

## **Mushroom/ Spawn Production: An entrepreneurial venture of Dhenkanal**

Dhenkanal district has a coverage of around 94000 ha area under kharif paddy production resulting huge availability of paddy straw. The KVK Dhenkanal were trying to popularize mushroom cultivation using that chief resource to convert into valuable food materials through creating awareness among farmers, conducting on-campus and off-campus training programmes under different climatic conditions and demonstrations. Mr. Bijay Kumar Sahu, a resident of village Lamodarpur, P.O.- Bhaliabolakateni, Block- Dhenkanal Sadar, District-Dhenkanal, Odisha, was convinced by the scientists of Dhenkanal KVK and he started mushroom cultivation by procuring spawns from CTMRT and OUAT. The technical support was provided by KVK Dhenkanal and OUAT, Bhubaneswar. Although, at the initial stage, marketing was a problem, but, with the passage of time, it has become very popular in the district. At present, around 200 mushroom growers in the district produce >30 q mushroom daily and some farmers are producing under poly-house during winter season. The yield of mushroom per bed comes around 1-1.5 kg which has a market price of Rs. 100/- per kg against the cost per bed of Rs. 50/-. From 50 beds, the daily minimum yield is 50 kg with net return of Rs. 2500/- per day. For producing 1500 bottle mushroom spawn per day, the total expenditure comes around Rs. 10500/-. The gross return from the same is around Rs. 18000/- and the net return is Rs. 7500/-. Sri Sahu has been able to leverage support from various state Departments and Nationalized Banks. He has established a very good marketing linkage with the mushroom growers of the district and other surrounding districts.

The impact of the technology with Sri Sahu is quite visible from the farm economics point of view. He has provided employment for 10 persons in his unit, constructed a new building for spawn unit, purchased land as well as advanced agricultural implements like rice transplanter, paddy reaper, tractor, power weeder and so on. He has been recognized as a successful entrepreneur in the district. He has been awarded by Department of Agriculture, Horticulture, OUAT, UCORSETI and many more. Seeing the benefit, many entrepreneurs of this district and nearby districts have adopted the technology. Now, more than 200 farmers are producing mushroom and 21 farmers are producing mushroom spawn in the district. They are supplying mushroom to various parts of the district and to other districts like Angul, Sambalpur, Bargarh, Sundargarh etc.



## Ridge and Furrow Cultivation: A new hope for farmers

Sri Radhakanta Mali is an enthusiastic and progressive farmer of Bongheri village of South 24 Parganas. He had 0.83 ha of low land which was only fit for cultivation of long duration traditional paddy varieties like Morishal, in Kharif. In absence of fresh water, he could not cultivate during winter or summer. He could hardly meet the annual requirement of food grains for his family through farming. After the “Aila” (cyclone), he was even ripped of this hope, as the entire land turned unfit for cultivation due to salinity. He turned into a regular labourer, moving in and out of the village in search of work. His family was unsecured at home. After the launch of NICRA project, Sri Mali was one of the leading farmers who wanted to adapt to the various climatic vulnerabilities, witnessed by the village. He wanted to explore the village resources, so that he did not feel to go out of the village. He converted 0.13 ha of his lowland into broad ridges and furrows under NICRA project. The small piece of land was developed as a series of furrows (4 ft wide x 3 ft deep) alternating with ridges (4 ft wide x 3 ft deep) and started growing vegetables like tomato, bottle gourd etc. on the ridges. That modification helped him to save the vegetables from prolonged submergence in monsoon season. The stored water in the furrow could be used as lifesaving irrigation during dry spell. Simultaneously, he used stagnant water in the furrows to grow prawns and carps. The moisture retained in the land during winter season helped him to take a second crop like beans and bitter gourd. In rest of the 0.7 ha land, he continued to grow paddy. He excavated a small pond of 0.06 ha by his own cost and started fishery. He used vermicompost, bio-fertilizers, bio-pesticides, straw mulching and many other eco-friendly technologies in his farm. He harvested 18 q bitter gourd of Rs. 27000/- and 15 q okra of Rs. 18000/- in kharif and 34 q tomato of Rs. 34000/- in rabi season. He got 2 q fish of Rs. 30000/- from the pond and the furrows during monsoon. His gross earning was Rs. 1.09 lakh. He got Rs. 71000/- as net profit with BC ratio of 2.87. Sri Radhakanta Mali is now a happy farmer as his land is well protected against prolonged water stagnation resulting from intensive precipitation in short time span as well as against dry spell in monsoon season. The increased soil moisture retention capacity of the land is allowing him to take a second crop in winter. He also knows that his village “Bongheri” is also protected against future climatic vulnerabilities.



