liter) to control wilt disease of solanacious crops in the farm.

His farming skill was recognized and he received a number of awards at different level. He got Krishak Ratna Award from Govt. of West Bengal during Mati-Utsav 2015.

ZERO TILLAGE: A REVOLUTION IN AGRICULTURE

Name: Sri Neeraj Kumar

Address: Vill. + P.O.- Baishadh, Thana-Kumarkhan, Block- Madhepura, Bihar

“Everything is possible” is the logic applied by Sri Neeraj Kumar during last 12 years. Mr. Neeraj Kumar is a graduate and he is doing wheat and Maize farming by using zero tillage machine and bhoka machine. He is the only mode of inspiration for the nearby farmers who is earning Rs.12000 per annum by



the zero tillage machine. After the death of his father, who also involved in the same profession of farming, Mr. Neeraj continued the same. As per advice of Scientists of Madhepura KVK he started farming with zero tillage. In the very first



year, he got the profit of Rs. 130000 from 20 acre cultivable land. He also started inspiring other nearby farmers and as a result, they cultivated total 250 acre land

in the area by zero tillage machine during the year 2002.

Now-a-days, he is earning Rs. 8-9 lakh per annum through zero tillage machine. He got the training from the Scientists of



Krishi Vigyan Kendra, Madhepura and he has always been the source of inspiration for the other farmers nearby. The ATMA, Madhepura has also helped in this regard. He also bought rotavator, sprinkler and zero tillage machine etc. with the help of



Bihar Government. He wants to cultivate maize with Zero Tillage Machine in coming days. His eagerness of adopting new technologies in agriculture is definitely appreciable.

FLORICULTURE: A COLOURFUL STEP OF INCOME GENERATION

Name: Sri. Abhishek Kumar

Address: Vill.- Barouli, Block – Barun, District - Aurangabad

Sh. Abhishek Kumar, a very dynamic farmer, is associated with Aurangabad KVK since 2010. He has an affluent background and received quality education from Neterhat and MBA from Pune University. After completing his education, Mr. Abhishek joined corporate sector



but he was not satisfied. After 3 years of service, he returned back and decided to start agricultural work at his own village. He started growing paddy and wheat from 2 ha of land but he wasn't able to produce enough to support his family. The farmers of his village were facing a lot of problems in farming due to lack of capital, technical knowhow, unavailability of quality seed and fertilizer on time, and unavailability of proper market price. Therefore, he wanted to do something different, something creative to tackle his frustration, but, he was unable to decide what and how to do for fetching better profit.

During the year 2010, suddenly he visited Aurangabad KVK and discussed his problem with the Programme Coordinator

and other Scientists of the centre. He was interested for floriculture in his land. After regular persuasion with the scientists, finally he decided to cultivate jarbera, liliam under poly house and marigold in open field condition. He took help for technical knowhow from District Horticulture Officers and also got financial support of Rs. 200000 as farmer share basis. Then, he started Jarbera cultivation under poly house structure and collected 1000 Jarbera sapling from Bengaluru. Under the able guidance of KVK Aurangabad Scientists, again he started cultivation of Liliam too in another poly house. As on date, he is supplying more than 7-8 hundred Jarbera stick and Liliam flower to Patna and Varanashi market and fetching around 3000 per day. In last year, Govt. of Bihar provided AC van to Mr. to promote



flower cultivation and for getting better market price. Now, Mr. Kumar became an ideal farmer for inspiring the youths of Aurangabad district. Aurangabad KVK also feels proud for the contribution behind the success of Mr. Abhishek Kumar.

Economics of flower cultivation

Crop/ Livestock/ Fish/ Enterprise	Area/ No.	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Jerbera	880 m ² x 2	140000 (1 st year)	400000	260000

Economics of paddy and wheat cultivation (before adopting floriculture)

Crop/Livestock/ Fish/Enterprise	Area/ No.	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Paddy	2 ha.	18000	37000	19000
Wheat	2 ha.	12000	25000	13000



PAPAYA: THE WONDER FRUIT FOR INCOME

Name: Sri Satyendra Kumar Mehta

Address: Vill. + P.O.- Chandoli, Block-Madanpur, District- Aurangabad, Bihar

Sri Satyendra Kumar Mehta is a hardworking and devotee young vegetable producing farmer of village Chandauli, district-Aurangabad, Bihar. With only one acre of cultivated land he was not able to produce sufficient



which could fulfil proper nutritional and educational requirements of his 8 family members. Mr. Satyendra Kumar attended Krishi Mahotshawa at Madanpur block and came in contact with KVK Aurangabad Scientists during the year 2011. Then, he decided to take 5 acre land on patta for cultivation of vegetables and fruits. He started to cultivate exotic vegetable and papaya so that he could earn a lot within

a limited time frame. His farm produces were being marketed in Patna, Varanasi including local markets with the help of own SHGs. For getting confidence and better technical knowhow, he visited Indian Vegetable Research Institute. Finally, he became an innovative vegetable growing farmer in the district. He was also the recipient of Kisan Award from Bihar Agricultural University, Sabour, Bhagalpur in Kisan Mela. He contributed a lot in the



field of horticulture development in the surrounding villages and also established farmers' club for the poor growing farmers.

Economics of farming

Crop	Area (Acre)	Cost of Cultivation (Rs.)	Income (Rs.)	Net Income (Rs.)
Papaya	12	8 00000	30 00000	2200000
French bean	02	12000	96000	84000
Simla mirch	05	40000	2 65000	2 25000

IMPROVED FARMING COUPLED WITH AGRI-PRENEURSHIP INCREASED INCOME

Name: Sri Harikant Singh

Address: Vill.- Gaduai, Block- Chewara, District- Sheikhpura, Bihar

Sri Harikant Singh turned his wretched farming situation into improved agriculture by gradually adopting multiple approach of scientific farming techniques along with entrepreneurship at his farm. Having ITI education in 1967 and land resource of 4.0 ha only, he left the job 7 years after joining and started agriculture farming in the year 1976 and achieved the level of self-sufficiency only after 20 years.

During 2006, for the first time he came in contact with the Scientists of KVK Sheikhpura and felt that lack of latest



agricultural knowledge was the major problem for low agricultural production. With the help of several training programmes from KVK Sheikhpura, prevailing Government's Schemes, Kisan Credit Cards etc. he fulfilled his dream i.e. achieved optimum yield to fetch maximum return. Sri Singh started to develop irrigation facilities in his land with deep bore well and a diesel pump set which converted 2.0 ha land under irrigation for producing High Yielding Variety (HYV)

crops. Through these interventions, he observed drastic change in the net profit from his farm in the second year. Getting encouragement from the result, he further added improved tools and techniques like zero tillage seed drill, SRI method of rice cultivation, SWI method of wheat cultivation, IPM, vermi-composting, green manuring, scientific onion cultivation, onion seed production etc. along with disease resistant HYV crops for raising net profit in a sustainable manner.

By 2013, he achieved the level of 136 quintal/ ha productivity of rice var. Sahbhagi and over 150 quintal/ ha of rice hybrids. Sri Singh achieved not only the record production of rice in that year but also started tissue culture banana orchard in 0.6 ha land along with mixed vegetable cultivation. He achieved the productivity of wheat as 68 quintal per ha using improved variety PBW-343 with SWI method and obtained the yield of onion at 630 quintals per ha using var. Agri-Found Light Red. Establishment of orchard with mango trees, guava trees, plantation of sagon and mahogini in non-irrigated plot, rearing of high yielding (20 litre per day) crossbred cows along with vermicomposting, pulse production etc. were the important components of his farming.

By adopting scientific farming Mr. Singh properly maintained his family consisting of 7 members, employed three persons from his family, purchased 1 ha

land and made his house pucca. He is a role model for hundreds of farmers. Now, he strongly advocates the role of KVK as

a technology and knowledge resource centre for the farming community of his area.



CHANGING LIFE THROUGH GUAVA ORCHARD

Name: Shri Umeshwar Singh

Address: Vill.- Affaur, Block- Nagra, District- Saran, Bihar

For enhancing the productivity and profitability of the farm land, Shri Umeshwar Singh innovated a Guava based multiple cropping system taking 4 crops per year apart from main crop of guava. He established a guava garden keeping planting geometry in such a manner that there was easy movement of tractor operated farm implements and



no shading effect of guava canopy on the agricultural crops. Four rows of kharif maize were planted in between the two rows of guava. After the harvest of maize, Toria was taken that could be harvested



in mid-January. Summer vegetables like bottle gourd and okra was taken. Banana was planted all around the guava garden to give a protective wall and to act as wind break from hot and high speed westerly wind, apart from giving additional yield. During summer months, natural mulch of paddy straw was applied and worms

were released in the field for in-situ vermicomposting, moisture retention and nutrient supply for longer period.

