ANNUAL REPORT 2020

(January 2020 to December 2020)

Submitted to

ICAR-Agricultural Technology Application Research Institute
Zone - V, Salt Lake, Kolkata – 700 097

Submitted by

RAMKRISHNA ASHRAM KRISHI VIGYAN KENDRA
P.O. NIMPITH ASHRAM- 743338, SOUTH 24-PARGANAS
SUNDARBANS, WEST BENGAL
Phone: 03218- 226002, Fax: 03218-226636
e-mail : nimpithkvk1979@gmail.com, KVK.S24Parganas1@icar.gov.in
Website: www.rakvknimpith.org.in

PROFORMA FOR ANNUAL REPORT 2020 (January 2020 to December 2020)

1. GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Ramkrishna Ashram KVK P.O.Nimpith Ashram South 24-Parganas, West Bengal, Pin-743338	03218-226002	03218-226636	KVK.S24Parganas1@icar.gov.in nimpithkvk@rediffmail.com nimpithkvk1979@gmail.com

1.2. Name and address of host organization with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Sri Ramkrishna Ashram, Nimpith P.O. Nimpith Ashram, South 24-Parganas, West Bengal, Pin-743338	03218-226001	03218-226636	secysran@gmail.com nimpithkvk1979@gmail.com

1.3. Name of Senior Scientist and Head with phone & mobile No.

Name	Telephone / Contact		
	Residence	Mobile	Email
Shri Prasanta Chatterjee (In-Charge, Senior Scientist & Head) (From 02.04.2019 to till date)	-	9434437058	pchatterjee1964@gmail.com

1.4. Year of sanction of KVK: 1979

1.5. Staff Position (as on 1st Jan, 2021)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline/	Pay Scale with present basic	Date of joining	Permanent/ Temporary	Category (SC/ST/ OBC/ Others)
1	Senior Scientist& Head	Vacant	Senior Scientist& Head	-	-	-	-	-
2	Subject Matter Specialist	Sri Prasanta Chatterjee	SMS (Fishery) & In - Charge, Senior Scientist& Head	Fishery	15600- 39100 (GP- 7600) Rs.44810/-	28.10.1997	Permanent	Other
3	Subject Matter Specialist	Dr. Manasi Chakraborty	SMS (Home Science)	Home Science	15600- 39100 (GP- 7600) Rs.41780/-	08.12.2000	Permanent	Others
4	Subject Matter Specialist	Dr. Chandan Kumar Mondal	SMS (Horticulture)	Horticulture	15600- 39100 (GP- 7600) Rs.35480/-	16.05.2005	Permanent	Others
5	Subject Matter Specialist	Sri Prabir Kumar Garain	SMS (Plant Protection)	Plant Protection	15600- 39100 (GP- 6600) Rs.28730/-	17.10.2012	Permanent	Others
6	Subject Matter Specialist	Vacant	SMS(Agronomy)	Agronomy	-	-	-	-
7	Subject Matter Specialist	Vacant	SMS (Animal Husbandry)	Animal Husbandry	-	-	-	-
8	Programme Assistant	Dr. Dipak Kumar Roy	Programme Assistant (Agronomy)	Agronomy	15600- 39100 (GP- 6600) Rs.28770/-	12.06.2001	Permanent	Others
9	Computer Programmer	Sri Partha Banik	Programme Assistant (Computer)	Computer Programmer	15600- 39100 (GP- 6600) Rs.27110/-	09.06.2003	Permanent	Others
10	Farm Manager	Utpal Maity	Farm Manager	Farm Manager	9300- 34800 (GP- 4600) Rs.18640/-	02.12.2011	Permanent	Other
11	Accountant / Superintendent	Sri Aditya Guchhait	Assistant	Office	9300- 34800 (GP- 4200) Rs.18180/-	01.06.2010	Permanent	Other
12	Stenographer	Sri Debjyoti Maitra	Stenographer Grade-III	Office	5200- 20200 (GP- 2400) Rs.12970/-	04.01.2011	Permanent	Other
13	Driver	Sri Madhab Chandra Kayet	Driver	Office	5200- 20200 (GP- 2400) Rs.14600/-	01.06.1995	Permanent	Other
14	Driver	Sri Birendra Nath Das	Driver	Office	5200- 20200 (GP- 2400) Rs.13070/-	01.09.2003	Permanent	Other
15	Supporting staff	Vacant	Skilled supporting staff	Office	-	-	-	-
16	Supporting staff	Sri Sailen Das	Skilled supporting staff	Office	5200- 20200 (GP- 2800) Rs.20630/-	01.07.1979	Permanent	Other

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	0.898 ha
2.	Under Demonstration Units	1.813 ha
3.	Under Crops	8.783 ha
4.	Orchard/Agro-forestry	0.813 ha
5.	Others with details	8.803 ha
	Total	21.11ha

Total area should be matched with breakup

1.7. Infrastructure Development:

A) Buildings and others

S. No.	Name of infrastructure	Not yet started	Completed up to plinth level	Completed up to lintel level	Completed up to roof level	Totally completed	Plinth area (sq.m)	Under use or not*	Source of funding
1.	Administrative Building	-	-	-	-	Yes	777.545	Yes	ICAR
2.	Farmers Hostel	-	-	-	-	-do-	359.639	Yes	ICAR
3.	Farm Women Hostel					-	521.25	Yes	RKVY
4.	Separate Dinning Hall for farmer					-	350	Yes	RKVY
5.	Staff Quarters (6)	-	-	-	-	-do-	411.680	Yes	ICAR
6.	Piggery unit	-	-	-	-	-	-	-	-
7.	Fencing	-	-	-	-	-do-	770.00 (running m)	Yes	ICAR
8.	Rain Water harvesting structure	-	-	-	-	-do-	17500	Yes	ICAR
9.	Threshing floor	-	-	-	-	-do-	371.720	Yes	CAPART
10.	Farm godown	-	-	-	-	-do-	378.790	Yes	SDB, GOWB
11.	Dairy unit	-	-	-	-	-do-	3500.00	Yes	ICAR &Revolving fund of KVK
12.	Soil testing lab	-	-	-	-	-	10.00	Yes	Revolving fund of KVK
13.	Poultry unit	-	-	-	-	-do-	280.00	Yes	Revolving fund of KVK
14.	Goatery unit	-	-	-	-	-do-	2100.00	Yes	RKVY
15.	Pekin Duck Farm	-	-	-	-	-	104.00	No$^{\$}$	Revolving fund of KVK

Contd…

S. No.	Name of infrastructure	Not yet started	Completed up to plinth level	Completed up to lintel level	Completed up to roof level	Totally completed	Plinth area (sq.m)	Under use or not*	Source of funding
16	Turkey farm	-	-	-	-	Yes	144	No[$]	Revolving fund of KVK
17	Small animal operation theatre	-	-	-	-	-do-	12	No[$]	NAIP
18	Procedure room for animals	-	-	-	-	-do-	6	No[$]	NAIP
19	Hydroponics unit	-	-	-	-	-do-	14	Yes	Revolving fund of KVK
20	Rabbit farm	-	-	-	-	-do-	16	No[$]	Revolving fund of KVK
21	Ornamental bird unit	-	-	-	-	-do-	12	No[$]	Revolving fund of KVK
22	Meat processing unit	-	-	-	-	-do-	120	No[$]	ATMA
23	Mushroom production unit	-	-	-	-	-do-	100	Yes	ICAR &Revolving fund of KVK
24	Shade house	-	-	-	-	-do-	300	Yes	FPI & H
25	Soil test Lab	-	-	-	-	-do-	280	Yes	ICAR
26	Vermicompost production unit	-	-	-	-	-do-	150	Yes	ICAR & Susmira
27	Beekeeping	-	-	-	-	-do-	40	Yes	AICRP Honeybees
28	Pan Boroz	-	-	-	-	-do-	25	Yes	ICAR &Revolving fund of KVK
29	Green House	-	-	-	-	-do-	300	Yes	SASMIRA
30	Food processing unit	-	-	-	-	-do-	200	Yes	ICAR
31	Oilseed Seed Hub – Processing unit and Seed Godown	-	-	-	-	yes	700	Yes	ICAR-IIOR (under NFSM-OS of DAC & FW, GOI)

* If not in use then since when and reason for non-use

[$] The respective sheds were damaged during cyclone Amphan on 25 May, 2020.

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total km. Run	Present status
Mahindra Bolero Power +	2019	8,00,000.00	14548	Running Condition

C) Equipment & AV aids

Name of equipment	Year of purchase	Cost (Rs.)	Present status	Source of fund
a. Lab equipment				
Atomic Absorption Spectrophotometer PerkinElmer PinAAcleTM 900F AAS	2017-18	2423720	Working condition	RKVY – Strengthening of Soil Lab project
Kel Plus Automatic Nitrogen Estimation System (Model KES 06L R; Model Distyl EM VA)		285654	-do-	
Digital UV-Vis Spectrophotometer ('Systronics' Make; Model 117)	2017-18	180304	-do-	
Micro Controller Based Digital Flame Photometer ('Systronics' Make; Model 128)	2017-18	70328	-do-	
Colorimeter ('Systronics' Make; Model 115)	2017-18	21004	-do-	
Turbidity Meter ('Systronics' Make; Model 135)	2017-18	31270	-do-	
Digital pH Meter ('Systronics' Make; Model 335)	2017-18	12862	-do-	
Digital Conductivity Meter ('Systronics' Make; Model 307)	2017-18	23954	-do-	
Bouyoucos Hydrometer (ASTM 152H; Range 5 – 60 g/lt)	2017-18	9440	-do-	
Brass Sieve (2mm; 1mm; 0.5mm; 0.25mm; 0.1mm; 0.02mm)	2017-18	5487	-do-	
Double Distillation Unit (Borosil; All Glass; Horizontal; Output 2.5 lt/hr)	2017-18	56366	-do-	
Single Distillation Unit (SS) (Barnsted Type; 3Kw; 5 lt/ha)	2017-18	33040	-do-	
Refrigerator (LG make, Model – GL Q2925DSRBOSZEBN)	2017-18	27500	-do-	
Digital Balance ('K. Roy' Make; Model DJ – 302A)	2017-18	17700	-do-	
Hot Air oven (3' x 2' x 2')	2017-18	26550	-do-	
Water Bath (6 hole)	2017-18	12000	-do-	
Hot plate	2017-18	5110	-do-	
Mechanical Shaker (2 hp motor, 3' x 2' x 2')	2017-18	29500	-do-	
Muffel Furnace (2' x 1.5' x 1.5')	2017-18	37170	-do-	

Name of equipment	Year of purchase	Cost (Rs.)	Present status	Source of fund
a. Lab equipment				
Conductivity meter	2017-18	6,500.00	Working condition	ICAR
Eutech pH-Conductivity meter	2017-18	13,500.00	-do-	ICAR
Rescholar Laminar Air-flow	2008-09	49,500.00	-do-	ICAR
Autoclave	2008-09	25,365.00	-do-	ICAR
Refrigerator (GFE 25/2010)	2010-11	19,560.00	-do-	NAIP
Rescholar Semi-automatic Corcyra rearing system (10 units)	2008-09	1,53,000.00	-do-	ICAR
Rescholar Corcyra egg cleaning device	2008-09	18,000.00	-do-	IRM
Rescholar Corcyra egg sterilization chamber	2008-09	22,500.00	-do-	IRM
Rescholar Trinocular Zoom stereo microscope with eye-piece camera & software	2008-09	1,20,950.00	-do-	IRM
Rescholar Binocular Research Microscope	2008-09	18,500.00	-do-	IRM
Rotary shaker	2010-11	32,500.00	-do-	ICAR
BOD incubator (Simeco)	2010-11	31,650.00	-do-	ICAR
Double distillation unit	2010-11	33,250.00	-do-	ICAR
Afcoset Electronic Balance(Model ER 200A)	2008-09	45,500.00	-do-	ICAR
REMI Centrifuge (Model R 8C)	2008-09	19,350.00	-do-	ICAR
REMI Centrifuge (Model R 24)	2008-09	35,950.00	-do-	NHM
Chrlorophyll meter (SPAD 502 plus)	2010-11	2,25,000.00	-do-	ICAR
Balance	2016-17	35,000.00	-do-	ICAR
pH-meter	2016-17	20,000.00	-do-	NICRA, IARI

