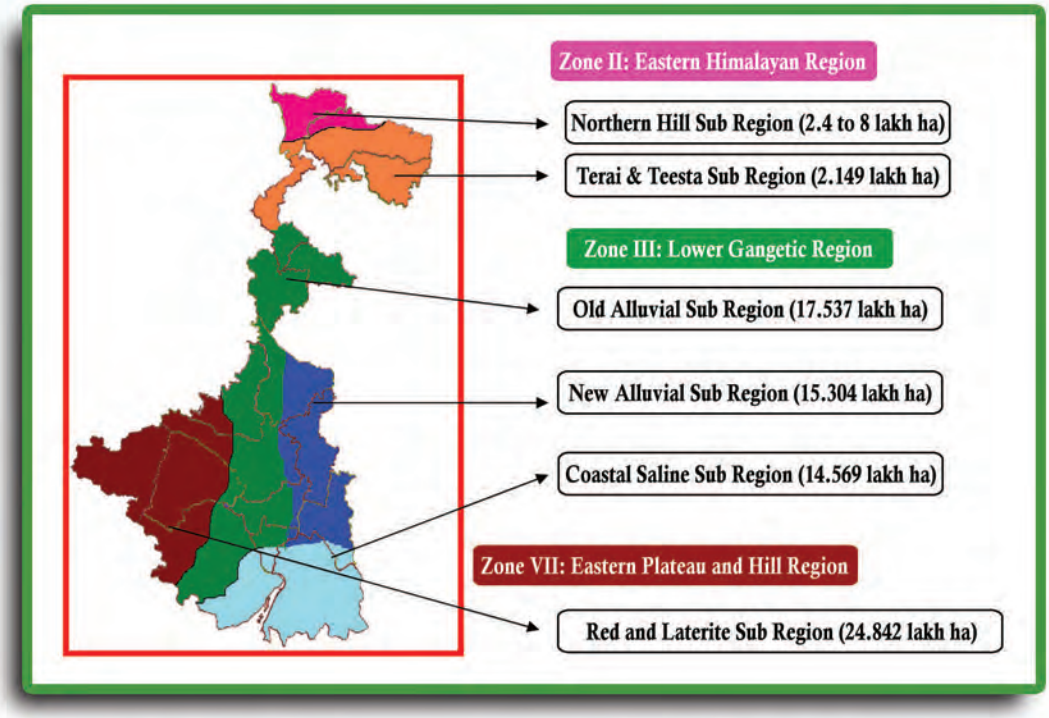
District Wise Action Plan for Doubling Farmers' Income by 2022 in West Bengal



ICAR- Agricultural Technology Application Research Institute Kolkata
Bhumi Vihar Complex, Block- GB, Sector- III
Salt Lake, Kolkata- 700097, WB

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Editors

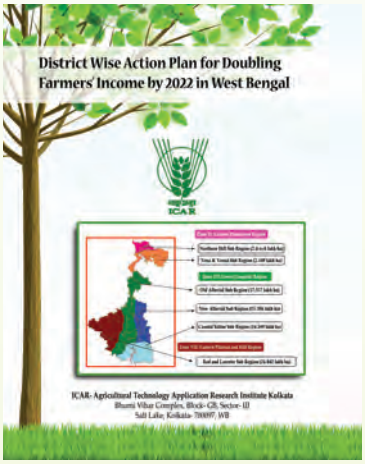
Dr. A. Haldar

Dr. S. S. Singh

ICAR-Agricultural Technology Application Research Institute, Kolkata

Bhumi Vihar Complex, Block- GB, Sector-III

Salt Lake, Kolkata, West Bengal- 700097



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Edited by

Dr. A. Haldar, Principal Scientist, ICAR-ATARI, Zone-V, Salt Lake, Kolkata, West Bengal, India
Dr. S.S. Singh, Director, ICAR-ATARI, Zone-V, Salt Lake, Kolkata, West Bengal, India

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CONTRIBUTORS

1. ICAR- Agricultural Technology Application Research Institute (ATARI), Zone-V, Salt Lake, Block-GB, Sector- III, Kolkata, West Bengal
2. Krishi Vigyan Kendra, Darjeeling District
3. Krishi Vigyan Kendra, Jalpaiguri District
4. Krishi Vigyan Kendra, Uttar Dinajpur District
5. Krishi Vigyan Kendra, Coochbehar District
6. Krishi Vigyan Kendra, Dakshin Dinajpur District
7. Krishi Vigyan Kendra, Malda District
8. Krishi Vigyan Kendra, East Medinipur District
9. Krishi Vigyan Kendra, Bardwan District
10. Krishi Vigyan Kendra, Hooghly District
11. Krishi Vigyan Kendra, Howrah District
12. Krishi Vigyan Kendra, Murshidabad District
13. Krishi Vigyan Kendra, Nadia District
14. Krishi Vigyan Kendra, North Parganas District
15. Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith, South Parganas District
16. Sasya Shyamala Krishi Vigyan Kendra, Narendrapur, South 24 Parganas District
17. Krishi Vigyan Kendra, Bankura District
18. Krishi Vigyan Kendra, Birbhum District
19. Krishi Vigyan Kendra, Purulia District
20. Krishi Vigyan Kendra, West Medinipur District

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भारतीय कृषि अनुसंधान परिशद
कृषि अनुसंधान भवन-1, पूसा, नई दिल्ली 110 012
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
Krishi Anusandhan Bhawan, Pusa, New Delhi – 110 012
Ph.:91-11-25843277 (O), Fax : 91-11-25842968
E-mail: aksicar@gmail.com

डा. अषोक कुमार सिंह
उप महानिदेषक (कृषि प्रसार)
Dr. A.K. Singh
Deputy Director General (Agricultural Extension)

Agriculture, along with livestock, fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP). More importantly, over 58% of rural households depend on agriculture as their principal means of livelihood in India. The strategy for development of agriculture sector in India has focused primarily on raising agricultural output and improving food security. While the country achieved commendable position in food production the issue of farmers' in come has taken the front stage. Farmers' income remains low in relation to income of those working in the non-farm sector. Hence, the paradigm has to change from food security to income security of the farmers. The goal set to double farmers' income by 2022 is central to promote farmer's welfare, reduce agrarian crisis and bring parity between income of farmers and those working in non farm professions.

ICAR-ATARI, Kolkata in collaboration with the State Agricultural Universities, ICAR Institutes and State Development Departments has finalized a strategy document for doubling farmers' income by 2022. To implement the strategy into a reality, bringing out District Wise Action Plan for Doubling Farmers' Income by 2022 in West Bengal is praiseworthy initiative. The document details the prospects in different agro-ecological zones and related solutions for achieving the targets. I strongly believe that the action plan outlined in the document would be implemented successfully at the farmer's field by KVKs across all the agro-ecological zones of West Bengal.

I appreciate the Director, ICAR-ATARI Kolkata and his team for hard work put forth in synthesizing the possibilities existing in the state and developing a plan of action for increasing the income of the farmers of West Bengal by 2022.

Dated : 10.05.2019

Dr. A.K. Singh

Preface

ICAR- Agricultural Technology Application Research Institute
Bhumi Vihar Complex, Block- GB, Sector- III
Salt Lake, Kolkata- 700097, WB
Telefax: 033-23352355
Website: www.atarikolkata.org

Dr. S. S. Singh
Director

The State Coordination Committee (SCC) meeting for 'Doubling Farmers' Income by 2022 in West Bengal' was held at ICAR- Agricultural Technology Application Research Institute (ATARI), Kolkata, Salt Lake, Kolkata for the first time on **7th April 2017** and again on **8th August 2017**. All the members of SCC, Scientists from different ICAR Institutes, SAUs and the officers of different State Government, Govt. of West Bengal expressed their view and actively participated in discussion for doubling the farmers' income by March 2022 in West Bengal.

The Heads of KVKs located in 18 districts of West Bengal were informed to provide agro-climate situations of the district, production, productivity and income gaps of various crops including animal and fishery sectors at district level, technology interventions for the district based on success already realized etc.

The contributions from different line departments of State Government, Govt. of West Bengal, State Agriculture Universities, ICAR Institutes, Nominees of different departments, Government of India are duly incorporated in the preparation of the strategic document for doubling the Farmers' income (DFI) in West Bengal. The contributions of KVKs of West Bengal have been incorporated in the strategy document.

The Director of ICAR-ATARI, Kolkata presented the strategic action plan on 'Doubling Farmers' Income by 2022 in West Bengal' on **3rd November 2017** in New Delhi. In the same meeting, Padma Vibhushan, Prof M. S. Swaminathan delivered keynote address on the Roadmap for doubling farmer Income.

The strategic document for doubling the Farmers' income in West Bengal has been finalized under the guidance of the Council at the ICAR- ATARI, Kolkata and released by the Council on **8th March, 2018** in New Delhi.

Further, a meeting was held at BCKV, Kalyani, Nadia, WB on **18th August 2018** under the chairmanship of the Hon'ble Secretary, DARE & DG, ICAR on action plan of 'Doubling Farmers' Income by 2022 in West Bengal'. The Chairman has desired an action plan for 'Doubling Farmers Income by 2022' at KVK level.

Accordingly, a format for preparing action plan has been made at ICAR- ATARI, Kolkata and subsequently it has been approved by the Council and communicated to all KVKs of West Bengal. The KVKs of West Bengal have exercised and prepared Action Plan of the respective district after baseline survey of the villages. Work on DFI would be undertaken in 5 villages of a district, where no work has been done by KVK till date. Interventions would be undertaken on minimum 20 families in each village and thus minimum 100 families in 5 villages and accordingly budget has been prepared. Later, an information collection schedule has been provided to capture the change of the intervention at 6-month interval (over the time change) on technological, economical, social and psychological aspects.

S. S. Singh

Place: Kolkata
Date: 7th May 2019

West Bengal At A Glance

West Bengal (21° 25' 24" and 27°13' 15" north latitudes and 85°48' 20" and 89°53' 04" east longitudes) is predominantly an agrarian State, comprising of only 2.7% of India's geographical area. West Bengal is located in Eastern India stretching from the Himalayas in the north to the Bay of Bengal in the south. It has an area of 88,752 sq km. West Bengal is perhaps the only State blessed with mountains, forests, water bodies, plains and the sea. In the north are the majestic Himalayas which act as natural border. The centre is an extension of India's fertile Gangetic plain. In the south, there is the magnificent Sunderbans- literally the beautiful forest. Beyond that, further south, is the wide expanse of the Bay of Bengal. At present, West Bengal is divided into 23 districts.

Agriculture has been the way of life and continues to be the single most important livelihood of the rural masses in West Bengal. Agricultural land of the State is 56.82 lakh ha. The gross cropped area is 97.52 lakh ha, while the net cropped area is 52.96 lakh ha with a cropping intensity of 184 per cent. The State is rich in human resources with 70% of its population engaged in agriculture.

West Bengal's climate varies from tropical savanna in the southern portions to humid subtropical in the north. The main seasons are summer, the rainy season, a short autumn, and winter. The average rainfall in the State is about 1750 mm with considerable variation among the districts ranging between 1234 mm in Birbhum to 4136 mm in Jalpaiguri. The State often faces vagaries of nature like flood, cyclone, hailstorm etc.

To attain scientific management of regional resources and sustainable agricultural development, the country has been divided into 15 broad agro climatic zones and the physiographic setting of the State come under three Agro climatic Regions. Agriculturally, the three broad regions are Eastern Himalayan Region (Zone II), Lower Gangetic Plain Region (Zone III) and Eastern Plateau & Hilly Region (Zone VIII). Three broad regions are further stratified into six agro-climatic sub regions. Salient features of these sub regions are as follows:

1. Zone II: Eastern Himalayan Region

1.1. Northern Hill sub region

It covers Darjeeling and Kalimpong districts. Soils are mainly brown forest soil, acidic in nature (pH 3.5-5.0). Annual rainfall varies from 2500- 3500 mm. High humidity, less sunshine hours, poor soil depth and quality limits crop productivity. Pre-monsoon showers commences from March.

1.2. Teri and Teesta sub region

It Covers Jalpaiguri, Coochbehar and Uttar Dinajpur districts. Soils are mostly sandy to sandy loams, porous, low in base content, poor in available nutrients; strongly acidic (pH 4.2 to 6.2). Rainfall varies from 2000- 3200 mm. High water table, low water holding capacity, high humidity, less sunshine hours during the monsoon months and marginality of lands in some parts limit crop productivity. Chronically deficient in micronutrients, like Boron, Molybdenum and Zinc, in particular.

2. Zone III: Lower Gangetic Region

2.1. Old Alluvial sub region

It comprises Dakshin Dinajpur and Malda districts. Soils are lighter in higher situations and heavier in lower situations, mildly acidic to neutral in reaction (pH 5.2 to 7.0); fairly fertile over most of the sub region; rainfall 1500-2000mm in upper and 1300-1500m in lower parts, considerable area is flood prone.

2.2. Gangetic New Alluvial sub region

It covers East Medinipur, Burdwan, Hooghly, Howrah, Murshidabad, Nadia, North Parganas. Soils are deep, mostly neutral in reaction (pH 5.5 to 7.0) and fertile; rainfall 1350- 1450 mm; most productive area of the State. West Bengal has by far the largest alluvial land, being 35 lakh ha in the country of which 22 lakh ha comes under Gangetic New Alluvial soil regions. These are endowed with neutral to near neutral, deep and fertile soils with high water holding capacity. The areas have advantage of river valley irrigation as also ground water potentials.

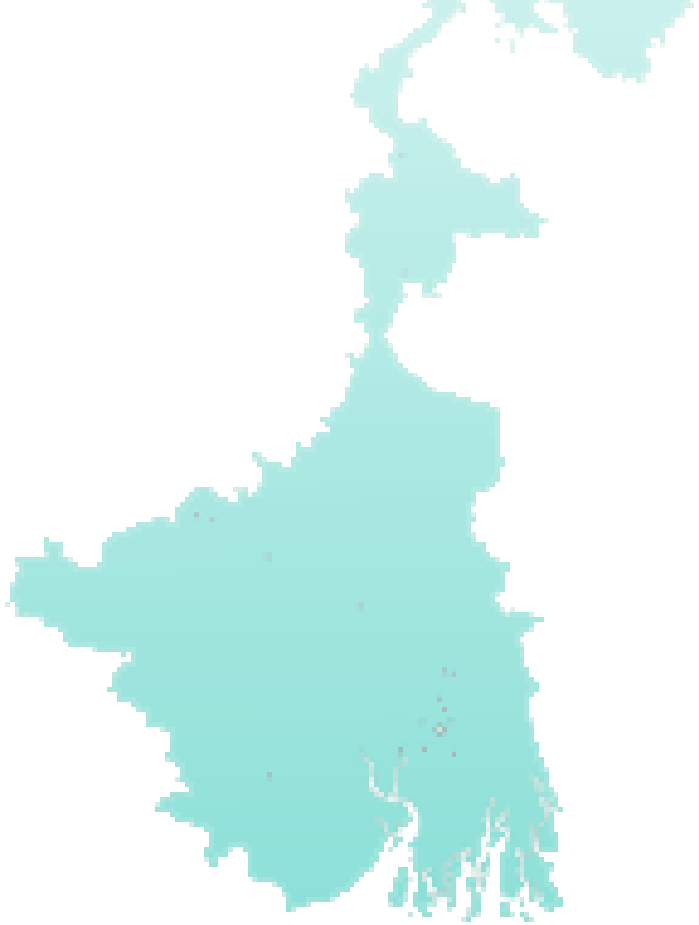
2.3. Costal Saline sub region

This zone covers South Parganas district. Soils are mostly heavy clay containing higher salts of sodium, magnesium, potassium with organic matter at different stages of decomposition, mostly neutral soils (pH 6.5 to 7.5). Electrical conductivity varies from 3.0 to 18.0 mm, rainfall 1600-1800 mm; salinity and water congestion limit good crop productivity.

3. Zone VII: Eastern Plateau and Hill Region

3.1. Undulating Red and Laterite sub region

The region covers Bankura, Birbhum, Purulia and West Medinipur. Soils shallow modulated gravely, coarse textured, highly drained with low water holding capacity. Upload soils are highly susceptible to erosion; acidic in reaction (pH 5.5 to 6.2), poor available nutrients; low moisture holding capacity and poor nutrient status limit crop productivity. Rainfall varies from 1100 to 1400 mm which is spread over only three months, mid June to mid September.



District Wise Action Plan for Doubling Farmers' Income by 2022 in West Bengal

1. Zone II: Eastern Himalayan Region

1.1. Northern Hill sub region- Darjeeling and Kalimpong

1.1.1. Darjeeling District

1. Name of KVK: Darjeeling Krishi Vigyan Kendra

2. Adopted village: 05

Vill: Sakyong, Block: Kalimpong II, Dist: Kalimpong, WB-734311

Vill: Lower Echhay, Block: Kalimpong I, Dist: Kalimpong, WB-734317

Vill: Phansidewa Block: Phansidewa Dist: Darjeeling, WB- 734434

Vill:Takling-1 Block: Rangli Rangliot, Dist: Darjeeling, WB- 734312

Vill: Aahaley, Block: Gorubathan, Dist: Kalimpong, WB-734001

3. Total beneficiaries: 100 (20 farmers from each identified villages)

4. Major farming system: Hill and Terai farming system

Particular	Crops
Major field crops:	Rice, Maize, Pulses (Black gram, green gram, field pea) , Oilseeds (mustard, soybean)
Major fruit crops:	Mandarin, Peach, Pear, Plum
Major vegetables:	Cabbage, Cauliflower, Tomato, Dolley Chilli, Radish.
Flowers:	Gladiolus, Gerbera, Orchid
Spices:	Large cardamom, Ginger, Turmeric
Livestock:	Cattle, goats, pigs, backyard poultry.

5. Technological interventions for Doubling Farmers' Income

Domain	Actionable points / Strategies	Specific technologies available	Regions where applicable
Field crops: Paddy, Maize	• Location specific high yielding varieties & especially high, medium and short duration varieties released from the different research stations and for specific situations could be suitably used with support from State Department of Agriculture for seed production and distribution. • Popularizing scientific production technology. • Popularizing suitable cropping system viz. Maize – Rice – Legumes, Maize - Rice – Vegetable. • Standard module of IPM/ INM	• Variety: improved variety • Introduction of SRI technology for rice and zero tillage for maize. • Crop rotation with leguminous crop and dhaincha for increasing production • Suitable IPM/ INM module • Azolla farming	Suitable for mid-land and lowlands.
Field crops: Pulses and oil seeds	• Adoption of high yielding varieties of pulses and oilseeds suited to each locality and situation • Timely availability of good quality rhizobium culture for compulsory seed inoculation of pulses before sowing.	• Improved variety • Scientific production technology • Suitable IPM & INM module	Varieties suitable for mid-land and Low-lands.
Field crops: Tuber crops	• Adoption of high yielding varieties of tuber crops • Promotion of soil test based integrated nutrient management	• Improved variety • Scientific production technology • Suitable IPM & INM module	Hill & Terai
Vegetable crops	• Production and supply of quality disease free planting material in pot trays in a soil less medium • Adoption of good agricultural practices by integrating organic as well as synthetic nutrient resources for optimizing productivity of vegetables • Practicing protected cultivation in low cost poly house • Need based application of bio-pesticide for major pest and diseases • Use of repellants and pheromone traps are ecologically safe and effective methods of control • Bio-control agents have revolutionized crop protection strategies	• Improved variety and diseases free planting materials • Off-season vegetable cultivation • Kitchen garden for food and nutritional security • Value addition in fruits and vegetables for better market price	Hill & Terai
Spices: Cardamom	• Location specific improved varieties • Selection of appropriate planting material	Variety : Varlangey, Seremna Healthy and diseases free planting material Suitable IPM & INM module	Hill & Terai
Ginger	• Use of high yielding varieties • Seed treatment and timely application of plant protection agents	Variety : Mohini, IISR Mahima, IISR Regitha Ridge and furrow method for sowing Healthy and diseases free rhizome as a planting material Suitable IPM & INM module	Hill & Terai
Turmeric	• Use of high yielding varieties • Seed treatment and timely application of plant protection agents	Variety : Lakhadong, Suranjana Ridge and furrow method for sowing Suitable IPM & INM module	Hill & Terai

Domain	Actionable points / Strategies	Specific technologies available	Regions where applicable
Floriculture Gerbera, orchid, Anthurium and Azaelia	• Adoption of improved varieties • Timely application of plant protection agents • Popularizing scientific production technique	Variety: Salvador Danaellen, Silvester, Autumn Angel, Autumn Bell, Autumn Bonfire, Autumn Carnation Propaation techniques: cutting. division of suckers. Soil sterilization, gytreatment of suckers.	Hill & Terai
Fruit crop Mandarin orange, Strawberry, kiwi	• Adoption of improved varieties • Timely application of plant protection agents • Popularizing scientific production technique		Hill & Terai
Other general strategies for yield enhancement in crops	• Mushroom production • Vermicomposting and composting • Azolla production • Apiary • Sericulture • Kitchen Gardening • Fodder Production	Oyster / Milky / Button Vermi worm Azolla Bee & Bee hive Mulberry silk worm High value vegetable crops Maize, Cow pea, rice bean, napier grass	Hill & Terai
Pig Farming	Promotion of low cost scientific pig farming in backyard system	Variety – Hampshire and Ghunghroo Housing – preparation of scientific housing facilities with low cost materials Providing right heat sources to piglets during winter months Feed – Preparation of low cost pig feed Application of Iron supplement to piglets Vaccination and deworming practices	Hill & Terai
Goat Farming	Promotion of low cost scientific goat farming in backyard system	Variety – Black Bengal Housing – preparation of scientific housing facilities with low cost materials Feed – Preparation of low cost goat feed Vaccination and deworming practices	Hill & Terai
Poultry Farming	Promotion of low cost scientific poultry farming in backyard system	Variety – Vanaraja & RIR Providing brooding of chicks Housing – preparation of scientific housing facilities with low cost materials Feed – Preparation of low cost poultry feed Vaccination and deworming practices	Hill & Terai
Value addition	Preparation of low cost nutrient rich cereals and pulse based supplements	Malting, Germination and dry roasting	Hill & Terai

6. Budget

Sl. No.	Particular	Unit/Area	Year				Total
1	Capacity building Programme		2018-19	2019-20	2020-21	2021-22	
	1. Training	30 no./year	80,000	1,80,000	1,80,000	1,80,000	6,20,000
	2. Demonstration						
	• Paddy	15 ha/ year		2,10,000	2,10,000	2,10,000	6,30,000
	• Maize	16 ha/year	1,44,000	1,44,000	1,44,000	1,44,000	5,76,000
	• Pulse (Blackgram and Fieldpea)	16 ha/year	72,000	1,44,000	1,44,000	1,44,000	5,04,000
	• Oilseed (Mustard and soybean)	20 ha/year	1,35,000	2,70,000	2,70,000	2,70,000	9,45,000
	• Tuber crop (Potato)	10 ha/year	2,60,000	2,60,000	2,60,000	2,60,000	10,40,000
	• Major Vegetables in low cost poly house	5no./5 village	85,000	3,50,000	10,000	10,000	4,55,000
	• Spices (L.Cardamom, Ginger, Turmeric)	10 ha/year	60,000	1,20,000	1,20,000	1,20,000	4,20,000
	• Floriculture in low cost poly house	5 no./ 5village	85,000	3,50,000	Nil	Nil	4,35,000
	• Major fruit crops	10 ha/ year	Nil	1,50,000	1,50,000	1,50,000	4,50,000
	• Mushroom unit	10 no.	70,000	3,15,000	Nil	Nil	3,85,000
	• Vermi-compost and Compost unit	100 unit	Nil	4,00,000	Nil	Nil	4,00,000
	• Azolla unit	100 unit	Nil	1,00,000	Nil	Nil	1,00,000
	• Apiary	10 unit	Nil	1,00,000	Nil	Nil	1,00,000
	• Sericulture	5 unit	Nil	1,00,000	Nil	Nil	1,00,000
	• Kitchen Gardenning	100 unit	Nil	1,00,000	Nil	Nil	1,00,000
	• Piggery unit	50 unit	1,70,000	6,80,000	Nil	Nil	8,50,000
	• Goat unit	50 unit	1,80,000	7,20,000	Nil	Nil	9,00,000
	• Poultry unit	100 unit	4,75,000	4,75,000	Nil	Nil	9,50,000
	• Value addition	10 unit	Nil	1,00,000	1,00,000	1,00,000	3,00,000
Grand Total			**18,16,000**	**52,68,000**	**15,88,000**	**15,88,000**	**1,02,60,000**

1.2. Teri and Teesta sub region- Jalpaiguri, Uttar Dinajpur, Coochbehar

1.2.1. Jalpaiguri District

1. Name of KVK/ district: Jalpaiguri Kishi Vigyan Kendra

2. Name of villages to be adopted:

Village	Block	Pincode	District	State
1. Kaowagab	Maynaguri	735219	Jalpaiguri	West Bengal
2. Abasthali	Maynaguri	735224		
3. Parkumlai	Dhupguri	735210		
4. Chowk Moulani	Malbazar	735219		
5. Babupara	Jalpaiguri	735101		

3. Number of farmers to be targeted:

Village	Number of farmers to be targeted
1. Kaowagab	20
2. Abasthyali	20
3. Parkumlai	20
4. Chowk Moulani	20
5. Babupara	20
Total	**100**

4. Compiled baseline survey report (point wise) of the villages:

(i) Area of agriculture land (ha): 207
(ii) Area of irrigated land (ha): 102
(iii) Number of water body: 60
(iv) Area of water body (ha): 7.9
(v) Number of different livestock animals:

Village	Number of different livestock animals				
	Cattle	Goat	Poultry	Duck	Pig
Total	1055	1710	2010	230	65

(vi) Average yield of different crops, livestock and fisheries:

Village	Paddy (kg/ha)	Potato (kg/ha)	Jute (kg/ ha)	Winter Vegetable (kg/ha)	Milk (kg/ animal)	Egg (No./ bird)	Meat (kg/ animal)
1.Kaowagab	4025	29000	12200	22500 average	1800-2200 lit/ lactation	80-90 egg/ bird	12-15 Kg/Goat/ year
2.Abasthyali	3825	28200	11500				
3.Parkumlai	4225	31800	12800				
4.Chowk Moulani	3725	24500	12100				
5. Babupara	4325	29000	12600				
Average	4025	28500	12240				

(vii) Soil status:

Village	Soil status
1. Kaowagab	Soil type-Sandy loam
2. Abasthyali	Soil pH-5.86,Soil EC 0.21ms/cm, OC 0.39%
3. Parkumlai	Available N-283.4 kg/ha
4. Chowk Moulani	Available P34.6 kg/ha
5. Babupara	Available K-241.3 kg/ha
	Available S-8.94 kg/ha
	Boron- 0.04-0.07 ppm(deficient)

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Village	Average nutrients used (kg/ha/year)
1. Kaowagab	Nitrogen -180
2. Abasthyali	Phosphate-160
3. Parkumlai	Potash- 220
4. Chowk Moulani	Sulphur- 80
5. Babupara	Boron- 11
	Zinc- 5

(ix) Major diseases occurred in crops:

Village	Major diseases occurred in crops
1. Kaowagab	Paddy- Sheath Blight, Blast, Brown Spot
2. Abasthyali	Potato- Late & Early Blight, Bacterial wilt
3. Parkumlai	Jute- Wilt, Anthracnose, Stem rot
4. Chowk Moulani	Vegetables- Powdery Mildew, Downy Mildew, Fruit Rot, Wilt, Antharcnose, Damping off, Mosaic
5. Babupara	

(x) Major diseases occurred in livestock:

Major diseases occurred in livestock					
Village	Cattle	Goat	Poultry	Duck	Pig
1. Kaowagab	FMD, Worm infestation, Bloat	PPR, Bloat	Ranikhet Disease, Coccidiosis	Duck cholera, Duck Plague	Swine Fever
2. Abasthyali					
3. Parkumlai					
4. Chowk Moulani					
5. Babupara					

(xi) Post-harvest management/ value addition followed, if any:

Village	Post-harvest management/value addition followed, if any
1. Kaowagab	No such practice yet followed
2. Abasthyali	
3. Parkumlai	
4. Chowk Moulani	
5. Babupara	

(xii) Marketing channels of products:

Village	Marketing channels of products
1. Kaowagab	Local Market under Regulated Market committee
2. Abasthyali	
3. Parkumlai	
4. Chowk Moulani	
5. Babupara	

(xiii) Agro-based industries, if any:

Village	Agro-based Industries
1. Kaowagab	• Jute based industry • Mini oil mill
2. Abasthyali	
3. Parkumlai	
4. Chowk Moulani	
5. Babupara	

(xiv) Average income of the farmer:

Village	Average Income
1.Kaowagab	• 1.5 lakh to 1.85 lakh/ annum
2.Abasthyali	
3.Parkumlai	
4.Chowk Moulani	
5. Babupara	

5. Possibility of involvement of ICAR Institutes:

Yes; Central Plantation crop Research Station (CPCRI), ICAR, Mohitnagar, Jalpaiguri

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): With Indian Farmers Fertilizer Cooperative Ltd (IFFCO) & Dhanuka Group

7. Name of other partners to be involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

Sl. No.	Name of organization	Nature of linkage to be done
1	ATMA, Deptt. Of Agriculture, Govt. of West Bengal	1. Training 2. Short term research 3. Demonstration
2	NHM, Deptt. Of Horticulture, Govt. of West Bengal	1. Training 2. Demonstration 3. Exposure visit 4. Publishing literature
3	MGNREGS, Jalpaiguri, Govt. of West Bengal	1. Land levelling 2. Drainage 3. New earthen (Katcha) road 4. Reshaping of earthen road
4	Department of Forests, Govt. of West Bengal	1. To impart awareness programmes 2. Development of Social Forestry
5.	District Horticulture Officer , Jalpaiguri, Deptt. Of Horticulture, Govt. of West Bengal	Training, Demonstration
6.	Assistant Director of Agriculture, Maynaguri, Deptt. Of Agriculture, Govt. of West Bengal	Agriculture Fair (Block Krishi Mela), Training, Demonstration
7.	Assistant Director of Agriculture, Matiali, Deptt. Of Agriculture, Govt. of West Bengal	Training, Demonstration
8.	Nehru Yuva Kendra, Jalpaiguri	Training
9.	NABARD	Project for tribal development programme, Training
10.	Uttar Bangya Krishi Viswavidyalaya, Pundibari, Coochbehar	Technical support, demonstration, training
11.	Central Plantation Crop Research Institute, ICAR, Mohitnagar, Jalpaiguri	Technical support, training
12	Animal Resources Development Department, Govt. of West Bengal Jalpaiguri	Joint diagnostic and Technical support
13	Backward Classes Welfare Department, Govt. of West Bengal, Jalpaiguri	Training
14	Indian Farmers Fertilizers Co. optv. Ltd., Siliguri , Darjeeling	Training
15	SSB, Falakata	Training And Demonstration
16	University of North Bengal, Siliguri, Darjeeling	Training
17	National Tea Research Foundation, Kolkata	Training
18	All India Radio, Siliguri	Technology Broadcasting
19	Jalpaiguri Doordarshan Kendra, Jalpaiguri	Technology Telecasting

8. FPO formed:

a) Bagjan Progotishil Farmers Club & Producer Organization
b) Biswarup Farmers Club & Producer Organization

9. Major interventions planned:

Integrated farming system, Utilization of Rice fallow area, Multistoried Cropping Model, Multi tyre caging of poultry, Goat farming, Protected cultivation, Ornamental fish farming, promotion and conservation of indigenous rice

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
1	Demonstration on Integrated farming system	Rs. 285000/ha	Rs 1350000 Rs. 135000/ha x (10 unit/ha)	Rs 1350000 Rs. 135000/ha x (10 unit/ha)	Rs 1350000 Rs. 135000/ha x (10 unit/ha)	Rs 1450000 Rs. 145000/ha x (10 unit/ha)
2	FLD on Utilization of Rice fallow area through pulse and oil seed	Rs. 25000/ha	Rs. 95000 Rs. 9500x 10unit	Rs. 95000 Rs. 9500x 10unit	Rs. 95000 Rs. 9500x 10unit	Rs. 105000 Rs. 10500x 10unit
3	Demonstration on Multistoried Cropping Model	Rs. 275000/ha	Rs 1350000 Rs. 135000/ha x (10 unit/ha)	Rs 1350000 Rs. 135000/ha x (10 unit/ha)	Rs 1350000 Rs. 135000/ha x (10 unit/ha)	Rs 1400000 Rs. 140000/ha x (10 unit/ha)
4	FLD on Multi tyre caging of poultry	Rs. 36000/unit	Rs. 150000 Rs. 15000/unit x 10 no	Rs. 150000 Rs. 15000/unit x 10 no	Rs. 150000 Rs. 15000/unit x 10 no	Rs. 155000 Rs. 15500/unit x 10 no
5	Demonstration on Goat farming	Rs. 24000/unit/ annum	Rs. 210000 Rs 10500/unit (3no goat) x20 unit	Rs. 210000 Rs 10500/unit (3no goat) x20 unit	Rs. 210000 Rs 10500/unit (3no goat) x20 unit	Rs. 230000 Rs 11500/unit (3no goat) x20 unit
6	FLD on Protected cultivation	Rs. 20500 / unit (1800 sq.ft)	Rs 110000 Rs 11000/unit x 10 no	Rs 110000 Rs 11000/unit x 10 no	Rs 110000 Rs 11000/unit x 10 no	Rs 150000 Rs 15000/unit x 10 no
7	FLD on Ornamental fish farming	Rs. 13500/unit	Rs. 95000 Rs 9500/unit x 10 no	Rs. 95000 Rs 9500/unit x 10 no	Rs. 95000 Rs 9500/unit x 10 no	Rs. 105000 Rs 10500/unit x 10 no
8	Promotion and conservation of indigenous rice	Rs. 22500/ ha	Rs. 150000 (Rs. 7500/ha x 20 unit)	150000 (Rs. 7500/ha x 20 unit)	150000 (Rs. 7500/ha x 20 unit)	180000 (Rs. 9000/ha x 20 unit)
9	Training for PF, Rural Youth, SHG members on different interventions	-	180000	180000	180000	180000
10	Other Extension Activities (Field days, Exposure visit, Soil Health Card, Awareness Camp, vaccination programme)	-	240000	240000	240000	240000
		701500	3930000	3930000	3930000	4195000
Total			**1,59,85,000/-**			

1.2.2. Uttar Dinajpur District

1. Name of KVK/ district: Uttar Dinajpur Krishi Vigyan Kendra

2. Name of villages adopted:

Dariagachh, Kokharia, Jharbari, Fazilpur, Vivekananda colony

3. Number of farmers targeted: 150 nos.

4. Compiled baseline survey report (point wise) of the villages:

(i) Area of agriculture land (ha): 845.6 ha

(ii) Area of irrigated land (ha): 675 ha

(iii) Number of water body: 35 nos.

(iv) Area of water body (ha): 6.20 ha

(v) Number of different livestock animals: Cows: 3371; Goats: 2432; Fish: 3.5 ton/ha/year

(vi) Average yield of different crops, livestock and fisheries: Crops: Paddy – 2 ton/ha; Maize – 2.2 ton/ha; Potato – 5.6 ton/ha; Milk – 1.5 liter/cow/day; Fish – 3.5 ton/ha/year

(vii) Soil status: Sandy loam, Clay loam;

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used: N: P:K 60:30:30 per ha

(ix) Major diseases occurred in crops: Blast, leaf blight, sheath blight and micro-nutrient deficiency of Zinc and Boron in paddy,

(x) Major diseases occurred in livestock: Hemerajic Septecimia, Black quater, PPR

(xi) Post-harvest management/ value addition followed, if any: nil

(xii) Marketing channels of products: Local Hat, Middle man (Dalal)

(xiii) Agro-based industries, if any: Nil

(xiv) Average income of the farmer: ₹ 36,000.00/farmer/year

5. Possibility of involvement of ICAR Institutes:

Following involvements can be taken by ICAR institutes (KVKs) to upliftment of livelihood of the village farmers

- KVK can take out training programme to dissemination of knowledge about the recent advancement of new technologies in Agriculture
- New varieties of seeds can be distributed to the farmers for higher yield
- Knowledge of application of Micronutrient component and Integrated Farming approaches
- ICT can be introduced to the farmers for easy accessible of Scientists from KVKs.
- Mobile diagnostics services can help them solve their problems in a easy way
- Mobile Apps in regional languages can help them to get experts advice very easily
- Showing of Video films relating to crop cultivation and problem diagnostics with solving method can work as very handy tools for the farmers.

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):

Mahinda and Mahindra

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

State Departments of Agriculture, Horticulture, Animal Resource Departments, Fisheries, NGOs etc.

8. FPO formed or not?

Yes, Tulai Panji, a local scented Rice famous in West Bengal has been formed with collaboration of NABARD, Uttar Dinajpur district.

9. Major interventions planned:

Diseases and nutrient managements of paddy, maize, fisheries, Mushroom, off-season vegetables cultivation etc.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (₹ in lakh)			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	**Training Programme**					
a	Training 30 nos.	-	1.98	2.27	2.98	2.05
b	Fuel	-	1.50	1.73	1.93	2.00
C	FLDs 235 nos.	-	4.35	5.00	5.60	5.75
D	Asset creation 275 nos	-	8.61	9.50	8.50	5.40
		Total:	16.44	18.5	19.01	15.2
		Grand Total: Sixty nine lakh fifteen thousand only				**69.15**

1.2.3. Coochbehar District

1. Name of KVK/ district: Coochbehar Krishi Vigyan Kendra

2. Name of villages adopted:

(1) Lotapata, (2) Gumanihat, (3) Tenganmari, (4) Salmara, (5) Harinmara

3. Number of farmers targeted: 100

4. Compiled baseline survey report (point wise) of the villages:

(i)Area of agriculture land (ha):440

(ii) Area of irrigated land (ha):295

(iii) Number of water body:35

(iv) Area of water body (ha):10

(v) Number of different livestock animals: Poultry: 11400

Goat: 900

Cow: 2100

Pig: 10

Sheep: 140

(vi) Average yield of different crops, livestock and fisheries:

Crop:

Rice: 2.5 to 3 ton/ha

Maize: 3.5 to 4 ton/ha

Potato: 8.5 to 9.5 ton /ha

Jute: 11 bale/ha

Lentil: 0.45 t/ha

Mustard: 0.55 ton/ha

Milk: 1.5 lt/cow/day

(vii) Soil status:Sandy loam to clay loam

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used: NPK= 60: 30:30

(ix) Major diseases occurred in crops:

a) Blast diseases in rice
b) BPH in rice
c) swarming caterpillar
d) leaf roller in rice
e) sheath blight in rice
f) Micronutrient deficiency of Zn and Bo
g) Blight in potato
h) Steam Borer in rice and Maize
i) Neck blast in rice
j) Anthracnose of chilli
k) Leaf curl of Chilli and Brinjal
l) Brinjal fruit and shoot borer
m) Powdery mildew , fruit fly etc.

(x) Major diseases occurred in livestock: Ranikhet disease of poultry, FMD of Cattle, HSBQ,

(xi) Post-harvest management/ value addition followed, if any: Sporadic

(xii) Marketing channels of products: Nil

(xiii) Agro-based industries, if any: Nil

(xiv) Average income of the farmer:Rs. 75000 to 80000/ Annum

5. Possibility of involvement of ICAR Institutes:

ICAR-Indian Institute of Water Management, ICAR-Directorate of Poultry Research, , CRRI, CRIJAF, NIRJAFT, CP-CRI, CIFRI etc.

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):

Dhanuka Group, Bill & Millinda Gates Foundation, TCS, Mahindra & Mahindra.

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

Department of Agriculture, Horticulture, Animal husbandry, Fishery of Govt. of West Bengal, NABARD, NGOs, CHC.

8. FPO formed or not? Not yet.

9. Major interventions planned:

Capacity building and FLD in areas of

- Improved rice cultivation (SUDHA) and unpuddled rice cultivation
- Varietal replacement of rice
- Varietal replacement of rice to address the rice fallow system with pulses and oilseed as second crop
- Introduction of improved cultivation of Rabi oilseeds and pulses
- Line Sowing of Jute with improved varieties and retting with microbial consortium.
- Diseases management in Potato
- Fertilizer and Micronutrient management
- ZT in Maize and pulses
- Multitier Vegetable Cultivation

- Off Season Vegetable Cultivation
- Poly/Organic mulching in vegetables
- IPM in Vegetables
- Homestead poultry with Vanraja and Grampriya
- Pond based IFS with Poultry, Duckery, Goatery etc.
- Mushroom cultivation and processing
- Vermicompost production
- Azolla Production as feed supplements of cattle and poultry birds
- Multitier cropping with Areacanut
- Homestead nutri garden
- Small Scale goatery/Piggery
- Agro-Forestry in Fallow land

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. In lakh)			
			2018- 19	2019- 20	2020- 21	2021- 22
1	Capacity development	Change in attitude and skill for better understanding with improved cultivation and land use planning	2.5	2.5	2.75	2.00
2	Front line Demonstration	To show case the production potential of different enterprises and Improved cultivation practices for large scale adoption of the technologies aiming at higher productivity, land use efficiency and income.	3.0	3.0	3.5	3.5
3	Assets creation		7.5	7.5	7.5	7.5
4	Awareness campaign and other extension activities		2.0	2.0	2.0	2.0
5	POL		2.0	2.0	2.0	2.0
	Total		17.0	17.0	17.75	17.0
	Grand Total		**78.75 lakh**			

2. Zone III: Lower Gangetic Region

2.1. Old Alluvial sub region- Dakshin Dinajpur and Malda

2.1.1. Dakshin Dinajpur District

1. Name of KVK/ district: Dakshin Dinajpur Krishi Vigyan Kendra

2. Name of villages adopted: Haldidanga (6 No. Danga GP), Sewai (9 No. Gopalbati GP)**,** Dumoran, Bamnahar, Chokbaram

3. Number of farmers targeted: 414 Nos.

	Haldidanga	Sewai	Dumoran	Bamnahar	Chokbaram
Number of farmers targeted	82	80	90	78	84

4. Compiled baseline survey report (point wise) of the villages:

	Haldidanga	**Sewai**	**Dumoran**	**Bamnahar**	**Chokbaram**
(i) Area of agriculture land (ha)	47 – 60 ha	333 – 340 ha	202 ha	165 ha	126.6 ha
(ii) Area of irrigated land (ha)	20 ha	266 ha	182 ha	140 ha	15.31 ha
(iii) Number of water body	3 Nos.	125 No.	30 Nos.	35 No.	20 No.
(iv) Area of water body (ha)	1.33 ha	50 ha	9.33 ha	5.33 ha	5.25 ha
(v) Number of different livestock animals	Cow 200 No., Goat 240 No., Sheep 27, Duck 480 No., Hen 560 No.	Cow 1500 No., Goat 2200 No., duck 2000 No., Hen 2500 No., Pig 50 No.	Cow 1000 No., Goat 2000 No., Duck 2200, Hen 2250 No., Pig 62 No.	Cow 315 No., Goat 652 No., Duck 750 No., Hen 800 No.	Cow 750 No., Goat 1500 No., Duck 905 No., Hen 850 No., Buffalo 6 No.
(vi) Average yield of different crops, livestock and fisheries	Rice 37.5 -42.0 q/ ha, Jute 21-25.2 q/ ha, Fish 6-7 t/ha	Rice 37.5-42.0 q/ ha, Jute 21 -25.2 q/ha, fish 7-8 t/ha	Rice 38.2 – 42.6 q/ha, Jute 23-26.5 q/ ha, vegetable (Pointed goard, Brinjal) 22.5 q/ ha, fish 5-7 t/ha, milk 1.5 per day per cow	Rice 38.2-42.6 q/ha, Jute 22-24.3 q/ha, fish 5-6 t/ ha, Milk 1.5-2.0 litre per day per cow	Rice 42.2-45.5 q/ ha, Jute 25-26.5 q/ha, vegetable 26.25 q/ha, fish 5-6 t/ha, milk 1.5-2.0 litre per day per cow
(vii) Soil status	Sandy loam soil	Loam soil and clay loam soil	Clay soil	Sandy loam soil	Clay soil

	Haldidanga	Sewai	Dumoran	Bamnahar	Chokbaram
(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used	NPK (10:26:26) 75 kg/ha, Urea 22.5 kg/ha	NPK (10:26:26) 75 kg/ha, Urea 22.5 kg/ha, Potash 15 kg/ha	NPK (10:26:26) 75 kg/ha, Urea 22.5 kg/ha, Potash 15 kg/ha, Oil cake 150 kg/ha	NPK (10:26:26) 75 kg/ha, Urea 22.5 kg/ha	NPK (10:26:26) 75-112.5 kg/ha, Urea 37.5 kg/ha, oil cake 135 kg/ha
(ix) Major diseases occurred in crops	Rice- blast disease, Jute – Apion	Rice – blight disease,	Jute – wilting disease	Rice – stem borer, blast disease; jute- wilting	Rice – stem borer, blast
(x) Major diseases occurred in livestock	PPR disease in goat, foot and mouth disease of cows	Foot and mouth disease of cow	Foot and mouth disease of cow	Cholera in duck and hen	Foot and mouth disease of cow
(xi) Post-harvest management/ value addition followed, if any	Nil	Nil	Nil	Nil	Nil
(xii) Marketing channels of products	Local hut	Local hut	Local hut	Local hut	Local hut
(xiii) Agro-based industries, if any	Nil	Nil	Nil	Nil	Nil
(xiv) Average income of the farmer:	Rs. 2500 per month per family	Rs. 2700 per month per family	Rs. 2450 per month per family	Rs. 2900 per month per family	Rs. 2350 per month per family

5. Possibility of involvement of ICAR Institutes:
ICAR Institute like CRIJAF, CISH, CIFA, IVRI could be involved in this programme for conducting different activities like training, demonstration, FLD, etc.

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):
Fund will be utilized as per instructions.

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):
State Department of Agriculture, Fishery, Animal Science and reputed NGOs.

8. FPO formed or not? Not yet.

9. Major interventions planned:

Training, Demonstration related to doubling Farmers' Income, Crop Planning, FLDs and other extension activities.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	Training	Change in knowledge, attitudes and skill of the farmers, Socio economic condition, adoption of new innovation, entrepreneurship development, arising of new leaders, key informant etc.	2.0	3.0	3.5	4.0
2.	Demonstration	Enhancement of production, adoption and diffusion of new technology.	4.0	5.0	6.0	7.0
3.	FLD	Introduction of latest variety, awareness negation among the farmers about the latest agricultural technologies.	4.0	5.0	6.0	7.0
4.	Other extension activities	Awareness related to different agriculture and allied technologies, rapid and on spot solution of farmers problems.	1.5	2.0	2.5	3.5
		Sub -Total	**11.5**	**15.0**	**18.0**	**21.5**
		Grand Total	**Rs. 66.0 lakh**			

2.1.2. Malda District

1. Name of KVK/ district: Malda Krishi Vigyan Kendra

2. Name of villages adopted:

i. Paro, Tulsihatta GP of HC Pur-I block,

ii. Makaya, Debipur GP of Ratua-1 block,

iii. Manoharpur, Sripur I GP of Ratua-II

iv. Gilabari, Chanchal GP of Chanchal-I block,

v. Bhakri, Bhakri GP of Chanchal-II block,

3. Number of farmers targeted:

Village name	Paro, HC Pur-I	Makaya, Ratua-1	Manoharpur, Ratua-1I	Gilabari, Chanchal-I	Bhakri, Chanchal-II
Number of farmers targeted	90	60	60	90	120

4. Compiled baseline survey report (point wise) of the villages:

Sl. No	Particulars	Paro, HC Pur-I	Makaya, Ratua-1	Manoharpur, Ratua-1I	Gilabari, Chanchal-I	Bhakri, Chanchal-II
1	Area of agriculture land (ha):	144.2	60	40	150	260
2	Area of irrigated land (ha):	124	48	35	130	221
3	Number of water body:	12	12	4	07	03
4	Area of water body (ha):	13.6	9.5	01	3.5	01
5	Number of different livestock animals:	Cow- 1200 Goat-1300 Duck-500 Hen-2500	Cow- 205 Goat-256 Hen-3000	Cow- 200 Goat-150 Hen-200	Cow- 250 Goat-300 Hen-100	Cow- 350 Goat-500 Duck-400 Hen-4000
6	Average yield of different crops, livestock and fisheries: (Qtl/Ha)	Rice-52.5-59.5 Wheat-17.5-18.75 Jute--24-25 Lentil-11-12 Fish-30-32 Cow- 1.5-2.5 litr/ day/animal	Rice-64-68 Wheat-19.5-21.0 Maize-90-105 Mango-80kg/tree Fish-32-35 Cow- 1.75-3.0 litr/day/animal	Rice-75-78 Maize-80-85 Jute-32-35 Black gram-15-17 Lentil-10-11 Mango-70-80 kg/tree Fish-34-36	Rice-45-48 Jute- Lentil-9.75-10 Mustard-8.5-9 Fish-28-32 Cow- 1.5-2.5 litr/ day/animal	Rice-46-48 Maize-45-48 Jute- Lentil-10.5-11 Mango- Fish-32-35 Cow- 1.5-2.5 litr/ day/animal
7	Soil status:	Clay loam	Sandy-clay loam	Sandy loam	Sandy loam	Sandy loam
8	Average nutrients (nitrogen, phosphorous, potash, etc) used:	N:P:K = 60:40:30	N:P:K = 60:40:30	N:P:K = 60:40:30	N:P:K = 60:40:30	N:P:K = 60:40:30
9	Major diseases occurred in crops:	Blight & Blast, wilting	Blight & Blast	Blight & Blast	Blight & Blast	Blight & Blast

Sl. No	Particulars	Paro, HC Pur-I	Makaya, Ratua-1	Manoharpur, Ratua-1I	Gilabari, Chanchal-I	Bhakri, Chanchal-II
10	Major diseases occurred in livestock:	PPR disease-goat Foot and mouth disease-cow, plague in poultry bird	PPR disease-goat Foot and mouth disease-cow plague in poultry bird	PPR disease-goat Foot and mouth disease-cow plague in poultry bird	PPR disease-goat Foot and mouth disease-cow plague in poultry bird	PPR disease-goat Foot and mouth disease-cow plague in poultry bird
11	Post-harvest management/ value addition followed, if any:	Yet to be followed	Yet to be followed	Yet to be followed	Yet to be followed	Yet to be followed
12	Marketing channels of products:	Local market	Local market	Local market	Local market	Local market
13	Agro-based industries, if any:	No	No	No	No	No
14	Average income of the farmer per month/family	2500/ month/ family	2300/ month/ family	2750/ month/family	3100/ month/ family	2900/ month/ family

5. Possibility of involvement of ICAR Institutes:

ICAR Institute like CISH RRS and KVK, CIFA,CRIJAF , NDRI, CIFRI, CIFE, IVRI, NBSS-LUP could be involve in this programme for conducting different activities like training, exposure visit, FLD etc.

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): Fund will be utilized as per instructions**.**

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

Block development office, State departments of agriculture, fishery and animal science, CADC, and other reputed NGO's.

8. FPO formed or not: Yet to be formed but in Chanchal- I one FPO (Sabuj Bahini Farmers Club) has already being functioning.

9. Major interventions planned:

Training, Demonstrations, improved crop production technique, other extension activities**.**

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. In Lakh)			
			2018- 19	2019- 20	2020- 21	2021- 22
1	Training	Changes of knowledge and attitudes, development skill and socio economic condition, entrepreneurship development, leadership development	2.0	3.0	3.5	4.0
2	Demonstration	Varietal evaluation, Productivity Enhancement, Upgradation of existing local breeds, Integrated Fish Farming, Scientific Carp culture, mushroom and spawn production, integration with horticultural crops, IFS	4.0	5.0	6.0	7.0
3	Technology dissemination	Conservation technology, Rejuvenation of age old Mango orchard, new orchard with high density planting, pulse based cropping system, IPM & INM modules for specific crop and plants.	3.0	4.0	5.0	6.0
4	Other extension activities	Awareness about the agriculture and allied subjects, farmers problems identification and spot solution	1.5	2.5	3.0	3.5
		Sub- Total	10.5	14.5	17.5	20.5
		Grand Total	**Rs. 63.0 lakh**			

2.2. Gangetic New Alluvial sub region- East Midinipur, Burdwan, Hooghly, Howrah, Murshidabad, Nadia, North 24 Paraganas

2.2.1. East Midinipur District

1. Name of KVK/ district: East Medinipur Krishi Vigyan Kendra

2. Name of villages adopted:

i. Bhabanipur
ii. ChakSimulia
iii. Dayaldasi
iv. Kalapenia
v. VandarJalpai

3. Number of farmers targeted: 100

4. Compiled baseline survey report (point wise) of the villages:

(i) Area of agriculture land (ha): 510

Sl. No	Village name	Agriculture land (Ha)
1	Bhabanipur	165
2	ChakSimulia	206
3	Dayaldasi	53
4	Kalapenia	53
5	Vandarjalpai	33
	Total	**510**

(ii) Area of irrigated land (ha): 334.1

Sl. No	Village name	Irrigated land
1	Bhabanipur	40
2	ChakSimulia	185
3	Dayaldasi	53
4	Kalapenia	49.5
5	Vandarjalpai	6.6
	Total	**334.1**

(iii) Number of water body: 41 (Big pond), 780 (small pond)

Sl. No.	Village	Big Pond (>1 bigha)	Small pond
1	Bhabanipur	4	150
2	ChakSimulia	10	300
3	Dayaldasi	7	80
4	Kalapenia	10	100
5	Vandarjalpai	10	150
	Total	**41**	**780**

(iv) Area of water body (ha): 49.4

Sl No.	Village	Area of Pond (ha)
1	Bhabanipur	16.6
2	ChakSimulia	14
3	Dayaldasi	3.6
4	Kalapenia	10.6
5	VandarJalpai	4.6
	Total	**49.4**

(v) Number of different livestock animals:

Cow (1100), Goat (440), Poultry (7850), Duck (350)

Sl No.	Village	Cow	Goat	Poultry	Duck
1	Bhabanipur	400	150	2000	100
2	ChakSimulia	200	100	2000	50
3	Dayaldasi	100	40	3000	50
4	Kalapenia	200	100	150	50
5	VandarJalpai	200	50	700	100
	Total	**1100**	**440**	**7850**	**350**

(vi) Average yield of different crops, livestock and fisheries:

Sl No	Name of the crops, livestock and fishery item	Average yield (t/ha)
Agriculture crops		
1	Rice	2.4
2	Green gram	0.9
3	Lathyrus	0.7
4	Sunflower	1.2
5	Ground nut	1.8
6.	Maize	3.0
Horticultural crops		
1	Mango	8.00
2	Banana	25.00
3	Papaya	30.00
4	Guava	5.00
5	Potato	25.00
6	Tomato	20.00

Sl No	Name of the crops, livestock and fishery item	Average yield (t/ha)
7	Brinjal	24.00
8	Okra	6.00
9	Cucurbits	8.00-10.00
10	Cruceifers	12.00-15.00
11	Leafy vegetable	20.00-30.00
12	Yam	15.00-20.00
13	Elephant foot yam	30.00-40.00
14	Betel vine	50.00-70.00 Lakh leaves/ha/year
15	Coconut	3500-4000 nuts/ha
16	Arecanut	350 nuts/palm/year (1.2 t/ha)
17	Turmeric	15.00-18.00
18	Ginger	8.00- 10.00
Livestock		
1	Cattle	400 lit/lactation
2	Goat	12kg meat/goat
3	Poultry	70 eggs/year (egg)
4	Duck	90 eggs/year (egg)
Fishery		
1	Indian major carp	5 t/ha
2	Prawn (Galda)	30t/ha
3	Vennemii	25 t/ha

(vii) Soil status:

Soils are mostly heavy clay containing, higher salts of sodium, magnesium, potassium with organic matter at different stages of decomposition, mostly neutral soil pH ranging from 6.5-7.5, EC ranges from 4-8.

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

28 Kg/ha (N), 30 Kg/ha (P) and 12 Kg/ha (K)

(ix) Major diseases occurred in crops:

Sl No	Name of the crops	Major pest	Major disease
Agriculture crops			
1	Rice	Yellow stem borer, White-backed planthopper, Brown planthopper, rice bug	Sheath blight, Bacterial leaf blight, Brown spot
2	Pulse	Gram pod borer, Spotted pod borer, Pod bug	Blight, Alterneria blight, Rust, wilt
Horticultural crops			
Vegetables			
1	Cole crops	Cabbage Caterpillar, DBM (Diamond back moth), Flea Beetle, Crucifer Leaf-Webber	Club root,Fusarium wilt, Damping off, leaf spot and blight
2	Solanaceasous vegetables	Fruit and shoot borer, Hadda beetle,Whitefly, Yellow mite/ Red spider mite Thrips, Aphid	Damping off, Early blight,Fusarium wilt, Late blight
3	Cucurbits	Melon fruit fly, Red pumpkin beetle	Fusarium wilt, Anthracnose, Downy mildew
Plantation crops			
1	Coconut	Rhinocerous beetle, red palam weevil, Black headed caterpillar, Coconut mite	Basal stem rot, Bud rot, stem bleeding
2	Betel vine	Betelvine scale, Red spider mite, Scale	Phytophthora Foot and leaf rot, wilt, Cercosporalaef spot, Anthracnose

(x) Major diseases occurred in livestock:

- Foot and mouth disease, Mastitis, Haemorrhagic septicaemia, Black quarter (Cattle)
- PPR, goat pox (Goat)
- Cholera in duck and hen

(xi) Post-harvest management/ value addition followed, if any: NA

(xii) Marketing channels of products:

Farmers sale their produce to nearby retail markets at Nandakumar, Khanchi, Kalir hat,Shitalpur, Thekua Bazar

(xiii) Agro-based industries, if any:

Mini set up of pupped rice mill (3 in No), Mini grinder set up (3 in No) forspices like turmeric, ginger, chilli etc.

(xiv) Average income of the farmer: 90,000.00/annum

5. Possibility of involvement of ICAR Institutes: Yes

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): Yes

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

State Govt. and NGOs

8. FPO formed or not?

Under process

9. Major interventions planned:

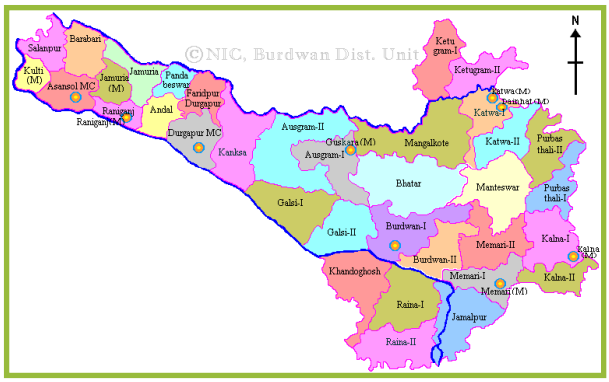
- Integration of fish-based farming system
- Diversification of crops
- Introduction of exotic and high value crops
- Introduction of low cost protected cultivation
- Judicious management of plant protection chemicals and fertilizers
- Backyard livestock farming through women folk
- Diversification of fish through introduction of appropriate breeds

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
Demonstration						
1	Adoption of high value crops instead of conventional crops	Enhanced return/unit area	1,44,500.00	1, 50,000.0	1,60,000.0	1,75,000.00
2	Production of year round fruit and vegetable in nutrition garden to meet family nutrition and reduce purchase cost	Livelihood security	35,000.00	40,000.00	40,000.00	45,000.00
3	Promotion of off season year round vegetable cultivation under low cost poly walking tunnel (100 m^2/ unit)	Optimum utilisation untapped of natural resources	13,50,000.00	50,000.00	1,00,000.00	2,00,000.00
4	Income augmentation of spice crops through value addition(5 units)	Minimum two fold income augmentation	1,00,000.00	-	-	-
5.	Judicious plant protection measures of winter and summer vegetables	Cost minimization of plant protection measures	1,80,000.00	2,00,000.00	2,00,000.00	2,20,000.00

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
6.	Environmentally safe pest management strategy through installation of solar operated light trap	Eco friendly pest control	1,50,000.00	-	-	-
7.	Soil test based fertilizer recommendation for productivity enhancement of vegetables ,oil seeds and pulses	Cost minimization and maximum utilization of nutrients	3,00,000.00	-	-	-
8.	Enhancement of organic agriculture through promotion of household mini vermicomposting unit	Conversion of household waste into a resource	13,00,000.00	-	-	-
9.	In-situ seed production of open pollinated vegetable crops	Procurement of genuine and quality seed	0.00	-	-	-
10.	Backyard livestock farming (Poultry and duckery), 10+10/unit	Mainstreaming of women folk	1,00,00.00	-	-	-
11.	Backyard goat farming (4+1/unit)	Mainstreaming of women folk	2,60,000.00	-	-	-
12.	Land shaping (5 kuttah/ unit, 20 units) for fish based integrated farming	Transformation of unproductive land into productive one	10,000,00.00	1,00,000.00	1,00,000.00	1,00,000.00
Training						
1	On horticultural crops including high value and protected cultivation (10)	Updating the stake holders about scientific management of fish and livestock based farming system	1,50,000.00	1,75,000.00	2,00,000.00	2,25,000.00
2	On plant protection measures of cereal, pulse, oil seed and horticultural crops (5)					
3	On judicious application of plant protection measures and fertilizer (5)					
4	On scientific management of animal resources (5)					
5	On advance management of fish farming (5)					
		Sub- Total	**39,69,500.00**	**5,65,000.00**	**8,00,000.00**	**9,65,000.00**
		Grand Total	**Rs. 62,99,500.00**			

2.2.2. Burdwan District



1. **Name of KVK/ district: Burdwan Krishi Vigyan Kendra**

2. Name of villages adopted:

I. Napur, Ranigunj, PaschimBardhaman
II. Gopalpur, Ausgram II, PurbaBardhaman
III. Boromuria, Galsi II, PurbaBardhaman
IV. Ucchagram, Galsi I, PurbaBardhaman
V. Nandai GP, Kalna I, PurbaBardhaman

3. Number of farmers targeted: 155

4. Compiled baseline survey report (point wise) of the villages (Cumulated/Averaged over 5 villages):

(i) Area of agriculture land (ha): 2000
(ii) Area of irrigated land (ha):1600
(iii) Number of water body: 134
(iv) Area of water body (ha): 35
(v) Number of different livestock animals:
Cattle (102), Goat (550), Poultry (5400), Duck (430)
(vi) Average yield of different crops, livestock and fisheries:

i. Paddy: 32 – 51 q/ha
ii. Onion: 160 – 210 q/ha
iii. Jute: 22.5 – 27.5 q/ha
iv. Mustard – 7 - 8.5 q/ha
v. Lentil – 6.5 – 7.2 q/ha
vi. Potato – 180 – 220 q/ha
vii. Sesame – 4.5 – 7.1 q/ha
viii. Groundnut – 14.8 – 18.9 q/ha
ix. Cattle – 2-3 lit/day
x. Poultry – 80-110 eggs/ year
xi. Fish – 12-20 q/ha/year

(vii) Soil status: Neutral to acidic soil, Alluvial and red lateritic soil

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

I. Nitrogen: 80 -150 kg/ha
II. Phosphorus – 50 – 90 kg/ha
III. Potassium – 0 – 90 kg/ha
IV. Sulfur – 0 – 12 kg/ha
V. Micronutrients – Nil almost

(ix) Major pest and diseases occurred in crops:

I. Paddy: Sheath blight, stem borer
II. Onion: Purple blotch, blight, trips
III. Jute: Semiloper, BHC, stem rot, nematode
IV. Mustard – Aphid, club root
V. Lentil – Fusarium wilt
VI. Potato – Late blight, aphid, tuber moth
VII. Sesame – pod borer
VIII. Groundnut – Alternaria blight

(x) Major diseases occurred in livestock:

I. Cattle: FMD
II. Goat – Pox, PPR
III. Poultry –Ranikhet
IV. Fish- Ulcer, Fin rot, Tail rot, Eus

(xi) Post-harvest management/ value addition followed, if any: Nil
(xii) Marketing channels of products: Mostly through middlemen and few through direct selling to nearby markets
(xiii) Agro-based industries, if any: None
(xiv) Average income of the farmer:

I. Napur – Rs. 11000 – 55000 /year/family (Av. - Rs. 27000/-)
II. Gopalpur – Rs. 25000 – 240000 /year/family (Av. - Rs. 48000/-)
III. Boromuria – Rs. 30000 – 150000 /year/family (Av. - Rs. 32000/-)
IV. Ucchagram – Rs. 35000 – 105000/year/family (Av. - Rs. 42000/-)
V. Nandai GP – Rs. 10000 – 320000 /year/family (Av. - Rs. 62000/-)

5. Possibility of involvement of ICAR Institutes:

I. Joint vaccination and awareness camp with ERS, NDRI, Kalyani and ERS, IVRI, Kolkata
II. Awareness camp –cum – training with ICAR-CRIJAF, Barrackpore
III. Training on improved fish production technologies with ICAR-CIFRI, Barrackpore
IV. Residential training on improved fish production technologies with ICAR-CIFA, Kolkata

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):

Collaborative training and demonstration to be organized with

- Aries agro

- PPL
- UPL
- Dhanuka
- Mahindra Sammriddhi

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

- State Department of Agriculture, Purba and PaschimBardhaman
- Fishery Department, Purba and PaschimBardhaman
- Animal Resource Department, Purba and PaschimBardhaman
- Department of Horticulture, Purba and PaschimBardhaman
- SatmileSatish Farmers club, Coochbehar

8. FPO formed or not?

No

9. Major interventions planned:

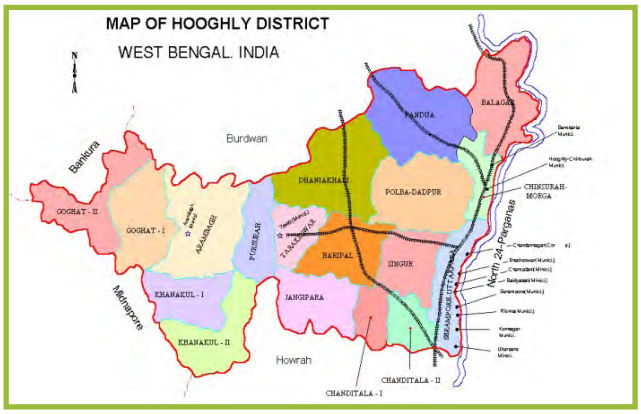
i. Capacity building
ii. Paddy seed production
iii. Improved jute production technology
iv. Improved jute retting technology
v. Homestead farming system
vi. Fodder cultivation for feed security of livestock
vii. Kisan credit card and crop insurance
viii. Arrangement of irrigation and Micro irrigation
ix. Composting like vermicomposting and nadep composting
x. IPM in vegetable
xi. Farm mechanization
xii. INM of different crops
xiii. New fish species introduction
xiv. Fish nutrition
xv. Ornamental fish culture
xvi. Integrated farming
xvii. Backyard poultry
xviii. Cluster demonstration of oilseed
xix. Cluster demonstration of pulses
xx. SRI cultivation
xxi. Azolla cultivation
xxii. Tissue culture banana
xxiii. Nutritional garden
xxiv. Concentrated animal feed and mineral mixture
xxv. Bee keeping
xxvi. Magur production
xxvii. Mushroom cultivation

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	No. of Farmers per year	Cost per beneficiary/ unit	Budget			
					2018- 19	2019- 20	2020- 21	2021- 22
1	Capacity building (8 nos. per year)	Knowledge gain and retention for improved farming practices	120	1000	120000	120000	120000	120000
2	Improved jute production technology	Augmented income	70	400	0	28000	28000	0
3	Improved jute retting technology	Augmented income	70	240	0	16800	16800	0
4	Homestead farming system	Augmentation of family income and nutrition	10	25000	0	250000	250000	250000
5	Fodder cultivation and feed supplement for livestock	Improving health and productivity of cattle	20	2000	40000	40000	40000	40000
6	Composting like vermicomposting and NADEP composting	Improving soil health and crop productivity Income generation	50	4000	0	200000	200000	200000
7	IPM in vegetable	Minimize crop loss Augmented income	50	1000	50000	50000	50000	50000
8	INM of different crops	Improve soil health and production	50	1000	50000	50000	50000	50000
9	New fish species introduction	Diversification of fish species resulted in increase in fish production	20	5000	0	100000	100000	100000
10	Fish nutrition	Increase in overall fish yield	20	5000	0	100000	100000	100000
11	Pre-stocking & stocking pond management	Result in ambient environment for fish production	20	5000	0	100000	100000	100000
12	Ornamental fish culture	Increase in income avenues for landless fish farmers	15	2000	0	30000	30000	30000
13	Integrated farming system	Increase in income per unit area	5	25000	125000	125000	125000	125000
14	Backyard poultry	To meet nutritional demand of family To add to income of the family	25	2000	0	50000	50000	50000
15	Cluster demonstration of oilseed	Diversification	80	0	0	0	0	0
16	Cluster demonstration of pulses	Diversification and improvement of soil health	50	0	0	0	0	0
17	SRI cultivation	Resource conservation and augmented productivity and income	50	1000	0	50000	50000	50000
18	Azolla cultivation	Improvement in animal health leading to increases milk production	25	500	0	12500	12500	12500
19	Tissue culture banana	Crop diversification and increased profitability	25	6000	0	150000	150000	150000

Sl. No.	Activities planned	Expected Outcome	No. of Farmers per year	Cost per beneficiary/ unit	Budget			
					2018- 19	2019- 20	2020- 21	2021- 22
20	Year round nutritional garden	Nutritional security of household	50	2000	10000	100000	100000	100000
21	Animal health care and management	Increased milk production	50	2000	100000	100000	100000	100000
22	Air breathing fish seed production	Increase the availability of fish seed to the fish farmers	2	15000	0	30000	30000	30000
23	Arrangement of irrigation and Micro irrigation	Increased water use efficiently Enhance productivity	10	10000	0	100000	100000	100000
24	Farm mechanization	Lowering cost of cultivation and solving problem of labour shortage	10	5000	0	50000	50000	50000
25	Bee keeping	Diversifying agriculture	5	15000	0	75000	75000	75000
26	Mushroom cultivation	Diversifying agriculture	50	200	0	10000	10000	10000
Sub- Total					4,95,000	19,12,100	19,12,100	18,67,300
Grand Total			**Rs. 61,86,500.00**					

2.2.3. Hooghly District



1. Name of KVK/ district: Hooghly Krishi Vigyan Kendra

2. Name of villages adopted: Paschim Benabharui, Matukpur, Saira, Thoipara, Raykarpara.

3. Number of farmers targeted:100

4. Compiled baseline survey report (point wise) of the villages:

(i) Area of agriculture land (ha):
(ii) Area of irrigated land (ha):
(iii) Number of water body:
(iv) Area of water body (ha):
(v) Number of different livestock animals:
(vi) Average yield of different crops, livestock and fisheries:
(vii) Soil status:
(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:
(ix) Major diseases occurred in crops:
(x) Major diseases occurred in livestock:
(xi) Post-harvest management/ value addition followed, if any:
(xii) Marketing channels of products:
(xiii) Agro-based industries, if any:
(xiv) Average income of the farmer:

5. Possibility of involvement of ICAR Institutes: No

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): No

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

State Departments

8. FPO formed or not?

FPO formed

9. Major interventions planned:

a) Introduction of new cash crop.
b) Improved package of practices of different crops.
c) Fruit and orchard management.

d) IPM technology for sustainable agriculture.
e) Crop diversification.
f) Introduction of Improved breeds.
g) Additional income generation through mushroom, Vermicompost etc.
h) Commercial vegetables cultivation.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. in Lakh)			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	Improved production technology of commercial vegetables like hybrid tomato, Capsicum, Broccoli, Bitter gourd, Summer Cauliflower, Cucumber etc.	• Increase production • Increase level of income	3.5	3.5	3.5	3.5
2.	Flower and fruit management of mango (Application of Major & Micro nutrient, Hormone and Plant Protection chemicals etc.)	• Increase production • Quality enhancement	1.0	1.0	1.0	1.0
3.	Installation of mango ripening Chamber	• Quality enhancement • Reduced cost of ripening	1.0	0.0	0.0	0.0
4.	Introduction of G-9 Variety of Banana	• Increase production • Increase level of income	1.2	0.0	1.2	0.0
5.	Vegetables nursery raising through low cost poly tunnel	• Quality seedling produced • Increase level of income	1.0	1.0	1.0	1.0
6.	Improved Papaya production technology	• Increase production • Increase level of income	0.5	0.5	0.5	0.5
7.	Introduction of improved varieties of Elephant footyam	• Increase Yield • Increase level of income	1.0	1.0	1.0	1.0
8.	Introduction of Scented rice	• Increase level of income	0.5	0.5	0.5	0.5
9.	Improved package of practices of watermelon	• Increase Yield • Increase level of income	1.5	1.5	1.5	1.5
10.	Introduction of improved breed of Duck (Khaki Campbell)	• Increase level of income	1.0	1.0	1.0	1.0
11.	Introduction of improved breed of Chicks (Vanaraja)	• Increase level of income	0.5	0.5	0.5	0.5
12.	Late blight Management of potato	• Reduced infestation of disease • Increase Yield • Increase level of income	1.5	1.5	1.5	1.5
13.	IPM on vegetables	• Reduced Pest and disease infestation	1.0	1.0	1.0	1.0
14.	Improved package of practices for Onion seed production and seed storage	• Increase Yield • Increase storability of onion seed • Increase level of income	1.0	1.0	1.0	1.0
15.	SRI technology	• Increase Yield • Increase level of income	0.5	0.5	0.5	0.5
16.	Mushroom production	• Additional income generation	0.5	0.5	0.5	0.5
17.	Vermicompost production	• Additional income generation • Reduce used of chemical fertilizer	1.0	1.0	1.0	1.0
		Sub- Total	**18.2**	**16.0**	**17.2**	**16.0**
		Grand Total	**Rs. 67.4 lakh**			

2.2.4. Howrah District

1. Name of the KVK/ District: Howrah Krishi Vigyan Kendra

2. Name of Villages Adopted:

Sl. No.	Name of Village	Block
1	Kalaghatu	Shyampur-I
2	Nonakundu	Domjur
3	Tajpur	Amta-II
4	Putkhali	Amta-I
5	Bhabanandapur	Panchla

3. Major Interventions planned:

- Introduction of improved variety and package of practices of Groundnut
- Introduction of improved variety of Sesame
- Introduction of improved variety of Mustard
- Introduction of improved variety and package of practices of Lentil
- Introduction of improved variety and package of practices of Greengram
- Introduction of improved variety of Potato
- Introduction of improved variety of Sunflower
- Introduction of improved variety and package of practices of paddy
- Introduction of improved variety and package of practices of Maize
- Introduction of improved variety and package of practices of elephant foot yam
- Introduction of improved variety and package of practices of colocasia
- Introduction of improved variety and package of practices of turmeric
- Introduction of improved variety and package of practices of ginger
- Calcium application in tomato
- GA3 application in cucurbits
- Off season vegetable cultivation using UV sterilized polythene paper
- Application of H_2O_2 in Tomato
- Application of growth regulator in chilli
- Establishment of vermicompost unit

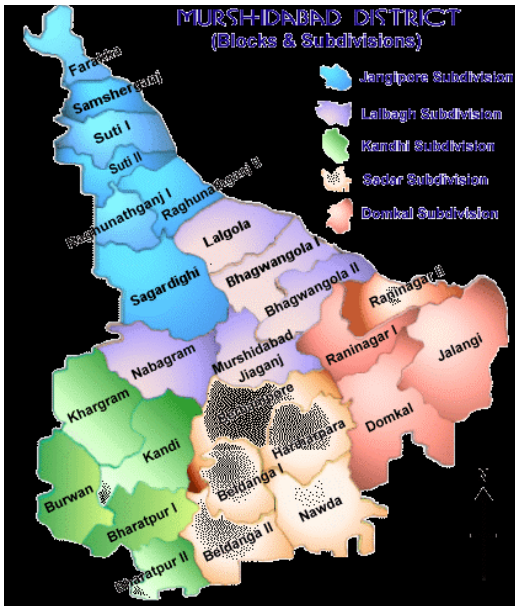
- Application of poly mulching
- Application of different traps in vegetables
- Application of different bio-pesticides in different crops & vegetables
- Application of different botanical pesticides in different crops & vegetables
- Application of different pesticides in vegetables
- Introduction of Khaki Campbell duck
- Introduction of Vanaraja fowl
- Vaccination, Artificial Insemination and regular Deworming camp
- Introduction of Azolla as livestock feed
- Introduction of Quail farming
- Introduction of ornamental birds farming
- Supplementation of Vitamin & Mineral mixture in livestock feed

4. Action Plan for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018-19	2019-20	2020-21	2021-22
1	Introduction of improved variety and package of practices of Groundnut		600000	660000	660000	600000
2	Introduction of improved variety of Sesame		250000	300000	300000	350000
3	Introduction of improved variety of Mustard		300000	330000	350000	350000
4	Introduction of improved variety and package of practices of Lentil		180000	180000	225000	225000
5	Introduction of improved variety and package of practices of Greengram		270000	360000	360000	450000
6	Introduction of improved variety of Potato		200000	200000	200000	200000
7	Introduction of improved variety of Sunflower		90000	90000	90000	90000
8	Introduction of improved variety and package of practices of paddy		50000	50000	50000	50000
9	Introduction of improved variety and package of practices of Maize		10000	15000	20000	20000
10	Introduction of improved variety and package of practices of elephant foot yam		150000	200000	250000	250000
11	Introduction of improved variety and package of practices of colocasia		50000	60000	60000	60000
12	Introduction of improved variety and package of practices of turmeric		30000	35000	35000	35000
13	Introduction of improved variety and package of practices of ginger		100000	120000	120000	120000
14	Calcium application in tomato		10000	10000	10000	10000
15	GA3 application in cucurbits		10000	10000	10000	10000
16	Off season vegetable cultivation using UV sterilized polythene paper		560000	00	00	00
17	Application of H_2O_2 in Tomato		20000	25000	25000	25000
18	Application of growth regulator in chilli		10000	10000	10000	10000
19	Establishment of vermicompost unit		600000	00	00	00
20	Poly mulching		40000	00	40000	00

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018-19	2019-20	2020-21	2021-22
21	Application of different traps in vegetables and crops		100000	120000	125000	125000
22	Application of bio-pesticieds in different crops and vegetables		50000	60000	65000	70000
23	Application of various biological control agents in different crops and vegetables		50000	60000	65000	70000
24	Application of different pesticides in vegetables		50000	60000	65000	70000
25	Introduction of Vanaraja fowl		400000	400000	400000	400000
26	Introduction of Khaki Campbell duck		400000	400000	400000	400000
27	Vaccination, Artificial Insemination and regular Deworming camp		50000	50000	50000	50000
28	Introduction of Azolla as livestock feed		70000	70000	70000	70000
29	Introduction of Quail farming		100000	100000	100000	100000
30	Introduction of ornamental birds farming		200000	200000	200000	200000
31	Supplementation of Vitamin & Mineral mixture in livestock feed		30000	30000	30000	30000
Sub- Total			**5030000**	**4205000**	**4385000**	**4440000**
Grand Total			**Rs. 1,80,60,000/-**			

2.2.5. Murshidabad District



1. Name of KVK/ district: Murshidabad Krishi Vigyan Kendra

2. Name of villages to be adopted:

Srishnagar, Diar Mahinagar, Khularpukur, Kapasdanga, & Phulpur.

3. Number of farmers to be targeted: 3636 numbers

4. Compiled baseline survey report (point wise) of the villages: Village:

Srishnagar (Natungram G.P)

(i) Area of agriculture land (ha): 240 ha

(ii) Area of irrigated land (ha): 200 ha

(iii)Number of water body: 20 Number

(iv)Area of water body (ha): 4.7 ha

(v) Number of different livestock animals:

Livstock	Number
Cattle	1135 nos.
Buffalo	10 nos.
Goat	650 nos.
Poultry	1395 nos.
Duck	350 nos.

(vi) Average yield of different crops, livestock and fisheries:

- Paddy – 51 q / ha
- Jute – 23 q / ha
- Mustard – 11.25 q / ha
- Lentil – 12 q / ha
- Blackgram – 11 q / ha
- Brinjal – 190 q/ha
- Chilli – 88 q/ha

- Cucumber – 230 q/ha
- Mango – 62 q/ha
- Milk yield – 3.2 kg/day/cow
- Milk yield – 5.37 kg/day/buffalo
- Goat live body weight – 8 kg/year
- Egg – 73 no./year/poultry
- Egg – 89 no./year/duck
- IMC & exotic carp – 28.12 q / ha

(vii) Soil status: Clay

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Village	Type of soil (Texture)	pH	OC (%)	Available N (Kg/Ha)	Available P (kg/ha)	Available K(Kg/ha)
Sirisnagar	Clay	6.80	0.69	264.3	27	159

(ix) Major diseases occurred in crops: Stem rot, BLB, Blast, Bacterial wilt, Leaf curl, Mango malfomation, Downy mildew, Twig blight.

(x) Major diseases occurred in livestock: FMD, HS,PPR, RD, Mastitis, Duck plague, Duck cholera, Goat ppox.

(xi) Post-harvest management/ value addition followed, if any: Traditional storage of produce. Value Addition - Oil mill, Husking mill, Turmeric powder, Preparation of panner & Ghee.

(xii) Marketing channels of products: Through kisan mandi, local market, Jute trading agency.

(xiii) Agro-based industries, if any: N.A

(xiv) Average income of the farmer: 1.5 Lakh / year

Village: Diar Mahinagar (Mukundabag G.P)

(i) Area of agriculture land (ha): 33.3 ha

(ii) Area of irrigated land (ha): 28.45 ha

(iii) Number of water body: 20 Number

(iv) Area of water body (ha): 41 ha

(v) Number of different livestock animals:

Livestock	Number
Cattle	427 nos.
Buffalo	71 nos.
Goat	785 nos.
Poultry	911 nos.
Duck	407 nos.

(vi) Average yield of different crops, livestock and fisheries:

- Paddy – 50.75 q / ha
- Jute – 24.12 q / ha
- Mustard – 11.80 q / ha
- Lentil – 13.05 q / ha
- Blackgram – 10.95 q / ha
- Brinjal – 197 q/ha
- Chilli – 89.73 q/ha
- Cucumber – 233.05 q/ha

- Mango – 63.09 q/ha
- Milk yield – 3.0 kg/day/cow
- Milk yield – 5.07 kg/day/buffalo
- Goat live body weight – 8.7 kg/year
- Egg – 67 no./year/poultry
- Egg – 85 no./year/duck
- IMC & exotic carp – 27.17 q / ha

(vii) Soil status: Clay

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Village	Type of soil (Texture)	pH	OC (%)	Available N (Kg/Ha)	Available P (kg/ha)	Available K (Kg/ha)
Diar- Mahinagar	Clay	7.00	0.66	252.5	26	187

(ix) Major diseases occurred in crops: Stem rot, BLB, Blast, Bacterial wilt, Leaf curl, Mango malformation, Downy mildew, Twig blight.
(x) Major diseases occurred in livestock: FMD, HS,PPR, RD, Mastitis, Duck plague, Duck cholera, Goat ppox.
(xi) Post-harvest management/ value addition followed, if any: Traditional storage of produce. Value Addition - Oil mill, Husking mill, Turmeric powder, Preparation of panner & Ghee.
(xii) Marketing channels of products: Through kisan mandi, local market, Jute trading agency.
(xiii) Agro-based industries, if any: N.A
(xiv) Average income of the farmer: 1.5 Lakh / year

Village: Khularpukur (Bhagwangola G.P)

(i) Area of agriculture land (ha): 453.33 ha
(ii) Area of irrigated land (ha): 400 ha
(iii) Number of water body: 150 Number
(iv) Area of water body (ha): 20 ha
(v) Number of different livestock animals:

Livestock	Number
Cattle	660 nos.
Buffalo	18 nos.
Goat	680 nos.
Poultry	1440 nos.
Duck	875 nos.

(vi) Average yield of different crops, livestock and fisheries:

- Paddy – 50.33 q / ha
- Jute – 23.86 q / ha
- Mustard – 12.09 q / ha
- Lentil – 12.95 q / ha
- Blackgram – 11.08 q / ha
- Brinjal – 182 q/ha
- Chilli – 89.22 q/ha

- Cucumber – 233.90 q/ha
- Mango – 62.86 q/ha
- Milk yield – 2.88 kg/day/cow
- Milk yield – 5.90 kg/day/buffalo
- Goat live body weight – 9.2 kg/year
- Egg – 78 no./year/poultry
- Egg – 98 no./year/duck
- IMC & exotic carp – 33.01 q/ha

(vii) Soil status: Loam

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Village	Type of soil (Texture)	pH	OC (%)	Available N (Kg/Ha)	Available P(kg/ha)	Available K(Kg/ha)
Khularpukur	Loam	6.94	0.72	323.4	29	176

(ix) Major diseases occurred in crops: Stem rot, BLB, Blast, Bacterial wilt, Leaf curl, Mango malformation, Downy mildew, Twig blight.
(x) Major diseases occurred in livestock: FMD, HS, PPR, RD, Mastitis, Duck plague, Duck cholera, Goat pox.
(xi) Post-harvest management/ value addition followed, if any: Traditional storage of produce. Value Addition - Oil mill, Husking mill, Turmeric powder, Preparation of panner & Ghee.
(xii) Marketing channels of products: Through kisan mandi, local market, Jute trading agency.
(xiii) Agro-based industries, if any: N.A
(xiv) Average income of the farmer: 1.5 Lakh / year

Village: Kapasdanga (Kapasdanga G.P)

(i) Area of agriculture land (ha): 200 ha
(ii) Area of irrigated land (ha): 175 ha
(iii) Number of water body: 35 Number
(iv) Area of water body (ha): 16 ha
(v) Number of different livestock animals:

Livestock	Number
Cattle	350 nos.
Buffalo	50 nos.
Goat	1100 nos.
Poultry	1775 nos.
Duck	370 nos.

(vi) Average yield of different crops, livestock and fisheries:

- Paddy – 49.75 q / ha
- Jute – 24.11 q / ha
- Mustard – 12.45 q / ha
- Lentil – 13.77 q / ha
- Blackgram – 11.58 q / ha
- Brinjal – 179 q/ha

- Chilli – 90.16 q/ha
- Cucumber – 231.73 q/ha
- Mango – 61.99 q/ha
- Milk yield – 3.65 kg/day/cow
- Milk yield – 6.15 kg/day/buffalo
- Goat live body weight – 8.19 kg/year
- Egg – 68 no./year/poultry
- Egg – 94 no./year/duck
- IMC & exotic carp – 28.51 q/ha

(vii) Soil status: Loam
(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Village	Type of soil (Texture)	pH	OC (%)	Available N (Kg/Ha)	Available P(kg/ha)	Available K(Kg/ha)
Kapasdanaga	Loam	6.82	0.67	259.4	31	203

(ix) Major diseases occurred in crops: Stem rot, BLB, Blast, Bacterial wilt, Leaf curl, Mango malformation, Downy mildew, Twig blight.

(x) Major diseases occurred in livestock: FMD, HS,PPR, RD, Mastitis, Duck plague, Duck cholera, Goat ppox.

(xi) Post-harvest management/ value addition followed, if any: Traditional storage of produce. Value Addition - Oil mill, Husking mill, Turmeric powder, Preparation of panner & Ghee.

(xii) Marketing channels of products: Through kisan mandi, local market, Jute trading agency.

(xiii) Agro-based industries, if any: N.A

(xiv) Average income of the farmer: 1.5 Lakh / year

Village: Phulpur (Baligram G.P)

(i) Area of agriculture land (ha): 67 ha
(ii) Area of irrigated land (ha): 63 ha
(iii) Number of water body: 10 Number
(iv) Area of water body (ha): 2 ha
(v) Number of different livestock animals:

Livestock	Number
Cattle	255 nos.
Goat	555 nos.
Poultry	1190 nos.
Duck	125 nos.

(vi) Average yield of different crops, livestock and fisheries:

- Paddy – 51 q / ha
- Jute – 22.09 q / ha
- Mustard – 11.25 q / ha
- Lentil – 11.49 q / ha
- Blackgram – 12.08 q / ha

- Brinjal – 188.89 q/ha
- Chilli – 89.08 q/ha
- Cucumber – 230 q/ha
- Mango – 62 q/ha
- Milk yield – 3.72 kg/day/cow
- Goat live body weight – 8 kg/year
- Egg – 68 no./year/poultry
- Egg – 90 no./year/duck
- IMC & exotic carp – 18.32 q / ha

(vii) Soil status: Loam

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Village	Type of soil (Texture)	pH	OC (%)	Available N (Kg/Ha)	Available P(kg/ha)	Available K(Kg/ha)
Phulpur	Loam	6.86	0.74	331.6	29	171

(ix) Major diseases occurred in crops: Stem rot, BLB, Blast, Bacterial wilt, Leaf curl, Mango malformation, Downy mildew, Twig blight.

(x) Major diseases occurred in livestock: FMD, HS,PPR, RD, Mastitis, Duck plague, Duck cholera, Goat ppox.

(xi) Post-harvest management/ value addition followed, if any: Traditional storage of produce. Value Addition - Oil mill, Husking mill, Turmeric powder, Preparation of panner & Ghee.

(xii) Marketing channels of products: Through kisan mandi, local market, Jute trading agency.

(xiii) Agro-based industries, if any: N.A

(xiv) Average income of the farmer: 1.5 Lakh / year

5. Possibility of involvement of ICAR Institutes:

NIRJAFT, MANAGE Hydrabad, CRIJAF Barrakpore, CISH Malda, IVRI, CIFA Bhubaneswar, Regional Fodder Station, Kalyani, Central Sericulture Berhampore, NFDB.

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):

Mahindra, Bayar, IFFCO, Honda.

7. Name of other partners to be involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

Agriculture, Horticulture, Animal Resource Development department, Fishery, Agriculture Marketing, NABARD, Sericulture,

8. FPO formed or not? No

9. Major interventions planned:

To overcome the labour problem during paddy transplanting, To reduce the cost of cultivation and faster transplanting, To reuse the farm waste material, To introduce highly profitable crop, To improve soil health & farmers income, To improved health status, To supply green fodder throughout the year, To enhances production, Introduction of new species, Conservation of native fish species.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. in lakh.)			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	Retaining rural youth in agriculture and profitability increase in Paddy cultivation through introduction of Mechanical Paddy transplanter. (One transplanter involving 50 farmers per year.)	a. Retaining rural youth in agriculture. b. Reduction in total cost of Paddy cultivation. c. Employment generation. d. Income increase of SHG members through engagement of members in Seedling production factory.	4.5	1.1	1.1	1.1
2	Preparation of Vermicompost from waste materials to increase profitability and Soil Health. (Size-10'x4'x3') for 100 units.	a. Reduction in chemical fertilizer use. b. Utilization of farm waste to reduce crop nutrient management cost. c. Income generation through selling of Vermicompost.	12.0	1.0	1.0	1.0
3	Crop diversification through introduction of maize crop. (250 units per year of 0.013 hectare unit size.)	a. Replacement of low profitable crops. b. Expected B:C ratio will come 2.60. c. Utilization of land round the year.	4.0	4.0	4.0	4.0
4	Introduction of Integrated Crop Management in cucumber, chilli, and Brinjal. (150 units per year of 0.013 hectare unit size)	a. Lowering the cost of crop management. b. Increase in quality and quantity of produce which will increase the profitability. c. Expected increase of farmer's profitability by Rs. 37000 to 75000 per hectare.	1.8	1.8	1.8	1.8
5	Demonstration of low cost protected cultivation of vegetables (10 units every year of 0.053 ha per unit).	a. Expected net profit will-increase by 20 – 25%. b. Very less use of plant protection chemical leads to more profit. c. Healthy and reside free produce.	2.0	2.0	2.0	2.0
6	Introduction of EFY as highly profitable vegetable. (25 units per year of 0.053 ha per unit).	a. Replacement of low profitable vegetable crops. b. Expected B:C ratio will come 1.84:1 c. Expected high return per unit area.	5.0	5.0	5.0	5.0

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. in lakh.)			
			2018- 19	2019- 20	2020- 21	2021- 22
7	Supplementation of low cost concentrate feed to lactating cow (75 units in 1st year, 100 units in 2nd year, 100 units in 3rd year, 115 units in 4th year)	a. Increase in milk yield b. Increase in fat % of milk c. Expected B:C ratio may come 1.5	8.0	10.0	12.0	13.0
8	Intercropping cultivation (Maize/Oats + Leguminous) (100 units in 1st year, 150 units in 2nd year, 200 units in 3rd year, 150 units in 4th year)	a. Increase in milk yield & production also b. Expected B:C ratio may come 2.28	0.5	1.0	1.5	1.0
9	Supplementation of Mineral mixture to lactating cow (150 units in every year)	a. Increase in milk yield b. Increase in fat % of milk c. Improve health status d. Expected B:C ratio may come 2.37	4.0	6.0	7.0	8.0
10	Establishment of ornamental fish rearing unit No. of units: 6* Unit cost: Rs.2.5 lakh Extension activities and training: Rs. 0.8 lakh (*One unit at KVK campus + 5 units in farmer's field)	a. Development of 6 ornamental fish breeding cum rearing unit. b. Production of export quality ornamental fishes. c. Full employment generation. d. Expected B:C ratio may come 2.8	2.65	4.75	4.75	2.65
11	Culture of indigenous fishes Pabda No. of units: 50 nos. (0.065 ha/unit) Unit cost: Rs. 0.25 lakh Extension activities and training: Rs. 0.3 lakh	Increased fish production and family income B:C 1 : 2.8	5.2	5.2	2.6	2.6
12	Demonstration of improved fish varieties Tengra No. of units: 50 nos. Unit cost: Rs. 0.25 lakh Extension activities and training: Rs. 0.3 lakh	Increased fish production and family income B:C 1 : 2.7	5.2	5.2	2.6	2.6
Sub- Total			**54.85**	**47.05**	**45.35**	**44.75**
Grand Total			**Rs. 192.00 lakhs**			

2.2.6. Nadia District

1. Name of KVK/ district: Nadia Krishi Vigyan Kendra

2. Name of villages adopted:

vi. Khaldharpara
vii. Ganguria
viii. Bhabanipur
ix. Satyapole
x. Kanaipur

3. Number of farmers targeted: 100

4. Compiled baseline survey report (point wise) of the villages:

(i)**Area of agriculture land (ha):** 532.86

Sl. No	Village name	Agriculture land (ha)
1	Khaldharpara	33.76
2	Ganguria	208.00
3	Bhabanipur	52.10
4	Satyapole	126.00
5	Kanaipur	113.00
	Total	**532.86**

(ii) **Area of irrigated land (ha):** 305.36

Sl. No	Village name	Irrigated land (ha)
1	Khaldharpara	33.76
2	Ganguria	44.80
3	Bhabanipur	52.10
4	Satyapole	108.00
5	Kanaipur	66.70
	Total	**305.36**

(iii) **Number of water body:** 18 (Big pond), 47 (small pond): Total 65

Sl. No.	Village	Big Pond (>0.13 ha)	Small pond	Total
1	Khaldharpara	3	1	4
2	Ganguria	1	4	5
3	Bhabanipur	5	20	25
4	Satyapole	7	15	22
5	Kanaipur	2	7	9
Total		**18**	**47**	**65**

(iv) **Area of water body (ha):** 26.55

Sl No.	Village	Area of Pond (ha)
1	Khaldharpara	9.04
2	Ganguria	1.20
3	Bhabanipur	3.64
4	Satyapole	8.67
5	Kanaipur	4.00
Total		**26.55**

(v) **Number of different livestock animals**: Cow (545), Goat (947), Poultry (1248), Duck (571): Total- 3311

Sl No.	Village	Cow	Goat	Poultry	Duck	Total
1	Khaldharpara	108	190	320	186	804
2	Ganguria	160	250	220	90	720
3	Bhabanipur	142	208	307	50	707
4	Satyapole	110	220	300	200	830
5	Kanaipur	25	79	101	45	250
Total		**545**	**947**	**1248**	**571**	**3311**

(vi) **Average yield of different crops, livestock and fisheries:**

Sl No	Name of the crops, livestock and fishery item	Average yield (t/ha)
Agriculture crops		
1	Kharif rice	3.3
2	Boro rice	4.5
3	Jute	2.0
4	Green gram	0.75
5	Mustard	1.2
6.	Sesame	1.16
Horticultural crops		
1	Mango	9.00
2	Banana	27.00
3	Papaya	28.00

Sl No	Name of the crops, livestock and fishery item	Average yield (t/ha)
4	Guava	5.50
5	Potato	22.60
6	Tomato	22.00
7	Brinjal	23.50
8	Okra	7.50
9	Cucurbits	08.00-15.50
10	Cruceifers	15.00-25.00
11	Leafy vegetable	22.00-30.00
13	Beans	5.00-6.00
14	Elephant foot yam	40.00-45.00
Livestock		
1	Cattle	400 lit/lactation, 6.94 litre/day
2	Goat	10-12 kg meat/goat
3	Poultry	80 eggs/year (egg)
4	Duck	90 eggs/year (egg)
Fishery	Rupchand, Silver carp, Ruhi etc.	2.23

(vii) **Soil status:** Soils are generally loamy, loamy sand to sandy loam, clay loam and clayey in nature with variation in physiography. Soils have mostly pH value ranges from 6.5 to 7.5 with normal EC, low to medium organic carbon content, medium available nitrogen and available phosphorus with low to medium potash. In terms of micro-nutrient Zn is deficient or likely to be deficient in these soils.

(viii) **Average nutrients (nitrogen, phosphorous, potash, etc) used:** 90 Kg/ha (N), 20 Kg/ha (P) and 15 Kg/ha (K).

(ix) **Major diseases occurred in crops:**

Sl. No.	Name of the crops	Major pest	Major disease
Agriculture crops			
1	Rice	Yellow stem borer, Brown planthopper, rice bug	Sheath blight, Bacterial leaf blight, Brown spot, Blast
2	Pulse	Gram pod borer, Spotted pod borer	Blight, Alterneria blight, Rust, wilt
3	oilseed	Aphid, hairy caterpiller	Ticca, stem rot, phyllodae
Horticultural crops			
Vegetables			
1	Cole crops	spodoptera, DBM (Diamond back moth), Crucifer Leaf-Webber	Club root,Fusarium wilt, Damping off, black vein, bacterial blight, leaf spot and blight, damping off
2	Solanaceasous vegetables	Fruit and shoot borer, Hadda beetle,Whitefly, Yellow mite/ Red spider mite Thrips, Aphid	Damping off, bacterial wilt, Early blight,Fusarium wilt, Late blight, phytopthora disease, leaf spot, tomato leaf curl virus.
3	Cucurbits	Melon fruit fly, Red pumpkin beetle	Fusarium wilt, Anthracnose, Downy mildew, cucumber mosaic virus, powdery mildew.
Fruit crops		Plant hopper, fruit borer, fruit fly, mite	Fusarium wilt, anthracnose, powdery mildew, twig blight

(x) **Major diseases occurred in livestock:**

- Foot and mouth disease, Mastitis, Haemorrhagic septicaemia, Black quarter (Cattle)
- PPR, goat pox (Goat)
- Cholera in duck and hen

(xi) **Post-harvest management/ value addition followed, if any:** Threshing, Grading

(**xii) Marketing channels of products:** Farmers sale their produce to nearby retail markets, hats and mandi.

(xiii) **Agro-based industries, if any:** No

(xiv) **Average income of the farmer:** 3737.00/month

5. Possibility of involvement of ICAR Institutes: Yes, NDRI

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): Yes

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.): Line Departments of State Govt.

8. FPO formed or not? No

9. Major interventions planned:

- Production of high value crops
- Integrated farming system
- Mushroom cultivation
- Vermi composting and other composting technologies
- Production of pulse and oil seed crops
- Farm mechanization
- Goatery
- Protected cultivation
- Bee keeping
- Food processing
- Seed production
- Fishery
- Cultivation of fruit crops/orchard
- Dairy

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
1	Production of high value crops	Augmentation of farmers' income	2,80,000	3,00,000	3,00,000	3,00,000
2	Integrated Farming System	Sustainable agriculture	10,00,000	10,00,000	10,00,000	10,00,000
3	Mushroom cultivation	New income generation	1,00,000	1,00,000	1,00,000	1,00,000
4	Vermi and different composting	Sustainable agriculture	2,00,000	2,00,000	2,00,000	2,00,000
5.	Production of pulse and oil seed crops	Augmentation of farmers' income	1,00,000	1,00,000	1,00,000	1,00,000
6.	Farm Mechanisation	New income generation	2,00,000	2,00,000	2,00,000	2,00,000
7.	Goatery	New income generation	1,00,000	1,00,000	1,00,000	1,00,000
8.	Protected Cultivation	Augmentation of farmers' income	3,00,000	3,00,000	3,00,000	3,00,000

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
9.	Bee Keeping	New income generation	1,00,000	1,00,000	1,00,000	1,00,000
10.	Food Processing	New income generation	2,00,000	2,00,000	2,00,000	2,00,000
11.	Seed production	High quality input supply to surrounding areas	1,00,000	1,00,000	1,00,000	1,00,000
12.	Fishery	New income generation	1,00,000	1,00,000	1,00,000	1,00,000
13.	Cultivation of fruit crops	Augmentation of farmers' income	1,00,000	1,00,000	1,00,000	1,00,000
14.	Dairy	New income generation	2,00,000	2,00,000	2,00,000	2,00,000
		Sub- Total	**30,80,000/-**	**31,00,000/-**	**31,00,000/**	**31,00,000/-**
		Grand Total	**Rs. 1,23,80,000/-**			

2.2.7. North 24 Paraganas District

1. Name of KVK/ district: North 24 Parganas Krishi Vigyan Kendra

2. Name of villages to be adopted:

i. Purba barasat, ii. Bodai, iii. Ballavpur, iv. Panchgeria, v. Chandigacha

3. Number of farmers to be targeted: 40 small and marginal farmers from each village

4. Compiled baseline survey report (point wise) of the villages:

	Purba barasat	Bodai	Ballavpur	Panchgeria	Chandigacha
(i)Area of agriculture land (ha):	200 ha	418ha	60 ha	46 ha	1000ha
(ii) Area of irrigated land (ha):	200ha	370ha	60ha	46 ha	1000ha
(iii) Number of water body:	100	180	30	100	100
(iv) Area of water body (ha):	26.67ha	21ha	5.3 ha	26.66 ha	13.33ha
(v) Number of different livestock animals:	Cow: 500 Goat: 1000 Deshi Poultry: 800	Cow: 500 Goat: 1000 Deshi Poultry: 500	Cow: 300 Goat: 2000 Deshi Poultry: 500	Cow:500 Goat:1000 Deshi Poultry: 700	Cow: 1500 Goat: 500 Deshi Poultry: 500
(vi) Average yield of different crops, livestock and fisheries:	Rice: 40-45q/ha Banana: 45t/ha PointedGourd: 75t/ha/season Elephnat footyam: 36t/ha/season Flower: 47t/ha/ season Fishery: 4.5t/ha	Rice: 45 q/ha Cabbage- 120 q/ha Cauliflower: 60q/ha Chilli: 15q/ ha Brinjal- 45q/ha Okra- 7.5q/ha Fisnery: 4.3t/ ha	Rice: 45-48 q/ha Jute: 30 q/ ha Poited Gourd: 15 q/ha Cabbage- 60q/ha Flower(Ganda): 225q/ha/month Fishery: 3.5t/ha	Rice: 44-46 q/ha Brinjal: 21q/ ha Poited Gourd: 36 q/ha Bitter gourd- 11q/ ha Fishery: 4.5t/ha	Rice: 60 q/ha Jute: 30q/ha Poited Gourd: 7.5 q/ha/week Okra- 10q/ha Fishery: 4.2t/ha
(vii) Soil status:	Sandy loam, clay	Sandy loam	Sandy loam, Loamy	Sandy, Sandy loam	Sandy loam
(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:	NPK (10:26:26): 60kg/ha Urea: 18kg/ha	NPK (10:26:26): 100kg/ha Urea: 75kg/ha	NPK (10:26:26): 60kg/ha Urea: 18kg/ha Organic fertilizer used	NPK (10:26:26): 60kg/ha Urea: 18kg/ha	NPK (10:26:26): 60kg/ha Urea: 18kg/ha Organic fertilizer used

	Purba barasat	Bodai	Ballavpur	Panchgeria	Chandigacha
(ix) Major diseases occurred in crops:	Stem Borer, Foot borer, Blast	Stem Borer, Foot borer, Blast	Stem Borer, Foot borer, Blast, Wilting	Stem Borer, Foot borer, Blast	Stem Borer, Foot borer, Blast, Wilting
(x) Major diseases occurred in livestock:	FMD, Mastitis, PPR	FMD, Mastitis, PPR, Infertility, Malnutrition	FMD, Mastitis, PPR, Infertility, Malnutrition	FMD, Mastitis, PPR, Infertility, Malnutrition	FMD, Mastitis, Infertility, Malnutrition
(xi) Post-harvest management/ value addition followed, if any:	NIL	NIL	NIL	NIL	NIL
(xii) Marketing channels of products:	Local Market (Sutia, Thakurnagar, Panchpota, Chandpara)	Local Market (Kamdevpur, Mathura, Raipur)	Local Market (Chandpara, Baguihati organic market, Thakurnagar, Bongaon)	Local Market (Bagjola, Habra)	Local Market (Habra Super market, Awalsiddi, guma)
(xiii) Agro-based industries, if any:	NIL	NIL	NIL	NIL	NIL
(xiv) Average income of the farmer:	Rs. 4000/month	Rs.5000/ month	Rs. 4000/ month	Rs. 3000/month	Rs. 2500/month

5. Possibility of involvement of ICAR Institutes:

ICAR institute like CRIJAF, IVRI, CIFA, CIFRI, NIRJAFT, NDRI may be involved for training and demonstration purpose.

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):

Fund will be utilized as per instruction.

7. Name of other partners to be involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

State department of Agriculture, Fishery, Animal resource Development, SAUs' and reputed FPOs'.

8. FPO formed or not? Yet to be formed.

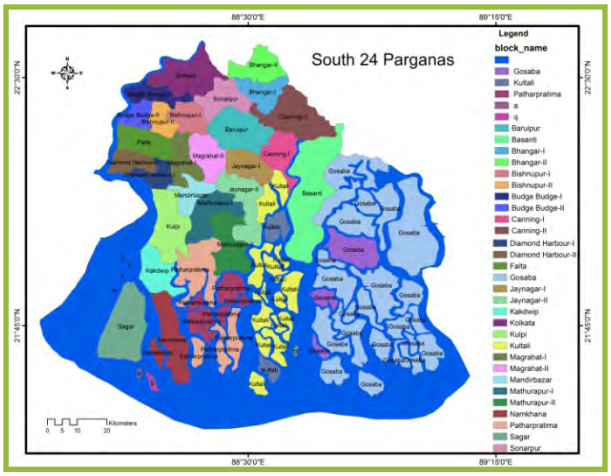
9. Major interventions planned:

Training, demonstrations, Farm Mechanisation, Crop diversification and other extension activity.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (In lakh)			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	Training	Entrepreneurship development, up gradation of agricultural Knowledge and skill, socio economic upliftment	2.5	3.0	3.5	4.0
2.	Demonstration	Adoption of new agricultural technologies and horizontal expansion through progressive farmers	3.0	3.5	4.0	4.5
3.	Farm Mechanization	Reduce the cost of cultivation, increasing farmers income	5.5	6.0	6.5	7.0
4.	Crop diversification	Promote the need based agricultural activities, improving soil health, increase the income	4.5	5.0	5.5	6.0
5.	Other extension activity	Animal health camp. Mobile clinics, Fish clinics, promotion of improved breeds of animal	3.5	4.0	4.5	5.0
6.	Manpower		4.0	4.0	4.0	4.0
		Sub- Total	**23.00**	**25.5**	**28.00**	**30.5**
		Grand Total	**Rs. 107.00 lakh**			

2.3. Coastal Saline sub region- South 24 Paraganas



2.3.1. South 24 Paraganas District

1. Name of KVK/ district : Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith

2. Name of villages to be adopted:

a. Gombhirnad, Block: Mathurapur-I
b. Siddhheswarpur, Block: Mandirbazar
c. Chuprijhara Goramulam, Block: Joynagar-II
d. Dhanpota, Block: Magrahat-II
e. Dakshin Rajnagar, Block: Kulpi

3. Number of farmers to be targeted: 100

4. Compiled baseline survey report (point wise) of the villages for 100 selected farmers:

(i) **Area of agriculture land (ha)** : 41.284 ha
(ii) **Area of irrigated land (ha)** : 16.2 ha
(iii) **Number of water body** : 131
(iv) **Area of water body (ha)** : 7.906 ha
(v) **Number of different livestock animals** : Cow- 149, Goat – 147, Hen – 850, Duck – 57
(vi) **Average yield of different crops, livestock and fisheries**:
Kharif paddy-22.5 qt/ha, Boro paddy-50.4, Greengram- 4.50qt/ha, Sunflower-10.55 qt/ha, Bitter gourd-5 t/ha, Tomato 230 qt/ha, cow-lactation yield-185lit, egg production- 105/year, Fish- 6 qnt/ha, Okra 45qnt/ha
(vii) **Soil status:** loam to clay loam
(viii) **Average nutrients (nitrogen, phosphorous, potash, etc) used**: Nitrogen-65kg/ha, Phosphorus-60kg/ha, Potash-31kg/ha, Zinc-10kg/ha
(ix) **Major diseases occurred in crops**: Paddy- Blast, Sheath Blight, Brown Spot. Okra- YVMV. Tomato- Leaf Curl, Greengram-Yellow Mosaic virus, Sunflower- Root Rot disease, Bitter Gourd- Powdery and Downey mildew
(x) **Major diseases occurred in livestock:** FMD, BQ, HS, Liver flukes, hypovitaminosis, Infertility, Repeat Breeding, Goat Pox, RD, Fowl pox, Duck cholera, Duck plague.
(xi) **Post-harvest management/ value addition followed, if any**: Not applicable

(xii) **Marketing channels of products**: presently does not exist.

(xiii) **Agro-based industries, if any**: NIL

(xiv) **Average income of the farmer:** 4150/ per month

5. Possibility of involvement of ICAR Institutes:

CSSRI, Canning town, CIFE, Kolkata, CIBA, Kakdwip, IVRI, ERS, Kolkata, NDRI, Kalyani

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): Will be explored.

7. Name of other partners to be involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

All the line departments of the State Government, NGOs etc.

8. FPO formed or not? No

9. Major interventions planned:

a. Training on

- Diversified fish culture
- Fish seed production
- Ornamental fish culture
- Integrated fish farming
- Integrated Nutrient Management
- Integrated pest and disease management
- Vegetable cultivation
- Cultivation of Pith
- Beekeeping
- Preparation of bio-pesticides
- Pulse and oilseed cultivation
- Scientific husbandry practice of poultry and Duck
- Scientific Goat Farming
- Scientific farming of dairy animals
- Disease management and vaccination of animals

b. Demonstration with critical input support on

- Paddy, Pulse, Oilseeds and vegetables
- Freshwater fish culture
- Indigenous fish culture
- Beekeeping
- Vermicompost
- Backyard poultry farming through convergence.

c. Animal Health Management

- Vaccination camp
- Deworming and supplementation camp
- Infertility camp
- Awareness camp

d. Exploration of possibilities for development of market linkage for agricultural produces.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (in Rupees)				
			2018- 19	2019- 20	2020- 21	2021- 22	Total
1	Training	Doubling of income by 2021-22	150000	270000	270000	270000	**960000**
2	Soil Testing		30000	0	0	30000	**60000**
3	Critical inputs for demonstration of Kharif Paddy (Seed, Biofertilizer, Biopesticide) @Rs. 500 x 100 person for 3 years		0	50000	50000	50000	**150000**
4	Critical inputs for demonstration of Boro Paddy (Seed, Biofertilizer, Biopesticide) @Rs. 500 x 100 person for 3 years		50000	50000	50000	50000	**200000**
5	Critical inputs for demonstration of vegetable cultivation (Seed, Biofertilizer, Biopesticide, pheromone trap, micronutrients) @ 1500 x 100 person for 3 years		0	150000	150000	150000	**450000**
6	Critical inputs for demonstration of pulse production (Seed, Biofertilizer, Biopesticide, micronutrient) @ Rs. 500 x 40 person for 4 years		20000	20000	20000	20000	**80000**
7	Critical inputs for demonstration of oilseeds production (Seed, Biopesticide, micronutrient) @ Rs. 700 x 60 person for 3 years		0	42000	42000	42000	**126000**
8	Critical inputs for demonstration of fresh water fishery (Carp fingerlings) @ Rs. 250 x 4 kg x 100 person for 3 years		0	100000	100000	100000	**300000**
9	Critical inputs for demonstration of catfish culture (Catfish fry) @ Rs. 3 x 500 no. x 100 person for 3 years		0	150000	150000	150000	**450000**
10	Demonstration of beekeeping with *Apis cerana* @ Rs. 5000 x 20 person		0	100000	0	0	**100000**
11	Animal Health Camp		75000	125000	125000	125000	**450000**
12	Improved composting (microbial decomposition & Vermicomposting) @ Rs. 15000 x 25 no.		0	225000	150000	0	**375000**
13	TA & POL		30000	50000	50000	50000	**180000**
14	Engagement of Village level unskilled worker for 12 days/month for monitoring, data collection, organization of camps and overall surveillance @ Rs. 262/day (Rs. 3144/month/ village for 42 months in 5 villages- 1st year- 3144X6X5=94320, 2 nd-4th year (36months)- 3144X36X5=5,65,920.00)		94320	188640	188640	188640	**660240**
15	Miscellaneous Expenditure		50000	50000	50000	50000	**200000**
	Total		**499320**	**1570640**	**1395640**	**1275640**	**47,41,240/-**

2.3.2. South 24 Paraganas District

1. Name of KVK/ district: Sasya Shyamala Krishi Vigyan Kendra, Narendapur

2. Name of villages adopted:

xi. Bamangachi
xii. Mohanpur
xiii. Dakshin Sangur
xiv. Raspunj
xv. Basudebpur
xvi. Garanbose

3. Number of farmers targeted: 177

4. Compiled baseline survey report (point wise) of the villages:

(i) **Area of agriculture land (ha):** 1180.5

Sl. No	Village name	Agriculture land (ha)
1	Bamangachi	52.4
2	Mohanpur	36.2
3	Dakshin Sangur	326.0
4	Raspunj	332.7
5	Basudebpur	26.0
6	Garanbose	407.2
	Total	**1180.5**

(ii) **Area of irrigated land (ha):** 559.5

Sl. No	Village name	Irrigated land (ha)
1	Bamangachi	25.6
2	Mohanpur	21.6
3	Dakshin Sangur	130.4
4	Raspunj	66.5
5	Basudebpur	10.0
6	Garanbose	305.4
	Total	**559.5**

(iii) **Number of water body:** 3151

Sl. No.	Village	Water body
1	Bamangachi	78
2	Mohanpur	72
3	Dakshin Sangur	110
4	Raspunj	84
5	Basudebpur	70
6	Garanbose	2737
	Total	**3151**

(iv) **Area of water body (ha):** 2156.4

Sl. No.	Village	Water body
1	Bamangachi	5.2
2	Mohanpur	4.5
3	Dakshin Sangur	5.7
4	Raspunj	6
5	Basudebpur	5
6	Garanbose	2130
	Total	**2156.4**

(v) **Number of different livestock animals:** Cow – 9433, Goat – 12681, Poultry - 27590

Sl. No.	Village	Cow	Goat	Poultry
1	Bamangachi	72	96	2680
2	Mohanpur	62	86	1610
3	Dakshin Sangur	88	162	2200
4	Raspunj	122	307	2500
5	Basudebpur	89	30	2600
6	Garanbose	9000	12000	16000
	Total	**9433**	**12681**	**27590**

(vi) **Average yield of different crops, livestock and fisheries:**

Sl. No.	Name of the crops, livestock and fishery item	Average yield
Agricultural crops		
1	*Kharif* rice	3.6 t/ha
2	*Boro* rice	4.5 t/ha
3	Maize	7.5 t/ha
4	Jute	2.0 t/ha
5	Lentil	0.75 t/ha
6	Pea	1.05 t/ha
7	Greengram	0.95 t/ha
8	Mustard	1.3 t/ha
9	Sunflower	2.2 t/ha
10	Sesame	1.2 t/ha
Horticultural crops		
1	Mango	9.00-14.00 t/ha
2	Banana	24.50 t/ha
3	Papaya	27.0 t/ha
4	Guava	6.20 t/ha
5	Potato	25.50 t/ha
6	Tomato	13.00 t/ha
7	Brinjal	22.80 t/ha
8	Okra	8.50 t/ha

Sl. No.	Name of the crops, livestock and fishery item	Average yield
9	Cucurbits	08.00-15.50 t/ha
10	Crucifers	20.00-25.00 t/ha
11	Leafy vegetable	12.00-15.00 t/ha
13	Beans	8.00-10.00 t/ha
14	Elephant foot yam	35.00-45.00 t/ha
Livestock		
1	Cattle	210 lit/lactation, 3.14 litre/day
2	Goat	8-10 kg meat/goat
3	Poultry	100 eggs/year (egg)
Fishery		
1	Improved fish varieties - Jayanti Rohu, Amur carp	8 tons/ha/year
2	GIFT Tilapia	10 tons/ha/year
3	Ornamental fish	5 lakhs /ha/year
4	Crab	2 lakhs /ha/year
5	Air breathing fish breeding	1 lakhs /5 tanks (1 ton capacity)/breeding season
6	Air breathing fish culture	8 tons/ha/year

(vii) **Soil status:**

Soils are generally loamy, clay loam and clayey in texture, acidic to neutral or even slightly alkaline in nature with EC value ranging from 0.5 to 2.5 dS/m. Low to medium oxidizable organic carbon, medium available nitrogen, medium to high available phosphorus and potassium describes the physico-chemical status of the soil. Most of the soils witness Zn and B deficiency.

(viii) **Average nutrients (nitrogen, phosphorous, potash, etc) used/ha:**

Sl. No.	Village	N used (kg/ha)	P used (kg/ha)	K used (kg/ha)
1	Bamangachi	56	52	48
2	Mohanpur	42	58	45
3	Dakshin Sangur	40	32	25
4	Raspunj	48	29	44
5	Basudebpur	52	42	30
6	Garanbose	46	36	25

(ix) **Major diseases occurred in crops:**

Sl. No.	Name of the crops	Major pest	Major disease
Agriculture crops			
1	Rice	Yellow stem borer, Brown plant hopper, leaf folder	Sheath blight, Bacterial leaf blight, Brown spot, Blast
2	Pulse	Spotted pod borer, aphid, white fly	Fusarium wilt, mosaic
3	Oilseed	Aphid	Alternaria leaf spot
Horticultural crops			
Vegetables			
1	Cole crops	*Spodoptera litura*/ *exigua*, Diamond back moth (DBM)	Damping off, black vein

Sl. No.	Name of the crops	Major pest	Major disease
2	Solanaceous vegetables	Brinjal shoot and fruit borer, Yellow mite, Thrips, Aphid, Whitefly	Damping off, bacterial wilt, Early blight, Verticillium wilt, leaf curl virus.
3	Cucurbits	Melon fruit fly	Downy mildew, Cucumber mosaic virus, Powdery mildew.
Fruit crops		Fruit borer, fruit fly, Eriophyd mite	Fusarium Wilt, Anthracnose, Canker

(x) **Major diseases occurred in livestock:**

- Foot and mouth disease, Mastitis
- Ranikhet disease
- Bacillary White Diarrhoea

(xi) **Post-harvest management/ value addition followed, if any:** Common practices like threshing and grading; but no specialized value addition activity is generally performed in the villages

(xii) **Marketing channels of products:** Local market

(xiii) **Agro-based industries, if any:** No

(xiv) **Average income of the farmer:** Rs. 4000.00 – 5000.00/- per month

5. Possibility of involvement of ICAR Institutes: Yes, NDRI

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): Yes

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.): Dept. of Agriculture, Dept. of Fisheries, Dept. of Animal Resource Dev., Dept. of P & RD, Dept. of FPI & Hort., Govt. of WB, Sundarban Development Board, Govt. of WB, Marine Product Export Development Authority (MPEDA), MoC, GOI, Sundarban Cooperative Milk & Livestock Producers' Union Ltd.(SMLU), S 24 Parganas, WB, Coastal Aquaculture Authority (CAA), ATMA and National Fisheries Development Board (NFDB)

8. FPO formed or not? No

9. Major interventions planned:

- Mushroom cultivation
- Homestead production of *Trichoderma* and *Trichocompost*
- Composting unit establishment
- Cultivation of high value vegetables
- Turkey rearing
- Air breathing fish breeding
- Air breathing fish culture
- Integrated Farming System (IFS)
- Air breathing fish breeding
- Composite Fish Culture with improved fish varieties like Jayanti Rohu, Amur Carp with periphyton technology
- Seed production of paddy, green gram
- Baby corn production
- Rice fallow intensification with pulse crops
- GIFT tilapia
- Nursery Development
- Off-season vegetable cultivation
- Broiler-duck rearing
- G9 banana cultivation
- Crab fattening
- Establishment of betel vine high-tech *boroz*

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (Rs.)			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	Mushroom cultivation	Woman empowerment, augmentation of farmers' income	1,20,000	1,20,000	1,20,000	1,20,000
2.	Homestead production of *Trichoderma* and *Trichocompost*	Sustainable farming, reduction of chemical input and income generation	1,30,000	1,30,000	1,30,000	1,30,000
3.	Composting unit establishment	Sustainable farming, reduction of chemical input and income generation	2,00,000	2,00,000	2,00,000	2,00,000
4.	Cultivation of high value vegetables	Better system productivity and profitability	3,20,000	3,20,000	3,20,000	3,20,000
5.	Turkey rearing	Augmentation of farmers' income	1,00,000	1,00,000	1,00,000	1,00,000
6.	Air breathing fish breeding	Augmentation of farmers' income	1,20,000	1,20,000	1,20,000	1,20,000
7.	Air breathing fish culture	Augmentation of farmers' income	1,50,000	1,50,000	1,50,000	1,50,000
8.	Integrated Farming System (IFS)	Augmentation of farmers' income	10,00,000	10,00,000	10,00,000	10,00,000
9.	Composite Fish Culture with improved fish varieties like Jayanti Rohu, Amur Carp with periphyton technology	Augmentation of farmers' income	1,50,000	1,50,000	1,50,000	1,50,000
10.	Seed production of paddy, green gram	Augmentation of farmers' income	1,50,000	1,50,000	1,50,000	1,50,000
11.	Baby corn production	Augmentation of farmers' income	1,50,000	1,50,000	1,50,000	1,50,000
12.	Rice fallow intensification with pulse crops	Better productivity, profitability and sustainable intensification of the farm	1,50,000	1,50,000	1,50,000	1,50,000
13.	GIFT tilapia	Income generation	2,00,000	2,00,000	2,00,000	2,00,000
14.	Nursery Development	Income generation	1,20,000	1,20,000	1,20,000	1,20,000
15.	Off-season vegetable cultivation	Value addition (temporal), better yield and profit	1,20,000	1,20,000	1,20,000	1,20,000
16.	Broiler-duck rearing	Higher income of the farmer	1,00,000	1,00,000	1,00,000	1,00,000
17.	G9 banana cultivation	Augmentation of farmers' income	1,50,000	1,50,000	1,50,000	1,50,000
18.	Crab fattening	Augmentation of farmers' income	1,50,000	1,50,000	1,50,000	1,50,000
19.	Establishment of betel vine high-tech *boroz*	Augmentation of farmers' income	6,00,000	6,00,000	6,00,000	6,00,000
		Sub- total	**40,80,000**	**40,80,000**	**40,80,000**	**40,80,000**
		Grand Total	**Rs. 1,63,20,000/-**			

3. Zone VII: Eastern Plateau and Hill Region

3.1. Undulating Red and Laterite sub region- Bankura, Birbhum, Purulia and West Medinipur

3.1.1. Bankura District

A. District Level Data On Agriculture, Livestock And Farming Situation

Sl. no.	Item	Information	
1	**Major Farming system/enterprise**	**Resource rich farmers:** a) Crop based backyard poultry – Goat rearing/ seasonal fish farming. b) Crop based – Dairy husbandry – Goat rearing. c) Crop based backyard pig rearing and backyard poultry rearing / Goat rearing. d) Crop based backyard poultry rearing and goat rearing. **Resource poor farmers:** a) land based backyard pig rearing and backyard poultry rearing / Goat rearing. b) Land based backyard poultry rearing and goat rearing	
2	**Agro-climatic Zone**	The average rainfall of the zone is 1216 mm of which about 80 per cent is received during four monsoon months. Two major groups of soil viz., red and lateritic are found in this agro-climatic zone. The soils vary in depth and in many cases shallow in nature. Due to undulating terrain the soils are highly eroded. Soil fertility level is very poor with low N and P. The soils are coarse in texture, highly drained, erosion prone and pH varies from 5.5 to 6.6.	
3	**Agro ecological situation**	**Situation**	**Characteristics**
		Uplalnd, undulated with steep to moderate slope.	Soil is sandy to sandy loam with shallow depth of soil, High erosion prone, High run – off, Low water retention capacity, Low fertility status, Negligible irrigation facilities. Partially covered with forest plants. Major area remains fallow.
		Medium land with moderate slope.	Soil is sandy loam to loamy with moderate soil depth, Moderate erosion, Moderate run – off with comparatively higher water retention capacity, Medium fertility status,Moderate irrigation facilities Major area under field crops and fruit crops.
		Low land with minimum slope.	Soil is loamy to clay soil with higher soil depth, Negligible run – off, optional irrigation facilities and major area under field crops..

	Soil type	Characteristics	Area(ha)
4.	Sandy	Lions' share of soil of this district is represented by coarse to coarse loam along with fine loamy textural class. Though fine textured/clayey soil counts for more or less 16% of the cultivable area. In brief, mostly the soils are high in texture, porous and acidic in nature. Fertility status is also very low. The soils are low in organic matter and having low water holding capacity. In general, most of the soil area ranges from well ranged to moderately drained condition though imperfectly drained situation prevails in low lying belts/ valleys. In respect of moisture regime, mostly the soil belong to ustic moisture regime class. Profile study says that soils of udic moisture regime counts for a little part. However, eastern and southern part of this district is more productive than western part.	50886
	Sandy loam		129397
	Loamy		43162
	Sandy clay loam		18864
	Clay loam		81944
	Clay (including sandy clay & silty clay		60207

5. Productivity of major 2-3 crops under cereals, pulses, oilseeds, vegetables, fruits and others

SL.No.	Crops	Area(ha)	Production (MT)	Productivity(qt/ha)
i.	Paddy	3,86,267	1654205	42.8
ii.	Potato	52,217	2043094	391.2
iii.	Wheat	81,868	207126	25.30
iv.	Sesamum	24,350	18,506	7.60
v.	Mustard	1283	1367	10.66
vi.	Arhar	1236	904	7.60
vii.	Blackgram	855	493	5.77
viii	Vegetables	34,742	5,24,925	151.09

6. Mean yearly temperature, rainfall, humidity of the district

Months	Rainfall (mm)/Rainy day	Temperature 0 C		Relative Humidity (%)
		Maximum	Minimum	
Jan,17	0.00/ 0	26.56	12.72	70.5
Feb,17	0.00/ 0	31.40	16.32	72.0
Mar,17	6.20/ 1	33.80	20.07	80.5
April,17	70.60/ 4	37.42	24.68	87.0
May,17	78.60/ 9	38.20	26.49	84.0
Jun,17	237.50/ 16	37.31	26.55	80.5
July,17	687.40/ 25	31.07	25.19	80.0
Aug,17	401.00/ 21	31.31		71.0
Sept,17	141.20/ 14	33.95		73.5
Oct,17	266.50/ 9	32.61		70.0
Nov,17	7.70 /3	28.36		70.0
Dec,17	2.60/ 1	26.33		63.0

7. Production of major livestock products like milk, egg, meat etc.			
Category	**Population**	**Production**	**Productivity**
A.Cattle			
i. Cross breed	69,310	Milk:1,65,000 MT	107kg/year
ii.Indegeneous	13,66,631		
B. Buffalow	1,06,042		
C.Sheep	1,14,529	Meat:16,193 MT	
D.Goat	7,40,830		
E.Pigs	80,587		
F. Birds			
i.Desi	14,78,862	1024,00,000 eggs	
ii. Improved	6,78,353		
iii. Duck	7,68,078		
iv.Others	39,543		
G. Fish(Inland)	12,655 ha	25,310 MT	2000kg/ha

B. Action Plan for Doubling Farmers' Income Based On Recommended Interventions/Technologies in Bankura, West Bengal

	Major intervention/ Technologies of KVK
Module -1 : **Soil Health Management and Productivity Enhancement**	• Encouragement and adoption of off season vegetable cultivation like summer Cabbage, Cauliflower, Ladies finger, Winter gourd and Leafy vegetables like spinach, radish etc. • Encouragement of timely sowing of high yielding varieties of cereals, pulses, oilseeds and vegetables. • Promotion of protected cultivation of Capsicum, Cherry Tomato, Straw berry, Dragon fruit etc • Intercropping of black gram in Sesame . • Adoption of line sowing in Sesame and Black gram. • Plantation of Mango/ Sweet lemon/ Guava/ Lime/ Jackfruit orchards. • Implementation of pulse based cropping system. • Adoption of use of proper fertilizer dose on the basis of Soil Test Based Fertilizer Application. • Increase in water and fertilizer use efficiency through drip and sprinkler irrigation. • Promotion of SRI method of rice cultivation. • Development and adoption of IPM & INM modules for specific crops. • Promotion of Integrated Weed Management strategy. • Promotion of quality planting materials production. • Promotion and popularization of vermi technology.
Module - 2 : **Integrated Farming system**	• Emphasis on promotion of mushroom production unit, vermin production unit, poultry and livestock in integrated farming system. • Integration of adequate cropping system incorporation with cereals, pulses & forage etc . • Integration with horticultural crops like mango, litchi, guava, banana, citrus, papaya, drumstick with intercrop of vegetables like knolkhol, gourds, turmeric, ginger, chilli etc.

	Major intervention/ Technologies of KVK
Module - 3 : **Livestock, Goatry, Poultry and Fisheries**	• Replacement of Carp in fisheries in bills and ponds. • Encouragement of ornamental fishery. • Replacement of existing local breeds with new breeds in live stock like Jersey in cattles, Black Bengal goat for meat purpose. • Promotion of rearing of dual purpose poultry birds. • Encouragement of rearing of rabbit for meat purpose.
Module - 4 : Reducing post harvest losses and value addition	• Creation of larger facilities of infrastructure for reducing post harvest losses in horticultural commodities viz. Primary processing units, Long term storage, warehouses. • Development of cottage industries at village level for unfinished products. • Promotion in production of jam, jelly, Mixed pickle and mushroom pickle by SHGs.
Module - 5 : **Soil and water conservation, dry land farming**	**Major intervention/ Technologies of KVK** • Promotion of Agroforestry and fodder plants. • Establishment of water harvesting structure. • Plantation of bael, or wild amla, custard apple, drumstick and other economically important plants in wasteland. • Promotion of sericulture, bee keeping, poultry, fish farming and mushroom will harness the potential of new or improved technology in farming occupation.
Module - 6 : Reduced cultivation cost	• Adoption of user friendly implements viz improved sickle, small threshers, Tillers and other garden tools will reduce the drudgery and indirectly improve the production resulting in income of small farmers. • Adoption of recommended dose of fertilizer. • Biotic stress management through biological methods to reduce the cost of chemical measures. • Promotion of low water requiring crops.
Module - 7 : Strengthening of Policies	• Incorporation of institutional support in the form of subsidises and incentives can raise the farm production and income in larger interest of farm. • Declaration of minimum support price and crop insurance policy incentives is known on or before sowing season to avoid surplus or deficiency. • Development of common utility centre for targeted commercial production. • Development and strengthening of FPOs. • Surveillance of cross border disease and pest. • Augmentation of organic production system.
Module - 8 : **Marketing awareness**	• Establishment of Minimal processing units for Pulses, Spices, oilseeds, Cool chain system, Refrigerator vans for perishable commodities. • Development of more infrastructures to develop semi-finished products. Milk chilling plants. • Establishment of mandis for temporary storage and sale of commodities at block.

C. Average annual income of the farmer in the district

Sl. No.	Category of Farmer	Average annual income (in Rs.)
1	Marginal	40,000.00
2	Small	55,000.00
3	Medium	1,00000.00

D. Information on adopted villages and per family income per year

Sl. No	Village	Farming situation	G.P, Block	Existing Farming Practices	Present Income Rs. (2017-18)	Expected outcome Rs. (2018-19)
1.	Patashpur	Medium & Low land with minimum slope	Narayanpur Patrasayer	Crop based backyard poultry rearing and goat rearing	90000.00	124000.00
2.	Balarampur	Medium land with moderate slope	Belut-Rasulpur Patrasayer	Crop based backyard poultry-Dairy husbandy/Goat rearing-Seasonal fish farming	96000.00	132000.00
3.	Dhulai	Upland undulated with moderate slope	Dhulai Sonamukhi	Land based backyard pig rearing and backyard poultry rearing /Goat rearing	55000.00	90000.00
4.	Siberbandh	Upland undulated with steep to moderate slope	Kochdi Sonamukhi	Land based backyard poultry-Pig rearing and Goat rearing	45000.00	70000.00
5.	Bagdoba-chuasole	Upland undulated with moderate slope	Belsulia Bishnupur	Crop based backyard pig rearing and backyard poultry rearing/Goat rearing and seasonal fish farming	60000.00	100000.00

E. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Budget			
		2018- 19	2019- 20	2020- 21	2021- 22
1.	• Promotion of SRI method of rice cultivation. • Encouragement and adoption of off season vegetable cultivation like summer Cabbage, Cauliflower, Ladies finger, Winter gourd and Leafy vegetables like spinach, radish etc • Replacement of existing local breeds with new breeds in live stock like Jersey in cattles, Black Bengal goat for meat purpose. • Development and adoption of IPM & INM modules for specific crops. • Encouragement of timely sowing of high yielding varieties of cereals, pulses, oilseeds and vegetables. • Promotion of protected cultivation of Capsicum, Cherry Tomato, Straw berry, Dragon fruit etc • Adoption of use of proper fertilizer dose on the basis of Soil Test Based Fertilizer Application • Promotion of rearing of dual purpose poultry birds.	3,50,000/-	4,00,000/-	4,50,000/-	5,00,000/-

Sl. No.	Activities planned	Budget			
		2018- 19	2019- 20	2020- 21	2021- 22
2.	• Replacement of Carp in fisheries in bills and ponds. • Encouragement and adoption of off season vegetable cultivation like summer Cabbage, Cauliflower, Ladies finger, Winter gourd and Leafy vegetables like spinach, radish etc • Integration of adequate cropping system incorporation with cereals, pulses & forage etc • Replacement of existing local breeds with new breeds in live stock like Jersey in cattles, Black Bengal goat for meat purpose.				
	• Promotion of rearing of dual purpose poultry birds. • Adoption of use of proper fertilizer dose on the basis of Soil Test Based Fertilizer Application. • Increase in water and fertilizer use efficiency through drip and sprinkler irrigation. • Promotion of SRI method of rice cultivation. • Development and adoption of IPM & INM modules for specific crops. • Promotion of Integrated Weed Management strategy. • Promotion of quality planting materials production. Promotion and popularization of vermi technology.	3,80,000/-	4,00,000/-	4,50,000/-	5,00,000/-
3.	• Promotion of sericulture, bee keeping, poultry, fish farming and mushroom will harness the potential of new or improved technology in farming occupation. • Promotion in production of jam, jelly, Mixed pickle and mushroom pickle by SHGs. • Promotion of Agroforestry and fodder plants. • Integration of adequate cropping system incorporation with cereals, pulses & forage etc . • Replacement of existing local breeds with new breeds in live stock like Jersey in cattles, Black Bengal goat for meat purpose. • Promotion of rearing of dual purpose poultry birds. • Encouragement of rearing of rabbit for meat purpose.	2,70,000/-	3,00,000/-	3,50,000/-	4,00,000/-

Sl. No.	Activities planned	Budget			
		2018- 19	2019- 20	2020- 21	2021- 22
4.	• Promotion of sericulture, bee keeping, poultry, fish farming and mushroom will harness the potential of new or improved technology in farming occupation. • Promotion in production of jam, jelly, Mixed pickle and mushroom pickle by SHGs.. • Integration with horticultural crops like mango, litchi, guava, banana, citrus, papaya, drumstick with intercrop of vegetables like knolkhol, gourds, turmeric, ginger, chilli etc. • Development and adoption of IPM & INM modules for specific crops. • Promotion of rearing of dual purpose poultry birds. • Encouragement of rearing of rabbit for meat purpose. • Encouragement of ornamental fishery.	3,30,000/-	3,50,000/-	4,00,000/-	4,50,000/-
5.	• Encouragement of timely sowing of high yielding varieties of cereals, pulses, oilseeds and vegetables. • Promotion of protected cultivation of Capsicum, Cherry Tomato, Straw berry, Dragon fruit etc • Intercropping of black gram in Sesame . • Adoption of line sowing in Sesame and Black gram. • Plantation of Mango/ Sweet lemon/ Guava/ Lime/ Jackfruit orchards. • Development and adoption of IPM & INM modules for specific crops. • Adoption of user friendly implements viz improved sickle, small threshers, Tillers and other garden tools will reduce the drudgery and indirectly improve the production resulting in income of small farmers. • Adoption of recommended dose of fertilizer. • Replacement of existing local breeds with new breeds in live stock like Jersey in cattles, Black Bengal goat for meat purpose. • Promotion of rearing of dual purpose poultry birds. • Encouragement of timely sowing of high yielding varieties of cereals, pulses, oilseeds and vegetables.	3,00,000/-	3,50,000/-	4,00,000/-	4,50,000/-
	Sub- Total	**16,30,000/-**	**18,00,000/-**	**20,50,000/-**	**23,00,000/-**
	Grand Total	**Rs. 77,80,000/-**			

3.1.2. Birbhum District

1. Name of KVK/ district:

Rathindra Krishi Vigyan Kendra, Palli Siksha Bhavana (Institute of Agriculture), Visva-Bharati, Sriniketan, Dist- Birbhum, West Bengal

2. Name of villages to be adopted:

(i) Vill: UsarDharampur, P.O. Daranda, Block: Illambazar, Dist: Birbhum
(ii) Vill: Maheswarpur, P.O. Hansra, Block: Illambazar, Dist: Birbhum
(iii)Vill: Kashiara, P.O.Palsa, Block: Labpur, Dist: Birbhum
(iv) Vill: Kandpur, P.O. Daranda, Block: Illambazar, Dist: Birbhum
(v) Vill: Sahebdanga P.O. Srichandrapur, Block Illambazar, Dist: Birbhum

3. Number of farmers to be targeted:100 farmers (20 farmers each in 5 villages)

4. Compiled baseline survey report (point wise) of the villages:

(i)Area of agriculture land (ha):760 ha
(ii) Area of irrigated land (ha):572 ha
(iii) Number of water body: 39
(iv) Area of water body (ha):15
(v) Number of different livestock animals:

- Cow: 1505 nos.
- Goat: 1260 nos.
- Bufflo:100
- Sheep: 220
- Duck: 900
- Chick: 1368
- Pig: 100

(vi) Average yield of different crops, livestock and fisheries:

Crops	Livestock	Fishery
Paddy: 55 q/ha	Cow: 3 Ltr/Day/ Animals	
Lentil: 8 q/ha	Poultry Bird: 140 Eggs/ Year/ Bird	

Crops	Livestock	Fishery
Mustard: 9 q/ha		20 q/ha/year
Blackgram: 7.5 q/ha		
Sesame : 10 q/ha		
Potato: 271 q/ha		
Brinjal :50 q/ha		
Tomato :45 q/ha		
Chilli : 8 q/ha		
Wheat :19 q/ha		
Onion : 37 q/ha		
Cabbage: 500 q/ha		

(vii) Soil status:

Sandy, Sandy loam soil, Acidic in Nature (pH 5.5-6.2), Low in Organic Carbon, Medium in Available Nitrogen, Low in Available Phosphate, Medium in Potash content

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

Crops	Fertilizers Dose (N:P:K Kg/ha)
Paddy	100:20:20
Lentil	0-0-0
Mustard	60:20:20
Blackgram	0-20-0
Sesame	40:0:0
Potato	200:150:150
Brinjal	150:50:50
Tomato	80:20:20
Chilli	80:20:20
Wheat	80:20:0
Onion	150:50:50
Cabbage	150:50:50

(ix) Major diseases occurred in crops:

Crops	Pest	Disease
Rice	Stem borer, BPH	Brown spot, Seath Blight,Blast
Mustard	Aphid, Sawflies	Clubroot
Potato	Aphid, Grub	Late Blight
Brinjal	Fruit & Shoot borer, Mite	Bacterial &Fungal Wilt
Tomato	Pod Borer	Wit
Chilli	Mite	Leaf Curl virus

(x) Major diseases occurred in livestock:

Livestock	Disease
Poultry Birds	Ranikhet, Fowl Pox, Egg drop Syndrome, Fowl Cholera
Cattel Animals	FMD, PPR, Anthrax, Haemophilia, Milk Fever

(xi) Post-harvest management/ value addition followed, if any: NA

(xii) Marketing channels of products: Farm Produces are Sold at Local market directly/ indirectly.

(xiii) Agro-based industries, if any: No

(xiv) Average income of the farmer: Rs.40,000 to 60,000 / year

Note: Eggs, milk and Fish are only for home consumption.

5. Possibility of involvement of ICAR Institutes:

ICAR-NDRI (ERS), ICAR-CRIJAF, ICAR-CISH, ICAR-CIFRI, ICAR- NIRJAFT, ICAR-ATARI etc

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.):

Pallyshree, Yara fertilisers, GMS agrotech, Bayer etc.

7. Name of other partners to be involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

A) State Deptt of Agriculture, Department of Animal Resource Development, Department of Fishery
B) NGO: LokaKalayan Parishad, KabiguruOrganisation

8. FPO formed or not?

Not formed

9. Major interventions planned:

A)Skill development training
B) Front Line Demonstration
C) Supply of critical inputs for small units

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
1	**Skill Development Training Programmes on**					
	(i) Induced Breeding and Carp Seed Production/ Hatchery worker	i) Self-employment, employment generation , increase in fish yield and increase in income	38,000	75,000	85,000	95,000
	(ii) Improved Goat Farming	ii) Self employment, increase in meat productivity and increase in income	38,000	75,000	85,000	95,000
	(iii) Para vets/ Animal Health Workers	iii) Self employment, increase in animal productivity and increase in income	38,000	75,000	85,000	95,000
	(iv) Mushroom Cultivation	iv) Self employment and increase in income	38,000	75,000	85,000	95,000

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
	(v) Production and use of Organic Inputs (Vermicompost, Nadep Compost, Azolla etc.)	v) Self employment, employment generation, Organic enrichment and soil health improvement and Increase in income	38,000	75,000	85,000	95,000
	(vi) Post harvest technology and value addition of different fruits and vegetables	vi) Reduction of loss of surplus produce, self employment and increase in income	-	40,000	85,000	95,000
	(vii) Nursery Management in Horticultural Crops	vii) Self employment, employment generation and increase in income	-	40,000	85,000	95,000
	(viii) Para Extension Worker/ Extension Service Provider	viii) creation of linkage with market, input dealers etc for better production and better income	38,000	75,000	85,000	95,000
	(viii) Formation and working of Farmers Producers Organisation	viii) Market led extension for better price of the produce groupwise and increase in income as much as possible	38,000	75,000	85,000	95,000
	(ix) Paddy and pulse seed production Technology	(ix) Productivity enhancement, self employment and employment generation and increase in income	38,000	75,000	85,000	95,000
	Sub- Total		**3,04,000**	**6,80,000**	**8,50,000**	**9,50,000**
2	**Front Line Demonstrations on**					
	(i) Cultivation of Bhetki in Composite Fish Culture	(i)B:C ratio of 4.5 against 2.0 in traditional	1,25,000	2,50,000	2,75,000	3,00,000
	(ii) Use of dry yeast and cobalt chloride in fish feed for Composite Fish Culture	(ii) B:C ratio of 4.2 against 2.0 in traditional	75,000	1,50,000	1,75,000	2,00,000
	(iii) Giant Prawn Cultivation in Composite Fish Culture	(iii) B:C ratio of 4.8 against 2.0 in traditional	1,20,000	2,40,000	2,70,000	3,00,000
	(iv) Breed replacement of Duck by introduction of White Pekin breed	(iv) B:C ratio of 3.5 against 1.5 in traditional	1,50,000	3,00,000	3,30,000	3,30,000
	(v) Cultivation of Japanese Quail instead of general poultry farming	(v) B:C ratio of 2.9 against 1.2 in traditional	1,50,000	3,00,000	3,30,000	3,60,000
	(vi) Cultivation of Elephant Foot Yam in Monocropped upland	(vi) B:C ratio of 3.4 against 1.5 in upland Rice	75,000	1,50,000	1,75,000	2,00,000
	(vii) Introduction of Ekangi (*K. galanga*)in Monocropped upland	(vii) B:C ratio of 4.5 against 1.5 in upland rice	1,25,000	2,50,000	2,75,000	3,00,000
	(viii) Cluster FLD on Pulses (Kharif pulses, Rabi pulses & Summer Pulses) as crop diversification	(viii) B:C ratio of 3.6 to 4.2 against 1.5-1.9 in traditional cropping	Budgetary support from CFLD fund			
	(ix) Cluster FLD on Oilseeds (Kharif oilseeds, Rabi oilseeds & Summer oilseeds) as crop diversification	(ix) B:C ratio of 2.9 to 3.8 against 1.5-1.9 in traditional cropping	Budgetary support from CFLD fund			
	Sub- Total		**8,20,000**	**16,40,000**	**18,30,000**	**19,90,000**

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
3	**Supply of critical inputs for small scale rural industry**					
	(i) Azolla Unit (10 nos @ 15,000/-)	(i) 40,000- 45,000/- net return per unitin 1st year and will increase in subsequent year beside organic enrichment	75,000	1,50,000	1,65,000	1,75,000
	(ii) Low cost Vermicompost Unit (10 nos @ 25,000/-)	(ii) 1,20,000- 1,40,000/- net return per unit in1st year and will increase in subsequent year beside organic enrichment	1,25,000	2,50,000	2,75,000	3,00,000
	(iii) Integrated Farming System (5 nos @ 1,00,000/-)	(iii) 1,57,000/- 1,75,000/- net return per unit in 1st year and will increase in subsequent year	2,50,000	5,00,000	5,50,000	6,00,000
	(iv) Small scale goatery unit (10 nos @ 25,000/-)	(iv) 60,000-75,000/- net return per unit in 1st year and will increase in subsequent year	1,25,000	2,50,000	3,00,000	3,50,000
	(v) Small scale horticultural nursery (10 nos @ 40,000/-)	(v) 60,000-75,000/- net return per unit in 1st year and will increase in subsequent year	2,00,000	4,00,000	4,40,000	4,80,000
	(vi) Mushroom production unit (10 nos@ 25,000)	(vi) 50,000-75,000/- net return per unit in 1st year and will increase in subsequent year	1,25,000	2,50,000	2,75,000	3,00,000
	Sub- Total		**9,00,000**	**18,00,000**	**20,05,000**	**22,05,000**
4	**Awareness Generation Camps on**					
	i) Crop Diversification (5 camps)	Crop production as par demand of market and increase in income	6,000	12,000	14,000	16,000
	ii) Fodder Cultivation (5 Camps)	Reduction of cost for animal rearing and increase in income	6,000	12,000	14,000	16,000
	iii) Small and Cottage Industry (5 camps)	Employment generation and increase in income	6,000	12,000	14,000	16,000
	iv) Processing and packaging of end products (10 camps)	Fetching more price from market and increase in income	12,000	24,000	24,000	24,000
	v) Marketing through FPO and SHG (5 camps)	Assured sale of produce with secured market price and increase in income	6,000	12,000	14,000	16,000
	Sub- Total		**36,000**	**72,000**	**80,000**	**88,000**
5	**Animal Health Camps (10 camps)**	Enhancement of animal productivity and increase in income	**25,000**	**50,000**	**55,000**	**60,000**
6	**Soil Testing Camps (10 Camps)**	Reduction of production cost, soil health management and increase in income	**25,000**	**50,000**	**55,000**	**60,000**
7	**Crop Diagnostic Camps (10 Camps)**	Enhancement of crop productivity and increase in income	**25,000**	**50,000**	**55,000**	**60,000**

Grand Total

Sl. No.	Activities planned	Budget			
		2018- 19	2019- 20	2020- 21	2021- 22
1	Skill Development Training Programmes	3,04,000	6,80,000	8,50,000	9,50,000
2	Front Line Demonstrations	8,20,000	16,40,000	18,30,000	19,90,000
3	Supply of critical inputs for small scale rural industry	9,00,000	18,00,000	20,05,000	22,05,000
4	Awareness Generation Camps	36,000	72,000	80,000	88,000
5	Animal Health Camps	25,000	50,000	55,000	60,000
6	Soil Testing Camps	25,000	50,000	55,000	60,000
7	Crop Diagnostic Camps	25,000	50,000	55,000	60,000
	Sub- Total	21,35,000	43,42,000	49,30,000	54,13,000
	Grand Total	Rs. 1,68,20,000/-			

3.1.3. Purulia District

1. Name of KVK/ district:

Purulia Krishi Vigyan Kendra Kalyan

2. Name of villages adopted:

i. Bandhgarh, Block- Purulia-II
ii. Jambad, Block- Purulia-II
iii. Khatchiri, Block- Manbazar-1
iv. Madhubanpur, Block- Santuri
v. Bhalagora, Block- Kashipur

3. Number of farmers targeted:

100 nos.

4. Compiled baseline survey report (point wise) of the villages:

(i) Area of agriculture land (ha): 1123.00 ha
(ii) Area of irrigated land (ha): 115.00 ha
(iii) Number of water body: 35 nos.
(iv) Area of water body (ha): 20.00 ha
(v) Number of different livestock animals: 5127 nos.
(vi) Average yield of different crops, livestock and fisheries:

Sl. No	Crop/ Enterprise	Productivity (Qtl./ha)
1	Aman Paddy	34.6
2	Kharif Maize	15.2
3	Kharif Blackgram	3.2
4	Kharif Redgram	5.6
5	Kharif Groundnut	8.2
6	Tomato	8.3
7	Brinjal	10.7

Sl. No	Crop/ Enterprise	Productivity (Qtl./ha)
8	Chilli	1.1
9	Bhindi	7.4
10	Cabbage	17.2
11	Rapesed/Mustard	6.57
12	Summer Cucurbits	7.7
Livestock		
13.	Cattle	
i	*Crossbred*	6.5 kg/ day (Milk)
ii	*Indigenous*	1.5 kg/ day (Milk)
14.	Buffalo	2.5 kg/ day(Milk)
15.	Sheep	8.0 kg meat/ animal
16.	Goats	7.0 kg meat/ animal
17.	Poultry	
i	*Desi*	60 eggs/ bird/ year
ii	*Improved*	130 eggs/ bird/ year
18.	Ducks	70 eggs/ bird/ year
19.	Fish	5.5 q/ ha.

(vii) Soil status:

The soils are mostly formed in situ condition by weathering of parent rocks. Only in valley bottom colluvial soils are formed. The parent rock is mainly Granite and Feldspar. Quartz, Muscovite, Mica, etc. also found in different depth. Soils are mostly acidic in nature and pH varies from 5 to 6.5. Soil types of different land situations given below:

S. No	Soil type	Characteristics
1	Tanr/Gora land (High Land)	Undulated sloping up lands without bunds, shallow soil depth, gravelly, coarse textured and well drained having low water holding capacity. These lands are either severely eroded or very susceptible to erosion. Soils are very poor in organic matter and other plant nutrients. About 9 percent land falls under this group. Important crops grown in these soils during rainy season are Groundnut, Arhar, Black gram, Niger, etc. In case of highly eroded land usually forest trees are grown.
2	Baid (Medium High Land)	Bunded sloping up lands, shallow soil depth, coarse textured soil, well drained having low water holding capacity. Soils are poor in organic matter and other plant nutrients. About 51% land is covered under this type. During rainy season transplanted Paddy is grown in this land situation. Where irrigation facilities are available, second crop like wheat, mustard, potato, vegetable, etc. can be grown.
3	Kanali (Medium Land)	Very gently sloping to moderately sloping medium lands are situated in between bunded high lands and valley bottom, soil is moderately deep, light to medium texture, moderate to low in organic matter and other plant nutrients. Clay contents increases along with depth, these lands are suitable for paddy cultivation during rainy season. About 30% cultivable land is under this class.
4	Bahal (Low Land)	Low or valley bottom soils are mostly colluvial. Soils are deep to very deep with medium to fine texture. Permeability is low and suffers drainage problem. Colluvial is formed under hydromorphic condition on the materials brought down from high lying areas by rain water. Soils are intensively used for paddy cultivation. Soils are moderately to high in organic matter and other plant nutrients. About 10% of cultivable lands are under this class.

(viii) Average nutrients (nitrogen, phosphorous, potash, etc) used:

N- 60.0 kg/ ha P_2O_5- 30.0 K_2O- 20.0 kg/ ha

(ix) Major diseases occurred in crops:

S. No	Crop	Major Diseases
1	Aman Paddy	Blast, Brown Spot, Loose Smut, False Smut, Sheath Blight
2	Kharif Maize	
3	Kharif Blackgram	Powdery mildew, downy, alternaria leaf spot
4	Kharif Redgram	
5	Kharif Groundnut	Cercospora leaf spot, Alternaria, Tikka, Rust
6	Tomato	Late blight, Early blight, Fusarium wilt, bacterial wilt, damping off
7	Brinjal	Bacterial wilt, phomopsis blight, root rot, little leaf
8	Chilli	Little leaf, bacterial wilt, damping off, Leaf curl
9	Bhindi	YVM, Cercospora leaf spot, root rot
10	Cabbage	Black vein, Club root, Collar rot, Alternaria leaf spot
11	Rapeseed/Mustard	Downy mildew, white rust, club root, alternaria leaf spot
12	Summer Cucurbits	Downy mildew, piowdery mildew, root rot, mosaic

(x) Major diseases occurred in livestock:

Sl. No.	Category	Diseases
1.	Cattle	FMD, HS&BQ, Mastitis, Anoestrous & Repeat Breeding
2.	Buffalo	
3.	Sheep	PPR, FMD, Enterotoximia
4.	Goats	
5.	Poultry	Ranikhet, Fowl Cholera, Pox, Coccidiosis
6.	Ducks	Duck Plague, Duck viral hepatitis
7.	Fish	Fin & Tail Rot, Dropsy, Epizootic ulcerative syndrome

(xi) Post-harvest management/ value addition followed, if any:

No organized arrangements is available

(xii) Marketing channels of products:

Local market (Haats)

(xiii) Agro-based industries, if any:

No

(xiv) Average income of the farmer:

Rs. 45,000.00 to Rs. 50,000.00 per annum.

5. Possibility of involvement of ICAR Institutes:

i. ICAR- IINRG, Namkum, Ranchi, Jharkhand
ii. ICAR RS for Eastern Zone, Plandu, Ranchi, Jharkhand
iii. ICAR RS on Rainfed Rice, Hazaribagh, Jharkhand
iv. Central Sericulture Research and Training Institute, Berhampur, Murshidabad, West Bengal
v. ICAR- CRIJAF, Barrackpore, West Bengal

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill & Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): NO

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.):

i. Dept. of Agriculture, Govt. of WB, Purulia
ii. Food Processing Industries & Horticulture (FPI&H), Govt. of WB, Purulia
iii. Dept. of Animal Resource Development, Govt. of WB, Purulia
iv. Dept. of Fisheries, Govt. of WB, Purulia
v. DRCSC
vi. GVT

8. FPO formed or not? NO

9. Major interventions planned:

A. Soil & Water conservation measures for better soil plant moisture regime
B. Increase in productivity and cropping intensity through better technologies and varieties
C. Increasing resource use efficiency and saving cost of production
D. Introduction of improved farm machinery in crop production.
E. Diversification towards high value crops and enterprises
F. Strategies for Post harvest management to reduce crop loss and required value addition and processing
G. Improvement in marketing arrangement in terms of real prices received by farmers

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. in Lakhs)			
			2018- 19	2019- 20	2020- 21	2021- 22
1.	Demonstration and expansion of area under hybrid and scented rice.	1. Increase in crop productivity 30-40% 2. Raising cropping intensity from 115 to125% 3. Crop diversification 20 to 30% 4. Better price realization 20 to 30% 5. Increase in farmers income.	1.0	1.0	1.0	1.0
2.	Quality Seed and Planting material production.		2.0	2.0	2.0	2.0
3.	Introduction of QPM using Multi Crop Planter.		1.5	0.50	0.50	0.50
4.	Introduction of HYV's hybrids of pulses and oilseeds.		1.5	1.0	1.0	1.0
5.	Raising of seedlings of high value crops through low cost poly house.		0.80	1.0	0.50	0.30
6.	Off-season vegetable cultivation through protective cultivation techniques.		8.5	1.0	1.0	1.0
7.	Value addition of Horticultural crops.		1.35	1.0	1.0	0.50

Sl. No.	Activities planned	Expected Outcome	Budget (Rs. in Lakhs)			
			2018- 19	2019- 20	2020- 21	2021- 22
8.	Improved storage techniques for Field crops & Horticultural crops.		2.0	0.50	1.0	0.50
9.	Inclusion of bio-fertilizer & bio-pesticides into the production system.		0.50	0.50	0.50	0.50
10.	Vermicomposting and other composting techniques.		1.5	0.50	0.30	0.30
11.	Self employment through poultry and goatery.		5.0	4.0	3.0	2.0
12.	Value addition of Dairy products.		1.5	0.50	0.50	0.50
13.	Income generation through Mushroom, Tasar Silk worm rearing and Lac Culture.		1.0	0.50	0.50	0.50
14.	Use of vegetable transplanter, Paddy cutter, power tiller, etc.		3.0	2.50	2.0	-
15.	Excavation of contour trenches and graded bunds		5.0	5.0	5.0	5.0
16.	Excavation/ Re- excavation of water harvesting structures		10.0	10.0	10.0	10.0
17.	Development of orchards/ agro-forestry system in waste land		5.0	3.0	3.0	1.0
18.	Inclusion into Digital Farming Network.		2.0	2.0	1.5	1.0
19.	Formation and Capacity building of Farmers Producer Groups through marketing channels		1.0	1.0	1.0	1.0
		SUB- TOTAL (Rs. in Lakhs)	**54.15**	**37.50**	**35.30**	**18.00**
		GRAND TOTAL (Rs. in Lakhs)	**144.95**			

3.1.4. West Medinipur District

1. Name of KVK/ district: Seva Bharati KrishiVigyan Kendra, Jhargram, West Medinipur

2. Name of villages adopted:

xvii. Amlatora
xviii. Chhoto Enyata
xix. Laghata
xx. Domesole
xxi. Asanbani

3. Number of farmers targeted: 100

4. Compiled baseline survey report (point wise) of the villages:

(i)**Area of agriculture land (ha):** 530.45

Sl. No	Village name	Agriculture land (Ha)
1	Amlatora	115.0
2	Chhoto Enyata	95.30
3	Laghata	155.0
4	Domesole	85.15
5	Asanbani	80.0
	Total	**530.45**

(ii) **Area of irrigated land (ha):** 410.30

Sl. No	Village name	Irrigated land
1	Amlatora	70.0
2	Chhoto Enyata	55.0
3	Laghata	135.0
4	Domesole	75.30
5	Asanbani	75.0
	Total	**410.30**

(iii) **Number of water body:** 4 (Big pond), 66 (small pond)

Sl. No.	Village	Big Pond (>1 bigha)	Small pond
1	Amlatora	-	14
2	Chhoto Enyata	1	6
3	Laghata	1	18
4	Domesole	1	16
5	Asanbani	1	12
	Total	**4**	**66**

(iv) **Area of water body (ha):** 60.0

Sl No.	Village	Area of Pond (ha)
1	Amlatora	12.6
2	Chhoto Enyata	12.1
3	Laghata	15.3
4	Domesole	12.6
5	Asanbani	7.4
	Total	**60.0**

(v) **Number of different livestock animals**:Cow (1490), Goat (1419), Poultry (9600), Duck (493)

Sl No.	Village	Cow	Goat	Poultry	Duck
1	Amlatora	650	450	2500	150
2	Chhoto Enyata	450	310	1200	30
3	Laghata	520	54	2800	121
4	Domesole	350	280	1600	112
5	Asanbani	320	325	1500	80
	Total	**2490**	**1419**	**9600**	**493**

(vi) **Average yield of different crops, livestock and fisheries:**

Sl No	Name of the crops, livestock and fishery item	Average yield (t/ha)
Agriculture crops		
1	Rice	2.8
2	Green gram	0.9
3	Lathyrus	0.7
4	Sunflower	1.8
5	Ground nut	1.6
6.	Maize	3.0
Horticultural crops		
1	Mango	9.00

Sl No	Name of the crops, livestock and fishery item	Average yield (t/ha)
2	Banana	22.00
3	Papaya	26.00
4	Guava	6.00
5	Potato	28.00
6	Tomato	21.00
7	Brinjal	20.00
8	Okra	8.00
9	Cucurbits	8.00-10.00
10	Cruceifers	14.00-15.00
11	Leafy vegetable	22.00-30.00
12	Yam	16.00-20.00
13	Elephant foot yam	32.00-40.00
Livestock		
1	Cattle	380 lit/lactation
2	Goat	11kg meat/goat
3	Poultry	72 eggs/year (egg)
4	Duck	90 eggs/year (egg)
Fishery		
1	Indian major carp	4.3 t/ha
2	Prawn (Galda)	22.4 t/ha
3	Vennemii	25 t/ha

(vii) **Soil status:**Soils are mostly sandy loam, acidic(5.2-5.7), Low organic content,EC ranges.0.32-0.42,(viii) **Average nutrients (nitrogen, phosphorous, potash, etc) used:**35 Kg/ha (N), 32 Kg/ha (P) and 15 Kg/ha (K)

(ix) **Major diseases occurred in crops:**

Sl No	Name of the crops	Major pest	Major disease
Agriculture crops			
1	Rice	Yellow stem borer, White-backed planthopper, Brown planthopper, rice bug	Sheath blight, Bacterial leaf blight ,Brown spot
2	Pulse	Gram pod borer, Spotted pod borer, Pod bug	Blight, Alterneria blight, Rust, wilt
Horticultural crops			
Vegetables			
1	Cole crops	Cabbage Caterpillar, DBM (Diamond back moth), Flea Beetle, Crucifer Leaf-Webber	Club root,Fusarium wilt, Damping off, leaf spot and blight
2	Solanaceasous vegetables	Fruit and shoot borer, Hadda beetle,Whitefly, Yellow mite/ Red spider mite Thrips, Aphid	Damping off, Early blight,Fusarium wilt, Late blight
3	Cucurbits	Melon fruit fly, Red pumpkin beetle	Fusarium wilt, Anthracnose, Downy mildew

(x) **Major diseases occurred in livestock:**

- Foot and mouth disease, Mastitis, Haemorrhagic septicaemia, Black quarter (Cattle)

- PPR, goat pox (Goat)
- Cholera in duck and hen

(xi) **Post-harvest management/ value addition followed, if any:**NA

(xii) Marketing channels of products: Farmers sale their produce to nearby retail markets at Nandakumar, Khanchi, Kalir hat,Shitalpur, Thekua Bazar

(xiii) **Agro-based industries, if any:** Mini set up of pupped rice mill (3 in No), Mini grinder set up (3 in No) forspices like turmeric, ginger, chilli etc

(xiv) **Average income of the farmer:** 90,000.00/annum

5. Possibility of involvement of ICAR Institutes: Yes

6. Possibility of involving private sectors for CSR funds (TCS, WIPRO, Reliance Industries, Bill &Millinda Gates Foundation, Dhanuka Group, Surya Foundation, Mahindra & Mahindra, etc.): Yes

7. Name of other partners involved (State Deptt./ Central govt. Deptt./ PSU/ NGO/ Private org.): State Govt. and NGOs

8. FPO formed or not?Under process

9. Major interventions planned:

- Integration of fish-based farming system
- Diversification of crops
- Introduction of exotic and high value crops
- Introduction of low cost protected cultivation
- Judicious management of plant protection chemicals and fertilizers
- Backyard livestock farming through women folk
- Diversification of fish through introduction of appropriate breeds
- Introduction of crops and vegetable
- Introduction of farm implements
- Infrastructure Development, Vermicompost, Kitchengarden, Mushroom, Poultry, Seedbin for seed storages.

10. Action Plan (including interventions made) for each village and Budget requirement:

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
Demonstration						
1	Adoption of high value crops instead of conventional crops	Enhanced return/unit area	1,50,000.00	1, 55,000.0	1,60,000.0	1,75,000.00
2	Production of year round fruit and vegetable in nutrition garden to meet family nutrition and reduce purchase cost	Livelihood security	1,35,000.00	1,40,000.00	140,000.00	145,000.00
3	Promotion of off season year round vegetable cultivation under low cost poly walking tunnel (100 m^2/ unit)	Optimum utilisation untapped of natural resources	1,35,000.00	1,40,000.00	140,000.00	145,000.00

Sl. No.	Activities planned	Expected Outcome	Budget			
			2018- 19	2019- 20	2020- 21	2021- 22
4	Crop diversification	Minimum income augmentation	1,35,000.00	1,40,000.00	140,000.00	145,000.00
5.	Judicious plant protection measures of different crops	Cost minimization of plant protection measures	1,35,000.00	1,40,000.00	140,000.00	145,000.00
6.	Vermicompost unit	Quality organic manure	1,50,000.00	1, 55,000.0	1,60,000.0	1,75,000.00
7.	Soil test based fertilizer recommendation for productivity enhancement of vegetables ,oil seeds and pulses	Cost minimization and maximum utilization of nutrients	1,35,000.00	1,40,000.00	140,000.00	145,000.00
8	Backyard livestock farming (Poultry and duckery), 10+10/unit	Mainstreaming of women folk	1,00,00.00	120000.00	125000.00	130000.00
9	Backyard goat farming-2unit(one male goatin each village	Mainstreaming of women folk	150000.00	15000.00	180000.00	180000.00
10.	Land shaping (5 kuttah/ unit, 20 units) for fish based integrated farming	Transformation of unproductive land into productive one	10,000,00.00	1,00,000.00	1,00,000.00	1,00,000.00
11	Small tools and Seed storage	Yield enhancement	150000.00	150000.00	180000.00	180000.00
		Sub Total	**1475,000.00**	**1530000.00**	**1580000.00**	**1650000.00**
Trainning						
1	Adoption of high value crops instead of conventional crops	Enhanced return/unit area	50,500.00	55,000.0	60,000.0	75,000.00
2	Production of year round fruit and vegetable in nutrition garden to meet family nutrition and reduce purchase cost	Livelihood security	50,000.00	60,000.00	70,000.00	80,000.00
3	Promotion of off season year round vegetable cultivation under low cost poly walking tunnel (100 m^2/ unit)	Optimum utilisation untapped of natural resources	50,000.00	60,000.00	70,000.00	80,000.00
4	Crop diversification	Minimum income augmentation	50,000.00	60,000.00	70,000.00	80,000.00
5	Judicious plant protection measures of different crops Vermicompost unit	Cost minimization of plant protection measures	50,000.00	60,000.00	70,000.00	80,000.00
6	Vermicompost unit	Quality organic manure	50,000.00	60,000.00	70,000.00	80,000.00
7	Soil test based fertilizer recommendation for productivity enhancement of vegetables ,oil seeds and pulses	Cost minimization and maximum utilization of nutrients	50,000.00	60,000.00	70,000.00	80,000.00
8	Backyard livestock farming (Poultry and duckery), 10+10/unit	Mainstreaming of women folk	50,000.00	60,000.00	70,000.00	80,000.00
9	Backyard goat farming-2unit(one male goatin each village	Mainstreaming of women folk	50,000.00	60,000.00	70,000.00	80,000.00
10	Land shaping (5 kuttah/ unit, 20 units) for fish based integrated farming	Transformation of unproductive land into productive one	50,000.00	60,000.00	70,000.00	80,000.00
11	Small tools and Seed storage	Yield enhancement	50,000.00	60,000.00	70,000.00	80,000.00
		Sub Total	**550000.00**	**660000.00**	**770000.00**	**880000.00**

Ext. Activities						
1	-	-	2,00,000.00	2,00,000.00	2,00,000.00	2,00,000.00
		Sub Total	**2,00,000.00**	**2,00,000.00**	**2,00,000.00**	**2,00,000.00**

GRAND TOTAL

Sl. No.	Activities planned	Budget			
		2018- 19	**2019- 20**	**2020- 21**	**2021- 22**
1	Demonstration	14,75,000.00	15,30,000.00	15,80,000.00	16,50,000.00
2	Trainning	5,50,000.00	6,60,000.00	7,70,000.00	8,80,000.00
3	Ext. Activities	2,00,000.00	2,00,000.00	2,00,000.00	2,00,000.00
SUB- TOTAL		**22,25,000.00**	**23,90,000.00**	**25,50,000.00**	**27,30,000.00**
GRAND TOTAL		**Rs. 98,95,000.00**			

District Wise Budget for Implementing Action Plan for Doubling Farmers' Income by 2022 in West Bengal

BUDGET SUMMAY

Sl. No.	District	Organization	Budget (Rs.)
1	Darjeeling	KVK, UBKV	1,02,60,000/-
2	Jalpaiguri	KVK, WBUAFS	1,59,85,000/-
3	Uttar Dinajpur	KVK, UBKV	69,15,000/-
4	Coochbehar	KVK, UBKV	78,75,000/-
5	Dakshin Dinajpur	KVK, UBKV	66,00,000/-
6	Malda	KVK, UBKV	63,00,000/-
7	East Medinipur	KVK, BCKV	62,99,500/-
8	Bardwan	KVK, CRIJAF	61,86,500/-
9	Hooghly	KVK, BCKV	67,40,000/-
10	Howrah	KVK, BCKV	1,80,60,000/-
11	Murshidabad	KVK, WBUAFS	1,92,00,000/-
12	Nadia	KVK, BCKV	1,23,80,000/-
13	North Parganas	KVK, WBUAFS	1,07,00,000/-
14	South Parganas	KVK, Nimpith RA Mission	47,41,240/-
15	South Parganas	KVK, RMVU, Narendrapur	1,63,20,000/-
16	Bankura	KVK, WBCADC	77,80,000/-
17	Birbhum	KVK, Viswa Bharati	1,68,20,000/-
18	Purulia	KVK, Kalyan	1,44,95,000/-
19	West Medinipur	KVK, Seva Bharati	98,95,000/-
		Total (Rs.)	**20,35,52,240/-**



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ICAR





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ICAR- Agricultural Technology Application Research Institute

Bhumi Vihar Complex, Block- GB, Sector- III

Salt Lake, Kolkata- 700097, WB