Shri Umeshwar Singh took a Gross Income of Rs. 12000/ ha from maize, 9000/ ha from toria, 15000/ ha from bottle gourd and okra in



2011, the initial year of intercropping in guava orchard that successively increased to Rs. 16300/ ha from maize, 13200/ ha from toria, 22000/ ha from bottle gourd + okra and 1900/ ha from banana apart from 52000/ ha from guava. Due to intensive care and regular fertilizer application in annual crops, the yield of main crop also increased during the years. Seeing the successful cultivation of this farming system of Shri Singh, some neighbouring farmers also started cultivation in the same manner and now the village is known for guava cultivation in the district and Shri Singh is a role model in the district.



OKRA CULTIVATION: MEANS TO BRIGHTEN FARMERS' FORTUNE

Name: Mrs. Fulia Mehta

Address: Vill.- Sadanandpur, P.O.- Bishanpur, Block- Saraigarh, District- Supaul, Bihar

She is basically a woman farmer involved in family farming with husband and young son. She owned 5 acres of land in which 3 acres were irrigated and rest two acres were non-irrigated. In irrigated



land, she cultivated vegetables, wheat, paddy etc. Whereas, in non-irrigated land



she takes pulse, moong, paddy etc. She has very keen interest in learning and demonstration of new technologies in her field. She earned about rupees two lakh annually from cultivation of vegetables, wheat, maize, paddy etc. She is in regular

touch with the KVK and is taking the benefit provided under NICRA project.

In Rabi 2014, plastic mulch in okra crop was demonstrated in her half acre of land. The Kashi Pragati variety of okra were used in demonstration. The crop was sown in the 2nd week of February 2015. The total yield obtained till 15th June, 2015



was 21 quintals. She sold with varying rate of Rs. 40/ kg, Rs. 30/ kg, 20/ kg and Rs.



10/ kg. The total earning from okra came around Rs. 48500 She was feeling very happy and wished to continue further.

ZERO TILLAGE: A NEW DIMENSION IN AGRICULTURE

Name: Shri Jagdish Yadav

Address: Vill. + P.O.- Chopnadih, Block- Markachho, District- Koderma, Jharkhand

Shri Jagdish Yadav has about 12 acre agricultural land and his main occupation is agriculture. The major crop he used to grow rice in kharif season and wheat in rabi season along with gram and linseed in 2 ha & 0.5 ha each, respectively. He participated in an on campus training conducted by Krishi Vigyan Kendra Koderma under NICRA project. In the training, scientists of the Kendra demonstrated zero tillage technique in details which could reduce the cost of cultivation and increase the crop yield. But, all farmer participants including Shri Yadav were psychologically in favour of conventional tillage. They believed, “the more you till the more you eat” and used to give example of other local sayings like “The money lender could refuse you any time but tillage won’t disappoint you”. The farmers’ in the area believed in age old perception and tried to convince their children for good field preparation before any crop was sown. The mindset was so firm which seemed that KVK scientists were betraying the public by suggesting for zero tillage (ZT) technique.

After lot of queries, Shri Jagdish Yadav was ultimately ready to sow rice with zero tillage technique during Kharif 2014. At the time of sow all the farmers, present at site, criticized the technology. Germination and growth of crop were so good but due to severe infestation of weeds he could not get desired yield of rice. Farmers made fun of him and commented that scientists had chosen the most appropriate farmer

i.e. the laziest one to work with. Due to the comment by the fellow farmers, Mr. Yadav demoralized and refused to use ZT technology in wheat crop. Two training programmes on ZT technique were organized by the KVK scientists to motivate few farmers including Shri Jagdish Yadav and finally, some of them were ready for ZT demonstration on their field. At the time of demonstration, the situation were reverse. The farmers, who



committed during training programme for ZT in his/her field, were not at all ready to do that. After motivation by KVK Koderma scientists and NICRA SRF, Shri Jagdish Yadav was again convinced to sow wheat crop by zero tillage on that land which were always remain kept fallow after rice harvest due to late harvesting of rice var. Sahbhagidhan Abhishek and excessive soil moisture. He sown wheat (var. K 307) in that 0.5 ha land with zero tillage machine under supervision of KVK scientists. At the time of sowing about 30 farmers from that village and neighboring villages were present. The majority of the farmers present at site was advocating for conventional tillage (CT) in which

farmers generally plough the field at least 3-4 times before sowing of wheat and then broadcast the seed @ 150-180 kg/ ha followed by planking. That philosophy had been passed on from one generation to the next. All the present farmers from the same village and neighbouring villages were criticizing about the technology and proved them as looser. They commented that scientists were playing with their field.

The farmers were surprised to see satisfactory germination which was 2 days earlier than conventional method and dark green colour wheat seedlings but none of them agreed that this technology was successful till the final yield data were available. Some farmers still argued that their ancestors and forefathers were not fools who strongly advocated more and more plugging before sowing wheat. After 2nd irrigation, few farmers changed their idea about the technology after seeing the more number of tillerings which was more than the conventional



method in same variety and profused growth with less weed population. At the time of crop cutting, all farmers who were present at the site were observed that by adoption of this technology, the yield of wheat increased with the tune of 21.4%

over conventional method (28 q/ ha). Mr. Jagdish Yadav told that by adopting the technology he saved about Rs. 2940 as cost of cultivation (ploughing- Rs. 2400, seed- Rs. 300 and labour- Rs. 240). He also observed that the technology saved



irrigation water because it took less time for water to flow across the field in no-tilled compared to normal tilled plots for the first irrigation. He also told that sowing was advanced 8 days as compared to conventional method which was due to saving in land preparation and sowing. That was also a reason for the additional yield obtained under zero tillage in late condition which was predominantly due to the late harvesting of Swarna Mahsoori (MTU 7029). It reduced the use of diesel fuel resulting to lower air pollution. He observed that changing one hectare of land to zero tillage system saved about 18 liters diesel. Considering all the above, an additional advantage of about Rs. 9540 per ha came due to adoption of ZT technology. Success of this technology in the field of Mr. Jagdish Yadav, Village- Chopnadih not only proved a boon to the farmers of the same village but also served as an example to trigger the ongoing efforts of scientists of KVK Koderma under NICRA project and other extension workers in the district.





INTEGRATED FARMING

IMPROVING LIVELIHOOD THROUGH ADOPTING INTEGRATED FARMING SYSTEM

Name: Sri Ajeet Kumar

Address: Vill.- Surang, Panchayat - Balia, Block - Kochadhaman, Dist - Kishanganj, Bihar

Sri Ajeet Kumar completed his Intermediate education in 2001. His father is a traditional farmer as well as social worker, but, his economic condition was too poor to run his family. After study, Sri Ajeet Kumar wanted to improve the economic and social status of his family and was motivated to adopt agriculture as



Action photograph of Sri Ajeet Kumar



main stay of livelihood. He came in contact with the scientist of KVK, Kishanganj and thought to utilize locally available resources in a particular agro-ecological situation in a very scientific manner to increase the farm productivity of resources. He hired 40 acres of land on lease for Rs. 1.75 lakh for cultivation of makhana-cum-fish culture. The KVK, Kishanganj guided him for IFS model involving fisheries, goatery, poultry, plantation and vegetable production with makhana cultivation.

He obtained training from the KVK and other places on fisheries and poultry, makhana production, jute and vegetable production beside integrated crop management. Under the umbrella of technical guidance of KVK, Kishanganj Mr. Kumar established a fish pond of one acre land, poultry farm with 1200 birds, teak plantation with 400 plants and papaya nursery with Pusa dwarf varieties, backyard poultry farming with 100 Vanaraja and Gramapriya breeds, pigeon farming with 40 birds and goat farming with 8 Black Bengal breeds.

Sri Ajeet Kumar earns approximately 6 lakhs annually through the IFS model, makhana-cum-fish culture and other enterprises in his farm. Mr. Ajeet Kumar is a member of "Matasya Jeevi Sahyog Samiti" and continuously engaged in motivating other farmers for adopting new technologies in agriculture and allied sectors.