Name of equipment	Year of purchase	Cost (Rs.)	Present status	Source of fund
b. Lab equipment				
Conductivity meter	2016-17	15,000.00	Working condition	NICRA, IARI
Hot Air oven	2016-17	35,000.00	-do-	NICRA, IARI
Spectrophotometer (VIS)	2016-17	45,000.00	-do-	NICRA, IARI
Flame Photometer	2016-17	54,000.00	-do-	NICRA, IARI
Turbidity Meter	2016-17	25,000.00	-do-	NICRA, IARI
Hot plate	2016-17	6,000.00	-do-	NICRA, IARI
Water Bath	2016-17	8,000.00	-do-	NICRA, IARI
Mechanical Shaker	2016-17	30,000.00	-do-	NICRA, IARI
Double Distillation plant Glass	2016-17	45,000.00	-do-	NICRA, IARI
Bottle Top Burrete (digital)	2016-17	1,00,000.00	-do-	NICRA, IARI
Acid Dispenser	2016-17	42,000.00	-do-	NICRA, IARI
Muffel Furnace	2016-17	45,000.00	-do-	NICRA, IARI
Refrigerator	2016-17	26,000.00	-do-	NICRA, IARI
Sony pico- projector	2016-17	27,000.00	-do-	RKVY, Govt. of W.B
Public Address System	2016-17	53,000.00	-do-	RKVY, Govt. of W.B
c. Farm machinery				
Seed grader	2010-11	2,10,000.00	Working condition	TMC
Pump sets	2003-04	50,000.00	-do-	TMC
Thresher & Rotavator	2010-11	2,00,000.00	-do-	ICAR
Disc Harrow	2009-10	70,000.00	Not functioning	ICAR
Power Tiller	2009-10	1,43,000.00	Working condition	ICAR
Generator – 25 KVA	2010-11	3,56,852.00	-do-	ICAR
Seed Grader	2018-19	11,50,000.00	-do-	ICAR-IIOR (Seed Hub Project
Gravity Separator	2018-19	11,50,000.00	-do-	
Sealer machine	2018-19	30,000.00	-do-	
d. **AV Aids**				
Printer	2003-04	4,000.00	Out of order	Nutrition project, SDB
Computer (2 nos)	2003-04	76,899.00	One computer is out of order	ICAR
Cannon Digital Camera	2008-09	25,000.00	Out of order	ICAR

V-SAT with e-KVK linkage (5 Dell-Optiplex -755 Computer & One HP Leser Printer-1022n , One HP-G3110 Scanner, One TVS –MSP-245-dot-matrix Printer with Server Computer, 5-650VA APC UPS, 3KVA APC make UPS)	2009-10	-	V-SAT and Dell-optiplex -755 Computers, 650VA APC UPS are out of order *Only 3KVA APC make UPS are in working condition	ICAR
Lenovo Laptop	2008-09	48,000.00	Out of order	NHM
Samsung Notebook	2009-10	22,000.00	Working condition	TMC
HP Desk top Computer with Cannon Printer	2010-11	75,0000	Working condition (Printer out of order)	NAIP
Epson EB-825 Projector Samsung Touch 400TSn-2	2010	2,20,000.00	(Epson EB-825 Projector & SamsungTouch 400TSn-2) Out of order	NAIP
HP LaserJet M1522nf	2009-10	24,000.00	Working condition	AICRP
HP Color Laser Jet 1215	2009-10	22,000.00	Out of order	NAIP
Two LG LED Projector	2014	1,18,000.00	Working condition (one out of order)	RKVY
Hand Scanner -(1PC)	2016	8000/-	Working condition	ARYA
ITB External HDD - (1PC)	2016	8000/-	-do-	ARYA
DATA Processing System (I3 Processor, 1 TB HDD, 4GB RAM, 15.6 inch Screen with Graphics Card) - (1PC)	2016	36900/-	-do-	ARYA
Color Copier Printer- (1PC)	2016	13500/-	-do-	ARYA
Broadband Router -(1PC)	2016	2300/-	-do-	ARYA
Biometric Systems Fingerprint Time & Attendance System (Including Battery & Power Adopter) X-990	2016	23500/-	-do-	ICAR
Olympus phase contrast microscope with CMOS camera, Lenovo Computer, UPS, printer cum scanner	2015-16	5,00,000.00	-do-	RKVY

Fermenter	2015-16	4,00,000.00	-do-	RKVY
HP LAPTOP 240 G5 CI3 1AS37PA CORE i3 /4 GB/500GB/14"	2016-17	36,800.00	-do-	IARI, ICAR
PA System for Class room	2016-17	48,500.00	-do-	RKVY, Dept. of Agriculture,W.B
Wireless MIC for Conference room	2016-17	27,038.00	-do-	RKVY, Dept. of Agriculture, W.B.
HP Desktop Computer MODEL 48PA, Cori 3 7th Gen, 4gb RAM/1 TB HDD/ 18.5" Monitor/ Key Board/ Mouse/(3 yrs on-site warranty)	2017-18	45430.00	-do-	RKVY – Strengthening of Soil Lab project
H.P Laptop 2UE06PA AMD A9/ 4 GB RAM/ 14"/1 TB HDD (1 yr warranty)	2017-18	37170.00	-do-	RKVY – Strengthening of Soil Lab project
HP Laser Printer All in One A3 size/ Print/Scan/Copy (Model: MFP M435NW) (1 yr on-site warranty)	2017-18	82000.00	-do-	RKVY – Strengthening of Soil Lab project
EPSON PROJECTOR EB-X-31	2017-18	37000.00	Working condition	RKVY – Strengthening of Soil Lab project

D) Farm implements

Name of equipment	**Year of purchase**	**Cost (Rs.)**	**Present status**	**Source of fund**
Honda electric lawn mower	2007-08	14,500.00	Working condition	NHM
Al-Ko Electric hedge cutter	2010-11	22,000.00	Working condition	NHM
GPS	2016-17	14,990.00	Working condition	RKVY, Dept. of Agriculture

1.8. **Details SAC meeting conducted in the year**

Salient recommendation in bullet form (Attach a copy of SAC proceeding along with list of participants)

(True copy)

Meeting No. 34 **Date : 19.12.2020**

Place : Nimpith **Time : 11.00 a.m.**

A virtual meeting of the Scientific Advisory Committee of Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith is held on 19th December, 2020 at 11.00 a.m. in the KVK premises through Google Meet with the following members:

-: Resolutions:-

Members Present:

Sl. No.	**Name**	**Designation**
1.	Swami Sadananda,	Chairman, RAKVK Nimpith
2.	Dr. Shyamal Mondal	Principal Scientist, ICAR- ATARI, Kolkata
3.	Dr. Shyam Thappa	DEE, BCKV, Nadia
1.	Shri Biswanath Das	Member of Legislative Assembly, Joynagar
4.	Shri Kajal Chakraborty	DDA (Admin.) South 24 Parganas
5.	Shri Rahul Marik	DDH, Alipore, Kolkata
6.	Shri Sabyasachi Banerjee	ADF, South 24 Parganas
7.	Shri Arka Prava Sarkar	Asst. Director of Horticulture, Baruipur Sub Divisional
8.	Dr. Debasih Dey	Principal Scientist & OIC,Kakdwip Research Centre of CIBA
9.	Dr. D. Burman	Officer -In-charge & Principal Scientist, CSSRI, RRS, Canning Town, Canning
10.	Dr. G.H. Pailan	Officer-in-charge & Principal Scientist, CIFE
11.	Mr. Arun Kumar Mondal	District Manager, West Bengal State Seed Corporation
12.	Dr. Narayan Chandra Sahu	Senior Scientist & Head, SSKVK
13.	Dr. Ajit Kr. Podder	Advisor, VIB, Nimpith
14.	Dr. L. N. Bandyopadhyay	Principal, Green College, RDW
15.	Dr. Manasi Chakraborty	Scientist (Home Sc.), RAKVK
16.	Dr.Chandan Kr. Mondal	Scientist (Hort.), RAKVK
17.	Mr.Prabir Kumar Garain	Scientist (P.P.), RAKVK
18.	Dr. Dipak Kumar Roy	Programme Assistant (Agronomy), RAKVK, Nimpith
19.	Mr.Partha Banik	Programme Assistant (Computer), RAKVK Nimpith
20.	Mr. Utpal Maity	Farm Manager, KVK Nimpith
21.	Mr Aditya Guchhait	Assistant, KVK Nimpith
22.	Mr Sayan Jana	Project NICRA
23.	Mr Tapas Kumar Sahana	Project AICRP, Honeybees & Pollinators
24.	Mr Tarak Nath Halder	Progressive farmer, Gillerchat
25.	Mr Bapan Karmakar	Progressive farmer, Gillerchat
26.	Mr Sri Gouranga Naskar	Progressive farmer, Kaikhali

(Salient Recommendation & Action taken – 34th SAC Meeting)

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
1.	19.12.2020	26	Vacant posts should be filled up as early as possible to conduct all mandatory works of the KVK	Already step taken and communicated to ATARI, Kolkata	
2.			Online classes should be conducted to facilitate the farmers during the pandemic, without compromising the quality of broadcasting	Action has been taken	
3.			The daily workers (returned to the district due to COVID pandemic) should be engaged in KVKs training, OFT, FLDs, Nutri-smart village and DFI programme	Action has been taken	
3.			OFT on Rugose Spiraling Whitefly in coconut should be continued	Action has been taken	
5.			Cultivation of traditional fruits should be boosted with technological interventions to improve their production and marketing in the District	Action has been taken	
6.			Demonstration of hydroponic vegetable gardening for rural youths may be promoted	Action will be taken henceforth	
7.			Demonstration on Hilsa cultivation in Pond may be promoted in collaboration with CIBA, Kakdwip centre	Already being promoted in Paschim Kultali Village of Mathurapur –II Block	
8.			Promotion of recycling of fish waste with the help of CIBA, Kakdwip developed technology	Will be tried after selecting suitable farmers	

9.			Promotion of brackish water fish nursery (Seed bank of bhetki & milk fish)	May be done with active help from CIBA, Kakdwip	
10.			Rooftop rainwater harvesting should be promoted on large scale	Awareness programme will be taken up	
11			Buck exchange programme should be taken to demonstration	May be done after recruitment of concerned SMS	
12			The Goat farm of RAKVK may be strengthened as input supply center	May be done after recruitment of concerned SMS	
13			Establishment of poultry hatchery for supplying chicks to the farmers	May be done after recruitment of concerned SMS	
14			*Rhizobium*, PSB and KSB has to be applied during CFLD Pulse programme	Bio fertilizer are used in Greengram	
15			Sunflower hybrid (F_1) seeds should be made available for supply to WBSSCL	Action has been taken	
16			Seed production of stress tolerant rice varieties and hybrid rice, may be taken up by the KVK	Seed of salient tolerant paddy varieties is produced regularly in our Instructional Farm	
17			KVK produced paddy and pulses seeds may be included in Government 'Subsidy Sale' scheme for the farmers of South 24 Parganas district	Paddy and pulse seeds is supplied for Subsidy Sale programme through WBSSCL	
18			Breeder to foundation seed of salt tolerant rice variety Gosaba-5, may be taken up in KVK farm	Foundation seed has produced of salt tolerant rice variety Gosaba-5 in *Kharif*-2020 in our Instructional Farm	
19			Study on scope of minor fruits in Baruipur region may be conducted	Action has been taken	

