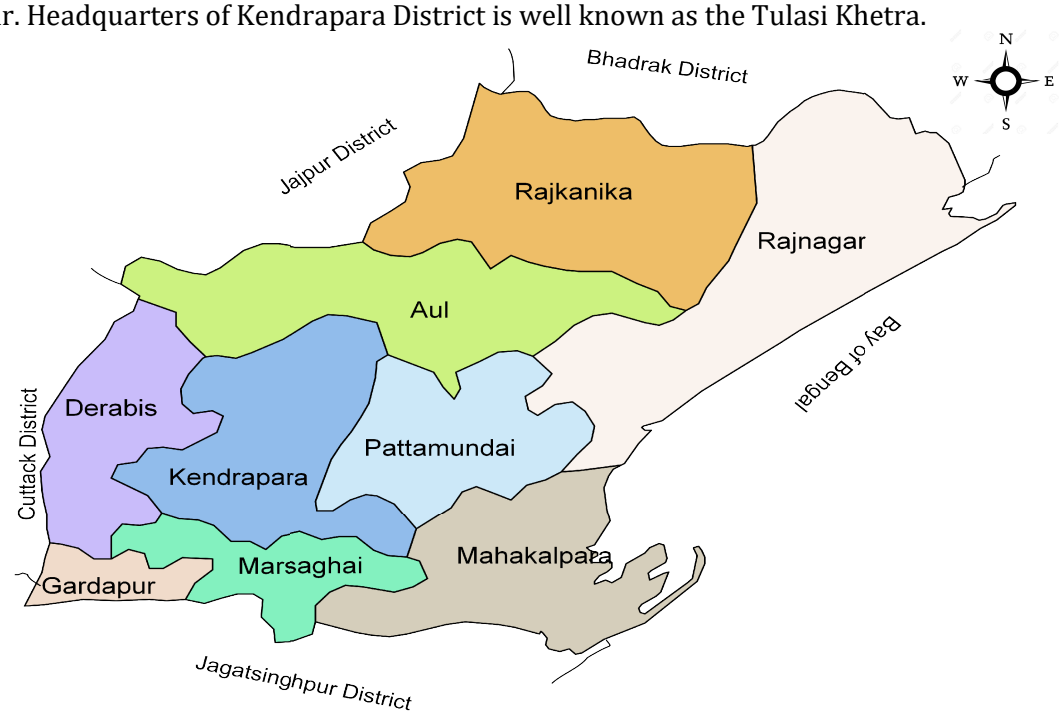
Krishi Vigyan Kendra, Kendrapara

Carved out of the erstwhile District of Cuttack, Kendrapara District is situated in Central Coastal plain zone of Odisha. The District is bounded by Bhadrak District at its North, Jagatsinghpur District at its South, Cuttack District at its West and Bay of Bengal at its East. Kendrapad District lies in 20 degree 20' N to 20 degree37' N Latitude and 86 degree 14' E to 87 degree 01' E Longitude. The Coastline of Kendrapara District covers 48 Km stretching from Dhamra Muhan to Batighar. Headquarters of Kendrapara District is well known as the Tulasi Khetra.



Basic Information of the District

Agro-Climatic Zone	: Eastern and South Eastern Coastal plain Zone
Total Geographical area	: 2,24,000 ha.
Upland	: 31,081 ha (20.44 %)
Medium land	: 71,890 ha (47.29 %)
Low land	: 49,029 ha (32.25%)
Total cultivated area	: 1.52.000 ha
Area sown during *kharif*	: 1,45,700 ha
Area sown during *rabi*	: 1,16,000 ha
Total Kharif Paddy area	: 1,23,972 ha (85 %)
Rice fallow	: 37,000 ha
Cropping intensity	: 172 %
Soil type	: Alluvial soil, Saline soil
Irrigation potential created	
Kharif	: 1,05,000 ha.(69 %)
Rabi	: 50,000 ha (32.7 %)
Maximum Temp	39.0 ^{0} C
Minimum Temp	11.5 ^{0} C
Mean Annual rainfall	: 1556 mm
Fertilizer Consumption rate	: 29.3 kg/ha.
No. of farm families-	: 1, 27,020