Now, he has become a role model and motivating other farmers in the district. In future, he wants to establish hatchery production unit and makhana processing unit. Today, he is living with sufficient wealth and social respect.



INTEGRATED FARMING MADE AGRIBUSINESS A PROFITABLE VENTURE

Name: Md. Kalimuddin

Address: Vill.- Nehuta, Post- Rajoi, District- Aurangabad, Bihar

Md. Kalimuddin was associated with KVK Aurangabad since 2009. After passing intermediate school, he was struggling a lot to establish his existence in spite of having sufficient land. From KVK Aurangabad he got several trainings and perceived technical knowhow particularly sowing of crop with the help of zero tillage and use of sprinkler in crop. Similarly, he was experienced the overwhelming results of drip irrigation in horticultural and forestry crops. In addition, he also concentrated on the proper utilization

of crop wastes to reuse for animals, and animal wastes to reuse for agricultural production. For organic production, with the guidance of scientists of Krishi Vigyan Kendra, he started vermicomposting at his farm. He is selling all crops and horticulture produce along with vermicompost, fish and milk. Now, with the help of these units, he is earning more than 20 lakhs per annum and also became role model for other neighbouring farmers in the district.

Economics of farming

Enterprise	Area (acre)/ No.	Cost of production in lakh	Return in lakh	Net income in lakh
Paddy/Wheat	82	8.25	14.75	6.5
Vermi-compost	200 unit	3.50	12.50	9.0
Horticulture	3.00	0.90	02.85	1.9
Animal Husbandry	10 Cow	1.00	03.00	2.0
Fishery	1	0.50	03.00	2.5



FISH BASED INTEGRATED FARMING SYSTEM

Name: Mrs. Poonam Singh

Address: Vill.- Yari, Aurangabad, District- Aurangabad, Bihar

Smt. Poonam Singh, 34 years old resident of Yari village of Aurangabad district, took a keen interest in adopting the new technologies of Krishi Vigyan Kendra after regular persuasion in different training programmes organized in the district since 2009. She had 19 ha cultivated land which was dependant on rain. From all available resources, she could earn a net return of only Rs. 75000 to 95000 in one year. But, after getting motivation from scientists of Krishi Vigyan Kendra Aurangabad she

adopted integrated farming systems and used latest agricultural technologies with latest variety of paddy, wheat, mango and guava fruits. She also started fish production and backyard poultry farming. Now, Mrs. Poonam Singh has become an innovator for other farmers in the district. In many fragile environment, where men are migrating in search of employment she is growing interest in women knowledge, skills and capabilities apart from working towards achieving women employments.

Economics of farming

Crop/Livestock/ Fish/Enterprise	Area (ha)	Cost of production (Rs.)	Return (Rs.)	Net income (Rs.)
Paddy	15	450000	787000	337000
Wheat	15	390000	588000	198000
Guava	7	40000	150000	110000
Pond	0.3	50000	200000	150000



INTEGRATED FARMING SYSTEM IMPROVED LIVELIHOOD

Name: Sri. Adhir Chandra Mahato

Address: Vill. + P.O.- Kaluhar, Block-Para, Dist- Purulia, West Bengal

Sri Adhir Chandra Mahato, an energetic and innovative small farmer, is being associated with agriculture for last 18 years. For the first time, he came in contact with KVK Purulia in the year 1995 during vocational training at the KVK. Since then, he is managing orchard (mango, guava and citrus), producing vegetables (summer, kharif and winter seasons), producing paddy, rearing livestock viz. Black Bengal goat, Rhode Island Red Poultry birds and culturing fishes mainly Indian Major Carps. Initially, he only used to grow paddy and vegetable. Then, he included mango, guava and citrus fruit plants, poultry and goats. The goats were reared at his farm under stall fed system and poultry under semi-intensive system. He used to grow turmeric crop in the inter

space of orchard. Off-season vegetables production was the main prerogative for him to fetch good market price. He was the recipient of several prizes in the local Krishi Melas during vegetables show. By adopting those combinations of farming his annual income had touched Rs. 190000 from Rs. 30500 which he used to earn from traditional cultivation at the beginning.



Economics of farming

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



Income level before adopting such farming

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

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



LIVESTOCK BASED INTEGRATED FARMING SYSTEM

Name: Sri. Premananda Chakraborty

Address: Vill.- Jashpur, P.O.- Muradih, Block- Santuri, District- Purulia, West Bengal

Sri Premananda Chakraborty was always interested to adopt modern agricultural technologies using farm intensification in the drought prone backward village of Purulia. Since last 7 years Mr. Chakraborty was associated with KVK Purulia through his village Farm



Science Club. He is producing field crops (paddy and mustard), vegetables (summer, rainy and winter season), tissue culture banana, rearing poultry birds (Rhode Island Red) and rearing ducks (Khaki Campbell). Initially, he used to grow paddy



and vegetables under traditional methods using local variety seeds. Now, he is using high yielding variety (HYV) seeds and modern agriculture technologies for

cultivation of crops and rearing of livestock species. Poly mulching of banana, low cost storage method of onion etc. are also the



area of his interest to fetch better price in August-September months. Ducks and poultry birds are also being reared very scientific way at his farm. By doing so, he has been benefitted immensely which is



reflected from his present annual income of Rs. 209000 from integrated farming as compared to Rs. 95000 from earlier traditional cultivation.



Economics of farming

Crop/ Livestock/ Fish/ Enterprise	Area (acre)/ No.	Cost of prodn* (Rs./ unit)	Return (Rs./ unit)	Net income (Rs./unit)
1. Mustard (Shibani)	1.00	5000	20000	15000
2. Winter Vegetables: Cabbage (F1), Cauliflower (Madhuri), Tomato(F1) Capsicum (California Wonder)	1.00	30000	70000	40000
3. Summer Vegetables: Onion (Nasik Red), Bottle Gourd (F1), Bitter Gourd (F1), Pumpkin (F1)	0.50	15000	50000	35000
4. Kharif Vegetables: Brinjal (F1), Bhindi (F1), Baby corn (HM-4), Bottle Gourd (F1), Pumpkin (F1)	1.00	20000	60000	40000
5. Paddy (MTU-7029)	1.50	17000	32000	15000
6. Duckery (Khaki Campbell)	70 No.	35000	72000	37000
7. Poultry (Rhode Island Red)	60 No.	30000	57000	27000
Mushroom	20 Nos	900	3000	2100
Total		152900	361000	211100

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

Income level before adopting such farming

Crop/ Livestock/ Fish/ Enterprise	Area (ac.)/ No.	Cost of prodn* (Rs./ unit)	Return (Rs./ unit)	Net income (Rs./unit)
1. Winter Veg.: Cabbage (F1 Hybrid), Cauliflower (OP), Tomato (F1)	1.00	20000	50000	30000
2. Summer Veg.: Onion (Nasik Red), Bottle Gourd (OP), Bitter Gourd (OP)	0.50	10000	40,000	30000
3. Kharif Veg.: Brinjal (OP), Bhindi (OP), Maize (Composite), Bottle Gourd (OP)	1.00	15000	40000	25000
4. Paddy (Local)	1.50	12000	18000	6000
Total		57000	148000	91000

TRIUMPHING WITH INTEGRATED FARMING SYSTEM

Name: Shri Samsai Oram

Address: Vill.- Belagarha, Block- Ghagra, District- Gumla, Jharkhand

Considering the physical, social and economic limitation of the district, a small integrated farming system model was developed in the field of Shri Samsai Oraon (Tribal Farmer) in Belagarha village of Ghaghra block during 2010-11 to 2013-



14. The model spread over two ha area in the vicinity of tribal settlement and was integrated with six components. The critical input assistance was provided under NICRA. Technological intervention was made through 03 piglets (cross breed T x D), fifty thousand fingerlings for fish production, high yielding paddy variety (Lalat), maize (Suwan-1), plantation of sixty mango fruit plant, vegetable seed crop pumpkin (var. MPH-1), one vermicompost unit for waste recycle and renovation of well. The capacity building programme and technological backstopping were provided.

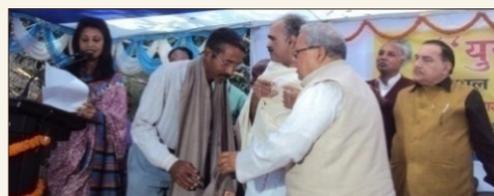
Mr. Samsai Oraon successfully harvested more paddy (yield- 38.5 q/ha) after intervention as compared to 26.0 q/ha paddy yield before intervention. Maize cultivar Suwan-1 provided 40 q/ha as compared to local cultivar yield 27 q/ha. The vegetable yield increased considerably

after intervention which gave 0.18 lakh net return from pumpkin cultivation. In second year, the number of piglets increased to 15 including with 3 pigs. He adopted composite fish production in 1.25 acre of pond. Before intervention Mr. Oraon has a defunct bari well, no proper care and maintenance was made by him for maintaining the proper water level i.e. 6 to 8 feet water. Renovation was done under input assistance. After renovation



the water level is being maintained and effective use of water is also being made.

Now, he has become a role model not only for the villagers of Belagarha but also for entire Ghaghra block of Gumla district. Ten farmers of the nearby villages motivated by his success and try to adopt this IFS model. Line department officials including of bankers and other stakeholders have visited his site and appreciated the IFS model.



ENHANCING INCOME THROUGH INTEGRATED FARMING

Name: Sri. Chhabindra Prasad

Address: Vill.- Turibar, P.O.- Partanga, District- Hazaribag, Jharkhand



Sri Chhabindra Prasad was earning from the source of agricultural farming. He used to grow paddy as a main crop followed by potato and winter vegetables. As animal resource, he had only a pair of bullock for ploughing and four local goats. He always dreamed for more earning from his farming. Being a young farmer he used to participate in Kisan Mela & Krishi Pradarshni at block level. In the year 2003, he participated in the Churchu Block Krishi Mela Sah Pradarshni held on 25th December. He came in contact with Holy Cross Krishi Vigyan Kendra, Hazaribagh for learning latest advances in modern agriculture. The KVK Horticulturist visited his village farm. He started scientific and commercial farming under the able guidance of KVK scientists. The nearest Jhumra weekly market, where the traders from Dhanbad and Assansol were frequent visitors, recognised him and his produces were sold smoothly. In 2004, he cultivated rainy season tomato (hybrid F1) in 0.75 acre of land and earned a gross income of Rs. 70000. That encouraged him to grow potato in the ensuing rabi season and earned Rs. 40000 from half an acre. Sri Prasad was advised by KVK scientist to grow rainy season onion (cv. Agrifound Dark Red). He received training in nursery bed preparation seedling raising. In 2007,

he achieved good success in rainy season onion and earned Rs. 60000 from 0.8 acre land. Seeing his successful cultivation and the returns, the neighbouring farmers from his own and other surrounding villages adopted the crop. As a result, the villages around Jhumra market became the major kharif onion producer in the district. The National Horticultural Research & Development Foundation (NHRDF), Patna centre organised a Field Day and Farmers' Day at village Turibar (Block- Daru) to promote the cultivation of rainy season onion in collaboration with Holy Cross Krishi Vigyan Kendra. Mr. Chhabindra Prasad has full trust on the technologies introduced by Holy Cross Krishi Vigyan Kendra, Hazaribag. Last year he got the latest technology for growing broccoli from KVK and he not only successfully cultivated the crop but also marketed the produce at profitable rate (Rs. 25 per piece of broccoli weighing 400 g each). Sri. Chhabindra Prasad uses to grow sugarcane every year in an acre of land and prepares "Gur" (Jaggery) for sale. Since last five years he started goatery with Beetal and Black Bengal breed in a planned and scientific way which is also running in profit. Every year he is earning Rs. 30000 from the unit. The 0.7 acre pond gives him an income of Rs. 25000 from sale of fishes besides providing irrigation water to summer cucurbits. As a whole, his annual income from integration of all his enterprises ranges between Rs. 3 to 3.5 lakhs.

Mr. Prasad won several prizes in agricultural exhibitions held at Block & District level and also received appreciation

certificates from seed companies. He is a source of inspiration for many agricultural farmers in the district.

Economics of farming

Impact factor	Before adoption	After adoption
Crop / Agricultural Practice (acre)		
Paddy	2	3
Sugarcane	0.5	1.0
Potato	0.5	0.8
Tomato	0.2	0.5
Elephant foot yam	-	0.5
Kharif Onion	-	0.5
Other vegetables	0.5	1.0
Yield of crop / product Yield (q/ha)		
Paddy	62.5	80.0
Sugarcane	300	400
Potato	150	220
Tomato	200	350
Elephant foot yam	-	600
Kharif Onion	-	240
Other vegetables	180	250
Economics (Rs.)		
Sale Value	2 30 000	5 25000
Input Cost	45 000	65 000
Labour Cost	65 000	120000
Any Other Cost	15 000	25 000
Net Saving / Net Profit	1 05 000	3 15 000



ORCHARD BASED INTEGRATED FARMING ENHANCED FARM INCOME

Name: Sri Manish Kumar Singh

Address: Vill.- Bindwara, Post - Munger, District - Munger, Bihar

Sri Manish Kumar Singh is an L.L.B. and B. A. (History) graduate. He is also associated with Krishi Vigyan Kendra Munger since 2013 and took several trainings from KVK Munger on Vermi composting and Mushroom cultivation. Under the technical guidance and marketing for mushroom spawn production from KVK Munger Scientists, he started the mushroom production at his farm. He was instrumental for popularization of mushroom cultivation among the farmers of Munger district of

Bihar. Initially, he supplied vermicompost @Rs.6/ kg, fresh mushroom @ Rs. 100/ kg and mushroom spawn Rs. 80/ kg to the other farmers. During the start of his business, he earned meagre profit from Mushroom cultivation, spawn production and vermicompost production. But, with the technical advices and training over the time from KVK, he fetched good income from it. In addition, from another 3 acre of his land, he is producing wheat and mango. The economics of his farm produces have been given below.

Enterprises	Area (Acre)/ No.	Cost of production (Rs. per unit)	Return (Rs. per unit)	Net income (Rs. per unit)
Mushroom spawns production.	1unit (100kg)	6000	18000	12000/Month
Spawn production	1 unit (125kg)	4000	10000	6000/ Month
Vermin compost production.	3 unit	6000	12000	6000/ Month
Wheat production	2 Acre	12000	37500	25500/ Year
Mango production	1 Acre	10000	32500	22500/ Year

Mr. Manish uses to guide local unemployed rural youths for production and marketing of mushroom, vermicompost, grains and fruits to make them self-sufficient in terms of earning. He is a role model for other entrepreneurs in the district.







**LIVESTOCK AND FISH
PRODUCTION**

REARING OF 'T x D' PIG: AN ALTERNATE SOURCE OF INCOME

Name: Sri Jaidhan Hansda

Address: Vill.- Balijor, Block- Sikaripara, District- Dumka, Jharkhand

During the month of February, 2006, one pair piglet of 'T x D' breed of about two and half months old (one male and one female) were given by Krishi Vigyan Kendra Dumka to Sri Jaidhan Hansda with an agreement that after farrowing he would return two piglets (one male



and one female) at weaning stage to KVK. After eight months i.e. at the age of eleven months the body weights of the boar and gilt were approximately 80 and 75 kg, respectively. Gilt farrowed eight piglets on 18th October, 2006. After returning



two piglets to KVK, he sold four piglets @ 1000 each and gifted two piglets to his relative in 2007. He sold four piglets again @ Rs. 1000 each and gifted four piglets to

his relatives of other villages and in 2008 he earned Rs. 10000 by selling five piglets.

By selling piglets, Sri Jaidhan Hansda has purchased ten Katha (16.6 decimal) land on Dumka-Rampurhat highway and he was interested to become supplier of this breed. The boar of this crossbred population were used as parental stock for upgrading the local sow of the village. This breed is not tied with rope/ string to protect their crop like desi ones. Snails' problem in that area has decreased considerably as this cross breed uses snails as their feed unlike desi pig and this new breed also consumes cabbage



and cauliflower leaves but such type of habit is not found in desi sow, moreover this new breed gains more body weight than desi in equal time interval. This was new introduction to the area which was spreading to other villages very rapidly. The achievement of Sri Hansda is an eye opener for other villagers and they are quite satisfied with introduction of this new breed of pig and ready to adopt it as an enterprise.

DAIRY FARMING: TOOL FOR LIVELIHOOD IMPROVEMENT

Name: Sri Manoj Kumar

Address: Vill.- Pinjari, Block- Barbigha, District- Sheikhpura, Bihar

Sri Manoj Kumar, a Matriculate from Pinjari village of Bihar state, was struggling for his existence with large joint family members. In the month of July 2008, he came in contact with KVK Sheikhpura Scientists to do something



for his family. After several contacts and active discussions, he planned to start a dairy unit and got several trainings from KVK and State Government in this aspect. Very shortly, he started his entrepreneurship with two crossbred



cows and managed them scientifically for getting maximum production. Like other farmers in his area he also faced similar problem of selling milk and ultimately established a Milk Co-operative Society

namely “Pinjari Dugdha Utapadak Sahyog Samiti” in the year 2009 with the help of District Dairy Development Officer. He was elected as Secretary. By the time, he added a number of cows in his dairy and produced about 50 litres of milk daily which was sold @ Rs. 18-24 per litre. He started vermicomposting and organic vegetable cultivation through which his earned additional income of Rs. 2.0 lakhs/



annum. Now, the total income from all sorts of his farming has reached at Rs. 5 lakh per annum. He has become a source of inspiration for rural youth in his village and strongly admits the contribution of KVK Sheikhpura.



DAIRY FARMING AS LIVELIHOOD OPTION

Name: Mr. Sumanta Ghosh

Address: Vill.- Padmabila, Block- Chakdah, District- Nadia, West Bengal

Mr. Sumanta Ghosh, a progressive dairy owner, started his dairy farming with two crossbred milch cows during the year 2010 which was increased by 26 milch cows and 11 calves / heifers by 2015. He achieved tremendous success in the business by that time. If we look into his past, Mr. Ghosh had only 2.5 acre land. Out of which, he used 1.5 acre land for annual and perennial fodder production and rest land for animal shed and own dwelling place. His all five family members devoted their time for animal rearing and ultimately, that business turned into a commercial venture. Shed and animals were maintained by Sri Ghosh himself but fodder cultivation was supported by outside local labourers. The real and important fact was that Mr. Ghosh did not take any kind of credit from either Government or Private Institutions. The necessary trainings were taken from the Scientists of KVK Nadia and from the Department

of Animal Resources Development, Nadia, West Bengal. The KVK Nadia supplied fodder crops namely maize, barseem, cowpea, oats, rice bean, sorghum, N. B. hybrid which were successfully grown by him. His fodder growing land was also a point of attraction to neighbouring livestock farmers and also to the officials of Animal Resources Development Department, Nadia, West Bengal. Sri Ghosh had been awarded with “Best dairy cattle farmer in Nadia district” during 2013-14 by NABARD, Nadia. In addition, he established one gobar gas plant to supply energy to his animal shed, own house and feed preparing machine. The slurry, by-products of gobar gas plant, is very rich in inorganic matter and is being used for fodder cultivation in his own agricultural land.



Economics of dairy farming

Expenditure (Rs.)	
Feed	2600/day
Medicine	150/day
Milking charge	100/day
Fodder cultivation and cutting	100/day
Total Expenditure per day	2950
Total Expenditure per year	1076750
Income (Rs.)	
Sale of milk per year (Rs. 4320 x 365 days)	1576800
Sale of 10 calves/heifer per year @ 12000/ animal	120000
Total	1696800
Net Income (Rs.)	
1696800 – 1076750 =	620050

BACKYARD POULTRY FARMING FOR NUTRITIONAL SECURITY AND INCREASED INCOME

Name: Smt. Nagina Devi

Address: Vill.- Harigoan, Block- Goh, District- Aurangabad, Bihar

More than 80% of the population of Harigoan village is backward caste and 10% having other castes. Almost all families totally depend on mono-cropping system of rice and wheat. Whereas, the rice production is fully depend on onset and delaying of monsoon. There are no irrigation facility particularly ponds. The maximum individual family income never goes beyond Rs. 5000 per annum. Keeping



in view, the prevailing situation of poor people, Harigoan village of Aurangabad district, Bihar was adopted under NICRA project for sustainable livelihood improvement through backyard poultry and livestock development in Aurangabad. A total of 1500 Vanaraja and Gramapriya breed chicks, procured from poultry seed production (PSP), Bihar Veterinary College-Patna, were distributed among fifty

farmers with the help of NICRA project. The family members constructed small house by bamboo and mud. Smt. Nagina Devi, wife of Sri Mundrika Paswan, a below poverty line (BPL) women farmer got 30 chicks. Out of 21 survived chicks, 17 were female and 4 male. After six months, she started to collect at least 9 eggs per day. It was found that after 8 months of laying, she collected 2642 eggs. Out of which 2100 eggs were sold in their own village @Rs. 5 each. The total earning from chicks raring during this period was Rs. 14400 including the sale of male birds. Smt. Nagina Devi was very happy with the efforts provided by Krishi Vigyan Kendra



Aurangabad. She was able to feed eggs to her two kids regularly which was not possible without raring chicks.

INCOME GENERATION THROUGH DUCK FARMING

Name: Shri Moti Mardi

Address: Vill.- Lowkeshra, Panchayet- Media, District- East Singhbhum, Jharkhand

On the basis of the performance study of Khaki Campbell duck under Front Line Demonstration in East Singhbhum district, it was decided to promote duck rearing in the backyard as an additional source of income and better resources management in NICRA villages. Six farm families of NICRA villages were selected and trained in duck rearing during 2014-15. They were given 54 ducks of about 2.5 months. As Khaki Campbell ducks



can sustain and perform well under harsh (temperature $>40^{\circ}\text{C}$) and adverse environment (drought condition) with a small water body (ditches) prevailing in free range backyard farming.

Among the various beneficiaries studied, Shri Moti Mardi's story is found interesting and most successful one. Seeing his interest and dedication, he was given 4 females and two male ducklings during 2014-15. During the year, maximum and minimum temperature recorded in NICRA village were 43.6°C & 7.1°C , respectively. As per the given advice, he trained ducks to go to nearby water body (a ditch) and offered fresh cooked rice with gruel and dried fishmeal thrice daily for a month

to the ducklings followed by two meals/day. He served soft palatable chopped green grass from his vegetable field and also included azolla as a source of protein in duck diet. The ducks grew healthy and females started laying eggs after 24 weeks of age. The following promising parameters were studied which were found better than local practices.

The family of Shri Mardi comprised of four adults and three kids often availed eggs in their food. The nutritive value of daily food increased well. The net income through duck rearing (sell of egg and ducks) was Rs. 7500 in 1.5 years. Today, Shri Mardi is very fond of keeping ducks for alternate source of income. At the



same time, he is very much satisfied with the tremendous improvement in quality food for his family. He is able to nurture second generation ducks using desi hens to hatch the eggs. Today, Mr. & Mrs. Mardi are maintaining eight females and three male ducks. After seeing a success of Sri Moti Mardi, the farmers of nearby villages are interested to rear this stress tolerant ducks.

DAIRY FARMING BROUGHT PROSPERITY

Name: Shri Arun Kumar Mahto

Address: Vill.- Guruchatti, P.O.- Barkagaon, District- Hazaribagh, Jharkhand

Sri Arun Kumar is a very hard working, persevering and a promising progressive farmer of Hazaribagh, Jharkhand. After his completion of Matriculate, he started supporting his father in farming activities due to lack of financial support from his family for continuing studies. The main source of their income were from vegetable (tomato, brinjal, chilli, okra, garden pea,



cow pea, french beans, palak, raddish, carrot and onion) cultivation during rainy and winter season. But, the production was not satisfactory. He owned a pair of bullock for ploughing and carrying the farm goods. He had local cows which were producing 0.5 to 1 kg milk per day. The farm producing cow dung was used in agricultural operation. His dream was to rear a large number of cows and to supply milk in the local market. So, he concentrated on keeping crossbreed cows. He started producing fodder for animals from his existing land.