2.a. District level data on agriculture, livestock and farming situation

Sl. no.	Item	Information			
1	Major Farming system/enterprise	Agro based farming system – Paddy (monocropped)			
		Agro based farming system – Paddy-Moong/ Cotton /Sunflower			
		Agro based farming system – Paddy – Khesari (paira crop)			
		Agro-horti based farming system- Paddy- Chilli/ Tomato/ okra			
		Ail-bundh (land embankment) farming system – Okra/ Bitter Gourd- Tomato/ French bean			
		Agri-horti-fishery – Paddy- Chilli/ Tomato/ Okra-IMC			
		Agri-poultry (backyard)- Paddy- Moong/ Khesari/ Indigenous poultry			
2	Agro-climatic Zone	Coastal saline zone			
3	Agro ecological situation	Gangetic Alluvial			
		Coastal Alluvial			
		Coastal Saline			
4	Soil type	Clay, clay loam, sandy loam			
5	Productivity of major 2-3 crops under cereals, pulses, oilseeds, vegetables, fruits and others Source : District Action Plan 2017-18	Crop	Productivity (Q/ha)		
		Paddy (*Aman*)	24.13		
		Greengram	6.95		
		Lathyrus	8.27		
		Sumflower	13.4		
		Tomato	182.1		
		Brinjal	175.5		
		Cabbage	318.5		
		Cauliflower	199.6		
		Okra	122.1		
		Cucurbits	121.2		
		Pea	20.8		
		Onion	115.1		
6	Mean yearly temperature, rainfall, humidity of the district	Mean Yearly Temperature: Max. 33.07^{o}C; Min. 19.16^{o}C Annual Rainfall: 1269.7 mm Annual Relative Humidity: 91.81-75.75%			
7 A	Production and productivity of livestock, poultry, etc. in the district (New census report is awaiting from the State Department)	**Category**	**Population**	**Production**	**Productivity**
		Cattle			
		Crossbred	32550	2,65,8,750 lit	1800-2100 lit/lactation
		Indigenous	968986	19,37,97,200 lit	400-500 lit/lactation
		Buffalo	15604	56,71,300 lit	600-700 lit/lactation
		Sheep			
		Crossbred	-	-	-
		Indigenous	212589	22,10,925 kg	10-12 kg/sheep/year
		Goats	696935	78,05,672 kg	11-13 kg/sheep/year
		Pigs			
		Crossbred	-	-	-

	(Source: Annual Action Plan on ARD (2011-12), South 24 Parganas, West Bengal)	*Indigenous*	32584	12,05,608 kg	35-40kg/pig/year
		Rabbits	-	-	-
		Poultry	2869243		
		Hens (improved)	713137	12,47,98,975 eggs	170 – 180 eggs/yr/bird
		Desi	2156106	19,83,61,752 eggs	90 – 110 eggs/year/bird
		Improved	-	-	-
		Ducks	1058706	7,67,56,185 eggs	140 – 160 eggs/yr/bird
		Turkey and others	75897	6,22,355 kg	6 – 9 kg/year/bird

7 B	Production and productivity of Fisheries. (Source: Hand book of Fisheries Statistics 2018, Department of Fisheries, Directorate of Fisheries, Govt. of West Bengal)	Marine Fish	185484 MT(WB), 70683 (S 24 Pgs.)
		Marine Prawn	12460 MT (WB), 3093 (S 24 Pgs.)
		Inland Fish	1556728 MT (WB), 190425 MT(S 24 Pgs.)
		Fish Seed	20200 million
		Inland Prawn	111129 MT (WB), 25417 MT(S 24 Pgs.)

Weather data

2020	Temperature		Relative Humidity		Rainfall (mm)	Total Rainy Days
	Maximum	Minimum	Maximum	Minimum		
Januanry	24.6	16.6	85.4	80	74	2
February	27.7	15.2	80.4	70	6.5	0
March	36	19.5	78	70	22	3
April	36.8	23.8	92	68	0	0
May	37.5	21.4	95	75	266	12
June	38.8	20.6	93	85	299	17
July	37.6	22.4	94	90	215.2	15
August	37.5	20.7	92	68	387	13
September	34.8	20.8	92	75	0	0
October	37.4	18.8	100	74	0	0
November	27.6	15.7	100	76	0	0
December	23.5	14.8	100	78	0	0

2.b. Details of operational area / villages (2020)

Sl. No.	Name of Taluk	Name of the block	Name of the villages	Major crops & enterprises	Major problems identified (crop-wise)	Identified Thrust Areas
1.	Baruipur Sub-division	Kultali	Kaikhali, Gopalganj, Madhabpur, Bongheri, Sankijahan, Katamari, Deulbari	Paddy, Cotton, Sunflower, Maize, Chilli, Betelvine, Bitter gourd, Okra, Tomato, nursery raising of carp spawn, indigenous fish, Ornamental fish, poultry	**Biophysical :** **i) Yield platuening of major field and horticultural crops** * Inappropriate agronomic practices * Poor genetic stock * Inadequate irrigation facilities * Marginal soil **ii) High post-harvest loss of horticultural crops** **iii) Lesser extent of crop diversification** **iv) Poor rate of farm mechanization** **v) Poor exploitation of aquatic resources** * Less availability of good quality carp and other fish seed * Poor feed management & improper stocking density *No pond preparation before stocking fish *Improper resource utilization for ornamental fish culture **vi) Poor performance of backyard system** * Poor productive performance of existing poultry bred * Untapped potentiality of nutrition garden **vii) Low profitability from broiler and dairy farming** * Poor genetic resources * High cost of commercial feed * High disease incidence **Socio economic :** **i) Very restricted livelihood options** **ii) Recurrence of glut at pick harvest season** **iii) Lack of awareness regarding proper management of nutritional garden** **iv) Lack of market support** **v) Lack of credit support**	* Assimilation of good agri-horticultural practices * Providing good quality crop & fish seed, breed and planting materials * Diversification of existing production system * Introduction of poly house concept for off season vegetable cultivation * Efficient utilization of water resources * Proper feed supplementation for fish & animal farming * Providing animal health care service * Soil health management * Popularization of small tools and implements for drudgery reduction * Improvement of backyard system performance * Widening of livelihood options and improvement of women led vocation through SHG * Post harvest management of crops * Development of marketing channel
		Joynagar- I	Dakshin Barasat, Baharu, Biswaser Chak, Jangalia			
		Joynagar –II	Nimpith, Tulsighata, Hanarbati, Hatchapuri, Kasthamahal, Jouthia, Baishata, Sahajadapur, Bottala, Uttarpara, Gardewani, Bele durganagar			
2.	Kakdwip	Pathar Protima	Achintanagar, Gangadharpur, Digampur, Herambagopalpur, Kuyemuri, Ramganga Banashyamnagar, Kamdebpur, Sridhar Nagar, Lakshmi Janardanpur, Raipur, PatharProtima, Rakhalpur, PurbaSripatinagar, DakshinShibganj			
		Kakdwip	Kamarhat, Takipur Abad, Shibkali Nagar, Madhabnagar			
		Namkhana	Shibnagar, Rajnagar, Shibrampur, Mousuni, Radhanagar, Chandanpiri, Fregarganj, Namkhana			
		Sagar	Krishnanagar, Rudranagar, Khansahebabad, Gangasagar, Sumatinagar, Haradhanpur, Mrityunjoynagar, Manasadip			
3.	Diamond Harbour Sub-Division	Mathurapur-I	Ranaghata, Nalua, Lakshmikantapur, Mathurapur, Lalpur, Uttar Lakshmi Narayanpur			
		Mathurapur-II	Radhakantapur, Gilarchat, Bhadrapara, 27 no. Lat, Mandalpara, Damkal, Mukherjeer Chak, KhariKashinagar, Kankandighi, NagendrapurRaidighi,			
		Kulpi	Belpukur, Keoratala, Gopalnagar, Tulshirchak			
		Mandirbajar	Pukuria, Karbala, Ghateswar, Gabberia,			
		Magrahat – II	Amratala, Sherpur			
		Diamond Harbour-I	Kapat Hat, Mosat			

Sl. No.	Name of Taluk	Name of the block	Name of the villages	Major crops & enterprises	Major problems identified (crop-wise)	Identified Thrust Areas
4.	Dhanurhat	Mandirbazar	Ramchandrapur, Siddeswarpur	Kharif Paddy, Boro paddy, Greengram, Lentil	i)Low productivity in Greengram ii)Non adoption of scientific methods in Lentil cultivation iii) Injudicious use of fertilizers iv)Lacking on proper knowledge on seed treatment in crops	i)Lack of awareness on adoption of scientific technologies ii) Proper nutrient management on the basis of soil testing iii) Replacement of old varieties iv) Production of fish seed
5.	Dhanpota	Magrahat-I	Dhanpota	Kharif Paddy, Boro paddy, Greengram,		
6.	Bhadura	Diamond Harbour-II	Gundia, Sagra, Pana, Bhadura, Bhawkal, Asurali	Kharif Paddy, Boro paddy, Greengram, Lentil		
7.	Nalua	Mathurapur-I	Gambhirnad	Kharif Paddy, Boro paddy, Greengram		
8.	Chuprijhara	Jaynagar-II	Chuprijhara	Kharif Paddy, Boro paddy, Greengram		
9.	Magrahat	Magrahat II	Dhanpota	Carp and catfish & Hatchery		
10.	Ranaghata	Mathurapur II	Sankargheri	Catfish & hatchery		

2. c. Details of village adoption programme:

Name of the villages adopted by PC and SMS (2020) for its development and action plan

Name of village	Block	Action taken for development
Chuprijhara, Tulsighata	Joynagar-II	Promotion of Beekeeping, Demonstration of IPM, CGLD on Greengram, establishment of catfish hatchery through ARYA
Bongheri	Kultali	Demonstration of climate resilient agro technologies, plant protection measures, composting, livestock development, custom hiring centre, biopesticide preparation, micro irrigation.
Andhinagar, Ramtanunagar, Paschim Karanjali	Kulpi	Training and CFLD on pulse
Achintanagar, Lakshmipur, Herrambogopalpur,	Pathar Pratima	Training and CFLD on pulse
Sutabetcha	Mandirbazar	Training and CFLD on pulse
Domkal	Mathurapur-II	Training and CFLD on pulse
Mosuni, Namkhana	Namkhana	Training and CFLD on pulse
Bongheri	Kultali	FLD on Salient tolerant paddy
	Pathar Pratima	FLD on Salient tolerant paddy
Ramchadapur	Mandirbazar	FLD on HYV Paddy
Khaitala, Sahapur	Hingalgunge	Biotech Kishan Hub programme in collaboration with WBUAFSc, Kolkata
Ramchandrapur, Singherchak, Dakshin Ramerswerpur, Dakshin Gobindapur Gabberia, Basudevpur, Uttarpara, Lalpur	Mandirbazar, Mathurapur-II, Kulpi, Patharpratima Falta, Joynagar-I, Mathurapur-I	Overall development of the rural youth through promotion through establishment of indigenous cat fish hatchery &horticulture nursery through ARYA project.
Village of Sagar Gosaba, Patharpratima blocks of South 24 Parganas district	Sagar Gosaba, Patharpratima	Enhancement of production and productivity of animal resources through Mobile veterinary Clinic and awareness generation.
Golbunia, Mahatopara, Kharihat abad, Khawrakhali, Nolkora, Kanmari, Bamangheri, Majhersarberia, Patharghata, Sankdaha, Mondalpara Daspara, Hindupara, Putimari, Jhonjhania Cherakhali, Ghoshpur, Nityaberia, Nemaimore, Collegemore, Chotoshera, Bholakhlai, Borosehera, Singpara, Majherpara, Puratan Sarberia, Taltala, Mothbari, Bastibari Kalimandir, Gazikhali, 10 no. Kanmari, Bawnia, Akhratala, 8 no. Bawnia, 6no. Bawnia, Mondalpara, Janapara, Radhanagar, Adibasipara, Dighirpar, Uttarkhariahat, Agarhati, Sekhpara, Kulapara, Kalabagan, Gazalia, Dhaknamari, Bhatidaha, Handapara, Bazpara, Ghatihara	Sandeshkhali –I Sandeshkhali – II, Hingalganj	Overall development of animal husbandry through mobile veterinary clinic and fodder development programme through ARD, GoWB

Achievements on technologies assessed and refined

OFT-1

1.	Title of On farm Trial	Assessment of weed control efficiency of different weedicides in Greengram during Summer season in South 24 Parganas district
2.	Problem diagnosed	Low productivity of greemgram due to weed infestation
3.	Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)	**Farmers Practice (FP):**Sowing of Greengram (var. IPM-2-3) through broadcast method along with N:P_2O_5:K_2O @ 20:40:20 kg/ha **Technology Option-1:**Sowing of Greengram(var.IPM-02-14)through broadcast method along with N:P_2O_5:K_2O @ 20:40:20 kg/ha and use of Pendimethalin 30 EC @ 1.0 kg a.i. ha^{-1} at 2DAS **Technology Option-2:** Sowing of Greengram (var. IPM-02-14) through broadcast method along with N:P_2O_5:K_2O @ 20:40:20 kg/ha and use of Imazethapyr 10% SL @ 80gm a.i. ha^{-1} at 16 DAS **Technology Option-3:** Sowing of Greengram (var. IPM-02-14) through broadcast method along with N:P_2O_5:K_2O @ 20:40:20 kg/ha and use of Pendimethalin 30 EC+Imazethapyr 2EC @ 1.00 kg a.i. ha-1 at 2DAS
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	**Tamang, D.; Nath, R.; Sengupta, K. (2015)** Effect of Herbicide Application on Weed Management in Green Gram [Vigna radiata (L.); Adv Crop Sci Tech 3:163 **Narendra Kumar, K.K. Hazra and N. Nadarajan (2014)** Efficacy of post- emergence application of Imazethapyr in summer mungbean (Vigna radiata L.), Legume Research, 39 (1) 2016: 96-100
5.	Production system and thematic area	Weed Management
6.	Performance of the Technology with performance indicators	This was the 1st year experiment. Unfortunately, heavy rain (361 mm) for 5 days at seedling stage damaged the crop. Thus, no data could be recorded.
7.	Final recommendation for micro level situation	Final recommendation will be given after two years of observation.
8.	Constraints identified and feedback for research	-
9.	Process of farmers participation and their reaction	The participants were identified through a group meeting followed by selection of land.