Marginal (59.7%), Small (26.4 %), Semi medium (11.6%), Medium (2.2 %)

Farming Situations

Sl. No	Agro climatic Zone (ACZ)	Agro ecological situation (AES)	Blocks covered	Area in '000 ha	% of geographical area of the zone	Soil Type
1	East and South Eastern Coastal Plain Zone	Coastal Irrigated alluvium (AES-1)	Kendrapara, Garadpur, Aul, Derabish,Pattamundai, Marshaghai, Mahakalpara, Rajkanika,Rajnagar	67.09	33.5	Alluvial (Sandy loam)
2		Rainfed alluvium (AES-2)	Garadpur,Derabish, Pattamundai, Aul, Rajnagar	84.91	42.4	Alluvial (Sandy loam)
3		Coastal alluvial saline (AES-3)	Kendrapara,Pattamundai,Aul,Marshaghai, Mahakalpara,Rajkanika, Rajnagar	32.35	16.1	Saline
4		Coastal waterlogged (AES-4)	Derabish,Marshaghai, Mahakalpara, Rajnagar	15.85	08	Black Soil clay loam

Details of AES

Name of AES	AES features	Blocks covered
Coastal Irrigated alluvium (AES-1)	Coarse sand to clay texture, low in WHC, base saturation & fertility, acidic in reaction	Kendrapara,Garadpur, Derabish, Pattamundai, Aul,Marshaghai, Mahakalpara, Rajkanika, Rajnagar
Rainfed alluvium (AES-2)	Coarse sand to clay texture, low in WHC, base saturation & fertility, acidic in reaction	Garadpur,Derabish,Pattamundai, Aul, Rajnagar
Coastal alluvial saline (AES-3)	Clay to clay loam in texture, low in N & K but medium in P, reduced uptake of K, Ca & Mg by plants due to presence of excess Na, suffers from H_2S injury	Kendrapara, Pattamundai, Aul,Marshaghai, Mahakalpara, Rajkanika, Rajnagar
Coastal waterlogged (AES-4)	Heavier in texture with more than 30% clay, soil reaction is neutral to slightly alkaline with presence of free $CaCO_3$ nodules in profile	Derabish, Marshaghai, Mahakalpara, Rajnagar

Major crops

Name of Crop	Kharif		Rabi		Summer	
	Area ('000 ha)	Yield (kg/ha)	Area ('000 ha)	Yield (kg/ha)	Area ('000 ha)	Yield (kg/ha)
Paddy	132.36	1842			2.81	3350
Green gram			35.70	325		
Black gram			38.06	426		
Potato			1.20	14208		
Onion			0.77	9442		
Sweet potato	1.18	9056	0.07	6143		
Vegetables	8.93	9288	13.70	17633		
Groundnut			9.12	1834		
Jute	2.46	3062				
Sugarcane			0.41	51212		

Name : Smt Gitanjali Nayak
Village : Napanga
Block : Pattamundai
Educational Qualification: 7th pass

Introduction: The economy of Kendrapara district is mainly agrarian & more than 70% its people are dependent on agriculture & allied activities. The district is more prone to flood, cyclone & drought like aberrations. The heavy rainfall and poor drainage facilities have shattered the economic condition of the farmers.

Smt Gitanjali Nayak, aged about 52 years a native of Napanga village in Pattmundai block. She was a poor farmwomen of OBC category having 7acres of land holding out of which 4.5 acres are arable and 2 acres pond excluding 0.5 acres of homestead land.

Smt Gitanjali is the only bread owner of the family. Before KVK intervention she was cultivating paddy 4.5 acres of land (more traditional varieties) with an annual profit of Rs 22,000/-. The income for underutilized pond was mere Rs. 5000/- per annum. It was very difficult to manage here family. To minimize the risk and maximize the profit she was inspired & motivated to start integrated farming in her 2 acres of pond size.