## Climate resilient gram variety proved to be a boon

Odisha, lying just south of the tropic of cancer, comes under tropical climate. It is warm almost throughout the year with maximum temperature hovering between 40-60°C and in winter, it is intolerably cool. Moisture content of the soil was only 7%. It was revealed that majority of the farmers was facing the problem of low productivity in gram due to several factors viz. unavailability of heat tolerant varieties, imbalanced use to nutrients, moisture stress in growth stage and incidence of pests and diseases. After farmers participatory planning, it was decided to demonstrate high yielding short duration varieties (Prasad) and having heat tolerant capacity (TRAM-1, to avoid YMV incidence during high temperature) along with balance doses of nutrients. Keeping this in view, intervention was planned with Prasad and TRAM-1 with foliar application of NPK (19:19:19) @ 10 g/lit at 20 and 35 DAS. The average productivity was recorded to be 510 kg/ha (Prasad) and 480 kg/ha (TRAM-1). The return per rupee spent was found to be 1.84 under Prasad and TRAM-1 varieties 1.75 under existing farmers' varieties and management. With the passage of time, large number of farmers of Odisha state have started growing gram in their fields resulting a spectacular change in gram production scenario in the state.



## Hi-tech shade net betel vine boroz enhances livelihood income

South 24 Parganas is, indeed, a complex district, stretching from Kolkata to the remote riverine villages in the south up to the mouth of Bay of Bengal. The average temperature in the district varies from a maximum around 38°C to a minimum of around 13.5°C. The annual average rainfall is 1800 cm, more than 75 percent of which receives during the monsoon. Agriculture and pisciculture are the major economical supports of this district. About 68% of the total cultivable land is low lying, mostly mono-cropped and low yielding because of excessive rainfall resulting in water-logging situation. Impeded drainage system in monsoon makes the situation even worse. In low lying land situation where water stagnation is relatively high (2-3 ft) during rainy season, only traditional (local) variety of paddy is grown. Second crop is not cultivated in rabi-summer season due to late release of land as well as for scarcity of irrigation water and salinity problem. In this backdrop, ARYA project was instrumental in offering remunerative options in farm enterprise to the rural youths. In this project, 'Hi-tech Shade Net Betel Vine Cultivation' was intervened and five youths of Pathar Pratima Block were selected. Smt. Anima Bag from village- Lakshmi Janardanpur, Block- Pathar Pratima, District- South 24 Parganas, West Bengal was one of them. She is from a very poor scheduled caste family with average income of Rs.7000.00 per month, mainly from her own backyard poultry farming (20 no. of birds) and her husband's wage, as he works as daily labour in neighbour's *boroz*. Under ARYA project, a durable *boroz* structure using GI pipes was conceptualized and made up of non-degradable items which reduced disease and



pest infestation. The modern *boroz* was fitted with micro-sprinkler irrigation facility, which not only reduced irrigation cost, but also maintained proper temperature and humidity within the *boroz* during the hot summer and dry winter. Another advantage of this hi-tech *boroz* is the uniformity in shading resulting to uniform coloration of leaf. The yearly cost of cultivation per *boroz* structure is only Rs. Rs.48000/- including all inputs (Manure, fertilizer, pesticides & micro-nutrients) and hired labourer. Presently, her net income is around Rs. 16800/- per month from this betel vine cultivation only. This hi-tech shade net betel vine *boroz* has not only created an interest among rural educated youths in farming, but also changed the betel vine farming concept, as a whole. This climate smart and environment friendly betel vine farming system has been well accepted by most of the betel vine farmers of the block and they are trying to implement it either through institutional support or at their own cost.