Thematic area: Weed Management

Problem definition:

Greengram is cultivated through broadcast method by utilizing soil residual moisture in medium to low land. During the crop growth period, the predominant weeds viz. *Digitaria sanguinalis*, *Cynodon dactylon*, *Eleusine indica*, *Echinochloa colona*; grasses viz. *Cyperus rotundus*; and sedges and broad leaf weeds viz. *Chenopodium album*, *Euphorbia hirta* etc. covers the field. As a result, these weeds reduce the crop growth and yield.

Technology assessed:

- **Farmers Practice (FP):** Sowing of Greengram (var. IPM-2-3) through broadcast method along with $N:P_2O_5:K_2O$ @ 20:40:20 kg/ha
- **Technology Option-1 (TO-1):** Sowing of Greengram (var.IPM-02-14)through broadcast method along with $N:P_2O_5:K_2O$ @ 20:40:20 kg/ha and use of Pendimethalin 30 EC @ 1.0 kg a.i. ha^{-1} at 2 DAS
- **Technology Option-2 (TO-2):** Sowing of Greengram (var. IPM-02-14) through broadcast method along with $N:P_2O_5:K_2O$ @ 20:40:20 kg/ha and use of Imazethapyr 10% SL @ 80gm a.i. ha^{-1} at 16 DAS



Table:

Treatment	No. of trials	No. of Grain/ pod	No. of harvested pod/plant	Test wt. (g)	Grain yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
FP	7	10	12.0	22.6	8.12	22500.00	56840.00	34340.00	2.52
TO - 1		11	16.4	28.1	9.15	24750.00	64050.00	39300.00	2.58
TO - 2		11	18.3	30.4	10.50	24750.00	73500.00	48750.00	2.96
SEm		0.28	1.42	1.38	0.31	-	-	-	-
CD (P=0.05)		NS	3.0	2.92	NS	-	-	-	-

Results:

In one year of observation, the result indicated that the application of **Imazethapyr 10% SL @ 80g a.i. ha^{-1} at 16 DAS (TO - 2)** recorded lesser weeds in field followed by the application of Pendimethalin 30 EC @ 1.0 kg a.i. ha^{-1} at 2 DAS. The grain yield of 10.50 qt./ha was recorded in TO - 2 followed by 9.15 and 8.12 qt./ha in TO - 1 and Farmers Practice respectively.

OFT-2

1.	Title of On farm Trial	Assessment of the profitability of paddy variety under medium land situation(1 to 1.5 ft water stagnation) during *kharif* in South 24 Parganas district
2.	Problem diagnosed	Low productivity of paddy due to water logging in growth stage
3.	Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)	**Farmers Practice (FP):** Transplanting of paddy var. Pratikshya with N:P_2O_5:K_2O @80:40:40 kg/ha **Technology option-1 (TO-1):** Transplanting of paddy var. Ciherang Sub-1(Bina Dhan-11) with N:P_2O_5:K_2O @ 80:40:40 kg/ha **Technology option-2 (TO-2):** Transplanting of paddy var. CR-1009 Sub-1 with N:P_2O_5:K_2O @ 80:40:40 kg/h
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	**Vivek Kumar, Priyanka Anand, and Ashok Kumar :** Flood-tolerant BINA Dhan 11 impresses rice farmers in Odisha, IRRI, News Media, **Thursday, June 2, 2016**
5.	Production system and thematic area	Rice-Rice, Productivity enhancement technology
6.	Performance of the Technology with performance indicators	*The data is given below
7.	Final recommendation for micro level situation	After 2 years observation, the result reveals that the variety **CR-1009 Sub-1** and performed better than the variety Pratikshya and Ciherang Sub-1(Bina Dhan-11). On the basis of grain yield and net return, the variety **CR-1009 Sub-1 can be grown instead of** Pratikshya in medium land in *Kharif*
8.	Constraints identified and feedback for research	-
9.	Process of farmers participation and their reaction	The participants were identified through a group meeting followed by selection of land.

Thematic area: Varietal replacement

Problem definition: The paddy var. Pratikshya or Sabita is grown in medium land situation (1 to 1.5 ft water stagnation). In this land situation where drainage facility is not good, occasionally, heavy shower during transplanting to tillering stage causes submergence and also reduces crop yield.

Technology assessed:

Farmers Practice (FP): Transplanting of paddy var. Pratikshya with N:P_2O_5:K_2O @80:40:40 kg/ha

Technology option-I (TO-1): Transplanting of paddy var. Ciherang Sub-1(Bina Dhan-11) with N:P_2O_5:K_2O @ 80:40:40 kg/ha

Technology option-I I (TO-2): Transplanting of paddy var. CR-1009 Sub-1 with N:P_2O_5:K_2O @ 80:40:40 kg/ha

Table:

Technology option	No. of trials	Yield component			Disease/ insect pest incidence (%)	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		No. of effective tillers/hill	No. of spikelet per panicle	Test wt. (100 grain wt.)						
FP	7	7	10	2.10	Non infested	31.40	37500.00	54810.00	17310.00	1.46
TO-1		8	11	1.97	Non infested	30.30	36500.00	52995.00	16495.00	1.45
TO-2		9	12	2.19	Brown spot infestation was recorded during grain filling stage	35.80	38150.00	59132.00	20982.00	1.55
SEm	-	0.36	0.35	0.04	-	0.40	-	-	-	-
CD (P=0.05)	-	NS	NS	NS	-	0.85	-	-	-	-

Results:

Result reveals that the variety **CR-1009 Sub-1** and performed better than the variety Pratikshya and Ciherang Sub-1(Bina Dhan-11) .The lower grain yield (0.30 q/a) was recorded in Ciherang Sub-I. The higher grain yield (35.8 qt./ha), net return (Rs. 15900/ha) and cost-benefit ratio (1:1.55) were recorded in CR-1009 Sub-1.). On the basis of grain yield and net return, the variety **CR-1009 Sub-1** can be grown instead of Pratikshya in medium land in *Kharif.*

Farmers Practice

Tech. Option-I

Tech. Option-II

OFT-3

<table>
<tr><td>1.</td><td>Title of On farm Trial</td><td>Assessment of application of non-traditional plant growth regulators on plant growth, disease resistance and yield of Chilli in the South 24 Parganas district</td></tr>
<tr><td>2.</td><td>Problem diagnosed</td><td>Low productivity of chilli due to biotic and abiotic stresses</td></tr>
<tr><td>3.</td><td>Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)</td><td>• Farmers' Practice: Chilli cultivation in conventional method with use of traditional plant growth promoters like amino acid, humic acid, micro nutrients etc.
• Technology Option -1: Farmers' Practice +seed soaking with Cycocel (Chloremequat Chloride)@ 50 ppm for 24 hrs
• Technology Option -2: Farmers' Practice + spraying Cycocel (Chloremequat Chloride)@ 500 ppm at 20 DAS & 40 DAS.</td></tr>
<tr><td>4.</td><td>Source of Technology</td><td>• MAJOR USES OF PESTICIDES Registered under the Insecticides Act, 1968 2009; Government of India Ministry of Agriculture Department of Agriculture & Cooperation Directorate of Plant Protection, Quarantine & Storage Central Insecticide Board & Registration Committee N.H. IV, Faridabad-121 001
• Kaddi S.G. Gollagi, S.M. Hiremath and M.B. Chetti. (2009). Effects of growth regulator and nutrients on growth parameters and yield in chilli cv. BYADAGI. International Journal of Agricultural Science.s5 (1): 123-125</td></tr>
<tr><td>5.</td><td>Production system and thematic area</td><td>Horticulture based production system
Thematic area: Production technology</td></tr>
<tr><td>6.</td><td>Performance of the Technology with performance indicators</td><td>
<table>
<tr><th>Treatment</th><th>Plant Height (cm) (at 90 DAS)</th><th>Days to 50% Flowering</th><th>No. of fruits /plant</th><th>Pests & disease Incidence (10 point scale)</th><th>Yield (Q/ha)</th><th>Cost of cultivation (Rs./ha)</th><th>Gross return (Rs/ha)</th><th>Net return (Rs./ha)</th><th>BC ratio</th></tr>
<tr><td>FP</td><td>79.8</td><td>60.6</td><td>142.7</td><td>8</td><td>67.9</td><td>107800</td><td>203700</td><td>95900</td><td>1.89</td></tr>
<tr><td>TO -1</td><td>65.4</td><td>56.1</td><td>162.9</td><td>3</td><td>83.6</td><td>112450</td><td>250800</td><td>138350</td><td>2.23</td></tr>
<tr><td>TO -2</td><td>70.6</td><td>55.3</td><td>159.6</td><td>4</td><td>84.7</td><td>114600</td><td>254100</td><td>139500</td><td>2.22</td></tr>
<tr><td>CD(0.05)</td><td>2.01</td><td>2.17</td><td>6.03</td><td>-</td><td>12.27</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Final recommendation for micro level situation</td><td>Both Technology Option -1 & 2 performed better over farmers' practice with respect to yield, net return & BC ratio. The testing has been done for two consecutive years, but due to Covid-19 Lock down in 2020, the crop performance observation was not satisfactory. So, it has been decided to be repeated for another year to come to final recommendation stage.</td></tr>
<tr><td>8.</td><td>Constraints identified and feedback for research</td><td>NA</td></tr>
<tr><td>9.</td><td>Process of farmers participation and their reaction</td><td>Farmers were involved in participatory approach. They are satisfied with the testing and very much enthusiastic about the findings.</td></tr>
</table>

Thematic area: Yield increment in vegetable crop

Problem definition: Chilli is an important commercial crop of South 24 Parganas district. The crop faces different biotic and abiotic stresses like leaf curl disease, sucking pest problem, soil salinity and water stress during different stages of crop growth due to scarcity of irrigation water. These stresses adversely affect crop growth and yield.

In this backdrop, use of non-traditional plant growth regulators was conceptualized to improve crop resistance to biotic and abiotic stresses. Chloremequat Chloride is one such plant growth regulator, which is reported to have the property to improve crop resistance and there by increases crop yield.

Technology assessed:

- **Farmers' Practice (FP)**: Chilli cultivation in conventional method with use of traditional plant growth promoters like amino acid, humic acid, micro nutrients etc.
- **Technology Option -1 (TO – 1):** Farmers' Practice +seed soaking with Cycocel (Chloremequat Chloride) @ 50 ppm for 24 hrs
- **Technology Option -2 (TO – 2)**: Farmers' Practice + spraying Cycocel (Chloremequat Chloride)@ 500 ppm at 20 DAS & 40 DAS.