Initiative: integrated farming system seems to be the right solution to address the problems for increasing food production, net farm income , improving nutritional status encouraging better animal husbandry practices. The IFS model consists of field crops (Rice, Green gram and Black gram), horticultural crops (Banana, vegetables), Pisciculture & poultry (banaraja breed, Kroiler) etc.

Technology dissemination process: Earlier in Napanga village farmers were growing paddy & some pulses and the drainage facility was not adequate to take any high value crops. Realizing the needs of the villages KVK has planned systematically to improve the livelihood of the farming communities. The first step initiated was conducting training programme on Integrated farming system for farmers having farm pond and crop land for maximum use of profit maximization. KVK also introduced the various pond based enterprises, technical know how of IFS.

Institute involved: Agriculture department under ATMA programme, Horticulture Department, Animal husbandry helped Smt Gitanjali for integrating different farm based enterprises. Over a period of 5 years she enhanced the productivity as well as the profitability as compared to the farming system.

Outcome: after renovation of existing farm pond, KVK has introduced vegetables like brinjal, cow pea, tomato, cucumber, chilli, pumpkin as intercrop in pond embakment. It provided additional benefits (Rs. 21000/-). She is one of the ideal model in her village Napanga and her vicinity.

Pond based farming system	Area	Income	Expenditure	Profit	B:C
Fish	2 acre	1,40,000	65,000	75,000	2.15
Duckery		30,000	12500	17500	2.4
Poultry		65,000	38000	27000	1.71
Vegetables	0.5 acres	34000	13000	21000	2.6
Paddy	4.5 acre	144000	68000	76000	2.11
Total		**4,13,000**	**1,96,500**	**2,16,500**	

Impact: after the satisfactory growth of farm she made a pucca house and the farmers / farm women have practically seen the benefit of IFS unit. Net profit of Rs 2,16,500 and B:C ratio of 2.11. Now she is the master trainer of other SHG members and 12 nos. Of IFS unit (like Gitanjali) have been developed in the nearby villages Sanpanturi, Icchapur Das Sahi IFS) Smt Gitanjali is getting intangible benefits of employment almost round the year in her farm. KVK plays a crucial dominant role during the awful situation of Smt Gitanjali in her village.

Success points: After renovation of her existing 2 acres of pond she comes to KVK and approached for technical support. KVK extended its support to start a pond based integrated farming system with poultry duckery horticultural crops, Pisciculture based on her suitability.

Poultry & Duckery unit: KVK helped smt Gitanjali to start poultry & Duckery units in her farm land. She has kept 200 Nos. Of poultry bird of Banaraja breed and 50 ducks of Khaki Campbell bred near the farm pond. This unit is fetching additional income for her (Rs. 27000/- from poultry and 17500/- from duckery). She was really happy with this intervention & accelerates her income & livelihoods towards better horizon.

Pisciculture: due to insufficient knowledge & poor management she could not get maximum profit from Pisciculture. With the support of KVK, she is now able to manage her farm pond & getting good return from Pisciculture. She has invested Rs. 65,000/- towards fish fry and feed for Pisciculture, so farm she sold fish worth of Rs.12000/- and another Rs. 22,000/- she will get from pisculture.

Summary of Modules for Doubling of Farmers Income

Module	Farming Situation / AES	Village / Block	Name of existing farming system	Present Income 2015-16	Proposed Income 2018-19	Risk / un-sustainability	Remarks	
							Most Representative module for the district	**Market Linkage**
I-UP.- Brinjal-Cauliflower-Tomato, MED-Rice-Greengram Mushroom,Poultry Pisciculture	Coastal Irrigated Agro Ecosystem	(Ender / Derabish) (Kantia/Kendrapara)	Veg – Veg - Veg Rice – greengram PS Mushroom, poultry, Pisciculture	**121025**	**185061**	Cyclone, Stray cattle grazing,. marketing	Module II	Scope for pulse processing.
II-MED-Rice-reengram Mushroom, Poultry, Banana,Papaya	Rain fed agro ecosystem	Napanga/ Pattamundai	Rice – greengram PS Mushroom, poultry, Banana	**52525**	**96021**	Cyclone,Drought ,Stray cattle grazing, .marketing		Scope for pulse processing
III-MED-jute-rice-greengram LOW-Rice-blackgram Banana	Flood prone agro ecosystem	Raghunathpur/ Mashaghai	Jute-Rice – greengram Rice/fallow-Blackgram	**86100**	**160140**	Cyclone, Flash Flood,marketing		Scope for jute value addition
IV-MED-Rice-greengram, mushroom, Poultry Sunflower	Coastal saline agro ecosystem	Ranki/ Mahakalpara	Rice – greengram Mushroom Poultry	**71325**	**130821**	Soil salinity Cyclone, Flood, marketing		Scope for rice processing

Module : I Irrigated Agro Ecosystem Village : Ender , Block- Derabish

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
Up land	Brinjal - 180 q/ha **Rs 60,000**	Low yielding variety of brinjal High cost in weeding Fruit and Shoot borer infestation	**1.**Varietal substitution with Arka Neelachal Shyam	Brinjal- 200 q/ha **Rs 80,000**	**2.**Herbicide Pendimethalin @1kg a.i /ha at 3 DAT	Brinjal-220q/ ha **Rs 85,000**	**3.**IPM in Brinjal- Cartap hydrochloride @ 1000ml/ha & pheromone trap @ 20 no.s /ha. T. chillonis @ 1 lakh/ha.	Brinjal-230q/ ha **Rs 100000**
	Cauliflower 80 q / ha **Rs 90,000**	Improper nutrient management in cauliflower Diamond back moth in cauliflower Weed problem	**1.**STBF in cauliflower	Cauliflower- 100 q / ha **Rs 1,05000**	**2.**IPM in Cauliflower Cartap hydrochloride @ 1000ml/ha	Cauliflower- 120 q / ha **Rs 120,000**	**3.**IWM in cauliflower Herbicide Pendimethalin @1kg a.i /ha at 3 DAT	Cauliflower- 135q/ha **Rs1350000**
	Tomato 160 q/ha **Rs 60,000**	Low yielding variety Fruit borer infestation		Tomato- 160 q/ha **Rs 60,000**	1. Varietal substitution with Swarna sampad	Tomato- 185q/ha **Rs 85,000**	2. IPM in tomato for control of fruit borer, Cartap hydrochloride @ 1000ml/ha T chillonis @ 1 lakh/ha.	Tomato- 215q/ha **Rs 100000**
	Rs. 2,10,000/ha			**Rs.2,50,000/ ha (19.0%)**		**Rs.2,90,000/ ha (38.0%)**		**Rs.3,35,000/ ha (59.5%)**

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
Medium land	Rice – greengram Paddy-40 q/ha **Rs 14000**	i)High cost due to manual weeding in rice ii)Improper nitrogen management in rice iii)Sheath blight in rice	**1**.IWM with (Bensulfuron methyl + Pretilachlor @ 10 kg/ha at 3 DAT+ One HW at 35 DAT) (ii) Use of LCC for nitrogen management in rice	Paddy-42q/ha **Rs 15000**	**2**.Green manuring of dhaincha (25kg seed/ha and incorporation at 45 DAS) **3**.)Use of LCC for nitrogen management	Paddy-45q/ ha **Rs20000**	**4.**Validamycine 2ml/l of water for control of sheath blight in rice	Paddy-49 q/ha **Rs24000**
	Greengram-4.0 q/ha **Rs 10000**	YMV in greengram Improper nutrient management in greengram	**1**.Thiomethoxam spray @ 250g/ha to control whitefly	Greengram-4.5 q/ha **Rs 11000**	**2.**YMV tolerant greengram-var. IPM 2-14 Thiomethoxam @ 250gl/ha + yellow sticky trap @ 50 no.s/ha	Greengram-6.5q/ha **Rs 14000**	**3.**STBF + Inoculation of rhizobium @ 20g/kg + sodium molybdate @ 3g/10 kg of seed in greengram	Greengram-7.0 q/ha **000**
	Rs. 24,000			**Rs. 26,000 (8.3%)**		**Rs. 34,000 (41.6%)**		**Rs. 39,000 (62.5%)**
Home stead	Paddy straw Mushroom cultivation - 0.75 kg /bed **Rs.35/bed** (20 beds) i	Cultivation without rack system, no proper sterilization	**1.**Cultivation with rack system, **2.**Soaking of paddy straw in 2% $CaCo_3$	0.9 Kg /bed **Rs.49/ bed** (20 beds)	cultivation with rack system, ii)Soaking of paddy straw in 2% $CaCo_3$ (20 beds)	1.0 Kg /bed **Rs.57.6/** bed	Cultivation with rack system, iv)Soaking of paddy straw in 2% $CaCo_3$ (20beds) **3.**Control of	1.1 kg /bed Rs.62/bed