### **Adopting seed treatment technology in lentil variety Moitree (WBL 77) increased farmers' income**

Sh. Subrata Basu Mallick, of Village- Jhingra, P.O.- Jagatballavpur, Dist- Howrah, West Bengal used to cultivate mainly paddy, potato, sesame and mustard. Till date, he was cultivating very old variety of lentil (*Asha*) without any proper package of practices. With the intervention/advice of KVK Howrah personnel, he conducted lentil demonstration in rabi season. As a critical inputs, lentil variety *Moitree* (WBL 77) seeds were provided with bio-fertilizers, micronutrient, liquid fertilizer and plant protection chemicals by KVK Howrah. He was advised to apply recommended dose of fertilizer i.e. 20:40:20 kg N<sub>2</sub> : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O based on soil testing. By adopting technologies like seed treatment with *T. viridae* (@ 5g/ kg seed) followed by *Rhizobium* inoculation (400g/acre) before sowing, foliar application of boron (20%) @ 2g/ lt of water before flowering and application of liquid sulphur (33%) @ 3ml/ lt of water during flowering stage enhanced the yield from 6.0 q/ ha to 10.2 q/ ha which counted about 70% increase in yield. The cost of production was Rs. 16500/- from which he earned a net return of Rs. 37560/-. His return per rupee spent was calculated to be 3.27 whereas in check plot, it was recorded as 2.20. Sh. Mallick was very satisfied with the quality training provided for seed treatment and use of bio fertilizer by the scientists of KVK Howrah. By application of need based plant protection chemicals, both the quality and quantity of seed was improved as compared to old local variety. He sold the seed to retail market @ Rs. 3700/- per quintal. The successful use of these technologies motivated large number of neighbouring farmers who also adapted this technology in their fields during next season.



## Off-season vegetable cultivation: A lucrative agri-business

Sri P. Mohanta, 42 years old from Godapalasa village, Raruna, District- Mayurbhanj-II, Odisha adopted agriculture farming as sole income source for his livelihood after his graduation. Out of his total 15 acre of land, he was cultivating rice in 7 acre, maize in 5 acre and pulse crops in 3 acre during kharif season. But, he was unable to earn good profit from his 15 acre land due to lack of knowledge on modern agriculture farming. Under module village programme of KVK Mayurbhanj-II, he was trained by KVK scientists on mechanization in maize starting from sowing to harvesting in order to minimize the labour cost for getting more profit. He was also trained for off-season vegetable cultivation. The KVK convinced him to do off-season vegetable cultivation in his 3 acres upland and accordingly, he started cultivation.

Demonstrations on tractor drawn seed-cum-fertilizer drill for sowing maize and inter-culture operation like weeding and ridging by power weeder-cum-ridger and improved hybrid vegetables suitable for kharif and net-trelley system in kharif bitter melon were conducted in his plots. In first year, he invested Rs. 85700/- and got net profit of Rs. 139800/- from 3 acre land. In the next year, he took another 5 acre land in lease and cultivated vegetables in kharif, rabi and summer season and got a net profit of Rs. 33400/-. He also earned Rs. 132300/- from maize and Rs. 33600/- from paddy. For his endeavour, he was awarded with 'Best Farmer Award' at OUAT, Bhubaneswar foundation day during the year 2018, and in many occasions by district line departments. He has created the job opportunities for five persons. Sh. Mahanta has become a very popular face as an established vegetable producer in the village as well as in the district. Large number of adjacent farmers are being visited to his farm and even, some of the visited farmers have started their cultivation.



## **Papaya cultivation: A boon for transformation towards prosperity**

Mr. K. C. Haldar, village- Uttar Simla under Chinsurah- Mogra Block, District- Hooghly, West Bengal has 3.3 ha land. Mr. Haldar has vast experience in production of horticultural crops e.g. papaya, mango, vegetables etc. He is associated with cultivation with more than 35 years and is still very eager to know something new technology and to adopt it in his own farming. At present, he is growing papaya in 1.5 acre of land and the lion share of his annual income comes from papaya cultivation. He earns a net profit of Rs. 4 to 5 lakh annually from his papaya cultivation. Papaya is cultivated mainly as fruit. Ripe papaya is very delicious having good nutritional value and its demand remains throughout the year with good market price. Papaya can be grown throughout the year and it also bears fruits round the year. But, during Ramzan month, Durga puja and other festive months, the demand in the market is comparatively higher. Earlier, Mr. Haldar visited Hooghly KVK several times and took training on orchard management including papaya cultivation and he applied the knowledge in his cultivation. As papaya is very weather sensitive crop, outside improved varieties are not performing well in this region, he chose two local selected cultivars i.e. 'Deshi' and 'Bombai' which give good production and are well adopted in this region. He uses to collect seeds from his own crop with proper selection of fruits and seeds, raises seedlings for his own. Mr. Haldar applies modern cultural practices like mulching with straw, use of organic matter to the papaya crop and so on. Chemical fertilizers are least preferred. The KVK scientists visited his orchard and shared their experiences and other technical know-how for management of the crop. He also developed a weeder implement to control weeds in his papaya fields. During harvesting period, he harvests about 300-400 kg fruits daily. Harvested fruits are stored for 2-3 days for enhancement of ripening and then, it is transported to the market with paper wrapping in bamboo baskets. Scientific practices enable him to get good quality (i.e. shape, size and colour) fruits. He sales his produce in Chandannagar market which varies from Rs. 20/- to Rs. 40/- per kg fruit. From this local market, the middlemen transported the fruits to nearby metropolitan city- Kolkata. The economics of production have been given below. Being a progressive farmer, Mr. Haldar is now very well-known person in his village. The lifestyle of his family has significantly been improved from his income. After visiting the papaya fields of Mr. Haldar, many farmers already started cultivation. Even, some farmers have shifted their traditional paddy and potato cultivation to different horticultural crops.





**Economic feasibility of papaya cultivation from 1.5 acre of land for one year:**

1. Cost of seedlings raising: Rs. 30000/-
2. Cost of manures, fertilizers, pesticides and other chemicals: Rs. 200000/-
3. Cost of bamboo staking and other materials: Rs. 70000/-
4. Cost of labour: Rs. 100000/-
5. Post-harvest and marketing cost: Rs. 50000/-
6. Total cost: Rs. 450000/-
7. Total production: 45 tones
8. Av. selling price: Rs. 20/- per kg
9. Gross return: Rs. 900000/-
10. Net return: Rs. (900000 – 450000)/- = Rs. 450000/-

### Introduction of new rice var. 'CR Dhan 307' ('Maudamani') increased farm income

Sri Bhima Charan Das, village-Laxminarayanpur, block- Salipur, District.-Cuttack, Odisha used to grow rice in a traditional manner before 2017. The profit from his farming was very less because of low productivity and poor grain quality. Then, he came in contact with the scientists of ICAR-NRRI Cuttack who were working in the project- '*Farmer FIRST Programme*' funded by ICAR, New Delhi. In this programme, under crop module, scientists were demonstrating various newly released rice varieties which could give more production as well as income to the farmers. The scientists gave training to the selected farmers including Sh. B. C. Das for scientific paddy cultivation. More than 23 rice varieties were demonstrated among the farmers in Cuttack district by ICAR-NRRI, Cuttack during 2017-2019. Out of 23 demonstrated rice varieties, *CR Dhan 307 (Maudamani)* had best yields compared to other varieties and performed exceptionally well in field conditions. The following data showed about the yearly analysis of profit of Sh. B. C. Das who cultivated '*Maudamani*' rice. Grain yield advantage of about 30-60 percent and incremental income of 200-300 per cent (depending on the land type, varieties, crop management practices and market price) were obtained over previously grown varieties. Thus, more profit was obtained from new variety. At present, '*Maudamani*' rice variety was spread among 450 farmers in and around the district and it covered an area of about 60 ha area. It is being popularized day by day.



### *Economics of production*

<i>Impact factor</i>	<i>Before adoption</i>	<i>After adoption</i>
Farmers' practice	<i>Pooja</i> cultivation	<i>Maudamani</i> cultivation
Yield of product	17 quintals/yr	25 quintals/yr
Fixed cost (Rs.)	Seeds-700/-	Seeds-800/-
Recurring cost (Rs./year)	20000/-	20000/-
Gross income (Rs./year)	25000/-	33750/-
Net profit (Rs./year)	4300/-	12950/-
B:C ratio	1.20	1.62

### **Real time cucumber production changed livelihood of farmers**

Sh. Siba Muduli, village- Gopalpur, block- Begunia, Distt.- Khordha, Odisha and his farmer friends used to cultivate vegetables including cucumber before 2017-18 in their limited lands. Their villages are surrounded by forests with *sal* as the pre-dominant tree. The climate is characterized by hot and dry summer and mild winter with an average annual rainfall of about 1408 mm. The soil is red lateritic with clay loam texture. As they used local variety seeds, the production was not good and they did not fetch good return from their produce. During *Rabi* season of 2017-18, through '*Farmer FIRST Programme*' under OUAT, Bhubaneswar, Odisha, one attempt was made to improve the livelihood of cucumber growers through introducing new hybrid variety '*Rajmata*' with scientific package of practices. Regular interactions among the farmers and scientists were made through person-to-person interaction, training programmes, field diagnostics etc. The beneficiary farmers were provided with technical know-how and critical inputs viz. '*Rajmata*' hybrid seed. The best management practices were popularized through field demonstrations. Amongst them, as an example, the success case of Sh. S. Muduli has been considered and the economic feasibility of his farming has been highlighted here.

### *Economics of production*

<i>Impact factor</i>	<i>Before adoption</i>	<i>After adoption</i>
Farmers' practice	Local variety	Hybrid cucumber var. ' <i>Rajmata</i> '
Yield of product	3.75 tonnes in 0.2 ha	5.65 tonnes in 0.2 ha
Total cost (Rs.)	25000/-	15000/-
Gross income (Rs.)	60000/-	82300/-
Net profit	35000/-	67300/-
B:C ratio	2.4	5.5





Sri Siba Muduli earned Rs. 82300/- from an area of 0.2 ha of land by producing 5.65 tonnes with an expenditure of Rs. 15000/-. He harvested cucumber fruits in 17 phases for a period of 35 days after fruit set. Sri Muduli was highly convinced about off season cultivation of cucumber to catch better market price. He also experienced the importance of scientific package of practices of high value crops. That demonstration encouraged other farmers for commercial cultivation to improve their livelihood. From the success of Mr. Muduli, more than 25 farmers started hybrid cucumber and off-season vegetable production covering more than 15 ha area in the selected villages.

### Increased agricultural income through modern scientific farming

Sri Rajendra Nimalu progressive farmer of village Pradhaniguda, Rayagada, Odisha who used to grow sweet corn in 1.0 acre (rainfed upland), rice in 2.0 acre (rainfed medium land) in *kharif* season and vegetable during both *kharif* and *rabi* season. With the intervention of KVK scientists, he adopted line transplanting of rice cultivation. The scientists of KVK provided package and practices of high yielding and hybrid vegetable and sweet corn cultivation. As per the advice of scientists, he produced vermicompost at his farm and utilized for crop production. The FLD and field day on sweet corn, paddy, vegetable etc. were also conducted. He grew high yielding varieties of rice and improved varieties of vegetables such as pointed gourd, lady's finger, tomato and sweet corn (*var. Sugar-75*) in 4.0 acres of land using vermicompost, soil test based fertilizers, mulching and drip irrigation in vegetables cultivation. He got revenue of Rs. 309550/- with an expenditure of Rs. 151700/- and net benefit of Rs. 157850/-. Following the scientific method of cultivation, he harvested 19400 green cobs and got an average return of Rs. 97000/- from 1.0 acre area with net gain of Rs. 67000/- in one season. The economics of cultivation have been given below.

<i>Crop</i>	<i>Season</i>	<i>Yield (q/acre)</i>	<i>Cost of cultivation (Rs)</i>	<i>Gross Income (Rs)</i>	<i>Net Income (Rs)</i>	<i>B:C Ratio</i>
Rice	Kharif	42.8	55200	79950	24750	<b>2.04</b>
Sweet corn	Kharif	19400 cobs	30000	97000	67000	
Okra	Kharif	48.6	28000	48600	20600	

Pointed gourd	Kharif	42.0	38500	84000	45500	
<b>Total</b>	<b>-</b>	<b>-</b>	<b>151700</b>	<b>309550</b>	<b>157850</b>	

He has been recognized as an innovative and progressive farmer among his fellow farmers. He was awarded as progressive farmer. He also encourages his farmer friends to follow soil test based fertilizer application and organic manures in farming. Nearby village farmers are also influenced and adopted by his technology adoption. Sri Nimalu has also adopted mechanical weeding by using of dryland power weeder for weeding and ridging operation in the vegetable field. The implement works 8 times better than manual labour with a capacity of 2000 m<sup>2</sup> per hour in comparison to human capacity of 300 m<sup>2</sup> per hour, and the cost of operation is only Rs. 550/-. The implement is appreciated in district level as well as in state level. Farmers of his village and nearby villages are also adopted this technology and using in their fields.



### **Finger millet variety ‘Arjuna’ substantially became farmers’ choice**

The finger millet is the dominant cereal crop in Nabarangpur district after rice and maize. As numbers of finger millet varieties are limited in respect of higher yield and resistance to disease and pest, OUAT-Bhubaneswar developed a new variety of finger millet *Arjuna* (OEB-526) during the year 2014 which has the capability to yield more than 15% over popular variety *Bhairabi*. During kharif season 2019, Nabarabgpur KVK took up an OFT programme on ‘Assessment of finger millet varieties’ and incorporated the variety-*Arjuna* (OEB-526) and *Bhairabi* in the field of 7 farmers under rainfed upland conditions. The result showed

that *Arjuna* var. performed better than *Bhairabi* and predominant farmer var. *Kala Mandia* in respect of yield and other growth as well as development parameters. In the very next year i.e. 2020, it was demonstrated in 10 different farmers' fields where *Arjuna* attained 80% more yield than the local var. *Kala Mandia*. The performance of demonstration fields has been given in the following table.

<i>Varieties of finger millet</i>	<i>Yield (q/ha)</i>	<i>% change in yield</i>	<i>No. of productive tillers/pt</i>	<i>No. of finger/ear</i>	<i>Net return (Rs.)</i>	<i>B:C ratio</i>
Farmers' practice (Finger millet var. <i>Kala Mandia</i> )	7.5	-	2	3	10500	1.87
Demonstration fields (Finger millet var. <i>Arjuna</i> ; OEB-526)	13.5	80	4	6	20750	2.59



During the year 2020, *Arjuna* variety has been recommended by the State Department of Agriculture, Odisha for adoption and popularization in Nabarangpur district. The seeds were distributed among the farmers in the district under '*Millet Mission*' programme. This variety attracted the farming community of the district due to its high productivity. Now, it is being cultivated in more than 700 ha of area in the district.