Table:

Treatment	No. of trials	Yield component			Pests & disease Incidence (10 point scale)	Yield (Q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Plant Height (cm) (at 90 DAS)	Days to 50% Flowering	No. of fruits /plant						
FP	50	79.8	60.6	142.7	8	67.9	107800	203700	95900	1.89
TO - 1	50	65.4	56.1	162.9	3	83.6	112450	250800	138350	2.23
TO - 2	50	70.6	55.3	159.6	4	84.7	114600	254100	139500	2.22
CD(0.05)	-	2.01	2.17	6.03	-	12.27	-	-	-	-

Result: Both Technology Option -1 & 2 performed better over farmers' practice with respect to yield, net return & BC ratio. The testing has been done for two consecutive years, but due to Covid-19 Lock down in 2020, the crop performance observation was not satisfactory. So, it has been decided to be repeated for another year to come to final recommendation stage.

OFT-4

<table>
<tr><td>1.</td><td>Title of On farm Trial</td><td>Assessment of artificial pollination methods in cucurbits (Cucumber & bitter gourd) for better fruit setting and yield improvement in the South 24 Parganas district</td></tr>
<tr><td>2.</td><td>Problem diagnosed</td><td>Low productivity of cucurbits due to poor pollination</td></tr>
<tr><td>3.</td><td>Details of technologies selected for assessment</td><td>• Farmers' Practice: Use of synthetic auxin hormone for better fruit setting.
• Technology Option -1: Spraying of pollen mixture (pollen of 300 – 500 number of fresh male flower + 15 g boron powder 20% + 25 g glucose + 10 lt water) upon freshly opened female flower in the morning (between 6 am to 8 am) @ 10 lt per 10 Decimal land area
• Technology Option -2: Hand pollination by dropper (pollen of 50 fresh male flower + 1.5 g boron powder 20% + 2.5 g glucose – all in 1 liter water) upon freshly opened female flower in the morning (between 6 am to 8 am) @ 1-2 drop per flower.
• Technology Option -3: Hand pollination with fresh male flower @ 1 male flower to 10 female flowers.</td></tr>
<tr><td>4.</td><td>Source of Technology</td><td>➢ R. Das, S.K. Mandal and T.K. Maity (2009). Insect Pollinators of Pointed Gourd and Effect of Different Artificial Methods of Pollination on Fruit Setting and Subsequent Development of Fruits. Veg. Sci. 36(3 Suppl.): 353-355.
➢ Fruit Set Problems in Squash, Melons, and Cucumbers In Home Gardens, Vegetable Research and Information Center,Cooperative Extension, Division of Agricultural Sciences, University of California, Leaflet 21242</td></tr>
<tr><td>5.</td><td>Production system and thematic area</td><td>Horticulture based production system
Pollination Management</td></tr>
<tr><td>6.</td><td>Performance of the Technology with performance indicators</td><td>
<table>
<tr><th>Treatment</th><th>Fruit set percentage</th><th>Avg. Marketable yield (g/plant)</th><th>Avg. weight of unmarketable fruit (g/plant)</th><th>Marketable Yield (Q/ha)</th><th>Cost of cultivation (Rs./ha)</th><th>Gross return (Rs/ha)</th><th>Net return (Rs./ha)</th><th>BC ratio</th></tr>
<tr><td>FP</td><td>72.8</td><td>1695</td><td>432</td><td>107.6</td><td>87900</td><td>161400</td><td>73500</td><td>1.84</td></tr>
<tr><td>TO -1</td><td>86.1</td><td>2237</td><td>147</td><td>122.3</td><td>93890</td><td>183450</td><td>89560</td><td>1.95</td></tr>
<tr><td>TO -2</td><td>89.3</td><td>2567</td><td>84</td><td>131.4</td><td>110400</td><td>197100</td><td>86700</td><td>1.79</td></tr>
<tr><td>TO - 3</td><td>88.7</td><td>2452</td><td>97</td><td>127.7</td><td>114760</td><td>191550</td><td>76790</td><td>1.67</td></tr>
<tr><td>CD (0.05)</td><td>2.4</td><td>36.8</td><td>8.2</td><td>3.5</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Final recommendation for micro level situation</td><td>Technology Option -1 & 2 performed better over farmers' practice and T.O.-3, with respect to yield, net return & BC ratio. The testing has been done for two seasons. The Technology option 1 is preferred by farmers due to its ease of application compared to technology option-2. So, the technology option-1 is recommended for taken into practise.</td></tr>
<tr><td>8.</td><td>Constraints identified and feedback for research</td><td>NA</td></tr>
<tr><td>9.</td><td>Process of farmers participation and their reaction</td><td>Farmers were involved in participatory approach. They are satisfied with the testing and very much enthusiastic about the findings.</td></tr>
</table>

Thematic area: Pollination management in vegetable crop

Problem definition: Cucumber & bitter gourd are two important cucurbits grown in South 24 Parganas district in vast areas almost round the year. Being monoecious in nature, the pollination and fruit set in Cucurbits are dependent on insect pollinators (like bee). Decrease in bee population in crop field is a common problem due to various reasons (like indiscriminate use of pesticides in crop field, different environmental hazards like high wind, heavy rainfall etc. and better & attractive source of pollen & nectar for the bees in Sundarban mangrove forests).

About 30 to 37% yield loss in cucurbits occur due to poor pollination & fruit set. Artificial pollination can improve this section of crop yield. In this perspective, three different technological options of artificial pollination were tested to find out best low-cost artificial pollination solution for cucurbit crops.

Technology assessed:

- **Farmers' Practice (FP)**: Use of synthetic auxin hormone for better fruit setting.
- **Technology Option -1(TO-1):** Spraying of pollen mixture (pollen of 300 – 500 number of fresh male flower + 15 g boron powder 20% + 25 g glucose + 10 lt water) upon freshly opened female flower in the morning (between 6 am to 8 am) @ 10 lt per 10 Decimal land area
- **Technology Option -2 (TO-2)**: Hand pollination by dropper (pollen of 50 fresh male flower + 1.5 g boron powder 20% + 2.5 g glucose – all in 1 liter water) upon freshly opened female flower in the morning (between 6 am to 8 am) @ 1-2 drop per flower.
- **Technology Option -3 (TO-3)**: Hand pollination with fresh male flower @ 1 male flower to 10 female flowers.

Treatment	No. of trials	Yield component			Marketable Yield (Q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Fruit set percentage	Avg. Marketable yield (g/plant)	Avg. weight of unmarketable fruit (g/plant)					
FP	30	72.8	1695	432	107.6	87900	161400	73500	1.84
TO-1	30	86.1	2237	147	122.3	93890	183450	89560	1.95
TO-2	30	89.3	2567	84	131.4	110400	197100	86700	1.79
TO-3	30	88.7	2452	97	127.7	114760	191550	76790	1.67

Result: Technology Option -1 & 2 performed better over farmers' practice and T.O.-3, with respect to yield, net return & BC ratio. The testing has been done for two seasons. The Technology option 1 is preferred by farmers due to its ease of application compared to technology option-2. So, the technology option-1 is recommended for taken into practise.

OFT- 5

1.	Title of On farm Trial	Assessment of the profitability by introducing amur carp (*Cyprinus carpio haematopterus*) as a candidate species in polyculture system of freshwater ponds of South 24 Parganas district
2.	Problem diagnosed	Low profitability from common carp as a candidate species.
3.	Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)	Assessment **Farmers Practice:** Polyculture of Indian Major Carps & Exotic Carps in freshwater ponds with usual package of practice, viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Stocking of carps in 3:3:4 model @ 10000 no./ha (Total 4000 no. of mrigal and common carp as bottom feeder), Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting **Technology Option-1:** F.P (3:3:1) + Total 3000 no. of amur carp as bottom feeder **Technology Option-2:** F.P. (3:3:0) + Total 4000 no. of only amur carp as bottom feeder
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	Verma, Ashok Kumar. (2013). Growth performance of Amur carp. (https://www.researchgate.net/publication/257947592_Growth_performance_of_Amur_carp)
5.	Production system and thematic area	Fish based production system, composite fish culture
6.	Performance of the Technology with performance indicators	pH, weight of fish, yield, survivality, BC ratio
7.	Final recommendation for micro level situation	Introduction of Amur carp @ 4000 /ha alongwith other carps is recommended for increasing the profitability
8.	Constraints identified and feedback for research	Unseasonal rain has led to overflowing of ponds for which total harvesting of these bottom feeders was not possible from all the ponds.
9.	Process of farmers participation and their reaction	In participatory mode and satisfied with the new species

Thematic area: Composite fish culture

Problem definition: Though common carp is an important species in freshwater fish culture, the robust belly of the fish makes it less preferable to the consumers. Hence, a suitable alternative of this fish with same benefits may lead to increased profitability.

Technology assessed:

Farmers Practice: Polyculture of Indian Major Carps & Exotic Carps in freshwater ponds with usual package of practice, viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Stocking of carps in 3:3:4 model @ 10000 no./ha (Total 4000 no. of mrigal and common carp as bottom feeder), Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting

Technology Option-1: F.P (3:3:1) + Total 3000 no. of amur carp as bottom feeder

Technology Option-2: F.P. (3:3:0) + Total 4000 no. of only amur carp as bottom feeder

Technology option	**No. of trials**	**Unit area (ha)**	**Survivality (%)**	**Yield (q/ha)**	Additional yield	**Cost of cultivation (Rs./ha)**	**Gross return (Rs/ha)**	**Net return (Rs./ha)**	**BC ratio**
Farmers practice	7	0.065	72.0	1442.0	-	1,35,000.00	216300.00	81300.00	1.60
Technology Option 1		0.065	71.5	1011 + 729.3 =1740.3	298.3	1,22,000.00	261000.00	139000.00	2.14
Technology Option 2		0.065	71.0	875 + 965.6 =1840.6	398.6	117000.00	276000.00	159000.00	2.36

Result: Introduction of Amur carp @ 4000 /ha alongwith other carps are recommended for increasing the profitability

OFT-6

1.	Title of On farm Trial	Assessment of the profitability of amur carp (*Cyprinus carpio haematopterus*) in monoculture system of freshwater ponds of South 24 Parganas district
2.	Problem diagnosed	Low profitability from conventional carp culture
3.	Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)	Assessment **Farmers Practice:** Polyculture of Indian Major Carps & Exotic Carps in freshwater ponds with usual package of practice, viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Stocking of carps @ 10000 no./ha (Total 3000 no. of mrigal and common carp as bottom feeder), Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting **Technology Option-1**: Monoculture of amur carp fingerlings @ 10000nos/ha **Technology Option-2 :** Monoculture of amur carp fingerlings @ 15000nos/ha
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	Amur carp variety no small fry for aquaculturists, The Hindu (http://www.thehindu.com/todays-paper/tp-features/tp-sci-tech-and-agri/amur-carp-variety-no-small-fry-for-aquaculturists/article2267446.ece)
5.	Production system and thematic area	Fish based production system, composite fish culture
6.	Performance of the Technology with performance indicators	pH, weight of fish, yield, survivality, BC ratio
7.	Final recommendation for micro level situation	Will be continued for another year. After that recommendation will be given
8.	Constraints identified and feedback for research	Monoculture of Amur carp @ 10000/ha is recommended to enhance both productivity and profitability
9.	Process of farmers participation and their reaction	In participatory mode and satisfied with the new species

Thematic area: Composite fish culture

Problem definition: Low profitability from conventional carp culture

Technology assessed:

Farmers Practice: Polyculture of Indian Major Carps & Exotic Carps in freshwater ponds with usual package of practice, viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Stocking of carps @ 10000 no./ha (Total 4000 no. of mrigal and common carp as bottom feeder), Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting

Technology Option-1: Monoculture of amur carp fingerlings @ 10000nos/ha

Technology Option-2: Monoculture of amur carp fingerlings @ 15000nos/ha

Technology option	No. of trials	Unit area (ha)	Survivality (%)	Yield (q/ha)	Additional yield	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
Farmers practice	7	0.065	70.5	1350	-	1,32,000.00	202500.00	70500.00	1.53
Technology Option - 1		0.065	71.0	1775	298.3	1,11,500.00	266250.00	154750.00	2.38
Technology Option - 2		0.065	71.5	2608	398.6	165250.00	391000.00	225750.00	2.37

Result: Monoculture of Amur carp @ 10000/ha is recommended to enhance both productivity and profitability

OFT-7 (continuing)

1.	Title of On farm Trial	Enhancing profitability by culturing *Mystus gulio* in small monoculture freshwater ponds (0.0325ha or 5 katha) of Sundarbans
2.	Problem diagnosed	Low profitability from culture of carps in small freshwater ponds
3.	Details of technologies selected for assessment/refinement	**Farmers Practice**: Random stocking of *Mystus gulio* without any fixed stocking density, no specific management, occasional feeding with homemade food and occasional liming. **Technology option-I (TO-I):** Stocking of *Mystus gulio* at the rate of 16 no/m2 with pond management viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting **Technology option-II (TO-II):** Stocking of *Mystus gulio* at the rate of 20 no/m2 with pond management viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	(ICAR/ AICRP/ SAU/ Other, please specify): Optimization of stocking density of Mystus gulio (Brackishwater catfish); MNS, Mamun & Siddiky,Saha.S B,Mondal, DK, Ali, A & Washim, Mijanur Rahaman(2015), International Journal of Natural and Social Sciences 2(2015) 60-63
5.	Production system and thematic area	Fish based production system, composite fish culture
6.	Performance of the Technology with performance indicators	pH, weight of fish, yield, survivality, BC ratio
7.	Final recommendation for micro level situation	Trial ongoing, 1st year result expected in April'21. Another year of study required for final recommendation
8.	Constraints identified and feedback for research	Timely and easy availability of *Mystus gulio*seeds
9.	Process of farmers participation and their reaction	In participatory mode and satisfied with the new species

Thematic area: Composite fish culture

Problem definition: Low profitability from conventional carp culture

Technology assessed:

Farmers Practice: Random stocking of *Mystus gulio* without any fixed stocking density, no specific management, occasional feeding with homemade food and occasional liming.