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
							bacterial bud rot disease	
	Rs.700 20 beds			**Rs.980 (40%) 20 beds**		**Rs.1152 (64.5%) 20 beds**		**Rs.1240 (77.1%) 20 beds**
Home stead	1kg /bed **Rs.30/ bed** 20 beds P.sajarcaju	No sterilization and proper moisture maintenance of bed			**1.**Hot water treatment and proper moisture maintenance	1.5 Kg /bed **Rs.45/ bed**	**2.**Variety P.florida	1.75 Kg /bed **Rs.55/ bed**
	Rs.600 20 beds			**Rs.600 20 beds**		**Rs.900 (50%) 20beds**		**Rs.1100 (83.3%) 20 beds**
Homestead	Backyard poultry (Kuroiler) Meat - **Rs.1925 /25 birds** @ 65 days 1.3 kg/bird	No Feed supplementation (free range + household waste)	**1.**Feed management(free range + 50 gm feed /bird)	**Rs. 2490 /25 birds** @ 65 days 1.8 kg/bird	**2.**Calcium and Vitamin B 12 and D3 supplementation @ 2ml/10 birds	**Rs.2940/ 25 birds** @ 65 days 2 kg/bird	**3.**Proper Disease management and proper housing	**Rs.11760/ 100 birds** @ 65 days 2.3 kg/bird
	Rs.1925			**Rs. 2490 (38.4%)**		**Rs2940 (52.5%)**		**Rs.3381 (75.6%)**
Homestead	Fish (IMC) 4.5q/0.2 ha	Inadequate stocking density & single harvest.	**1.** stocking density@ 10000/ha, multiple stocking and multiple harvesting	6.0q/0.2 ha	**2.**Pond and feed management (proper pH of water maintenance and feeding as per body	7.0q/0.2 ha	**3.**Disease management use of CIFAX @ 1litre/ha.m	7.5q/0.2 ha

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
					weight gain)			
	Rs.22500			**Rs.30000 (33%)**		**Rs.35000 (55%)**		**Rs.37500 (68 %)**
MODULE TOTAL	Veg(0.3 ha.)-Rs,70000,rice-greengram(1.0 ha.)-Rs,.24000,(PS mushroom-40 beds)- Rs,1400,Oyster mushroom-40 beds-Rs,1200,Poultry(25 no.s)-Rs,1925,Fishpond(0.2 ha.)-Rs,22500 **TOTAL-Rs 121025**						Veg(0.3 ha.)-Rs,100500,rice-greengram(1.0 ha.)-Rs,.39000,(PS mushroom-40 beds)- Rs,2480,Oyster mushroom-40 beds-Rs,2200,Poultry(25 no.s)-Rs,3381,Fishpond(0.2 ha.)-Rs,37500 **TOTAL-Rs 185061**	

Module : II Rainfed Agro Ecosystem , Block- Pattamundai

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
Medium land	Rice – greengram (limited irrigation) Paddy-38 q/ha	High cost in weeding in rice Improper nitrogen management in rice iii)Sheath blight in rice	**1.**Weed control by Bensulfuron methyl + Pretilachlor @ 10 kg/ha at 3 DAT+ One HW at 35 DAT) **2.** Use of LCC for nitrogen management	Paddy-40q/ha	**3.**Green manuring of Dhaincha **4.**Use of LCC for nitrogen management	Paddy-42q/ha	**5.** Validamycine 2ml/l of water for control of sheath blight in rice	Paddy-44q/ha
	Greengram-4.0 q/h	YMV in greengram	**1.**Thiomethoxam spray @	Greengram-4.5q/ha	**2.**YMV tolerant	Greengram-5.5 q/ha	**3.**STBF + Inoculation of	Greengram-6.0 q/ha

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
		ii)Improper nutrient management in green gram	250 g/ha to control whitefly		greengram IPM 2-14+ yellow sticky trap + Thiomethoxam spray @ 250 g/ha		rhizobium @ 20g/kg + sodium molybdate @ 3g/10 kg of seed in greengram	
	Rs.20,000/- ha			**Rs.26,000/ ha (20.0%)**		**Rs.31,000/ ha (55 %)**		**Rs.34,000/ ha (70.0%)**
Home stead	PS Mushroom cultivation - 0.75 Kg /bed Rs.35/bed (20 beds)	Cultivation without rack system, no sterilization	Cultivation with rack system, Soaking of paddy straw in 2% $CaCo_3$	0.9 Kg /bed Rs.49/ bed (20 beds)	i)cultivation with rack system, ii)Soaking of paddy straw in 2% $CaCo_3$ (20 beds)	1.0 Kg /bed Rs.57.6/ bed	iii)cultivation with rack system, iv)Soaking of paddy straw in 2% $CaCo_3$ (20beds) v)Control of bacterial bud rot disease	1.1 Kg /bed Rs.62/bed
	Rs.700 20 beds			**Rs.980 (40%) 20 beds**		**Rs.1152 (64.5%) 20 beds**		**Rs.1240 (77.1%) 20 beds**
Home stead	1Kg /bed Rs.30/ bed 20 beds P.sajarcaju	No sterilization and proper moisture maintenance of bed			i)Hot water treatment and proper moisture maintenance	1.5 Kg /bed Rs.45/ bed	ii) Variety P.florida	1.75 Kg /bed Rs.55/ bed
	Rs.600 20 beds			**Rs.600 20 beds**		**Rs.900 (50%)**		**Rs.1100 (83.3%)**

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
						20beds		**20 beds**
Home stead	Backyard poultry (Kuroiler) Meat - Rs.1925 /25 birds @ 65 days 1.3 kg/bird	No Feed supplementation (free range + household waste)	i)Feed management(free range + 50 gm feed /bird)	Rs. 2490 /25 birds @ 65 days 1.8 kg/bird	ii)Calcium and Vitamin B 12 and D3 supplementation	Rs.2940/ 25 birds @ 65 days 2 kg/bird	iii)Disease and proper housing	Rs.11760/ 100 birds @ 65 days 2.3 kg/bird
	Rs.1925			**Rs. 2490 (38.4%)**		**Rs2940 (52.5%)**		**Rs.3381 (75.6%)**
Home stead	Banana (200 Nos.) 150 bunches @ 40 fingers/bunch	Mixed variety, No fertilizer management, disease / pest management	i)Quality sapling TC Bantala , STBF & need based PP	Banana (200 Nos.) 160 bunches @ 45 fingers/bunch	ii)Banana + papaya variety red lady (50 no.)	165 bunches @ 45 fingers/bunch , 3q papaya	iii)Banana + papaya variety red lady	170 bunches @ 50 fingers/bunch , 5q papaya
	Rs.8000/-			**Rs.10000/- (20%)**		**Rs.13000/- (62.5%)**		**Rs.15000/- (87.5%)**
MODULE TOTAL	Rice-greengram(2.0 ha.)- Rs,.40000,(PS mushroom-40 beds)- Rs,1400,Oyster mushroom-40 beds- Rs,1200,Poultry(25 no.s)- Rs,1925,Banana in backyard(0.2 ha.)- Rs,8000 **TOTAL-Rs 52525**						Rice-greengram(2.0 ha.)- Rs,.68000,(PS mushroom-120 beds)- Rs,7440,Oyster mushroom-40 beds- Rs,2200,Poultry(25 no.s)- Rs,3381,Banana in backyard(0.2 ha.)- Rs,15000 **TOTAL-Rs 96021**	