One day his cow became sick and he tried to give her treatment from local para-veterinary staff. The person charged

Rs. 150 which was a big amount to bear at that time. Then, he thought to become a para-veterinary staff. Under TRYSEM, he opted for para veterinary training and thus, he got opportunity to get admission in Holy Cross Hazaribag KVK during the year 1991. After completion of the course, he started to treat animals in his village and gained good reputation. The treatment of cattle became his main source of earning which ranged between Rs. 3000 to 4000 per month during that time. The cows were looked after by his parents and in the due course of time, he was able to add sufficient money to replace their local cows with a pair of crossbred cows in 1995. That generated new source of income by selling milk in the village. Besides, he approached Nationalized Bank (Bank of India) and got sanctioned a loan



amounting Rs. 20000 for establishing mini dairy unit. At the beginning of 1998, he was able to maintain 4 cross bred cows (3 milch + 1 dry) which was increased by 15 cows by the end of the year 2011. In the meantime, he was trained for artificial insemination (AI) from BAIF. He practiced AI in his locality and nearby villagers

which resulted additional income. For proper feeding, housing, breeding and health management, he engaged three daily labourers in addition to his own two family members for all operations. In the year 2011, he was able to afford his son to send for B. Tech course in Electrical and Electronic engineering at New Delhi.



The daily total milk production from 18 crossbred cows of his farm were around 200 litres which resulted a gross annual income of Rs. 21.6 lakhs. He further



expanded his dairy farm. With the income from milk sale, treatment of animals and artificial insemination practice he purchased a chaff cutter, 10 HP diesel pump, grinding machine, motor bike, power tiller, water lifting pump and 0.07 acre land. He spent Rs. 5 lakhs for the marriage of his daughter.

Mr. Arun Kumar Mahto is an eye opener of many dairy farmers in the district who is not only running a medium sized dairy farm with an annual net income of 7.5 lakhs but also earning 1.5 lakhs per annum through animal treatment and artificial insemination in the locality. The



ATMA Hazaribag awarded him for the production of green fodder round the year. As a result, 50 other families in the village started dairy farming which are financed by different Nationalised Banks (Bank of India, Bank of Baroda, SBI etc.) through Dairy Development Department.

FISH FARMING ENHANCED FAMILY INCOME

Name: Sri Jyoti Mandal

Address: Vill.- Bakhari, Post- Narsinghbagh via- Budhma, Madhepura, Bihar

Sri Jyoti Mandal is a successful fish farmer in Madhepura district of Bihar. Previously, he was associated with the cultivation of paddy, wheat, maize and moong with the gross annual income of Rs. 25000. In the year 1990, he established two ponds each of one acre with the gross annual income of Rs. 30000. And, by this inspiration, he continued the fish farming

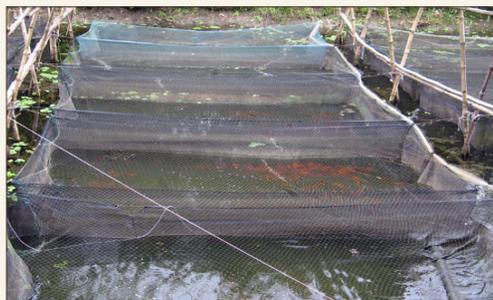


and established more and more ponds and today, he has a pond of total area of 5 ha. Since last 15 years he is engaged with commercial fish farming. The predominant fishes in his ponds are- carp, pangas and roopchanda. In one ha pond, he reared pangas and roopchanda fish together. The seeds of pangas and roopchanda fish procured from Jhanjharpur (Bihar) during the year 2012 with the economical help of Bihar Govt. He got the technical knowledge of fish rearing from the scientists of Madhepura KVK. In 2009, he visited Kakinara (A.P) for fish farming training. In the same year he also got training from Karnal KVK. Besides, he has been attached with Madhepura KVK since last 4 years.

Earlier, he used to apply raw cow dung in the ponds. But, after the advice of Madhepura KVK scientists, he applied vermicompost in his fish pond in place of raw cow dung which enhanced the



productivity of fish. He established his own vermicompost unit. In the year 2004-05 the productivity of the pond was 1.2-1.6 tonne fish/ acre which was increased by 2.2-2.5 tonne fish/ acre. He had three rearing ponds and 1 nursery pond. He had been trained by Madhepura KVK scientists



for fish seed production and started doing fish seed production in 2010. Annually he use to sell fish amounting Rs. 100000. Now, his total annual income comes around Rs. 5-6 lakh. Shri Mandal has become an eye opener of many growing fish farmers in the district.

FISH FARMING AS A SOURCE OF INCOME GENERATION

Name: Shri Udai Singh

Address: Vill.- Murma, Block - Satbarwa, District- Palamu, Jharkhand

Sri Udai Singh is a progressive farmer of Palamu district. He was doing work in the field of fish farming. He got training from KVK, Palamu and other national



organization (such as National Fishery Development Board Hyderabad) in the farming in a common pond of village Murma. He has form a committee named



as “मुरमा मलय मत्स्य जीवी सहयोग समिति” with help of KVK, Palamu. Seventy one families involved this village and he is active member of the committee. He purchase



spawn of fish such as catla, rohu, mrigal and grass carp from Ramsager, West Bengal and got production of fish as about 15-20 quintal per season as a community approach.





**WOMEN EMPOWERMENT
IN AGRICULTURE**

EMBROIDERY WORK: A MEANS OF FAMILY INCOME

Name: Mrs. Devanti Devi

Address: Vill.- Basantpur, District- Siwan, Bihar

Mrs. Devanti Devi married in middle class family where ladies were not allowed to go outside for earning. Being in joint family she had not enough money to send their children to good School. In such an adverse condition she contacted women around with similar sentiments and decided to earn money by stitching



and managed Rs. 300 per month. Later, the numbers of women in group swelled gradually. In 2009, she came in contact with Siwan KVK and joined training in embroidery and started her embroidery business along with stitching. Today, this small group expanded in a network of ten groups who are engaged in making embroidered bed sheet, pillow cover, table cloth, and curtains. Recently, Home Scientist from Siwan KVK visited some of the Self Help Groups and recorded the

following:-

Sudha Self Help Group: Through this business every individual member is earning about Rs. 2500-3000 per month.

Adarsh Self Help Group: Kanti Devi of this group is engaged with Bed sheet appliqué works. She takes three days in making one bed sheet and earns Rs. 3000-4000 per month. She is also providing training to rural girls.

Basant Bootique and Kashidakari: After taking training from Mrs. Devanti Devi, the owner of this bootique is running a training centre of embroidery through “Mahila Vikash Sansthan” and is providing training to 10-15 girls per 3 months and is selling their products by their trainees on no profit no loss basis.

In this way, Mrs. Devanti Devi not only managed to earn money herself but through embroidery also she helped many rural women to increase their family income. Through the intervention of KVK Siwan, NABARD has also given financial support to spread this embroidery business in the surrounding areas. At present, her son is an engineer and she has become one of the respected women around Basantpur area of the district.



WOMEN CONTRIBUTION IN LIVELIHOOD IMPROVEMENT

Name: Smt. Nisha Kumari

Address: Vill.- Bhataulia, Block- Saraiya, District- Muzaffarpur, Bihar

Smt. Nisha Kumari, a laborious and innovative farm women, had limited resource and infrastructure for her livelihood. She came in contact with KVK Muzaffarpur Scientists three year back with her husband Mr. Avinash Kumar. They were continuously getting technical



support and guidance from KVK Scientists. She has taken several trainings conducted by the KVK in different disciplines like crop production, bee-keeping, vermi-composting, animal husbandry, preservation of fruits and vegetables, mushroom cultivation etc. She adopted the practice of protective cultivation of flowers



and vegetables, integrated farming system for productivity enhancement and income generation, mushroom cultivation, bee-keeping etc. She gained faith of women and rural youth and formed self-help group

(SHG) for marketing different agricultural production systems. She empowered local women for income generation through



mushroom cultivation. The women themselves used to manage all the agricultural works. Some implements of drudgery reduction like weeder, spreader, sheller etc. were being used. From her agricultural land, she was earning Rs 4.0-5.0 lakh per annum from different crops



i.e. rice, wheat, maize, sweet corn potato, green gram, red gram, black gram, rajmah, elephant foot yam, orchard of mango, litchi, papaya, banana, bamboo and agro-forestry, turmeric, ginger in the shade of trees in addition to vermicompost, mushroom, beehives etc. She has become a role model for women farmers in the district.



**OTHER
AGRI-ENTERPRISES**



APIARY: A VIABLE ALTERNATE SOURCE OF INCOME

Name: Sri Ranjit Kumar Singh

Address: Vill.- Karma Bhagwan, District- Aurangabad, Bihar

After completion of schooling from district Aurangabad, Sri Ranjit Kumar Singh was very eager to do something for his family. He came in contact with KVK Aurangabad in 2008 and adopted livestock, backyard poultry farming besides his usual cultivation of rice and wheat, livestock rearing, fish culture and bee keeping. Out of which he chose apiary as the best suited farming in his limited area of land followed by crop cultivation and livestock keeping. Finally, with the help of a series of district level training programmes on bee keeping organized by the KVK Aurangabad and District Horticulture Officer of Aurangabad, he started keeping honey bee in 20 boxes which was extended to 400 boxes within the very short period of time. He formed farmers' group through which honey were being marketed throughout the district.

With the establishment of his own entrepreneurship he also started helping other farmers to develop bee keeping business in the area. His earning comes around 5.5 lakh per year alone from bee keeping besides from growing crops (Rs.



50000) and livestock rearing (Rs. 21000). At present, he becomes an ideal for the young generations in surrounding and outskirts areas of the district.

Details result obtained due to the Adoption flower cultivation:

Enterprise	No. of boxes	Cost of production (Rs.)	Return (Rs.)	Net income (Rs.)
Bee keeping	400	100000	550000	450000



MARVELLOUS EXPERIENCES WITH STRAWBERRY CULTIVATION

Name: Sri Brajkishore Mehta

Address: Vill.- Chilkhibigha, Block- Kutumba, District- Aurangabad, Bihar

Sri Brajkishore Mehta is a dynamic and progressive farmer of village Chilkhibigha which is situated 10 km away from Aurangabad. Before 2010, he used his sole land for crop production but that was not at all remunerative. After that, he came in contact with the Scientists of KVK Aurangabad for getting technical knowhow and skills to improve fruit and vegetable productivity. For producing off-season solanaceous vegetables, he adopted various new technologies like use of growth regulators, raising of cucurbits seedlings in poly bag, training, pruning and rationing in vegetables. That helped him to get the early fruiting and fetched



a good price in the local market. Presently, with the help of Bihar State Department he started producing off-season cucumber under poly house. As a result, Mr. Mehta got a substantial amount of net income from his cultivated land. During the year 2012-13, he started to cultivate strawberry

under plastic film. With only two varieties Chandler and Ofra sapling which was collected from Haryana and planted in the first week of September and got fruiting from first week of January to last week of February 2013. He also started multiplication of his existing germplasm in 0.5 acre land. From the same land, he



earned around 4 lakhs and many saplings were already for multiplication and selling. Now, Sri Mehta is a very happy strawberry producing farmer in the area. He appreciated the contribution and guidance of KVK Scientists for achieving his goal through adopting latest technologies in agriculture. Several farmers not only from in surrounding areas but different districts are usually coming to see his plot and crop too for following such practices and are collecting the saplings. At present, he has become a lead farmer in the district in terms of strawberry production.

AGRI-MECHANIZATION: THE WAY TO SOLVE LABOUR CRISIS

Name: Sri Ramanand Choudhary

Address: Vill.- Mahamadpur, Post- Bhagalpura, Block- Tarapur, District- Munger, Bihar

Sri Ramanand Choudhary, a retired teacher, survived with four hectares of cultivated land. After retirement, he was thinking to utilize his land properly for crop production. He discussed his views in details with the Scientists of KVK Munger to prepare a road map for his farm land and decided to purchase a combine harvester to serve farmers in his area and also to earn money as an entrepreneur. He consulted District Agriculture Officer (DAO) of Munger for getting subsidy and loan from Bank. Ultimately, he purchased the same with the help of DAO and Bank. As paddy and wheat were the major crop in the area and there was severe labourer scarcity during harvesting season. Due to the availability of combine harvester



in the area the harvesting operation has become easier for the adjoining farmers. The whole operation takes less time with minimum loss of crops and is also economical. At present, he has developed the capability to harvest 1200 ha crops in one year. He earned money as per details below.

Year	Working days	Operational cost /day (Rs.)	Total income/ day (Rs.)	Net income/ day (Rs.)	Total net income/day (Rs.)
2012-13	90	9000	20000	11000	99000
2013-14	92	10000	21000	11000	1012000
2014-15	95	11000	22000	11000	1045000

* Hiring charge for harvester- Rs 2500/ ha and operating hours- 9 hour per day

**The cost of combine harvester was repaid within two years of purchase. It gives four persons employment also.

Thus, Sri Ramanand Choudhary has become a lead & innovative farmer and also an eye opener for other large farmers

in the area who is sharing his technical knowledge in terms of agriculture, machinery & cattle rearing.

MUSHROOM CULTIVATION: AN IMPORTANT TOOL FOR RURAL EMPLOYMENT

Name: Sri Ghanshyam Prasad

Address: Vill.- Uksi, Block- Chewara, District- Sheikhpura, Bihar

After completing Matriculation, Mr Ghanshyam Prasad was struggling hard to settle his family. During the month of July 2012, he came in the contact with KVK Sheikhpura Scientists in search of employment opportunities in agriculture. After several discussions and technical guidance of KVK experts and ATMA, he was motivated to start mushroom cultivation. He started his entrepreneurship with 10 kg oyster mushroom spawn which



was purchased from BAU Sabour. It was inoculated in 100 bags hanging in a thatched roof of 150 square foot during November 2012. He successfully grew 60 kg mushroom in his first attempt and sold 40 kg as fresh @ Rs. 150/ kg. Balance 20 kg of the produced mushroom was converted in to pickles which was further sold out. In the first attempt he realized the net profit of Rs. 4500 and got confidence of production and marketing.

In the second attempt, he produced 150 kg of fresh mushroom and got the net profit of Rs. 10000. After third round during 2012-13, he earned a total earning of Rs. 30000. Further, he produced mushroom throughout the year and assured the spawn availability for the nearby farmers. In addition, he converted mushroom waste along with buffalo dung and other agricultural wastes into vermicompost by which his crop on the 5 ha land yielded higher. Getting inspiration from that, he was also interested to acquire agricultural knowledge for other agriculture related enterprises. With his zeal, now, Mr. Ghanshyam has become not



only a role model among unemployed rural youth of his village but also a recognized farmer by ATMA. He strongly admits the role of KVK Sheikhpura for behind his success.

MUSHROOM PRODUCTION FOR INCOME GENERATION

Name: Sri Abhay Anand

Address: Vill.- Baghori, P.O.- Ghorlash, District- Deoghar, Jharkhand

Sri Abhay Anand is a Matric passed school dropout who came in contact with Krishi Vigyan Kendra Deoghar during the year 2013. He took several trainings from KVK Deoghar Kendra for starting



mushroom cultivation. Ultimately, he started his business and within one year,



he was able to produce mushroom from 800 bags. He is supplying mushroom in the Big Bazar at Deoghar town and is earning around Rs. 8000 per month from his enterprise. Definitely, he has become a



source of inspiration for other poor rural youths in the area.

IMPROVING LIVELIHOOD THROUGH OYSTER MUSHROOM PRODUCTION

Name: Mr. Shishu Chandra Pal and Mr. Lipton Biswas

Address: Vill.- Dakhin Aliganj, Post- Islampur, District- Uttar Dinajpur, West Bengal

Mr. Shishu Chandra Pal and Mr. Lipton Biswas are budding entrepreneurs. Both had taken rural youth training on mushroom cultivation from Krishi Vigyan Kendra Uttar Dinajpur and primarily started oyster mushroom cultivation at household level with KVK inputs and



technical support. Gradually, they got interest in commercial cultivation of oyster mushroom and started small scale units in the area with 200 m sq. each. The Scientists from KVK helped to link them with marketing of their produce. Small growers like Mr. Shishu Pal.

Mr. Lipton were linked with large growers at local level for selling

mushroom and to earn a definite income throughout the year. Now, both have set up their own unit in the same village and are collectively selling their produce to the large producers group in addition to sale in the local markets from where they were getting better price. Now, they are planning to expand their business and even eager to try new varieties of mushroom production. Presently, on an average 100-110 kg of mushroom is being produced every day at their farm and they



sale the produce @ Rs. 40 per kg with a net profit of Rs. 48000 to 52000 per month. They are the eye opener for many young unemployed youths in the district.

MUSHROOM: A SOURCE OF POOR MAN'S EARNING

Name : Mr. Hakimul Islam

Address : Vill.- Diwanjageer, Post Office- Asaru Basti, Daspara, District- Uttar Dinajpur, West Bengal

Mr. Hakimul Islam, a young entrepreneur and source of inspiration to many others, established a 500 sq m. mushroom cultivation farm with an average production of 200 kg per day. He started mushroom cultivation in the



year 2011 and had been expanded his enterprise day by day. He motivated youths of nearby villages and six of them already started their own farms in their respective villages. Mr. Hakimul Islam came in contact with Scientists of KVK Uttar Dinajpur and developed his capacity through rural youth training



programme at KVK. Further, he was sent to Ramkrishan Mission Ashram at Belur

Math, Kolkata for exposure visit and training. Uttar Dinajpur KVK arranged one training programme for mushroom spawn production for him and other fellows at Uttar Banga Krishi Viswavidyalaya, Cooch Behar. His produces were readily accepted by the nearby hotels and restaurants of Himalayan and Doars regions of the district. He established one producer group which is known as Pragati Mushroom Grower Association. At present, Mr. Hakimul and their producer group is producing on an average 500 kg



fresh mushroom in a day and marketing it to Siliguri area. He is earning a net profit of 65000 to 75000 per month from his mushroom business and now has become an idol to other youths of the locality.

ENHANCING FAMILY INCOME THROUGH SMALL SCALE VERMICOMPOST PRODUCTION

Name: Sri Biren Saha

Address: Vill.+P.O.- Raipur, District- Birbhum, West Bengal

Considering the present demand of high quality organic manure like vermicompost and the availability in the market Rathindra KVK Birbhum organised training programme on preparation and use of vermin-compost in the year 2006-07. After completion of training programme, Sri Biren Saha started vermicomposting with two small units each having the size of 2.5 ft x 2.0 ft x 3.0 ft. Initially, he invested Rs. 1000 for installation this unit. Sri Saha used all his homestead organic wastes for that purpose. After one month, he harvested his first product. For the next production he needs only Rs. 100 as a cost of cow dung for each unit. Every time he



harvested one quintal of vermicompost from each unit. Within one year he produced ten times from both the units. Thus, the total production was 20 quintal in a year. The cost and return in one year is given below.

Total Cost (Rs.)		Total Return (Rs.)	
Installation Cost (One time)	1000	Vermicompost 20 q. @ Rs. 400/ q.	8000
Cost for Worm (One time)	400	Worms 5000 nos @ Rs. 50/ 100	2500
Total cost for cow dung	2000		
Total	3400	Total	10500
Net return in the initial year = Rs. (10500 – 3400) = Rs. 7100			



After that, Sri Biren Saha started the same business in medium scale production. Seeing his success many farmers in his locality started to produce vermin-compost in small scale with their homestead organic wastes. Sri Saha is an eye opener of many poor farmers in the district.

IMPROVING AGRICULTURAL PRODUCTIVITY THROUGH WATER HARVESTING

Name: Shri Vinod Kumar

Address: Vill.- Gadi Majhila, Block- Kawakol, District- Nawada, Bihar

Shri Vinod Kumar excavated a pond measuring the dimension of 2 m x 27 m x 13 m during the year 2013-14 with the help of NICRA project. After complete excavation, the rain water was harvested (stored) in the pond. During 2014-15, the stored water was utilized for transplanting kharif paddy in 1 ha and for supplementary irrigation in the dry spell. The fish culture was also started in the pond. The fruits and forest species were transplanted on the bank of pond. On bunds, pigeon pea was grown and

harvested. On the side strips of the pond, vegetables were grown during kharif, rabi and zaid by utilizing stored water from pond as per need. The water was available whole year in the pond due to automatic recharging capability of the pond. The farmer planned to establish dairy unit near the pond to start integrated farming for more income generation. Cost of cultivation of pigeon pea was Rs. 1350 (0.2 ha) and gross income is Rs. 8700 Cabbage and cauliflower cultivation contributed the total net income of Rs. 14850 (0.2 ha).



MUSHROOM PRODUCTION AND PROCESSING: OPPORTUNITY FOR INCOME GENERATION

Name: Mr. Bikarna Barman

Address: Vill.- Baddungi, P.O.- Teor, P.S.- Hilli, Dist.- Dakshin Dinajpur, West Bengal



Mr. Bikarna Barman, a rural youth and marginal farmer, used to work very hard along with his parents for agricultural production for their livelihood.

He was passing through the economic stress while unemployed and searching for an alternative and profitable enterprise. However, the situation started changing when he came in contact with Dakshin Dinajpur KVK during the year 2010-11. Mr. Barman enrolled his name for one week training on mushroom cultivation. After getting the training, he gained confidence and started mushroom cultivation under the guidance of KVK scientists by taking spawn from KVK.



By adopting scientific technologies he tried to increase mushroom production. Side by side, he started processing and sale out of the value added products of

mushroom in the form of pickle, biscuit, sauce, pakora etc. Apart from producing and processing of mushroom, he is now supplying spawn and buying mushroom from the surrounding producers. Recently, he started dry mushroom production. He is also acting as rural youth entrepreneur and master trainer to create much awareness among other. He has registered his product under small scale industry of



West Bengal Govt. vide Registration No. FSS-ACT-2006/22813005001845. Considering his prospect DIC (District Industrial Center) has sanctioned a loan of Rs. 5 lakh to setup a mushroom production and processing unit for up-scaling his enterprise. He has also branded his product in the name of 'Hilli Delhi' as one of the first ever registered farm producer in this region of West Bengal. Mr. Barman started small scale production business and created his own market. Presently, he is supplying 100-150 kg fresh mushroom every week and 5 quintal dry mushroom every year to the local market including other districts e.g. Malda, Uttar Dinajpur and Darjeeling

and other states (Assam, Bhutan etc.). His earning has reached the mark of Rs. 2 to 3 lakh in a season through production and selling of his raw mushroom and its various products throughout the district



as well as outside the district. Mr. Barman is a member of Farmers' Club, NABARD,



Member of “Naopara Teor Samaj Kalyan Samity” (NGO, Dakshin Dinajpur). He has been awarded with “*Prosongshoniyo Kajer Jonyo Sikrti Award*” by NABARD in the year 2014, “*Kriti Krishak Award*” by Dakshin Dinajpur KVK in the year 2014 and “*Agrani Krishok Samman*” from Uttar Banga Krishi Viswavidyalaya, Pundibari, Coochbehar, West Bengal.

After seeing the success of Mr. Bikarna Barman, five farmers in the locality have already started mushroom production



and eight rural youth have taken training on mushroom production from Dakshin Dinajpur KVK. They will start mushroom production very shortly.

VERMICOMPOST: AN ADDITIONAL SOURCE OF INCOME

Name: Sk. Abdul Hanif

Address: Vill.- Konnamoni, P.O.- Sarenga, District- Howrah, West Bengal

Sk. Abdul Hanif used to cultivate paddy in 0.5 acre land, and banana and vegetables in 0.36 acre land. In addition, he used to cultivate his upland (10 katha) for the consumption of his family i.e. his wife and seven children. But, it was very difficult to meet out all family needs from his small earnings. Earlier, he used to work in a jute mill which remained closed for two months in a year due to lock



out. As his agriculture productivity was also decreasing and cost of cultivation was increasing, he went to meet ADO of his block for advices who told him to construct vermicompost unit in his land. But, due to financial problem, he could not start that. After that, he participated in many capacity building programmes

on vermicomposting and learned about the benefits, uses, composition and preparation of processes. He planned to compost organic wastes i.e. cow dung, green leaves, skin of vegetables, trunks of banana trees, water hyacinths etc. available with him. With the financial help of Ambuja Cement Foundation, Mr. Hanif started vermicomposting at one corner of his upland field using good quality tarpaulin in the pit. The pit was 10 ft long and 3.5 ft width. At a time one ton of vermicompost materials could be produced from his pit. At initial stage, he purchased 2000 number vermin worms at



the cost of Rs. 500 and also constructed a shade over the pit to protect compost from rain and sun.

In 2009, he produced 5 tons of compost and earned a net profit of Rs. 16000 from that produce. In next year, from 9 tonnes the earning was Rs. 25000. Ultimately, his production reached at the level of 15 tonnes/ annum. The vermicompost production has become very popular as farmers are routinely used in field of paddy, banana and vegetable cultivations.

Impact factor	Before Adoption	After Adoption
Agri. Practice	-	Vermicompost
Yield (ton)	-	15
Sale Value (Rs.)	-	50000
Input Cost (Rs.)	-	1820
Labour Cost (Rs.)	-	5000
Other Cost (Rs.)	-	180
Net Profit (Rs.)	-	43000