Technology option-I (TO-I): Stocking of *Mystus gulio* at the rate of 16 no/m2 with pond management viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting

Technology option-II (TO-II): Stocking of *Mystus gulio* at the rate of 20 no/m2 with pond management viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting

Technology option	No. of trials	Unit area (ha)	Survivality (%)	Yield (q/ha)	Additional yield	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
Farmers practice	7	0.0325	Result awaited						
Technology Option - 1		0.0325							
Technology Option - 2		0.0325							

Results: Result expected in April'21

OFT-8 (continuing)

1.	Title of On farm Trial	Increasing profitability from carp polyculture ponds (0.065ha or 10 katha) by introduction of *Mystus gulio*
2.	Problem diagnosed	Low profitability from culture of carps in freshwater ponds
3.	Details of technologies selected for assessment/refinement	**Farmers Practice**: Polyculture of Indian Major Carps & Exotic Carps in freshwater ponds with usual package of practice, viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Stocking of carps @ 10000 no./ha, Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting **Technology option-I (TO-I):** FP+ *Mystus gulio* at the rate of 5000 no/ha **Technology option-II (TO-II):** FP+ *Mystus gulio* at the rate of 7500 no/ha
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	(ICAR/ AICRP/ SAU/ Other, please specify): Evaluation of different stocking density of two small indigenous fish, pabda(Ompak pabda) and gulsha (Mystus cavasious) with Indian Major Carps in polyculture system; A.H.M. Kohinoor, Manoara Begam, M.G. Hussain, Indian Journal of Fisheries Sciences 8 (1)57-64 2009
5.	Production system and thematic area	Fish based production system, composite fish culture
6.	Performance of the Technology with performance indicators	pH, weight of fish, yield, survivality, BC ratio
7.	Final recommendation for micro level situation	Trial ongoing, 1st year result expected in April'21. Another year of study required for final recommendation
8.	Constraints identified and feedback for research	Timely and easy availability of *Mystus gulio* seeds
9.	Process of farmers participation and their reaction	In participatory mode and satisfied with the new species

Thematic area: Composite fish culture

Problem definition: Low profitability from conventional carp culture

Technology assessed:

Farmers Practice: Polyculture of Indian Major Carps & Exotic Carps in freshwater ponds with usual package of practice, viz. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm, Stocking of carps @ 10000 no./ha, Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily application of supplementary feed prepared from locally available ingredients once daily @ 3% body weight, monthly netting

Technology option-I (TO-I): FP+ *Mystus gulio* at the rate of 5000 no/ha

Technology option-II (TO-II): FP+ *Mystus gulio* at the rate of 7500 no/ha

Technology option	No. of trials	Unit area (ha)	Survivality (%)	Yield (q/ha)	Additional yield	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
Farmers practice	7	0.065	Result awaited						
Technology Option - 1		0.065							
Technology Option - 2		0.065							

Results: Result expected in April'21

OFT-9

1.	Title of On farm Trial	Assessment of efficacy of different in-breeding depression reducing technology in black Bengal goat maintained by different members of women SHG groups of South 24 Parganas
2.	Problem diagnose	Low productivity in goat due to inbreeding depression
3.	Details of technologies selected for assessment/refinement	**Farmers' practice:** In normal village condition, farmers used to keep few numbers of goats with one or two buck in flock. The same buck is being used year after year for breeding with successive progenies**.** This leads to inbreeding depression which not only affects the health of the kids but also the future performances.Use of the same buck inthe village area, to breed other local goats, seriously affects the health condition of the buck. As a result the performance of the male animal also decreases gradually. Inbreeding depression affect on the health of the kids but also the future performances. Mostly it is done individually instead of group activity in SHG. **Technology Option 1:**Exchange of bucks among the 3 different SHG groups **Technology Option 2:** Goats will be inseminated by pure black Bengal semen byArtificial Insemination process
4.	Source of Technology	NDRI, Kalyani
5.	Production system and thematic area	Livestock based production system, goat farming
6.	Performance of the Technology with performance indicators	Disease incidence, Body weight of kid at the time of birth, Litter size , Kidding interval, Skin lusterness, BC ratio, Knowledge Index
7.	Final recommendation for micro level situation	Final recommendation can only be given after 3 years of study
8.	Constraints identified and feedback for research	Awareness on Artificial Insemination for Goat is still is not achieved And many taboos like weak kid, less kid due to AI is prevailing. Thus progressive farmers must be incorporated for this purpose of study.
9.	Process of farmers participation and their reaction	The trial has been set following problem identification by the farmers

Thematic area: Production management

Problem definition: Unscientific breeding practice of goats in field level results in inbreeding depression which in turn causes reduced performance, less vigor, diminished productive and reproductive performances.

Technology assessed:

Farmers' practice: In normal village condition, farmers used to keep few numbers of goats with one or two buck in flock. The same buck is being used year after year for breeding purpose**.** Use of same buck inthe village area to breed the local goats seriously affects on the health condition of the buck. As a result the performance of the male animal decreases gradually. Inbreeding depression not only affects the health of the kids but also their future performances

Technology Option 1: Exchange of bucks among the 3 different SHG groups

Technology Option 2: Goats will be inseminated by pure black Bengal semen by Artificial Insemination process

Technology option	Disease incidence in the flock (%)	Average Body weight of kid at the time of birth(Kg)	Litter size	Kidding interval(months)	Skin lusterness (10 point scale)	**BC ratio**	**Knowledge Index**
FP	32.8	0.31	1.3	3.6	7.1	1.21	5
TO-1	21.0	0.58	2.3	3.2	7.6	1.42	8
TO-2	21.0	0.61	2.5	3.1	7.9	1.82	8

Results: Insemination by pure black Bengal semen through Artificial Insemination process helps to promote better farming and reduce the inbreeding depression.

OFT-10

1.	Title of On farm Trial	Assessment of different methods of bed preparation for oyster mushroom cultivation
2.	Problem diagnosed	Late running of mycelium and black spot in the bed for oyster mushroom cultivation
3.	Details of technologies selected for assessment/refinement	**Farmers Practice:** spreading over the spawn on 3-4 layers having height of 2inches in inner side and the first and last layer having 1 inch height in the bed **Technology option-I:** Spreading over the spawn on the last layer of the paddy in the bed **Technology option-II :** Mixing of spawn with wet paddy straw before preparation of bed in a packet
4.	Source of Technology (ICAR/ AICRP/SAU/other, please specify)	Mushroom Research Institute, Bangalore
5.	Production system and thematic area	Small scale production system, Mushroom cultivation
6.	Performance of the Technology with performance indicators	Indicator: Total production. Formation of fruiting body No. of times in a cycle, presence of black spot in bed
7.	Final recommendation for micro level situation	Due to no bacterial infestation in technology option –II production is more and mycelium growth is also good
8.	Constraints identified and feedback for research	In case of farmers practice the drying of paddy straw is not followed in proper way. Which is in turn help to grow bacterial infestation in the bed and hinders the growth of mycelium.
9.	Process of farmers participation and their reaction	Active participation and detailed feedback collected from farmers

Thematic area: Mushroom cultivation

Problem definition: Late running of mycelium and black spot in the bed for oyster mushroom cultivation

Technology assessed:
Farmers Practice: Spreading over the spawn on 3-4 layers having height of 2 inches in inner side and the first and last layer having 1 inch height in the bed
Technology option-I: Spreading over the spawn on the last layer of the paddy in the bed
Technology option-II : Mixing of spawn with wet paddy straw before preparation of bed in a packet

Technology option	No. of unit	No. of trials	Yield component		Bacterial Disease/ insect pest incidence (%)	Cost of cultivation (Rs./cycle)	Gross return (Rs/cycle)	Net return (Rs./cycle)	BC ratio
			Total production (kg)	Formation of fruiting body No. of times in a cycle					
FP	20 beds (200gm spawn x20	5	15.3	2 times	30% Bacteria infestation black spot on the bed	420/-	1224/-	804/-	65.6
Technology Opt:I	20 beds (200gm spawn x20	5	16.8	2 times	10% Bacterial infestation black spot on the bed	420/-	1344/-	924/-	68.75
Technology Opt:II	20 beds (100gm spawn x20	5	19.8	3 times	No Bacterial infestation	420/-	1584/-	1164/-	73.48

Results: Due to no bacterial infestation in technology option –II production is more and mycelium growth is also good




OFT-11

<table>
<tr><td>1.</td><td>Title of On farm Trial</td><td colspan="8">Assessment of pollination service for increasing productivity in Cucumber in the coastal South 24 Parganas</td></tr>
<tr><td>2.</td><td>Problem diagnosed</td><td colspan="8">Low productivity of Cucumber due to fruit drop</td></tr>
<tr><td>3.</td><td>Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)</td><td colspan="8">Farmer practice: Spraying of boron (2 g/L) and synthetic Auxin (0.25 ml/L)
Technology Option 1: Installation of Indian Honeybee (Apis cerana) colony in the vegetable plot
Technology Option 2: Installation of Stingless bee (Tetragonula irridipennis) colony inthe vegetable plot</td></tr>
<tr><td>4.</td><td>Source of Technology (ICAR/ AICRP/SAU/other, please specify)</td><td colspan="8">AICRP on Honeybees & Pollinators, RAKVK Nimpith (voluntary centre)</td></tr>
<tr><td>5.</td><td>Production system and Thematic area</td><td colspan="8">Horticulture based production system
Beekeeping and pollination service</td></tr>
<tr><td>6.</td><td>Performance of the Technology with performance indicators</td><td colspan="8"><table>
<tr><th>Technology option</th><th>Fruit set (%)</th><th>Average fruit weight (g)</th><th>Fruit length (cm)</th><th>Misshapen fruits (%)</th><th>Yield (t/ha)</th><th>Net return (Lakh Rs./ ha)</th><th>B:C</th></tr>
<tr><td>FP</td><td>58.4[a]</td><td>131.3[a]</td><td>17.6[a]</td><td>8.2[a]</td><td>9.84[a]</td><td>1.298[a]</td><td>2.94</td></tr>
<tr><td>TO-1</td><td>64.2[b]</td><td>143.3[b]</td><td>18.05[a]</td><td>3.1[b]</td><td>11.78[b]</td><td>1.666[b]</td><td>3.41</td></tr>
<tr><td>TO-2</td><td>65.4[b]</td><td>141.8[b]</td><td>18.2[a]</td><td>3.7[b]</td><td>11.94[b]</td><td>1.708[b]</td><td>3.51</td></tr>
</table></td></tr>
<tr><td>7.</td><td>Final recommendation for micro level situation</td><td colspan="8">The OFT was conducted for the 1st year. Final recommendation will be given after another year of trial.</td></tr>
<tr><td>8.</td><td>Constraints identified and feedback for research</td><td colspan="8">Indiscriminate spraying of chemical pesticides</td></tr>
<tr><td>9.</td><td>Process of farmers participation and their reaction</td><td colspan="8">The participants for this trial were identified through a group meeting followed by training on the particular technology. This was followed by regular field visit and monitoring. Considering the past history of fruit drop, both the beneficiaries as well as the non-beneficiaries took interest in the trial. The OFT was well managed by the beneficiaries themselves.</td></tr>
</table>

Thematic area: Beekeeping and pollination service

Problem definition: Cucumber (*Piper betle* L.) is an important vegetable crop of the coastal saline zone under South 24 Parganas district of West Bengal. However the crop often suffer from lack of pollination, which results in fruit drop, deformed fruits and reduction in marketable yield. To counter the situation farmers rely on hand pollination and spraying with Auxin hormone, which in turn increase the cost burden. Honey bees play an important role in pollination in Cucumber, thus ensuring complete pollination and potential yield. But due to indiscriminate use of pesticides and a quick decline in bee friendly environment, the bee population is also dropping sharply.