Module : III Flood Prone Agro Ecosystem , Block- Marshaghai

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
Medium land	Jute-24 q/ha	Low yielding jute variety Susceptibility to waterloging Grazing by stray cattle to olitarius jute Weed problem Improper nutrient management	**1.**Cultivation of jute variety Shrestha in cropping system	Jute-28 q/ha	**2.**Weed management by Quizalo fop ethyl @1000ml/ha at 1000ml/ha.	Jute-31 q/ha	STBF fertilizer application and foliar urea(2%) spray at 50 and 60 DAS	ute-33q/ha
	rice-36 q/ha	Lack of a suitable HYV rice for cropping system	**1.**Cultivation of flood tolerant rice Bina 11 in cropping system	rice-40 q/ha	**2.**STBF in rice Bina 11	Rice-42 q/ha	**3.**Validamycin e 2ml/l of water for control of sheath blight in rice	Rce-45 q/ha
	Greengram-4.0q/ha	YMV in greengram	**1.**Thiomethoxam spray @ 250g/ha to control	Greengram-4.5 q/ha	**2.**YMV tolerant greengram-var. IPM 2-14	Greengram-5.5 q/ha	**3.**STBF + Inoculation of rhizobium @ 20g/kg +	Greengram - 6.5 q/ha

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
			whitefly		Thiomethoxam @ 250gl/ha + yellow sticky trap @ 50 no.s/ha		sodium molybdate @ 3g/10 kg of seed in greengram	
	Rs 35,000/-			**Rs 45,000/- (28.5 %)**		**Rs 58,000/- (65.7 %)**		**Rs 65,000/- (85.7%)**
Low land	Rice - Blackgram-	Frequent flash flood High cost in weeding Improper nutrient management	**1.**Cultivation of flash flood tolerant rice Swarna sub -1	Rice-38q/ha	**2.**IWM with (Bensulfuron methyl + Pretilachlor @ 10 kg/ha at 3 DAT+ One HW at 35 DAT)	Rice-40q/ha	**3.**STBF in rice (80-40-40 NPK kg/ha)	Rice-42q/ha
		YMV in blackgram Improper nutrient management Black headed caterpillar	**1.**YMV control through use of yellow sticky trap @ 50/ha and Thiomethoxam @ 250g/ha	Blackgram-5.0 q/ha	**2.**Inoculation of rhizobium @ 20g/kg + sodium molybdate @ 3g/10 kg of seed in blackgram	Blackgram-6.5 q/ha	IPM to control black headed caterpillar Dusting of chloropyriphos on field bund,Spraying of chloropyriph	Blackgram-7.5 q/ha

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
							o 1000ml/ha.	
	Rs 26,000/ha			**Rs 34,000/- (30.7%)**		**Rs 44,000 /(69.2%)**		**Rs 48,000/- (84.6%)**
Home stead	PS Mushroom cultivation - 0.75 Kg /bed Rs.35/bed (20 beds)	Cultivation without rack system, no sterilization	i)Cultivation with rack system, Soaking of paddy straw in 2% $CaCo_3$	0.9 Kg /bed Rs.49/ bed (20 beds)	ii)cultivation with rack system, iii)Soaking of paddy straw in 2% $CaCo_3$	1.0 Kg /bed Rs.57.6/bed	iv)cultivation with rack system, ii)Soaking of paddy straw in 2% $CaCo_3$	1.1Kg /bed Rs.62/bed
	Rs.700 20 beds			**Rs.980 (40%) 20 beds**		**Rs.1152 (64.5%)**		**Rs.1240 (77.1%)**
Home stead	Fish (IMC) 4.5q/0.2 ha	No quality Yearling and low body weight Improper stocking	Quality yearling and proper Stocking (10000/ha.)	6.0q/0.2 ha	Pond and feed management (Floating feed as per body weight)	7.0q/0.2 ha	**3.**Disease management use of CIFAX @ 1litre/ha.m t	7.5q/0.2 ha
	Rs.22500/-			**Rs.30000/- (33%)**		**Rs.35000/- (55%)**		**Rs.37500/- (68 %)**
MODULE TOTAL	Rice-greengram(2.0 ha.)- Rs,.60000, (PS mushroom-40 beds)- Rs,1400,Oyster,,Poultry 25 no.s-Rs1925 **TOTAL-Rs 71325**						Rice-greengram(2.0 ha.)- Rs,.120000, (PS mushroom-120 beds)- Rs,7440,Oyster m,,Poultry 25 no.s-Rs3381 **TOTAL-Rs 130821**	

Module: IV Saline Prone Agro Ecosystem , Block- Mahakalapara

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
Low land	Rice 30 q/ha Rs 14000	Low yielding local variety Pateni Improper nutrient management Weed problem	**1.**Varietal substitution with Luna Suvarna /Luna Barial .	Rice-33q/ha Rs 15000/-	Green manuring with Dhaincha STBF application	Rice-37q/ha Rs 16000	Herbicide Bispyribac Sodium @200 ml/ha at 20 DAT	Rice-40q/ha Rs 20000
	Greengram 2.5 q/ha **Rs 3000**	Low yield and profitability	Crop substitution with sunflower	Sunflower var-MSFH-17 6.5 q/ha. **Rs 8000**	INM in sunflower STBF and Gypsum @250kg/ha	7.5 q/ha. **Rs 10000**	IPM with cholopyriphos @1000 ml/ha for control of Head borer	8.5 q/ha. **Rs 13000**
	Rs1,7,000/ ha			**Rs 2,3,000/- (35.30%)**		**Rs2,6,000/ ha (52.90%)**		**Rs 33,000/- (94.10%)**
Home stead	PS Mushroom cultivation - 0.75 Kg /bed Rs.35/bed (20 beds)	Cultivation without rack system, no sterilization	i)Cultivation with rack system, ii)Soaking of paddy straw in 2% $CaCo_3$	0.9 Kg /bed Rs.49/ bed (20 beds)	cultivation with rack system, ii)Soaking of paddy straw in 2% $CaCo_3$	1.0 Kg /bed Rs.57.6/bed	i)cultivation with rack system, ii)Soaking of paddy straw in Calcium carbonate	1.1 Kg /bed Rs.62/bed

Farming Situation	Existing practices 2015-16		1st year (2016-17)		2nd year (2017-18)		3rd year (2018-19)	
	Component	Problems / practices	Intervention	Yield & Net income/ ha	Intervention	Expected Yield & net Income/ ha	Intervention	Expected Yield & Income/ ha
							iii)Control of bacterial bud rot	
	Rs.700 20 beds			**Rs.980 (40%) 20 beds**		**Rs.1152 (64.5%) 20 beds**		**Rs.1240 (77.1%) 20 beds**
Home stead	Backyard poultry (Kuroiler) Meat - Rs.1925 /25 birds @ 65 days 1.3 kg/bird	No Feed supplementation (free range + household waste)	i)Feed management(free range + 50 gm feed /bird)	Rs. 2490 /25 birds @ 65 days 1.8 kg/bird	ii)Calcium and Vitamin B 12 and D3 supplementation (2 batch)	Rs.2940/ 25 birds @ 65 days 2 kg/bird	iii)Disease management and proper housing	Rs.11760/ 100 birds @ 65 days 2.3 kg/bird
	Rs.1925			**Rs. 2490 (38.4%)**		**Rs. 2940 (52.5%)**		**Rs.3381 (75.6%)**