## **Mushroom cultivation: A boon to women tribal farmers for nutritional security and livelihood**

Mayurbhanj is the largest district in Odisha constituting 26 blocks, 382 gram panchayat and 3748 number of villages. Although it is the largest district, the productivity of mushroom was lower than other districts of Odisha which might be due to very less number of mushroom growers (share only 19%), absence of technical competency and improper management of mushroom bed etc. Therefore, the availability of mushroom in the local market of this district depends on the neighbouring districts like Balasore, Bhadrak, Jajpur, Puri and Khurda. The Mayurbhanj-II KVK took initiative and contacted the interested farmers. The KVK conducted capacity building programme including training and exposure visit, FLDs including 600 tribal women beneficiaries from 32 villages, provided quality mushroom spawn, management practices of mushroom bed, post-harvest management of mushroom etc. The climate of the district is quite conducive for cultivation of mushroom throughout the year and many families adopted mushroom cultivation as an enterprise for their livelihood and income generation. Mushroom cultivation in Mayurbhanj district is getting accelerated day by day due to increasing interest among women farmers specially Women SHGs. The economics and status of mushroom cultivation in the district are given below.

<i><b>Income generation</b></i>	<i><b>Employment generation</b></i>	<i><b>Horizontal spread</b></i>
Average monthly income of Rs. 4200/- to 8400/- from 50 to 100 beds per unit	2-3 man-days per day round the year	Farm women-1815 nos. Women SHGs- 147 nos. Villages-414 nos., Block- 8 nos.





## Tomato grower set example of humanity during COVID lockdown

In the crucial situation of COVID-19, like other states, Odisha also adopted phase-wise lockdown to prevent the spread of the virus. As we know '*Everything can wait, but not Agriculture*', the lockdown period could not lock up the hands of agrarian community which is the backbone of this country. The Kendrapara KVK is always working in the frontline to help the farmers of the district who have been consistently putting efforts to fill our plates with food.

During *Rabi* 2019-20, an assessment on triple disease resistant tomato varieties was conducted at the farmers' field in Chhatar village of Mahakalpara block. Two tomato varieties i.e. *Arka Rakshyak* and *Arka Samrat* were evaluated. The average yield obtained from these two varieties were 428 q/ha and 445 q/ha, respectively. The economics of production have been given in the table.

Technology option	No. of trials	Bacterial wilt incidence (%)	Early blight (%)	Fruit weight (gm)	No. of fruits per plant	Yield (q/ha)	% increase in yield	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net return (Rs./ha)	B C ratio
Farmers' Practice (Var. Lakshmi)	7	7	9	120	12	388	-	118660	232800	114140	1.96
Var. Arka Samrat	7	0	3	100	17	445	14.69	119830	267000	147170	2.22
Var. Arka Rakhak	7	0	3	95	16	428	10.30	119130	256800	137670	2.15



The farmers expressed their happiness about achievement of higher yield with less insect and disease pest incidences. One among those successful farmers is Mr. Nrusingha Charan Samal, S/O- Kulamani Samal in Kendrapara district. The work done by Mr Samal is really praiseworthy and a source of inspiration to other farmers of the district as well as the state. With the support of KVK Kendrapara, Mr. Samal cultivated tomato in an area of 0.4 ha which yielded around 56 q of tomato within 15 days of harvesting period. Unfortunately, the harvesting period lied in between the lockdown periods. He faced some problems in

marketing. In this predicament, the *WhatsApp* group created by KVK Kendrapara with the purpose to disseminate agro-advisory and other information to the farming community during COVID-19 lockdown period helped him a lot. He expressed his problems regarding marketing of the produce in the group and the same was circulated among all the *WhatsApp* group of farmers and traders created. As a result, few buyers directly bought around 25 q tomato at a very remunerative price. Mr. Samal, was not only happy with the timely marketing of his produce but also did a commendable job as a true human being by distributing the surplus tomato of about 6 q among the needy families who were deprived of vegetables in his village and nearby villages during this lockdown period. He may not be financially sound but he is very rich from heart. He told everybody that he felt very happy to do this and how he could sleep peacefully with his family when his neighbours were struggling for vegetables/ foods under such stressful lockdown situations. By doing such type of noble work Mr. Samal has created a respectful image and has set an example for the entire farming community.