Technology assessed:

Considering all these, it was decided to employ bee pollination service in the crop field, to reduce fruit drop and increase yield. In the present trial, two types of honey bees were used for pollination service to compare their relative efficacy against the farmers practice. The Indian honeybee (*Apis cerana*) is a native bee that can forage upto one km (radius) distance. Stingless bees (*Tetragonula irridipennis*) are also native bees that are most easy to maintain. They are very good foragers for small flowers having short tube length.

Farmer practice: Spraying of boron (2 g/L) and synthetic Auxin (0.25 ml/L) at the time of flowering

Technology Option 1: Installation of Indian Honeybee (*Apis cerana*) colony in the vegetable plot (1 colony/ 400 sq.m)

Technology Option 2: Installation of Stingless bee (*Tetragonula irridipennis*) colony inthe vegetable plot(1 colony/ 400 sq.m)

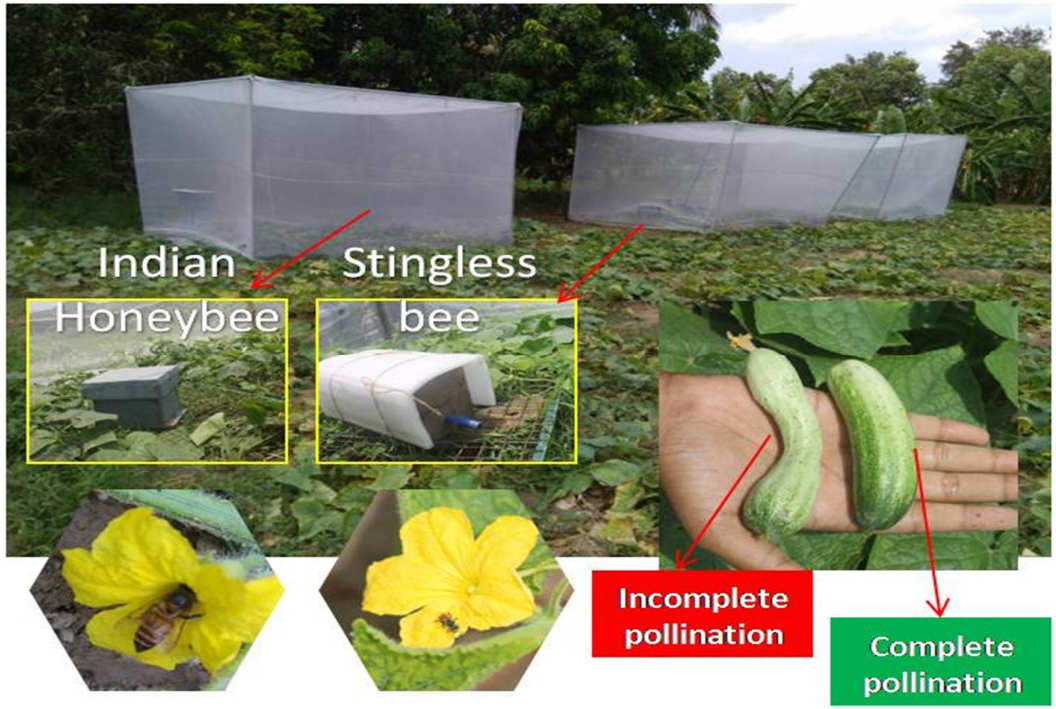
Table:

Yield Parameter	No. of trials	Fruit set (%)	Average Fruit weight (g)	Fruit length (cm)	Misshapen fruits (%)	Yield (t/ha)	Gross cost (Lakh Rs./ ha)	Gross return (Lakh Rs./ ha)	Net return (Lakh Rs./ ha)	B:C
Farmer's practice	7	58.4[a]	131.3[a]	17.6[a]	8.2[a]	9.84[a]	0.67	1.968	1.298[a]	2.94
Technology Option 1	7	64.2[b]	143.3[b]	18.05[a]	3.1[b]	11.78[b]	0.69	2.356	1.666[b]	3.41
Technology Option 2	7	65.4[b]	141.8[b]	18.2[a]	3.7[b]	11.94[b]	0.68	2.388	1.708[b]	3.51
SEm (±)		0.41	1.12	0.29	0.22	0.34	-	-	0.09	-
CD (P=0.05)		1.31	3.47	0.91	0.87	1.03	-	-	0.26	-

[ab]The data supersribed with same letters are statistically same at 5% level of significance

Results:

Pollination service with both the Indian honeybee and stingless bee significantly improved fruitset, fruit weight, total yield, net return and significantly reduced misshapen fruits (%). However the B:C ratio was more in technological option -1 (Stingless bee). The cost of colony and its maintenance is much less in stingless bees in comparision with Indian honeybee.



OFT-12

<table>
<tr><td>1.</td><td>Title of On farm Trial</td><td>Assessment of IPM against Rugose Spiraling Whitefly (Aleurodicus rugioperculatus) infestation in Coconut under coastal saline zone of West Bengal</td></tr>
<tr><td>2.</td><td>Problem diagnosed</td><td>Low productivity of Coconut due infestation of Rugose Spiraling Whitefly</td></tr>
<tr><td>3.</td><td>Details of technologies selected for assessment/refinement (Mention either Assessed or Refined)</td><td>Farmer practice: Spraying with Imidacloprid 200 SL @ 4ml /10 L,
Technology Option 1: Application of 1% starch solution on leaflets + Installation of yellow sticky traps + spraying Azadiractin 10000 ppm (2ml/ L)
Technology Option 2: Application of 1% starch solution on leaflets + Installation of yellow sticky traps + root feeding of Azadiractin 10000 ppm (25 ml neem oil + 25 ml water per palm)</td></tr>
<tr><td>4.</td><td>Source of Technology (ICAR/ AICRP/SAU/other, please specify)</td><td>TO-1: IPM module developed by ICAR – Central Plantation Crops Research Institute, Kasaragod
TO-2: Refinement of TO-1</td></tr>
<tr><td>5.</td><td>Production system and Thematic area</td><td>Horticulture based production system
Plantation crops</td></tr>
<tr><td>6.</td><td>Performance of the Technology with performance indicators</td><td>
<table>
<tr><th>Technology option</th><th>Preference for egg laying</th><th>Colonization of leaf area</th><th>Shooty mold</th><th>Natural enemy</th><th>Production (nuts/ ha)</th><th>Net return (Rs./ ha)</th><th>BC ratio</th></tr>
<tr><td>FP</td><td>4.43[a]</td><td>3.43[a]</td><td>4.14[a]</td><td>2.29[a]</td><td>6726[a]</td><td>41418[a]</td><td>2.05</td></tr>
<tr><td>TO-1</td><td>2.29[b]</td><td>2.71[b]</td><td>2.29[b]</td><td>3.86[b]</td><td>11682[b]</td><td>72570[b]</td><td>2.07</td></tr>
<tr><td>TO-2</td><td>2.57[b]</td><td>2.71[b]</td><td>2.43[b]</td><td>4.43[b]</td><td>10797[c]</td><td>73986[c]</td><td>2.33</td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Final recommendation for micro level situation</td><td>The OFT was conducted for the 1st year. Final recommendation will be given after another year of trial.</td></tr>
<tr><td>8.</td><td>Constraints identified and feedback for research</td><td>Indiscriminate spraying of chemical pesticides</td></tr>
<tr><td>9.</td><td>Process of farmers participation and their reaction</td><td>The participants for this trial were identified through a group meeting followed by training on the particular technology. This was followed by regular field visit and monitoring. Considering the past history of fruit drop, both the beneficiaries as well as the non-beneficiaries took interest in the trial. The OFT was well managed by the beneficiaries themselves.</td></tr>
</table>

Thematic area: IPM and Plantation crops

Problem definition: The Rugose Spiraling Whitefly, *Aleurodicus rugioperculatus* appeared as a serious alien threat to Indian agriculture with its devastating infestation on coconut and banana in southern India during 2016. Recently, in 2019, the pest was recorded to infest several plants in the South 24 Parganas district of West Bengal, with its serious implication in coconut. Adult Rugose Spiraling Whiteflies can be easily identified by their large habitus (almost 2.5mm) and irregular brown markings on white forewings. Adult males have large pincers at the end of the abdomen. Females lay yellowish eggs mostly the under surface of the leaves in a spiraling or concentric manner and cover them with waxy substances. Among the five developmental stages in the life cycle of the Rugose Spiralling Whitefly, only the 1st instar is a mobile one and known as crawler. Immature with progressive instars produce a profuse quantity of wax filaments which appear as a tuft of fluffy and long crystal-like glass rods. The 4th instar *i.e.* the puparium is distinctly thick and larger than the commonly occurring species *Bemisia tabaci*. The puparium is characterized by dorsal reticulations, apically acute lingula, rugose (corrugated) operculum with a pair of ventromedial fine setae and hence the name Rugose Spiralling Whitefly.

A survey through the locality of primary detection and the neighbouring areas revealed the pest's severe to medium infestation on Coconut, especially on the dwarf varieties. The middle and lower leaves are more vulnerable (50 -100% colonization of leaf area). Conventional chemicals against this sucking pest are not efficient to tackle the population below ETL and conserve its natural enemies.

Technology assessed:

In order to manage the pest with an aim to conserve the natural enemies, it was decided to employ integrated pest management module developed by ICAR – Central plantation Crops research Institute, Kasaragod, as technology option -1. Considering the practical problems associated with spraying on the coconut canopy, a refinement was also made in form of root feeding, as technological option – 2.

Farmer practice: Spraying with Imidacloprid 200 SL @ 4ml /10 L,

Technology Option 1: Application of 1% starch solution on leaflets + installation of yellow sticky traps + spraying of Azadiractin 10000 ppm (2ml/ L)

Technology Option 2: Application of 1% starch solution on leaflets + installation of yellow sticky traps + root feeding of Azadiractin 10000 ppm (25 ml neem oil + 25 ml water per palm)

Table:

Yield Parameter	No. of trials	Preference for egg laying*	Colonization of leaf area*	Shooty mold*	Natural enemy*	Production (nuts/ ha)	Gross return (Rs./ha)	Cost of production (Rs./ha)	Net return (Rs./ ha)	BC ratio
Farmer's practice	7	4.43[a]	3.43[a]	4.14[a]	2.29[a]	6726[a]	80712	39294	41418[a]	2.05
Technology Option 1	7	2.29[b]	2.71[b]	2.29[b]	3.86[b]	11682[b]	140184	67614	72570[b]	2.07
Technology Option 2	7	2.57[b]	2.71[b]	2.43[b]	4.43[b]	10797[c]	129564	55578	73986[c]	2.33
SEm (±)		0.21	0.21	0.33	0.28	27.05	-	-	109.55	-
CD (P=0.05)		0.65	0.64	1.01	0.87	83.34	-	-	337.55	-

[abc] The data in the same column supersribed with same letters are statistically same at 5% level of significance

* Rating scales

Preference for egg laying: 1 to 5 (5: Highly preferred; 4: Preferred; 3: Moderately preferred, 2: Less preferred, 1: No egg laying)

Colonization of leaf area: 0 to 5 (5: > 75%; 4: 51% - 75%; 3: 25% - 50%; 2: 11% - 25%; 1: 1% - 10%; 0: < 1%)

Shooty mold: 1 to 5 (5: > 75%; 4: 51% - 75%; 3: 21% - 50%; 2: 5% - 20%; 1: <5%)

Natural enemy: 0 to 5 (5: Highly satisfactory; 4: Satisfactory; 3: Moderate; 2: Low; 1: Very low, 0: Not detected)

Results:

The technology option 1 & 2 performed better than farmer's practice in reducing the preference whitefly for egg laying, leaf colonization by the whitefly and shooty mold infestation. The natural enemy population and diversity was also better in treatments with neem oil application. TO-2 recorded significant increase in nut yield and net return. BC ratio was also found to be best in TO-2 due to increased production.

3.2 Achievements of Frontline Demonstrations

A. Details of FLDs conducted during the year

Cereals:

Sl. No.	Crop	Thematic area	Technology Demonstrated with detailed treatments	Area (ha)		No. of farmers/ demonstration									Reasons for shortfall in achievement
				Proposed	Actual	SC		ST		Others		Total			
						M	F	M	F	M	F	M	F	T	
1.	Paddy	Productivity Enhancement	Varietal replacement with HYV paddy-var. DRR-46	14.7	14.7	53	15	-	-	10	2	63	17	80	
2.	Paddy	Productivity Enhancement	Varietal replacement with Salt tolerant HYV paddy-var. Luna Suvarna	1.3	1.3	4	-	-	-	6	-	10	-	10	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil (Kg/ha)			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P_2O_5	K_2O					
Paddy	Kharif	Irrigated - High land	Clay - loam	198.2	36.1	522.9	Greengram	25th July,2020	18th November, 2020	920	32
Paddy	Kharif	Irrigated - Medium land- Saline soil	Clay - loam	186.5	35.7	436.4	Fallow	12th July,2020	10th December, 2020	935	33

In both the Tables, information of same crop should be provided. For example, if in Table 3.2A crops are mentioned as a,b,c,d etc., in the table for Details of farming situation, the same crop should be mentioned in the identical sequence.

Performance of FLD

Cereals:

Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters			Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo	Check		Parameters	Demo	Check	Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Paddy	Productivity Enhancement	Varietal replacement with short duration HYV paddy-var. DRR-46	80	14.7	34.6	28.4	17.92	a.. Test wt. b. No. of filled grain/panicle	16.2 g 157.6	18.3 g 140.2	36750	61820	25070	1.68	35250	50860	15610	1.44
Paddy	Productivity Enhancement	Varietal replacement with salt tolerant HYV paddy-var. Luna Suvarna	10	1.3	32.7	26.3	19.57	a. Test wt. b. No. of filled grain/panicle	23.8 g 155.2	22.5 g 148.7	36000	57955	21955	1.61	35120	47395	12275	1.35

FLD with short duration HYV paddy-var. DRR-46

FLD with salt tolerant HYV paddy-var. Luna Suvarna

Performance of FLD

Oilseeds:

Frontline demonstrations on oilseed crops

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Total															

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Pulses

Frontline demonstration on pulse crops

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
	Total														

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Other crops

Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters			Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo	Check		Parameters	Demo	Check	Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Cucurbits (Bitter Gourd)	Vegetable cultivation	1. Conventional bitter gourd cultivation as per recommended package of practice. 2. Spray of plant growth promoter Ethrel @ 200 ppm (39.5% SL @ 0.5 ml/lt) at 2 and 4 true leaf stage.	10	1	21.2	18.4	15.22	Days to 50% flowering	44.6	49.8	93890	183450	89560	1.95	87900	161400	73500	1.84
								First node of female flower appearance	10.9	15.1								
								Female : Male flower ratio	4.3:10	3.5:10								
Tomato	Vegetable cultivation	1. Seedling raising in 98 hole Plug tray 2. Transplanting at correct stage of seedling (25 DAS) with minimum or no root injury	10	1.5	51.6	43.7	18.7	Days to 50% flowering	46.7	53.9	77500	169700	92200	2.19	73800	149700	75900	2.03
								Incidence of nematode (10 point scale)	1.6	3.3								
								Incidence of bacterial wilt (10 point scale)	1.8	4.1								
Dragon fruit	Exotic fruit	Introduction of new fruit	24	0.3	not yet started	-	-	-	-	-	432000	-	-	-	-	-	-	-
Cucumber	Integrated Pest Management (IPM)	Management of fruit fly through Cue Lure trap (Installation of cue lure trap in cucumber field @ 4no./bigha)	50	2	114	102	11.76 %	Fruitfly infested fruit (%)	4.2	15.9	68500	228000	159500	3.33	71000	204000	133000	2.87
Bitter gourd	Biological control	Biointensive management of bacterial wilt (Soil treatment with Bleaching powder, seed treatment with *Pseudomonas fluorescens*, soil amelioration with *P. fluorescens* mixed compost, soil drenching with *P. fluorescens*)	50	2	314.2	228.6	37.45 %	Wilting (PDI)	2.25	26.5	206900	659820	452920	3.19	214400	480060	265660	2.24

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil(Kg/ha)			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P_2O_5	K_2O					
Cucurbits	Rabi	Partially irrigated	Clay loam	277.4	41.5	634.1	Fallow	12.10.19	13.03.20	452	15
Tomato	Rabi	Partially irrigated	Clay loam	336.9	31.7	532.6	Bitter gourd	23.09.20	23.02.21	345	19
Dragon fruit	Round theyear	Irrigated	Clay loam	311.8	46.8	569.3	Vegetables	01.09.2020	-	1380	12
Cucumber	Rabi	Irrigated	Clay loam	138.4	51.6	427.8	Fallow	Sowing: 24th October, 2020	Upto December 2020	12	4
Bittergourd	Kharif	Irrigated	Clay loam	171.8	45.4	489.2	*Chilli*	1st week of August, 2020	December, 2020	423	22
Cucurbits	Rabi	Partially irrigated	Clay loam	277.4	41.5	634.1	Fallow	12.10.19	13.03.20	452	15
Tomato	Rabi	Partially irrigated	Clay loam	336.9	31.7	532.6	Bitter gourd	23.09.20	23.02.21	345	19
Dragon fruit	Round the year	Irrigated	Clay loam	311.8	46.8	569.3	Vegetables	01.09.2020	-	1380	12

\



FLD on bittergourd wilt management


FLD on management of fruit fly with Cue lure trap

Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Dairy																	
Cow																	
Buffalo																	
Poultry																	
Rabbitry																	
Pigerry																	
Sheep and goat																	
Duckery																	
Others (pl.specify)																	
Total																	

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters			% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Parameter	Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Common carps																		
Mussels																		
Ornamental fishes																		
Jayanti rohu (Started in 2019)	Composite fish culture	Culture of Jayanti rohu in freshwater ponds of South 24 Parganas	40	40 (1000 fingerling in each unit)	Avg. body wt (g)	500	440	13.64	-	-	10000	36000	26000	3.6	7500	26400	18900	3.52
					Yield (kg)	300	220	36.66										
					Survivability (%)	60	50	20										
Asian catfish (Continuing)	Culture of indigenous fish	Culture of Asian catfish in carp culture ponds	20	0.065 ha (2000 fingerlings)	Result awaited in April, 2021													
Total																		

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.) or Rs./unit				*Economics of check (Rs.) or Rs./unit			
				Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Oyster mushroom	Enterprise development	30	30	Oyster mushroom yield	-		9.3 gm per 100 gm spawn	-	30	80	50	60	-	-	-	-
Button mushroom																
Vermicompost																
Sericulture																
Apiculture	Promotion of Beekeeping for improved pollination and livelihood generation (Improved bee hives, Queen replacement, Training on scientific beekeeping, Marketing linkage, Migration linkage)	5	15	Honey yield: 73.14 kg/ hive	46.86 kg/hive	56.08 %	Litchi fruit set : 3.12%	3.01	23800	120000	96200	5.04	21500	72000	50500	3.35
							No. of litchi fruits per panicle: 13.8	11.7								
							Litchi yield: 120.3 kg/tree	118.4								
Total																

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

FLD on beekeeping

Women empowerment

Category	Name of technology	No. of demonstrations	Observations		Remarks
			Demonstration	Check	
Farm Women					
Pregnant women					
Adolescent Girl					
Other women					
Children					
Neonatal					
Infants					

Farm implements and machinery

Name of the implement	Crop	Name of the technology demonstrated	No. of Farmer	Area (ha)	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)	Cost reduction (Rs./ha or Rs./Unit)
					Demonstration	Check			

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Demonstration details on crop hybrids

Crop	Name of the Hybrid	No. of farmers	Area (ha)	Yield (kg/ha) / major parameter			Economics (Rs./ha)			
Cereals				Demo	Local check	% change	Gross Cost	Gross Return	Net Return	BCR
Bajra										
Maize										
Paddy										
Sorghum										
Wheat										

Others (Pl.specify)										
Total										
Oilseeds										
Castor										
Mustard										
Safflower										
Sesame										
Sunflower										
Groundnut										
Soybean										
Others (Pl.specify)										
Total										
Pulses										
Greengram										
Blackgram										
Bengalgram										
Redgram										
Others (Pl.specify)										
Total										
Vegetable crops										
Chilli	Tejaswini	176	16.7	12910	10670	20.9	76800	161400	84600	2.10
Bottle gourd										
Capsicum										
Cucumber										
Tomato	Deb	335	25.8	59460	47380	25.5	86900	171600	84700	1.98
Brinjal										
Okra	Okra	Rohini	188	21.8	18120	14930	21.4	72100	140700	68600
Onion										
Potato										
Field bean										
Others (Pl.specify)										
Total										
Commercial crops										
Cotton										

Coconut										
Others (Pl.specify)										
Total										
Fodder crops										
Napier (Fodder)										
Maize (Fodder)										
Sorghum (Fodder)										
Others (Pl.specify)										
Total										

Technical Feedback on the demonstrated technologies

Sl. No	Crop	Feed Back
1	Bitter gourd (Bacterial wilt)	Incidence of wilt is very less in demonstration plots
2	Cucumber (fruit fly trap)	Cost of cultivation has been reduced due to use of cue lure trap
3	Beekeeping	Productivity of honey has increased
4	Jayanti Rohu	Increase in total yield
5	Tomato (Plug tray)	Seedlings are healthy
6	Dragon fruit	Crop growth satisfactory. Hand pollination was effective in fruit setting
7	Paddy (DRR-46)	Good customer preference due to fine grain
8	Paddy (Luna suvarna)	Good performance in saline areas

Extension and Training activities under FLD

Sl. No.	Activity	Date	No. of activities organized	Number of participants	Remarks
1.	Field days	27.04.2020, 28.04.2020, 01.05.2020	3	98	
2.	Farmers Training	22.06.2020, 25.06.2020	2	90	
3.	Media coverage				
4.	Training for extension functionaries				

Performance of the demonstration under CFLD on Pulse and Oilseed Crops during 2020-21:

A. Technical Parameters:

Sl. No.	Crop demonstrated	Existing (Farmer's) variety name	Existing yield (q/ha)	Yield gap (Kg/ha) w.r.to			Name of Variety + Technology demonstrated	Number of farmers	Area in ha	Yield obtained (q/ha)			Yield gap minimized (%)		
				District yield (D)	State yield (S)	Potential yield (P)				Max.	Min.	Av.	D	S	P
1a	Lentil (Rabi 2019)	B-77	600	582	575	1500	i) Variety- Moitree (WBL-77) ii) *Rhizobium , Trichoderma viride @ Pseudomonas fluorescens* @1.5 kg/ha each as seed inoculation iii) Two time spray with micro nutrient (B & Mo) during flowering stage at 12 days interval	50	10	6.43	6.25	6.30	8.24	9.56	-
1b	Lentil (Rabi 2020)	B-77	-	-	-	-	i) Variety- PL-8 ii) *Trichoderma herzianum* as seed inoculation iii) Two time spray with micro nutrient (B & