1. Description of Agro Climatic Zone of the Operational Area:

Birbhum being the northern most district of the Burdwan division lies between the latitude 23^{o} 32' and 24^{o} 35' in the northern hemisphere and 80^{o} 01' 40"/and 87^{o} 05'25"/longitude. On the map the district (Birbhum) looks like an isosceles triangle. The apex is situated at the northern extremely not far south of the point where the Ganges and the hills of Santhal Parganas of Bihar beginning to diverge while the river Ajoy forms the base of the triangle. Birbhum is bounded on the north and west by the Santhal Parganas, by the districts Murshidabad and Burdwan on the east, and on the south by Burdwan. The Birbhum is separated from the Burdwan district by the river Ajoy. The district comprises three sub-divisions namely - Bolpur, Rampurhat and Suri. Suri is the head quarter of the district and of the Suri (*Sadar*) Sub-Division as well.

This district (Birbhum) is enriched by various types of soil namely, *Metal* (Clay soil retentive of moisture which is best suited for growing winter paddy, sugarcane, wheat, gram and *kalai*); *Ental* (a sticky brownish clay, it is poor soil and is capable of producing paddy only if manured); *Bagha Ental* (ental having colour or tiger, it is poor soil capable of producing paddy only if manured); *Bele* (is a whitish loose and poor soil , capable of growing paddy and vegetable); *Kankure* ((it is a redish, loose laterite soil capable of growing bajra, maize, kurthi, bean and marual); *Bastu* (it is a blackish friable rich soil and is largely used for rabi crops); *Bindi* (it is a poor sandy soil which improves with continued cultivation, capable of producing paddy but can also grow rabi crops if irrigated); *Reti Rfi* (is lighter variant of *palli*, it does not grow paddy it is best suited for vegetables, wheat, barly etc ;) *Pali* (deposit of soil is bed of river or in areas subject to revering inundation, it is very rich soil and is well suited for sugarcane, wheat, gram, potato and other vegetables. It is generally reserved for more valuable crops rather than paddy).

The agro-climatic condition of the district is mainly influenced by the presence of a number of river, rivulets, dams, barrages and forests. The variation of temperature is 10.7^{o}C, to 28^{o}C in winter and from 26.5^{o}C to 39.4^{o}C in summer on an average. The average annual rainfall is 1453 mm. The predominant soil types are old alluvium to red late rite. This area is under sub-humid lateritic belt.

Soils of lateritic belt are highly coarse textured and well drained. Iron concentrations are dispersed on the surface and honeycomb structures of oxides of Fe and Al are present in the sub surface or exposed in some eroded areas. About 50-60 percent of lands are located on the higher situation, about 20-30 percent of the land on medium situation and 10-20 percent land are on lower situation. Upland soils are strongly acidic and poor in organic matter, available P and available K and lime. The lands are lower situation are slightly rich in fertility status. Annual precipitation varies between 1100 mm and 1300 mm, about 80 % of which are precipitated between June and September during monsoon

The land of the alluvial belt has flat to rolling topography. Fields are generally bunded in up and medium situations and slopes are mostly terraced. The soils are light, medium and heavy in texture. Soil reaction is acidic to neutral (pH 5 to 7). Soils in this region are low to medium in organic matter and available P and low to high in K. The average annual rainfall varies between 1300mm and 1500 mm.

Areas of light, medium and heavy soil of the district are 373.48, 85.48 and 141.0 thousand hectares respectively

Agro-climatic Situations of the district are as follows:

Sl. No.	Agro-ecological Situation	Characteristics
1	Completely eroded land	This situation predominantly occurs in some areas of Birbhum district particularly in Rajnagar block. The soil contains gravels and coarse sands. Land is very steep, eroded and stony rough. Depth of the soil is zero or negligible. There are no irrigation facilities. Land is not suitable for cultivation of annual crops. Only there is the permanent vegetation of natural forest.
2	Upland with light soil	The uplands of red and lateritic belt are locally known as *Tanrh* and *Baid*. These are composed of shallow to moderately deep soil with light surface texture and low organic matter content with low P^H. Major Crops are rice, wheat, red gram, black gram, vegetables etc. Major livestock's are cattle, buffalo, goat, poultry, pig etc.
3	Medium land with medium soils	These lands are locally known as *Kanali*. Depth of the surface layer varies from 135-160 cm. OM content and water holding capacity is to some extent higher. Acidity of these soil is lower than upland. Generally sandy loams to loamy sand soils are found. Major crops are rice, wheat, mustard, sesame, potato etc.
4	Low land with medium to heavy soil	These soils are locally known as *Sole* or *Bahal*. Soils are deep and potentially productive in nature and silty loam to clayey in texture with pale brown to dark grayish brown in colour. Soil depth is more as compare to other situation. Acidity is lower and fertility is higher to some extent than other situation. Submergence of low land during monsoon months is found every year. Rice being the main crop in *kharif*, pulse, oilseeds, wheat, potato and vegetables are also cultivated during *rabi* and *summer* under irrigated condition

Major Farming Systems / Enterprises (based on the analysis made by the KVK) followed in the district are as follows

Sl. No.	Farming System / Enterprise
1	Upland- Paddy, red gram, fruit crops
2	Medium land- Paddy, mustard, potato, sugarcane, sesame, black gram, vegetables, fruit crops, cow, goat, backyard poultry, fishery
3	Lowland- Paddy, sugarcane, wheat, potato, vegetables, back yard duckery, back yard poultry, fishery

2. Micro-Farming Situations identified:

As per agro eco-system analysis five farming situations has been identified which are as follows:

i) Upland (*Dangamath*) which is only relatively high land;
ii) Mid Land (*Majmath*);
iii) Fertile low land (*Bhalo do bari*);
iv) Less Fertile low land (*Do bari*);
v) Deep low land (*Jala Math*);

3. Characteristics of Farming Situation:

Sl. No.	Variables	Dangamath	Majmath	Nichumath	Jalamath
1.	Land	Upland	Medium land	Lowland	Deep low land
2.	Soil fertility	Low	Low to Medium	Medium	High
3.	Water resources	Pond	River, Ponds	River	River
4.	Soil erosion	High	Less	Less	Less
5.	Soil moisture	Less	Moderate	High	Very high
6.	Water logging	No	No	No	Moderate
7.	Cropping sequence	Paddy-fallow	Paddy-Paddy Paddy-Mustard/Veg	Paddy-Paddy Paddy-Potato-Sesame Paddy-Mustard-Black Gram / Green Gram	i) Paddy-Potato-Sesame ii) Paddy-Vegetables iii) Paddy-Wheat
8.	Water table	9-11 ft.	8-10 ft.	7-9 ft.	5-6 ft.
9.	Field crops	Paddy	Paddy, Mustard, Sesame, Black Gram	Paddy, Potato, Sesame, Mustard	Mustard, Wheat, Potato, Sesame

4. Thrust Areas identified through Agro-Eco-System Analysis.

- Crop diversification through introduction of pulses, oilseeds, major millets, horticultural crops like elephant's foot yam, drum stick and high value low volume horticultural products like capsicum, broccoli etc.
- Popularization of High Yielding Varieties (HYVs) of major crops like paddy, wheat, mustard, potato etc. as well as traditional varieties of those crop also.
- Cultivation of field crops which require least water in the Arid and Semi-Arid regions of the district and cultivation of suitable horticultural crops in those regions.
- Popularization of improved management practices of Animals and Fishes.
- Market led extension and institutional rural credit flow mechanism.
- Women empowerment.

Executive Summary of the Training Programmes including FLD and Sponsored in the Action Plan 2015-16

Discipline	No. of courses		Total no. of participants		Trainee days											
					PF		RY		EF		FLD		Sponsored		Total	
	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off	On	Off
Agronomy	18	01	465	50	540	200	555	00	50	00	810	00	-	-	**1955**	**200**
Horticulture	10	02	265	50	400	100	780	00	25	00	320	00	-	-	**1525**	**100**
Plant Protection	07	07	210	350	270	1050	555	00	25	00	40	00	-	-	**890**	**1050**
Animal Science	20	03	496	150	520	300	660	00	80	00	160	00	-	-	**1420**	**300**
Fishery	14	00	391	00	1110	00	660	00	25	00	60	00	-	-	**1855**	**00**
Home Science	06	04	135	180	565	210	300	00	00	00	20	00	-	-	**885**	**210**
Agril. Extn.	09	05	240	250	360	600	00	00	30	00	60	00	-	-	**450**	**600**
Total	**84**	**22**	**2202**	**1030**	**3765**	**2460**	**3360**	**00**	**235**	**00**	**1470**	**00**	**-**	**-**	**8980**	**2460**

5. Training Programmes.

5 A. Training Programme for Practicing Farmers / Farm Women:

Discipline	Thematic Area	Title of the Programme	Course Objective	Types of Training	No. of Course	Duration	No. of Trainees /Course	Total Trainee Days	Coverage							
									SC		ST		Other		Total	
									M	F	M	F	M	F	M	F
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
April, 2015 (Quarter - I)																
Fishery	Carp fry & Fingerling Rearing	Scientific method of pond preparation for fingerling Raising	• To know how to prepare nursery pond • To learn about plankton and p^H of water • To learn the steps of fry rearing	ON	01	02	30	60	08	00	12	00	10	00	30	00
Home Science	Household Food Security	Nutrition Gardening	• To impart the practicing farm women knowledge and information about the concept of Nutrition Gardening • To make the farm women aware about the importance of the Nutrition Gardens	Off	01	02	30	60	00	05	00	25	00	00	00	30
Animal Science	Disease Management	Identification & Control of disease in poultry & their prophylactic measures with special reference to bird flu	• To know the different causes & symptoms of diseases • To know the preventive measures	ON	01	02	30	60	09	00	12	00	09	00	30	00

Agril. Extn.	Group Dynamics	Join Liability Group	• To impart the knowledge about the procedure of formation of a joint liability group • To make the farmers and farm women aware about the various functions of a joint liability group	ON	01	03	30	90	08	02	12	04	04	00	24	06
May, 2015 (Quarter - I)																	
Agronomy	Soil health & fertility management	Collection of soil sample and Preparation of soil sample for soil testing and interpretation	• To provide skill of soil sampling in the field • To aware the importance of soil testing • To provide skill of drying, sieving, partitioning etc. • To interpret the soil testing report	Off	01	04	50	200	11	00	06	00	33	00	50	00
Horticulture	Crop Diversification	Crop Diversification of different Horticultural Crops	• To aware different profitable horticultural crops • Improve package and practices of Round the year Drumstick, Elephants Foot Yam, Broccoli, Capsicum, French Beans, Onion	Off	02	01	50	100	15	00	05	00	30	00	50	00
Horticulture	Production Technology	Establishment of Homestead orchard including management of orchard.	• To aware the importance of Homestead orchard • To develop knowledge and skill for establishment of Homestead orchard • To develop skill for management of fruit plants planted in Homestead.	ON	01	04	25	100	05	00	05	00	15	00	25	00

Horticulture	Production Technology	Establishment of Progeny orchard including plant propagation and management of fruit plants.	• To aware the commercial importance of Progeny orchard. • To develop knowledge and skill for establishment of Progeny orchard. • To develop the skill for genetically pure variety. • To develop the skill of Plant Propagation. • To develop skill for multiplication of fruit plants after identification of genetically pure varieties of fruit plants	ON	01	05	20	100	07	00	03	00	10	00	20	00
Plant Protection	IPM	Different components of IPM	• To provide knowledge about bio-control & others • To provide knowledge about different method	Off	01	03	50	150	10	00	20	00	20	00	50	00
Fishery	Composite fish culture	Culture& management of IMC & exotic carps	• To know the steps of pond preparation. • To know the species compatible for culture. • To learn how to measure PH and plankton density.	ON	01	04	30	120	07	00	03	00	20	00	30	00

Fishery	Portable Plastic Carp Hatchery	Carp Hatchery Management and Production of Carp Spawns	• To impart the practicing fish farmers knowledge and information about the concept of Carp Hatchery Management and Production of Carp Spawns • To make the fish farmers aware about the importance of the Carp Hatchery Management and Production of Carp Spawns	ON	01	03	30	90	08	00	12	00	10	00	30	00
Home Science	Women Health	Care and manage-ment of pregnant mothers	• To reduce the mortality rate of pregnant mothers and neonatal	Off	01	01	50	50	00	15	00	05	00	30	00	50
Home Science	Post Harvest Technology	Value addition and preservation	• To know the technique of fruit selection, blanching, pulp extraction etc • measurement and mixing of ingredient • To know the technique of bottling and leveling	ON	01	07	25	175	00	08	00	10	00	07	00	25
Animal Science	Disease Management	Reduction of treatment cost by ITK	• To know the traditional medical practices • To promote the conservation of medicinal plant resources • To promote the complementary use of indigenous and conventional veterinary medicine	ON	01	02	30	60	09	00	15	00	06	00	30	00

Agril. Extension	Market led Extension	Formation of Commodity Interest Group (CIG)	• To impart the practicing farmers the knowledge and information about the concept of Commodity Interest Group • To make the farmers aware about the importance of the CIG	ON	01	02	30	60	08	00	12	00	10	00	30	00
Agril. Extension	Institutional Credit Supply	Mechanism and use of Kisan Credit Card	• To provide information on the mechanism of Kisan Credit Card (KCC) • To make the farmers aware about the various functions of KCC • To provide knowledge about the various unique features of KCC	Off	01	03	50	150	11	00	20	00	19	00	50	00
June, 2015 (Quarter - I)																
Horticulture	Production Technology	Establishment of Commercial orchard in Upland situation as one of the component of Dry land Horticulture including management of orchard.	• To aware the importance of Commercial orchard • To develop knowledge and skill for establishment of orchard • To develop skill for management of commercial orchard.	ON	01	04	25	100	07	00	03	00	15	00	25	00
Plant Protection	IPM	Integrated Pest, Disease & Weed Management in *kharif* paddy- Phase I	• To identify the pests, disease & Weed • To enable the farmers in decision making management.	Off	01	03	50	150	10	00	20	00	20	00	50	00

Fishery	Carp breeding & hatchery management	Breeding and culture of IMC & Exotic Carps	• To know about the different Carps. • To learn the steps involved in breeding of Carps. • To know their food habit and feeding schedule.	ON	01	05	30	150	07	00	15	00	08	00	30	00
Home Science	Income generation	Training programme on tie and dye	• To know the technique of tieing according to design • To know about colour combination • To know the technique of colour preparation.	ON	01	05	25	125	00	06	00	03	00	16	00	25
Animal Science	Feed & Fodder	Low cost feed preparation for poultry	• Know the different feed ingredients & their use in poultry feed • Know the method of balance feed formulation	ON	01	04	30	120	09	00	15	00	06	00	30	00
Agril. Extension	Group dynamics (Farmers Organisation)	Formation of Farmers Club	• To orient the farmers about farmers club • To train the farmers about process of formation and functioning of farmers club • To make the farmers aware about the importance of Farmers Club	Off	01	02	50	100	12	00	20	00	18	00	50	00
July, 2015 (Quarter - II)																
Agronomy	Production of organic input	Preparation & use of vermin compost	• To aware the farmers about importance of compost • To provide basic knowledge about vermin compost • To impart skill in preparation of vermin compost	ON	01	04	30	120	09	00	06	00	15	00	30	00

Agronomy	Seed production	Seed production technologies in kharif season. Phase-I	• To know the different types of seed • To provide basic knowledge about isolation distance and roughing off techniques • To know the conservation of seeds	ON	01	03	30	90	09	00	06	00	15	00	30	00
Plant Protection	IPM	Integrated Pest, Disease & Weed Management in *kharif* paddy- Phase II	• To identify the pests, disease & Weed • To enable the farmers in decision making management.	ON	01	03	30	90	08	00	12	00	10	00	30	00
Home Science	Health and nutrition	Nutritional requirement of pre-school children	• To reduce malnutrition of the pre-school child • To aware mothers about nutrition requirement of pre- school child	Off	01	01	50	50	00	20	00	20	00	10	00	50
Animal Science	Management in Farm Animal	Establish, Maintenance & Management of Small scale dairy unit	• To know the impact of dairy farming on household income • To know proper management, feeding, breeding practices & disease prevention in dairy animal	ON	01	04	25	100	05	00	10	00	10	00	25	00
Agril. Extension	Insurance	Crop Insurance	• To provide information on the mechanism of Crop Insurance (CI) • To provide knowledge about the various functions of CI • To make the farmers aware about the various unique features of CI	ON	01	02	30	60	10	00	12	00	08	00	30	00

August, 2015 (Quarter - II)

Agronomy	Production of organic input	Multiplication of *Azolla*	• To provide knowledge on importance of use of *Azolla* • To impart skill on *Azolla* multiplication	ON	01	04	30	120	08	00	06	00	16	00	30	00
Horticulture	Production Technology	Improved package and practices of Beet Carrot, French Bean, Broccoli, Capsicum	• To know different variety of Beet Carrot, French Bean Broccoli, Capsicum • Cultural practices of these vegetables like plant spacing, manures, pinching, disbudding, plant protection measures etc.	ON	01	04	25	100	05	00	05	00	15	00	25	00
Plant Protection	IPM	Pest & Disease management in early *rabi* vegetables	• To identify the pests & Disease of early *rabi* vegetables • To enable the farmers in decision making management.	Off	01	03	50	150	10	00	20	00	20	00	50	00
Fishery	Fish feed preparation & its Application to fish ponds like nursery, rearing & stocking pond	Low cost fish feed preparation	• To identify the local source of ingredient • To know the proper ratio of mixing the ingredients	ON	01	04	30	120	05	00	12	00	13	00	30	00
Animal Science	Quail Management	Quail farming	• To promote alternate farming system for income generation • To make Quail farming an alternate livelihood programme	ON	01	01	30	30	09	00	12	00	09	00	30	00

Home Science	Awareness Generation on Nutrition	Design of Low Cost, High Nutritious Diet For vulnerable group	• To impart the practicing farm women knowledge and information about the concept of Low Cost, High Nutritious Diet • To make the farm women aware about the importance of the Low Cost, High Nutritious Diet	Off	01	01	50	50	00	15	00	20	00	15	00	50
Agril. Extension	Disaster Management	Disaster Management with special reference to agriculture and related sectors	• To make the stake holders aware about the preliminary measures to reduce the risks of disasters • To provide the information and knowledge about the measures for reducing risks and losses from disasters	ON	01	03	30	90	10	00	12	00	08	00	30	00
September, 2015 (Quarter - II)																	
Agronomy	Seed production	Seed production technologies in *Kharif* season. Phase-II	• To practice the skill of top dressing of fertilizer and spraying of micronutrients in seed production plots • To provide basic knowledge about harvesting and threshing • To know the conservation of seeds	ON	01	03	30	90	09	00	06	00	15	00	30	00
Plant Protection	IPM	Pest, disease management on Rabi Seasonal oil seeds & pulses	• To identify the pests and diseases • To enable the farmers in decision making management.	Off	01	03	50	150	10	00	20	00	20	00	50	00

Animal Science	Duck farming	Breeding & Management of Khaki Campbell Duck	• To learn scientific method to increase productivity • To know the proper management practices & preventive measures of diseases	Off	01	02	50	100	00	14	00	20	00	16	50	00
Home Science	Income generation	Training on Batik work	• To know the technique of drawing design with brush and wax on cloth • To know about colour combination • To know the technique of colour preparation. • To know the technique of removing wax	ON	01	07	20	140	00	08	00	00	00	12	00	20
Fishery	Hatchery Manage-ment & Culture of fresh water prawn	Fresh water giant prawn culture with IMC & Exotic Carps	• To know the layout of integrated fish farming with giant prawn. • To learn the disease and its control. • Use of balanced feed for fish and prawn.	ON	01	05	30	150	09	00	12	00	09	00	30	00
Fishery	Composite Fish Culture and Fish Disease	Management & Control measures for Fish Disease	• To impart the practicing fish farmers knowledge and information about the identification and control measures of varied fish diseases • To make the fish farmers aware about the importance of the various Management Practices of Fish Diseases	ON	01	03	30	90	07	00	15	00	08	00	30	00

October, 2015 (Quarter - III)

Plant Protection	IPM	IPM on solanaceous crops	• To identify the pests, diseases & weed • To calculate pest defender ratio • To enable the farmers in decision making management • To provide idea of different cultural practices	ON	01	03	30	90	08	00	12	00	10	00	30	00
Animal Science	Goat Farming	Effective Scientific preservation of pure Black Bengal Breed	• To conserve the superior germ plasm of the threatened breed • To know the proper feeding, breeding and management practices. • To know the different diseases and there preventive measures in goat.	Off	01	02	50	100	14	00	20	00	16	00	50	00
Fishery	Integrated Farming System	Fish based Integrated farming	• To know the compatible components • To know the management of recycling of residuals of components	ON	01	04	30	120	08	00	12	00	10	00	30	00

AgriI. Extension	WTO & TRIPS related issues	Protection of Plant Varieties and Farmers' Rights Act - 2001	• To provide information about the Protection of Plant Varieties and Farmers' Rights Act - 2001 • To make the farmers aware about the procedures of registration of traditional plant varieties	Off	01	02	50	100	12	00	20	00	18	00	50	00
November, 2015 (Quarter - III)																	
Plant Protection	IPM	IPM on wheat, sugarcane & high value vegetables like Broccoli, Capsicum etc.	• To identify the pests, diseases & weed • To calculate pest defender ratio • To enable the farmers in decision making management • To provide idea of different cultural practices	Off	01	03	50	150	10	00	20	00	20	00	50	00
Animal Science	Piggery management	Extensive pig farming.	• To know the proper breeding, feeding and management practices. • To know the different diseases and their preventive measures in pig.	Off	01	02	50	100	15	00	30	00	05	00	50	00
Home Science	Rural craft	Preparation of agarbati.	• To know the technique of preparing agarbati sticks. • To know the technique of spraying perfume on the sticks and packaging.	ON	01	05	25	125	00	09	00	10	00	06	00	25
Fishery	Carp Fry & fingerling rearing	Scientific method of Carp fry & fingerling rearing	• To know how to prepare nursery pond • To learn about plankton & p^H of water • To learn the steps of fry rearing & feed application	ON	01	04	30	120	06	00	11	00	13	00	30	00

December, 2015 (Quarter - III)																
Animal Science	Fodder cultivation	Quality fodder cultivation	• To know the importance of fodder cultivation • To know the proper method of fodder cultivation	ON	01	01	30	30	09	00	12	00	09	00	30	00
Plant Protection	Production of bio pesticides & Seed Treatment of various crops	Identification of different bio pesticides & Seed born disease and there treatment.	• To provide the knowledge about different bio-pesticides • To provide knowledge about Importance of seed treatment • To provide knowledge about diff. Types of technique.	ON	01	03	30	90	08	00	12	00	10	00	30	00
Agril. Extension	Group Dynamics (Micro Finance)	Formation of SHG	• To orient the stake holders about SHG functions • To provide information on the steps of SHG formation	Off	01	03	50	150	15	00	20	00	15	00	50	00
January, 2016 (Quarter - IV)																
Plant Protection	IPM	IPM in Summer vegetable	• To identify the major pest diseases & wed management • To adopt different non-chemical management • To identify pest defender ratio • To minimize the pest population using different preventive methods	Off	01	03	50	150	10	00	20	00	20	00	50	00
Animal Science	Disease Management	Identification & Control of disease in dairy animal with their prophylactic measures	• To know the different causes & symptoms of diseases • To know the preventive measures	ON	01	02	30	60	09	00	12	00	09	00	30	00

Fishery	Composite fish culture & fish disease	Prevention and control method of various fish disease	• To know the types of diseases. • To learn how to prevent diseases. • To know about the different medicines used in disease control.	ON	01	03	30	90	08	00	15	00	07	00	30	00
Agril. Extn.	Management of SHG	Development of marketing channel for SHG products	• To provide knowledge on the procedure of identification of the marketing channels • To provide information on the process of fixing the price of products	Off	01	02	50	100	14	00	20	00	16	00	50	00
February, 2016 (Quarter - IV)																
Agronomy	Seed production	Seed production technologies of black gram and green gram in summer season	• To provide skill for selection for better variety and isolation distance to maintain genetic purity • To provide knowledge for increasing income b producing pure seed. • To provide skill of roughing off techniques • To provide knowledge of proper harvesting and threshing • To impart skill on storing seeds	ON	01	04	30	120	08	00	05	00	17	00	30	00
Plant Protection	IPM	Pest, disease management on summer pulses and oil seeds & different fruit crop	• To identify the pests and diseases • To enable the farmers in decision making management.	Off	01	03	50	150	10	00	20	00	20	00	50	00

Animal Science	Sheep Farming	Scientific Sheep Farming	• To know the proper management, feeding & breeding practices • To know the different diseases & their preventive measures	ON	01	02	30	60	09	00	12	00	09	00	30	00
Ag. Extn.	Entrepreneurship development	Development of Farmers Club as Business Facilitators (BF)	• To provide information on the procedure of the formation procedure of BF • To make the farmers aware about the functioning of BF • To provide information to the farmers on the utility of BF	ON	01	02	30	60	08	00	12	00	10	00	30	00
	TOTAL				**61**	**184**	**2145**	**6225**	**465**	**102**	**661**	**117**	**688**	**112**	**1864**	**281**

5. B. Vocational Training Programme for Rural Youth

Discipline	Thematic Area	Title of the Programme	Course Objective	Types of Training	No. of Course	Duration	No. of Trainees /Course	Total Trainee Days	Coverage							
									SC		ST		Other		Total	
									M	F	M	F	M	F	M	F
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
May, 2015 (Quarter - I)																
Horticulture	Recent advances in horticulture	Horticulture as a source of Livelihood	• To provide cutting edge technologies of horticultural sector • To provide practical exposure to the rural youths regarding recent technological advances in horticultural sector	ON	01	01	30	30	10	00	05	00	15	00	30	00
Agronomy	Integrated Soil Health Management	Integrated Soil Health Management	• To provide information on procedures of maintaining as well as managing soil health in a holistic way • To provide practical exposure to the rural youths regarding recent technological advances in Integrated Soil Health Management	ON	01	01	30	30	10	00	05	00	15	00	30	00

Fishery	Recent advances in Fishery	Fishery activities as a source of Livelihood	• To provide cutting edge technologies of Fishery sector • To provide practical exposure to the rural youths regarding recent technological advances in Fishery sector	ON	01	01	30	30	10	00	05	00	15	00	30	00
Animal Science	Recent advances in Animal Science	Animal Rearing as a source of Livelihood	• To provide cutting edge technologies of Animal Science sector • To provide practical exposure to the rural youths regarding recent technological advances in Animal Science sector	ON	01	01	30	30	10	00	05	00	15	00	30	00
Plant Protection	Integrated Pest Management	Integrated Pest Management - Its component and relevancy in watershed area	• To provide information on procedures Integrated management of Pests in a particular watershed area • To provide practical exposure to the rural youths regarding recent technological advances in Integrated Pest Management	ON	01	01	30	30	10	00	05	00	15	00	30	00

June, 2015 (Quarter - I)																
Horticulture	Nursery management of horticulture crop	Nursery & its management	• To know different types of nurseries and their utility, • To know selection of sites for nurseries, types of soil, • To know layout of different nurseries, construction of propagation shed, potting shed, seed bed nursery beds. • To learn multiplication of different types of mother plants • To know about true to type and true to variety of different types and varieties of mother plants.	ON	01	30	25	750	07	00	03	00	15	00	25	00
July, 2015 (Quarter - II)																
Fishery	Carp breeding & hatchery management	Scientific method of Carp Breeding in water circulatory hatchery	• To learn how to select brooders. • To know the steps of hormone preparation. • To learn how to operate hatchery.	ON	01	30	21	630	06	00	03	00	12	00	21	00

August, 2015 (Quarter - II)																
Animal Science	Para Vets	Disease Treatment & Animal husbandry practices	• To know the symptoms of different diseases • To learn diagnosis of diseases • To know the disease treatment • To learn general animal husbandry practices	ON	01	30	21	630	06	00	09	00	06	00	21	00
September, 2015 (Quarter - II)																
Plant Protection	Mushroom Production	Mushroom cultivation	• To know how to cultivate • To know what are the different type • To know what are the different food value • To know different food processing	ON	01	21	25	525	05	00	10	00	10	00	25	00
November, 2015 (Quarter - III)																
Home Science	Rural Craft	Jute craft	• To know the selection of jute fibre • To know the technique of making dice from paper pulp • To know the technique of wrapping jute. • To know the technique of decoration	ON	01	15	20	300	00	06	00	08	00	06	00	20

Agronomy	Soil & water testing	Routine analysis of soil	• To provide knowledge on steps of soil testing • To impart skill on collection and preparation of soil sample • To practice methods of analyzing Org. C, P, K and Ph status of soil • To gather knowledge on interpretation of soil testing report	ON	01	21	25	525	06	00	04	00	15	00	25	00
	TOTAL				**11**		**287**	**3510**	**80**	**12**	**54**	**08**	**133**	**06**	**267**	**20**

5. C. Training Programme for Extension Functionaries

Discipline	Thematic Area	Title of the Programme	Course Objective	Types of Training	No. of Course	Duration	No. of Trainees /Course	Total Trainee Days	Coverage							
									SC		ST		Other		Total	
									M	F	M	F	M	F	M	F
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
April, 2015 (Quarter – I)																
Ag. Extn.	Mechanism and Linkage between KVK and Financial Institutions	Mechanism of KVK Functioning and Its Linkage with Financial Institutions	• To provide information on the mechanism of KVK functioning • To provide information to the Extension Functionaries on the importance of KVK in agricultural and allied sectors development • To make the Extension Functionaries aware about utility of linkage between KVK and Financial Institutions	ON	01	01	30	30	08	00	12	00	10	00	30	00
May, 2015 (Quarter – I)																
Horticulture	Recent advances in horticulture	Horticulture as a source of Livelihood for Self Help Group Members	• To provide cutting edge technologies of horticultural sector for Self Help Group Members • To provide practical exposure to the rural youths regarding recent technological advances in horticultural sector for Self Help Group Members	ON	01	01	25	25	00	07	00	03	00	15	00	15

Fishery	Recent advances in Fishery	Development of Fishery for Self Help Group Members	• To provide cutting edge technologies of Fishery sector to the members of functionaries of Self Help Groups • To provide practical exposure to the members of Self Help Groups regarding recent technological advances in Fishery sector	ON	01	30	25	25	00	07	00	03	00	15	00	15
Animal Science	Animal Resource Development	Animal Resource Development for Self Help Group Members	• To provide information on recent advances in Animal Resource Development for Self Help Group Members • To provide knowledge on advances in animal disease treatment for Self Help Group Members	ON	01	30	25	25	00	07	00	03	00	15	00	15
July, 2015 (Quarter - II)																	
Agronomy	Productivity enhancement in field crops.	Cropping systems and inter cropping for Sustainable Agriculture	• To learn the better cropping systems • To provide skill of adoption of improved cultural practices • To provide knowledge in inter cropping	ON	01	01	25	25	04	00	04	00	17	00	25	00

February, 2015 (Quarter - IV)

Animal Science	Management in farm animal	Genetic resource conservation of domestic animal and poultry.	• To know the importance & steps of conservation. • To know about the recent breeding policies for streaming back to natural gene pool.(back to the nature)	ON	01	01	25	25	05	00	10	00	10	00	25	00

August, 2015 (Quarter - II)

Plant Protection	Integrated Pest Management	IPM in major field crops – an idea	• To know the importance of IPM. • To know about the different component & module involve in IPM.	ON	01	01	25	25	05	00	10	00	10	00	25	00
Animal Science	Management in farm animals	Refreshment training for existing A.I. workers	• To upgrade & refresh their skills to improve conception rate	ON	01	01	30	30	09	00	12	00	09	00	30	00
Agronomy	Integrated Nutrient Management	INM in pulses and oil seeds	• To know the importance of INM • To learn better organic uses • To provide skill of applying fertilizer and manures	ON	01	01	25	25	04	00	04	00	17	00	25	00
	TOTAL				**09**	**09**	**235**	**235**	**35**	**21**	**52**	**09**	**73**	**45**	**160**	**45**

5. D. Front Line Demonstration Training

Discipline	Thematic Area	Title of the Programme	Course Objective	Types of Training	No. of Course	Duration	No. of Trainees /Course	Total Trainee Days	Coverage							
									SC		ST		Other		Total	
									M	F	M	F	M	F	M	F
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
May, 2015 (Quarter - I)																
Horticulture	Tuber crop management & management technology	Layout and planting of Elephant Foot Yam including management of crop field.	• To know different HYV • To select the site and planting time • To learn seed treatment, seed multiplication, layout of pit preparation and filling with soil compost mixture • To learn manuring, use of plant protection chemicals • De-suckering, top dressing, time of harvest as vegetables and time of harvest for seed production	On	01	04	25	100	07	00	03	00	15	00	25	00
Fishery	Composite fish culture with *Pabda (Ompok pabo)*	Introduction of *Pabda* in composite fish culture	• To know the feeding habit of Pabda • Ratio of stocking Pabda in composite culture	ON	01	04	15	60	04	00	09	00	02	00	15	00

Animal Science	Feed & Fodder	Fodder cultivation	• To know the importance of fodder cultivation • To learn fodder cultivation	ON	01	02	15	30	03	00	06	00	06	00	15	00
June, 2015 (Quarter - I)																
Horticulture	Production Technology	Cultivation of Barnmasia drumstick	• To know the different types and varieties of drumstick • To know availability of seeds of drumstick cv. Baramasia • To impart skill of seedling raising, pit preparation, planting etc.	ON	01	03	40	120	12	00	08	00	20	00	40	00
Agronomy	Soil health management	Sowing and phosphate management in Dhaincha	• To impart skill on sowing and seed rate of dhaincha • To study the effect of dhaincha in succeeding rice crop.	ON	01	04	25	100	07	00	05	00	13	00	25	00
Home Science	Rural Craft	*"Kantha"* Stitch	• To know the technique of Tracing Design using Glass and Light	ON	01	01	20	20	00	06	00	08	00	06	00	20
Agril. Extension	Group dynamics (Self Help Groups)	Formation of Self Help Groups for accumulation of social capital and increasing the family income	• To orient the farmers and farm women about Self Help Groups • To train the farmers and Farm Women about process of formation and functioning of Self Help Groups	ON	03	01	20	60	12	08	20	10	07	03	39	21

Animal Science	Production Technology of Fodder	Cultivation of Maize	• To know the different types and varieties of Maize • To impart skill of Maize cultivation as Fodder crop	ON	`01	01	10	10	04	00	04	00	02	00	10	00
Animal Science	Production Technology of Fodder	Cultivation of Sorghum	• To know the different types and varieties of Sorghum • To impart skill of Sorghum cultivation as Fodder crop	ON	`01	01	20	20	06	00	08	00	06	00	20	00
July, 2015 (Quarter - II)																
Agronomy	Crop Management	Improved variety and sowing of Maize	• To impart knowledge & skill about appropriate time of land preparation and sowing method	ON	01	04	25	100	08	00	03	00	14	00	25	00
Agronomy	Crop Management	Land preparation and sowing of red gram	• To impart knowledge & skill about appropriate time of land preparation, phosphate management and sowing method	ON	01	04	25	100	08	00	03	00	14	00	25	00
Animal Science	Production Technology of Fodder	Cultivation of Rice Bean	• To know the different types and varieties of Rice Bean • To impart skill of Rice Bean cultivation as Fodder crop	ON	`01	01	20	20	06	00	08	00	06	00	20	00
August, 2015 (Quarter - II)																
Animal Science	Goatery Management	Low cost concentrate preparation	• To learn about low cost feed preparation	ON	01	02	15	30	03	00	06	00	06	00	15	00

September, 2015 (Quarter - II)																
Horticulture	Production of low volume high valued crop	Improved cultural practices of capsicum, Broccoli, ornamental cabbage, Lettuce.	• To know the different var. of capsicum, Broccoli, ornamental cabbage, Lettuce • To learn about seedling raising • To develop the skill for spacing, transplanting, manuring, disbudding etc	ON	01	04	25	100	05	00	05	00	15	00	25	00
Agronomy	Crop Management	Land preparation and sowing of Mustard	• To impart knowledge & skill about appropriate time of land preparation and sowing method	ON	01	04	25	100	08	00	03	00	14	00	25	00
Plant Protection	IWM	Weed management in Yellow sarson	• To know the importance of weed management • To know about the different component used in IWM	ON	01	01	40	40	14	00	16	00	10	00	40	00
October, 2015 (Quarter - III)																
Animal Science	Breed up gradation.	Techniques of breed up gradation of Non descriptive poultry birds.	• To know the selection procedure and its importance in egg production. • To know the feeding and vaccination schedule of poultry birds.	ON	01	01	30	30	08	00	12	00	10	00	30	00

November, 2015 (Quarter - III)																
Agronomy	Crop Management	Land preparation and sowing of wheat	• To impart knowledge & skill about appropriate time of land preparation and sowing method	ON	01	04	25	100	08	00	03	00	14	00	25	00
Agronomy	Weed Management	Use of Kono Weeder in SRI Method of Paddy Cultivation	• To impart knowledge and skill about using Kono Weeder in SRI Method of Paddy Cultivation	ON	01	01	10	10	03	00	04	00	03	00	10	00
December, 2015 (Quarter - III)																
Animal Science	Disease management	Use of time bound dewormer in sheep and goat	• To know the symptoms of different worms and fluke infestation. • To know the problem, dose time, indication and centre indication of common dewormer.	ON	01	01	20	20	04	00	04	00	12	00	20	00
January, 2016 (Quarter - IV)																
Agronomy	Crop Management	Land preparation and sowing of sesame	• To impart knowledge & skill about appropriate time of land preparation and sowing method	ON	01	04	25	100	08	00	03	00	14	00	25	00

February, 2016 (Quarter - IV)

Agronomy	INM	Seed treatment and phosphate management of green gram	• To impart knowledge & skill about rhizobium treatment • To aware the skill of phosphate management	ON	01	04	25	100	08	00	03	00	14	00	25	00
Agronomy	INM	Seed treatment and phosphate management of black gram	• To impart knowledge & skill about rhizobium treatment • To aware the skill of phosphate management	ON	01	04	25	100	08	00	03	00	14	00	25	00
	TOTAL				**25**	**60**	**525**	**1470**	**154**	**14**	**139**	**18**	**231**	**09**	**524**	**41**

5. E. Sponsored Training Programme: The Sponsored Training programmes will be decided later through discussion with the Sponsoring Agencies of the training programmes.

6. Front Line Demonstrations (FLDs) on Oilseeds:

Season	Crop	Variety	No. of demonstrations	Area (ha)
Winter, 2015 -16	Mustard	Pusa-Bahar	140	20
Summer, 2016	Sesame	SWB – 32 – 10 - 1	140	20

7. Front Line Demonstrations (FLDs) on Pulses:

Season	Crop	Variety	No. of demonstrations	Area (ha)
Kharif, 2015	Red Gram	ICPL-87119	37	05
Summer, 2016	Green Gram	SML - 668	70	10
Summer, 2016	Black Gram	PU-30	70	10

8. Front Line Demonstrations (FLDs) on Other than Oilseeds and Pulses:

Season	Crop / Enterprise	Variety	No. of demonstrations	Area (ha / no.)
Pre Kharif, 2015	Green Manure Crop *Dhaincha*	-	50	6 ha
Pre Kharif, 2015	Green Fodder - Maize	African Tall	10	0.05 ha
Pre Kharif, 2015	Green Fodder - Sorghum	M P Chari Jumbo	10 10	0.05 ha 0.05 ha
Kharif, 2015	Maize	HQPM - 1	22	2.5 ha
Kharif, 2015	Elephant Foot Yam	Bidhan Kusum or Gajendra	20	0.14 ha
Kharif, 2015	Drumstick	PKM - 1	60	2000 seeds
Winter, 2015-16	Wheat	HD - 2824	70	10 ha
Winter, 2015-16	Capsicum	Bharat	15	0.85 ha
Winter, 2015-16	Broccoli	F1-Hybrid	15	0.85 ha

Summer, 2016	Pabda	*Ompok pabo*	09	1.2 ha
Winter, 2015-16	Weed Management in Yellow Sarson	Herbicides: Pendimethalin as pre emergence @ 3 lt. / ha	40	5.0 ha
Post Kharif, 2015	Low Cost Concentrate for Does	Does (Flushing)	10	20 Numbers of Does
Kharif, 2015	Green Fodder - Rice Bean	Bidhan – 1 Bidhan - 2	10 10	0.05 ha 0.05 ha
Rabi, 2015-16	Green Fodder – Oat	Kent	05	0.1 ha
Summer, 2015-16	Use of Kono Weeder in SRI Method of Paddy Cultivation	Kono Weeder	10	5.0 ha
2015-2016	"*Kantha*" Stitch	Tracing Designing using Glass and Light	20	20 Numbers of Farm Women and Female Rural Youths
2015-2016	Group formation for accumulating Social Capital and increasing Family Incomes	Formation and functioning of Self Help Groups	03	60 numbers of members of 3 Self Help Groups (20 member from each group)

9. Seed and Planting Material Production

Seeds		**Planting Materials**	
Crop	**Area**	**Crop**	**Area / No.**
Paddy	2.0 ha	Vegetables	15,000 nos
Pulse (Black Gram, Red Gram, Green Gram, Lentil)	1.0 ha	-	-
Oil Seed (Rape Seed, Mustard, Sesame)	0.9 ha	-	-
Dhaincha	0.5 ha	-	-
		Elephant Foot Yam	5.0 Quintals

10. Extension Activities

Activities	No.	Participants
Field Day	19	731
Scientists' Visits to farmers' fields	36	300
Farmers' Visits to KVK	310	310
Diagnostic Visits	415	828
Radio Talk	47	92
Kisan Mela	02	-
TV Programme	12	-
Extension Literature	12	-
Awareness Camp	8	2000
SMS through Farmers Portal	12	12000

11. Revolving Fund

Open Balance (2015-16)	Amount to be invested	Return
2.33 Lakh	0.08 lakh	0.22 lakh

12. Expected fund utilization

Project	Source	Amount to be received in Lakh (Rs.)
ATMA	Deputy Director of Agriculture (Admin.), Dept. of Agriculture, Govt. of West Bengal, District of Birbhum, Suri, Birbhum	0.24

13. On Farm Trials to be conducted

Thematic Area	Title	Treatments	No. of farmers
Nutrient Management	**Assessment of balanced NPK management for increasing yield of yellow sarson under irrigated lateritic soil of Birbhum district.**	**Farmers' Practice:** 80:20:20 NPK Kg/ha **Technology Option - I**: State recommendation (60:30:30 NPK Kg/ha) **Technology Option - II**: Soil Testing based NPK	**10**
Variety Replacement	**Assessment of location specific Late Kharif season or Early Winter Season Cauliflower varieties for lateritic area of Birbhum district**	**Farmers' Practice - Pan - 1008** **Technology Option - I - D - 175** **Technology Option - II - S - 4051**	**10**
Variety Replacement	**Assessment of location specific Late Kharif or Early Winter Cabbage varieties for lateritic area of Birbhum district**	**Farmer's Practice: - M - 111** **Technology Option - I - I - 1299** **Technology Option - II - Himani**	**10**
Weed Management	**Weed Management in transplanted *kharif* rice**	**Farmers' Practice:** Hand Weeding **Technology Option - I**: Pyrazosulfuron-ethyl @2 5 g a.i /ha as pre emergence (1-3 DAT) **Technology Option - II**: Metsulfuron-methyl +chlorimuron- ethyl @ 4 g a.i /ha at 7-12 DAT **Technology Option - III:** Pretilachlor @ 1.0 lit a.i /ha as pre emergence (1-3 DAT)	**7**
Weed Management	**Weed management in summer pulse**	**Farmers' Practice:** No Weeding **Technology Option – I:** Pendimethalin @0.75 lit a.i /ha as pre- emergence (0-3 DAS) **Technology Option - II**: Quizalofop –P-ethyl @ 50 ml a.i./ha as early post emergence (15-20 DAS) **Technology Option - III:** Fenoxaprop-P-ethyl @ 60 ml a.i/ha as early post emergence (15-20 DAS)	**7**
Nutritional Management	**Assessment of specific vitamins as growth promoters in carp spawn and fry feed to increase their survival rate to a profitable extent**	**Farmers' Practice:** Irregular feed application without growth promoters **Technology Option - I:** Yeast (2%) + Cobalt Chloride (0.1%) with scientific feed **Technology Option - II:** Yeast (2%) + Vit. C (0.5%) with scientific feed **Technology Option - III:** Yeast (2%) + Vit. B Complex (0.01%) with scientific feed **Scientific Feed =** Rice Bran (50%) + MOC (50%)	**5**
Integrated Framing	**Assessment of profitability within components of**	**Framers' Practice**: Traditional Fish Farming **Technology Option - I**: Composite fish culture + Duck farming + Azolla + Pulses	**7**

System	**integrated farming systems under fish based production system in lateritic soil of Birbhum District**	**Technology Option - II**: Composite fish culture + Duck farming + Azolla + Vegetables	
Breed replacement	**Evaluation of performance of Rural Poultry Breed under Backyard Management System**	**Farmers' Practice: Deshi Poultry Bird** **Technology Option – I: Rural Poultry Breed (Breed - Vanaraja)** **Technology Option – II: Improved Poultry Breed [Breed - Rhode Island Red (RIR)]**	**7**
Broiler management	**Evaluation of efficacy of non antibiotic growth promoter in broiler poultry**	**Farmers' Practice: Without any growth promoters** **Technology Option – I: Lactobacillus + Saccharomyces (500gm/ton of feed)** **Technology Option – II: Xylanase +Phytase + Amylase + Protease enzyme (250 gm/ton of feed)**	**7**
Storage of Vegetables	**Evaluation of Shelf-Life of Vegetables stored in a modified Earthen Pot Cool Chamber**	**Farmers' Practice – Vegetables Stored in room temperature** **Technology Option – I: Vegetables Stored in Bamboo Baskets with Wet Gunny Bags** **Technology Option – II: Vegetables Stored in Modified Earthen Pot Cool Chambers**	**10**
Training Methods	**Evaluation of efficacy of different Training Methods for Skill Development Trainings**	**Prevalent Practice: Lecture Methods** **Technology Option – I: Group Discussion** **Technology Option – II: Case Study** **Technology Option – III: Field Visits** **Technology Option – IV: Demonstration** **Technology Option – V: Experiential Learning**	**60**

14. List of project to be implemented

Name of the Project	Fund expected (Rs.)
Short Term Research, ATMA, Birbhum	

15. No. of success stories to be developed

a) 2 Success stories

16. Scientific Advisory Committee

Date of SAC Meeting held during 2014-15	Proposed Date during 2015-16
20.03.2015	15.03.2016

17. Soil and Water Testing

Types of Samples	No. of samples to be analyzed
Soil	**180**
Water	**49**

18. Staff position

Sanctioned	In position	If vacant, since when
Programme Coordinator	Filled	-
SMS (Agronomy)	Filled	-
SMS (Plant Protection)	Filled	-
SMS (Home Science)	Filled	-
SMS (Agricultural Extension)	Filled	-
SMS (Animal Science)	Filled	-
SMS (Fishery)	Filled	-
Senior Assistant	Filled	
Programme Assistant (Computer Programmer)	Filled	-
Programme Assistant (Farm Manager)	Filled	-
Programme Assistant	Vacant	From inception
Jr. Stenographer cum Computer Operator	Filled	-
Driver-cum-Mechanic	Filled	-
Driver-cum-Mechanic	Filled	-
Supporting Staff	Filled	-
Supporting Staff	Filled	-

Status of Infrastructure

Infrastructure	Complete	Under construction	Not started	Reasons, if not started
Administrative Building	550 sq. m			
Trainees' Hostel	305 sq. m			
Staff Quarter	-	-	-	At present, the staff quarters are not required.
Demonstrations Units:	80 sq. m x 2 nos.			

19. Fund requirement and expenditure

	Expenditure (last year) Rs. in lakh (2014-15)	Expected requirement (Rs.) in lakh Anticipated (2015-16)
Recurring		
Pay and allowances	92.48	126.84*
TA	00.27	00.50
HRD	00.09	00.20
TSP	00.50	01.00
Contingencies	07.19	10.20
TOTAL (A)	100.53	138.74
Non Recurring		
Works	NIL	Nil
Vehicle (Motorcycle-2 nos)	NIL	01.50
Equipment, furniture and furnishing	NIL	05.00
Soil & Water Testing/ Plant Diagnostic Lab	NIL	00.50
Library	NIL	00.25
TOTAL (B)	NIL	07.25
TOTAL (A + B)	100.53	145.99

*** Rs. 11.48 Lakhs was due from Council under Pay & Allowances in 2014-15.**

21. Technologies of wide acceptability

(A) Large Scale adaptation of Elephant Foot Yam:

Some technologies demonstrated by the Rathindra KVK are getting popular in wide scale. One of these technologies is improved method of cultivation of Elephant Foot Yam.

Initially, the Rathindra KVK organized skill development training on improved method of cultivation of this crop. Then, the high yielding var. Gajendra (Kavoor) and Bidhan Kusum was demonstrated under FLD programme of the Rathindra KVK. At present through Farmers led Extension, this crop is being cultivated in Birbhum, Burdwan and Murshidabad districts of West Bengal. This crop is now cultivated on commercial basis. In Kharif Season, 2014 in KVK adopted villages 445 quintals of Elephant Foot Yam are produced by 42 farmers.

(B). **Popularization of "*Kantha*" Stitch**:

"*Kantha*" Stitch is one important technology by which rural women are earning good amount of money through the utilization of their leisure time. This Kendra organizes skill development training on "*Kantha*" Stitch in different interior villages. At present, this work has acquired a status of a small scale home based industry in the Bolpur Sub-Division of Birbhum District. Skill development Training was imparted to 54 women of 7 villages. Now it has been spread in 26 villages. There are 7 units in 4 villages where 108 women and girls are working. Before training the farm women did not have any source of income. The net income with the work on "*Kantha*" Stitch varies from Rs. 5,000.00 – 15,000.00 after 3 months of investment of time, labour and required materials like clothes, threads, needles, tracing equipments etc.

22. Details of OFT

OFT - 1

Title:	Potentiality of food fodder intercropping for increasing crop productivity and profitability in Winter season under irrigated lateritic soil of Birbhum district.
Problem definition:	Low crop productivity and profitability under sole fodder cultivation.
Hypothesis:	Proper food fodder intercropping system may increase the yield and net return of crop production in Winter season.
Micro farming situation:	Seasonal fodder in Winter is cultivated in irrigated medium land (Lateritic Soil) condition during winter. Soil is sandy loam in texture having P^H 5.8-6.2
Farmers practice:	Farmers cultivate seasonal fodder Oat as sole crop in irrigated medium land situation.
Production system	Rice-Oat-Rice, Rice-Oat-Sesame.
Thematic area	Cropping System.
Objective:	To study the potentiality of food fodder intercropping for enhancement the yield and net return in food & fodder crops cultivation.
Sowing time:	1st. week of November, 2015.
Variety to be used:	Oat - Kent, Chickpea - Anuradha, Lentil – WBL - 58
Details of technology assessment	**Farmers' Practice :** Sole Oat
	Technology Option - I **:** Oat + Chick pea (1:1)
	Technology Option - 1I : Oat + Lentil (1:1)
	Technology Option - III : Oat + Yellow Sarson (1:1)
Source of technology	Ph.D. Thesis, Palli-Siksha Bhavana, Visva-Bharati, Sriniketan.
No. of replication:	10 (10 nos. of farmers)
Plot size (each replication/ farmers):	0.13 ha
Total plot size:	1.33 ha
Critical input:	a)KVK share: Seeds, fertilizers b) Farmers share: Plant protection chemicals
Performance/Monitoring indicator:	Soil nutrient status at initial and at harvest, Yield and net return.
Approximate cost shared by KVK for seeds, fertilizer etc.	Rs.12,000.00

OFT - 2

Title	Assessment of location specific Late Kharif season or Early Winter Season Cauliflower varieties for lateritic area of Birbhum district
Problem Definition	There is a very good demand of early Cauliflower in the market of Birbhum district. This vegetable is brought from the Ranchi. On the other hand in late Kharif season the Cucurbitaceous vegetables are grown by the local farmers which give very negligible profit. So farmers are interested to cultivate early Cauliflower variety. Hence the standardization of early Cauliflower varieties are most desired aspect of farmers of Birbhum district.
Hypothesis	Early Cauliflower varieties may increase more profit of the farmers and fulfill the demand of the people of Birbhum district.
Farmer's practice	The farmers cultivate medium type variety of Cauliflower
Cropping System	Vegetables - Fallow - Vegetable
Micro-farming situation	The famers grow vegetable mainly upland situation sometimes medium land situation.
Objective	To determine early Cauliflower varieties giving maximum profit.
Sources of Technology	Literatures of Seed growers.
Variety to be used	Pan – 1008, Don – 175, Suminis – 4051
Details of Technology assessment	**Farmers' Practice -** Pan - 1008 **Technology Option – I** - Don - 175 **Technology Option – II** - Suminis - 4051
Thematic Area	Varietal Replacement
Critical input	i). KVK Share - Seeds, Poly-pack / Seedling tray; ii). Farmer's Share - Manures, Fertilizers, Plant Protection Chemicals.
Plot Size / Replication	0.067 ha.
Area/Replication	0.134 ha.
Nos. of Replication	10
Total Area for the Experiment	1.34 ha.
Performance / Monitoring indicators	Time of planting, Plant height, Curd size, Curd weight, Yield / hectare
Approximate cost of KVK share	Rs. 20,000.00

OFT - 3

Title	Assessment of location specific Late Kharif or Early Winter Cabbage varieties for lateritic area of Birbhum district
Problem Definition	There is a very good demand of early Cabbage in the market of Birbhum district. This vegetable is brought from the Ranchi. On the other hand in late Kharif season the Cucurbitaceous vegetables are grown by the local farmers which give very negligible profit. So farmers are interested to cultivate early Cabbage variety. Hence the standardization of early Cabbage varieties are most desired aspect of farmers of Birbhum district.
Hypothesis	Early Cabbage varieties may increase more profit of the farmers and fulfil the demand of the people of Birbhum district.
Farmer's practice	The farmers cultivate medium type variety of Cabbage
Cropping System	Vegetables- Fallow -Vegetable
Micro-farming situation	The famers grow vegetable mainly upland situation sometimes medium land situation.
Objective	To determine early Cabbage varieties which will give maximum profit.
Sources of Technology	Literatures of Seed Breeder.
Variety to be used	Millennium - 111, Indam - 1299, Himani
Details of Technology assessment	**Farmers' Practice** - Millennium - 111 **Technology Option – I** – Indam - 1299 **Technology Option – II** - Himani
Thematic Area	Varietal Replacement
Critical input	i). KVK Share - Seeds, Poly-pack / Seedling tray; ii). Farmer's Share- Manures, Fertilizers, Plant Protection Chemicals.
Plot Size / Replication	0.067 ha.
Area/Replication	0.134 ha.
Nos. of Replication	10
Total Area for the Experiment	1.34 ha.
Performance / Monitoring indicators	Time of planting, Plant height, Curd size, Curd weight. Yield / hectare
Approximate cost of KVK share	Rs. 20,000.00

OFT - 4

Title:	Weed Management in transplanted *kharif* rice
Problem definition:	Only hand weeding cannot control the weeds of transplanted kharif rice. Due to scarcity of labour timely hand weeding is not possible. Beside this hand weeding is expensive which ultimately increase the cost of cultivation.
Hypothesis:	Application of herbicides of low dose high efficiency may reduce the weed growth to an economic manner and increase the yield and net return of transplanted rice.
Micro farming situation:	Kharif rice is cultivated in rain-fed medium land (Lateritic Soil) to low land condition during rainy season. Soil is sandy loam in texture having P^H 5.8-6.2
Farmers practice:	Farmers cultivate transplanted rice in rain-fed medium land and low land situation with hand weeding 2-3 times.
Production system	Rice-rapeseed., Rice-fallow .
Thematic area	Weed Management
Objective:	To study the effect of weed management through low dose high efficiency herbicide for enhancement the yield and net return in Kharif rice cultivation.
Sowing time:	July-August, 2015
Variety to be used:	MTU-7029
Details of technology assessment	**Farmers' Practice:** Hand Weeding **Technology Option - I**: Pyrazosulfuron-ethyl @2 5 g a.i /ha as pre emergence at 1-3 DAT **Technology Option - II**: Metsulfuron-methyl +chlorimuron- ethyl @ 4 g a.i /ha at 7-12 DAT **Technology Option - III:** Pretilachlor @ 1.0 lit a.i /ha as pre emergence at 1-3 DAT
Source of technology	AICRP-WC, Visva-Bharati, Sriniketan
No. of replication:	7 (7 nos. of farmers)
Plot size (each replication/ farmers):	0.13 ha
Total plot size:	0.91 ha
Critical input:	a) KVK share: Herbicides b) Farmer's share: Seeds, fertilizers etc
Performance/Monitoring indicator:	No. of weeds / M^2 at 20 DAT, 40 DAT, 60 DAT, Yield / ha and net return / ha.
Approximate cost shared by KVK for seeds, fertilizer etc.	Rs.5,000.00

OFT - 5

Title:	Weed management in summer pulse
Problem definition:	Farmers cultivate pulse with very negligence. They sow seeds by broadcasting. After few days weeds compete the crop. No mechanical weeding is possible unless it is line sown.
Hypothesis:	Application of herbicides pre emergence or early post emergence may reduce the weed growth to an economic manner and increase the yield and net return of summer pulse.
Micro farming situation:	Summer pulse is cultivated in irrigated medium land (Lateritic Soil). Soil is sandy loam in texture having P^H 5.8-6.2
Farmers practice:	Farmers broadcast the seeds and no weeding is adopted.
Production system	Rice – Mustard - Green Gram / Black Gram, Rice – Potato - Green Gram / Black Gram .
Thematic area	Weed Management
Objective:	To study the effect of weed management through pre and early post emergence herbicide for enhancement the yield and net return in summer pulse cultivation.
Sowing time:	February, 2016
Variety to be used:	Green Gram- PDM 84-139, Black Gram- WBU-108
Details of technology assessment	**Farmers' Practice:** No Weeding **Technology Option – I:** Pendimethalin @0.75 lit a.i /ha as pre- emergence (0-3 DAS) **Technology Option - II**: Quizalofop –P-ethyl @ 50 ml a.i./ha as early post emergence (15-20 DAS) **Technology Option - III:** Fenoxaprop-P-ethyl @ 60 ml a.i/ha as early post emergence (15-20 DAS)
Source of technology	AICRP-WC, Visva-Bharati, Sriniketan
No. of replication:	7 (7 nos. of farmers)
Plot size (each replication/ farmers):	0.13 ha
Total plot size:	0.91 ha
Critical input:	a)KVK share: Herbicides b) Farmers share: Seed, fertilizers etc
Performance/Monitoring indicator:	No. of weeds / M^2 at 15, 30, 45 DAT, Yield and net return.
Approximate cost shared by KVK for seeds, fertilizer etc.	Rs.5,000.00

OFT - 6

Title:	Assessment of specific vitamins as growth promoters in carp spawn and fry feed to increase their survival rate to a profitable extent
Problem definition:	Low survival rate of fish spawn due to malnutrition and no use of growth promoters
Hypothesis:	Proper use of growth promoters (vitamins) in carp spawn and fry feed may increase their survival rate
farming situation:	Ponds in medium land where nursery ponds are used for carp spawn and fry raising
Farmers practice:	Farmers apply irregular feed without any growth promoters (Vitamins) for raising carp fry.
Production system	Extensive system
Thematic area	Nutritional management
Objective:	To study the effect of growth promoters like Yeast, Cobalt chloride, Vit. B_{12} and Vit.B - Complex for enhancement of spawn survivability of carp spawn to a profitable extent.
Time:	Rainy season, 2013
Variety to be used:	IMC and exotic carp spawn
Details of technology assessment	**Farmers' Practice:** irregular feed application without growth promoters **Technology Option I:** Yeast (2%) + Cobalt Chloride (0.1%) with scientific feed **Technology Option II:** Yeast (2%) + Vit. C (0.5%) with scientific feed **Technology Option III:** Yeast (2%) + Vit. B Complex (0.01%) with scientific feed Scientific feed = Rice Bran (50%) + MOC (50%)
Source of technology	Fish and Fisheries of India - V.G. Jhingran
No. of replication:	5 (5 nos. of farmers)
Pond size (each treatments/farmers):	0.13 ha
Total pond area:	0.13 X 4 X 5 ha = 2.6 ha
Critical input:	a) KVK Share: Scientific feed and growth promoters b) Farmer's Share: Fish spawn and nursery pond preparation
Performance/Monitoring indicator:	Survival rate and yield of fry / ha.
Approximate cost shared by KVK for seeds, fertilizer etc.	Rs.15,000.00

OFT - 7

Title	Assessment of profitability within components of integrated farming systems under fish based production system in lateritic soil of Birbhum District
Problem definition	Lack of knowledge in integration of components in proper way for maximum profit.
Hypothesis	Integration of components in proper way may increase the farm profitability.
Farmers' practice	In fish based production system farmers cultivate fish only in very traditional way
Production System	Fish Based
Thematic Area	Integrated Farming System
Source	DARE/ICAR Annual Report, 2008-09, pp.12-14. Fertilizer News, 46 (11), pp. 53-55 and 57-58.
Objective	To integrate the components in proper way and maximize the profit
Details of technology assessment	**Farmers' Practice:** Traditional Fish Farming
	Technology Option I: Composite fish culture + Poultry farming + *Azolla* Production + Pulses Cultivation
	Technology Option II: Composite fish culture + Poultry farming + *Azolla* Production + Vegetables Cultivation
Replication	7 nos.
Critical input	Fish finger lings, Chicks, *Azolla*, Vegetable seeds, Pulse seeds
Performance/Monitoring indicator	Production and Economics of farming systems / ha
Total cost of KVK share	Rs. 40,000.00

OFT - 8

Title	Evaluation of performance of Rural Poultry Breed under Backyard Management System
Problem Definition	Poor body weight, poor egg production and poor egg weight of the Rural Poultry Birds
Hypothesis	Adoption of proper Rural Poultry Breed may result in production of increased numbers of eggs, higher average weights of the laid eggs, faster rate of growth of the body weights of the Rural Poultry Birds and finally more average body weights of the Rural Poultry Birds.
Thematic Area	Breed replacement
Objective	To comparatively study and assess the performance of the Rural Poultry Breeds under the Trial
Micro Farming Situation	Farmers are rearing 10 – 15 numbers of Deshi Poultry Birds per Household under up land back yard farming situation.
Production System	Up land Back yard
Farmers' Practice	Farmers are rearing 10 – 15 numbers of Deshi Poultry Birds per Household under up land back yard farming situation.
Time	September, 2015
Variety / Breed to be used	Rural Poultry Breed (Breed - Vanaraja) and Improved Poultry Breed [Breed - Rhode Island Red (RIR)]
Details of Technology Assessment	**Farmers' Practice:** Deshi Poultry Bird **Technology Option – I:** Rural Poultry Breed (Breed - Vanaraja) **Technology Option – II:** Improved Poultry Breed [Breed - Rhode Island Red (RIR)]
Source of Technology	Project Directorate on Poultry, Hyderabad
Numbers of Replications	07 (Seven)
Numbers of Birds per Replication	60 (Sixty) [20 Numbers of Deshi Poultry Bird +20 Numbers of Rural Poultry Breed (Breed - Vanaraja) + 20 Numbers of Improved Poultry Breed [Breed - Rhode Island Red (RIR)]
Total Numbers of Birds	420 (Four hundred twenty)
Critical Input	a. KVK Share: Chicks, Medicine, Vaccine and improved Feeds b. Farmers' Share: Feed
Performance / Monitoring Indicators	Body Weight, Egg Production and Egg Weight
Approximate Costs shared by the KVK	Rs. 25,000.00 (Rupees Twenty five thousand) only.

OFT - 9

Title	Evaluation of efficacy of non antibiotic growth promoter in broiler poultry
Problem Definition	Potential of antibiotic resistant strains of bacteria of bacteria and transference of antibiotic resistance genes from animal to human.
Hypothesis	Administration of non antibiotic growth promoter for rapid development of healthy microgutflora, increased growth performance, improved feed efficiency, stabilization of digestion.
Thematic Area	Broiler management
Objective	To assess the efficacy of the non antibiotic growth promoter
Farming Situation	Farmers are rearing 2000 - 2500 Broiler Birds per Household under deep litter farming situation.
Production System	Deep litter system
Farmers' Practice	Farmers are rearing 2000 - 2500 Broiler Birds per Household under deep litter farming situation
Time	August, 2014
Variety / Breed to be used	Broiler poultry
Details of Technology Assessment	**Farmers' Practice –** Without any growth promoter **Technology Option – I:** Lactobacillus + Saccharomyces (500 gm. / ton of feed) **Technology Option – II:** Xylanase + Phytase + Amylase + Protease enzyme (250 gm. / ton of feed)
Source of Technology	Dept. of Animal Nutrition, WBUAFS
Numbers of Replications	07 (Seven)
Numbers of Birds per Replication	(1800) [600 Numbers of birds under each treatment)
Total Numbers of Birds	12,600
Critical Input	a. KVK Share: Non antibiotic growth promoter, Vaccine, Medicine b. Farmers' Share: Feed, Medicine, Birds.
Performance / Monitoring Indicators	Body Weight gain, Feed conversion Ratio, Mortality percentage.
Approximate Costs shared by the KVK	Rs. 25,000.00

OFT - 10

Title	Evaluation of Shelf-Life of Vegetables stored in a modified Earthen Pot Cool Chamber
Problem Definition	In Semi-Arid Red Lateritic Zone situation of Birbhum District, extreme hot climatic conditions prevail over a large majority of time in every year and the vegetables get spoiled due to this climatic situation very quickly especially in the absence of proper storing system. In addition to this, the villagers can avail fresh vegetables once in week from the Weekly Haat held at their villages.
Hypothesis	The Earthen Pot Cool Chamber may be a good storage system to keep the vegetables comparatively in fresh condition than storage in room temperature and storage in bamboo baskets covered with wet gunny bags. The Earthen Pot Cool Chamber may be an eco-friendly, energy saving and cost effective alternative method of storage of vegetables.
Thematic Area	Storage of Vegetables
Objective	To assess the physiological weight loss, organoleptic qualities, bacterial population and fungal population in stored vegetables after 8 days of storing.
Farming Situation	The farm women mainly grow vegetables for home consumption in back-yard kitchen garden or they procure vegetables from local "Haats".
Production System	Vegetables - Vegetables - Vegetables
Farmers' Practice	Farm women are storing Vegetables in room temperature.
Time	June, 2015
Technology to be used	Modified Earthen Pot Cool Chamber
Details of Technology Assessment	**Farmers' Practice –** Vegetables Stored in room temperature **Technology Option – I:** Vegetables Stored in Bamboo Baskets with Wet Gunny Bags **Technology Option – II:** Vegetables Stored in Modified Earthen Pot Cool Chambers
Source of Technology	Indian Journal of Traditional Knowledge, Vol. 10 (2), April 2011, pp. 375 – 379, Council of Scientific and Industrial Research (CSIR)
Numbers of Replications	10 (Ten)
Numbers of Earthen Pot Cool Chambers per Replication	01 (One)
Total Numbers of Earthen Pot Cool Chambers	10 (Ten)
Critical Input	a. KVK Share: Earthen Pot Cool Chamber b. Farmers' Share: Vegetables
Performance / Monitoring Indicators	Organoleptic Qualities, Average Weights of Vegetables, Average Bacterial Population and Average Fungal Population.
Approximate Costs shared by the KVK	Rs. 5,000.00

OFT - 11

Title	Evaluation of efficacy of different Training Methods for Skill Development Trainings
Problem Definition	The selection of appropriate Training Methods is important for an effective learning. The Training Methods refer to a combination of various instructional media used for conducting the Training to achieve the learning objective efficiently and effectively. The selection of suitable Training Methods is largely influenced by the Training Objectives, Subject Matter handled, participants' nature, resources availability such as Time, Location and Budget, Organizational considerations and Trainers' capability. The choice of the Training Method will also depend upon whether the Training is intended to develop a general or specific level of knowledge and skill. The participants learning style, their experience and size of the group are also some of the factors that are to be kept in mind while deciding upon the Training Methods.
Hypothesis	The Experiential training Method may be the most appropriate Training Method for Skill Development Training because it provides a kind of experience which may easily lead participation to reflection, draw conclusion and identify application points.
Thematic Area	Training Methods
Objective	To assess the extent of change and development of skill of Trainees going through different Training Methods in Skill Development Training Programmes organized by the Rathindra KVK.
Present Situation	Generally the Lecture Method for Skill Development Training is being employed where a "Lecture" consisting of oral presentation of the subject matter along with the help of audio-visual aids such as black board, over-head projector, slides, charts etc., so as to help the listeners understand the concept, principle and method being presented.
Training System	Mainly Theoretical
Prevalent Practice	Generally the Lecture Method for Skill Development Training is being employed.
Time	2015 - 2016
Training Methods to be used	**Lecture Methods, Group Discussion, Case Study, Field Visits, Demonstration and Experiential Learning.**
Details of Technology Assessment	**Prevalent Practice: Lecture Methods** **Technology Option – I: Group Discussion** **Technology Option – II: Case Study** **Technology Option – III: Field Visits** **Technology Option – IV: Demonstration** **Technology Option – V: Experiential Learning**
Source of Technology	Concepts, Approaches and Methodologies for Technology Application and

	Transfer – A Resource Book for KVKs, Zonal Project Directorate, Zone – III, Indian Council of Agricultural Research, Umiam, pp. 103 – 152.
Numbers of Replications	10 (Ten)
Numbers of Trainees per Training Method	10 (Ten)
Total Numbers of Trainees	60 (Sixty)
Critical Input	a. KVK Share: Different Types of Skill development Training Methods b. Farmers' Share: Change and Development of Skill in the Subject Matter
Performance / Monitoring Indicators	Level of participation, Level of understanding, Level of knowledge gain, Degree of decision making skill, Degree of application skill, Degree of problem solving skill and Degree of proper concluding skill.
Approximate Costs shared by the KVK	Rs. 5,000.00

ANNUAL ACTION PLAN

(APRIL, 2015 - MARCH, 2016)

SUBMITTED

AT

THE ZONAL LEVEL WORKSHOP OF

KRISHI VIGYAN KENDRAS OF ZONE – II, ICAR

Organized at the

ICAR – Central Inland Fisheries Research Institute, Barrackpore, 24 Parganas (North), West Bengal

on

26th. May to 27th. May, 2015

BY

RATHINDRA KRISHI VIGYAN KENDRA

PALLI SIKSHA BHAVANA

VISVA-BHARATI

SRINIKETAN, BIRBHUM, WEST BENGAL

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