Details of innovations recorded by the KVK
FARMER-INNOVATOR 1

Title of the Innovation:

Cultivation of palak & cauliflower under low cost poly house with sprinkler irrigation

1. Name & Address of the Farmer: Mr. Sujoy Bera of Bagnan I Block
   Vill- Chandapur, PO- Bagnan, Howrah, Pin- 711303 [Contact No. 9932936295]
2. **Background of the Farmer:** Mr. Bera is engaged in farming for last eighteen years. After completing his secondary education in 1994 he started helping his father in farming. He is now 31 years old having parent, wife and a two years old baby in his family. His mother and wife are housewives. Mr. Bera has more than two hectares of land of different types (High, Medium, Medium-Low and Low) and fully irrigated by canal irrigation system. His lands are situated nearer to the river Damodar and very much fertile in nature. Almost all the crops can be grown in his land.
3. **Reason behind the Innovation:** Initially he faced huge loss in vegetables due to insect pest and fungal diseases and bacterial wilt problem. For four consecutive years his profit from crop enterprise, particularly from vegetables, was very minimal. That time he used to grow brinjal, tomato, palak, cauliflower, cabbage, etc. in his farm. Then Mr. Pradip Deshmukh, working as KPS in the locality, advised him to meet ADO, Bagnan-I. Then he attended some training programme on vegetable cultivation at Block level as well as at State and National level and convinced about the efficacy of growing off-season vegetables under low cost poly tunnel round the year.
4. **Details of the Innovation:** For the construction of the low cost poly tunnel he used properly treated bamboo and 5 layered UV stabilized 200 microne poly film. The central height of the structure is 8 ft with a width of 12 ft with convenient length. He covered the poly film in such a way so that he can remove and cover it as and when required. These poly tunnels have sprinkler irrigation system. Under these poly tunnels he grows palak, early cauliflower, garden pea and beans.
   During January month he applies Calcium carbonate @ 1.5 q /bigha in order to control pH level of his field. The land kept fallow up to April. During May he applies vermicompost @ 1 tonn/ bigha along with PSB @ 500g/ bigha, Azotobactor @ 2 kg/ bigha, Pseudomonas and *Trichoderma viride* @ 1 kg/ bigha during land preparation in every 60 days interval. Ten days after he added SSP @ 30 kg/bigha, MOP @ 10 kg and sows palak seed @ 5 kg/ bigha. He harvest the crop after 25 days and it continues up to August and then onwards palak is cultivated with early cauliflower as mixed crop. The profitability of the system is depicted below:

Area: 1 Bigha (Unit- I)

Crop	Sowing	Harvesting	Yield	Return	Expenditure	Profit
Palak	*Jaistha* (May-June)	*Ashar* (June-July)	1400 kg	28000.00 (Rs.20.00/kg)	13100	14900.00
Palak	*Ashar* (June-July)	*Shravan* (July-August)	1400 kg	35000.00 (Rs.25.00/kg)	7160(no vermi)	27840.00
Palak	*Shravan* (July-Aug)	*Bhadro* (August-Sept)	1200 kg	30000.00 (Rs.25.00/kg)	13100	16900.00
Cauliflower(	*Bhadro*	*Kartik*	4500	117000.00	26860	90140.00

early)	(Aug-Sept)	(Oct-Nov)	pc	(Rs. 26.00/pc)		
Palak as intercrop	*Bhadro* (Aug-Sept)	*Ashwin* (Sept-Oct)	1200 kg	48000.00 (Rs.40.00/kg)	800.00 (seed+harvesting cost)	47200.00
Palak as intercrop	*Ashwin* (Sept-Oct)	*Kartik* (Oct-Nov)	1200 kg	24000.00 (Rs.20.00/kg)	800.00 (seed+harvesting cost)	23200.00
Beans and garden peas	Late *Kartik* (November)	*Magh-Falgun* (Dec-Jan)	-	20,000.00	5750.00	14250.00
TOTAL (1 year)				302000.00	67570.00	234430.00
Polyhouse repairing+land development(Chaitra-Baisakh)					5000.00	
Low cost Bamboo made Polyhouse+micro irrigation system = Rs. 177000.00					35400.00(taking consideration of 20% depreciation/ year)	
Total					107970.00	
Net Profit (Gross return@ Rs. 302000.00-Total cost @Rs.107970.00)						194030.00

Expenditure break-up:

Item		Jaistha-ashar (Palak)	Ashar-shravan (Palak)	Shravan-Bhadro (Palak)	Bhadro-Kartik (Cauliflower)	Bhadro-Aswin (Palak)	Aswin-Kartik (Palak)	Late Kartik-magh falgun(Beans +garden peas)
Seed		500.00(5 kg@ Rs.100.00/kg)	500.00	500.00	1500.00 (50g @ Rs.300.00/10g)	500.00	500.00	100.00
Seedling Raising		-	-	-	1500.00	-	-	-
Vermi-compost	1000 kg@ Rs.6/- per kg	6000.00	-	6000.00	6000.00		-	-
Boan meal	100 kg @ Rs. 25.00/kg	-	-	-	2500.00	-	-	-
Neem cake	100kg @ Rs.30.00/kg	-	-	-	3000.00	-	-	-
Fertilizers		700.00	700.00	700.00	1510.00	-	-	500.00
Pesticides		500.00	500.00	500.00	2000.00	-	-	1000.00

Labour		4800.00 32 no.@ Rs.150/- per labour	4800.00 32 no.@ Rs.150/- per labour	4800.00 32 no.@ Rs.150/- per labour	5100.00 (34 no @Rs.150.00	-	-	2250.00 (15 labour@ Rs.150.00/labour)
Harvesting		300.00	300.00	300.00	2250.00	300.00	300.00	1500.00
Transport and packaging		300.00	300.00	300.00	1500.00	-	-	400.00
Total		13100.00	7100.00	13100.00	26860.00	800.00	800.00	5750.00

5. Relative advantage of the Innovation: The main advantages of the technology over conventional practices are as follows-

- Production of vegetables for better market price
- Assurance of high quality produce
- Assurance of healthy return from the unit area.

FARMER-INNOVATOR 2

TITLE OF THE INNOVATION: CULTIVATION OF SUGARCANE WITH RADISH, POTATO, BOTTLE GOURD, ONION, BEAN AND PUMPKIN AS INTERCROP

1. **Name & Address of the Farmer: Mr. Ashim Kumar Paul of Bagnan-I Block, Vill-Kalikapur, P.O.- Bagnan, Howrah Contact No.** 9735735336
2. **Background of the Farmer:** Mr. Paul has 15 bighas of agricultural land out of which 2 bigha situated at the eastern bank of river Damodar in Kalikapur village of Bagnan-I Block. The land is very fertile in nature and has assured irrigation facility through RLI system. Mr. Paul is in his early forties has two children in his family. He is involved in farming since his schooling age and for last 10 years he has developed a good relationship with Department of Agriculture, GoWB. He is also a member of Chandrapur Farmers' Club.
3. **Reason behind the Innovation:** To accrue additional income from his farm.
4. **Details of the Innovation:**
   Mr. Paul developed a unique farming system where **sugarcane is grown with radish, potato, bottle gourd, onion, bean and pumpkin as intercrop.**
   Step1: Land Preparation: For 2 bighas of land
   Last week of May:
   - FYM 12.5 q
   - lime @ 50 kg
   - zypsum @ 40 kg
   - dolomite @ 25 kg

   Second week of June:
   - Bleaching powder @ 8 kg

   First week of October:
   - 6 kg MOP, 1 kg SSP & 4 kg urea for radish cultivation in 1 bigha
   - 5 kg DAP, 3 kg MOP &5 kg urea for amaranthus cultivation in 0.5 bigha
   - 3 kg bone dust 5 kg DAP, 2 kg urea & 2 kg potash for chilli cultivation in 0.25 bigha

   Step 2: Cultivation Procedure

- Sowing of radish, amaranthus, bottle gourd, onion seeds and chilli seedlings in 1st week of October
- Planting of sugarcane on the very next day
- Sowing of pumpkin seeds on 4th week of October
- Amaranthus is completed by 1st week of November and replaced by beans
- Radish is harvested by last week of November and replaced by potato
- Chilli is harvested by last week of January
- Beans are harvested by 3rd week of January
- Potato is harvested by mid February
- Pumpkin is harvested by April
- Sugarcane is harvested by Last week of May to early June.

Profitability:

Area: 2 Bigha

Crop	Sowing	Harvesting	Return	Expenditure	Profit
Sugarcane at 2 bigha	*1st week of October*	*Last week of May*	60000.00	10000.00	50000.00
Radish at 1 bigha	*1st week of October*	*Last week of November*	19000.00	8650.00	10350.00
Amaranthus at 0.5 bigha	*1st week of October*	*1st week of November*	5500.00	3500.00	2000.00
Chilli at 0.25 bigha	*1st week of October*	*Last week of January*	1500.00	500.00	1000.00
Bottle gourd at 0.2 bigha for twig purpose	*1st week of October*	*3rd week of April*	1500.00	300.00	1200.00
Onion at 0.05 bigha	*1st week of October*	*1st week of April*	hc	100.00	-
Potato at 1 bigha	*Last week of November*	*Mid February*	20750.00 + hc	11500.00	9250.00
Bean at 0.5 bigha	*1st week of November*	*3rd week of January*	4000.00	9000.00	5000.00
Pumpkin at 1.5 bigha	*4th week of October*	*4th week of April*	20000.00	2000.00	18000.00
TOTAL (1 year)			132250.00	45550.00	96800.00

Hc: home consumption

5. **Relative advantage of the Innovation: The main advantages of the technology over** conventional practices are as follows-
    - More income
    - Assured income as reduced risk of crop loss
    - Distribution of income throughout the year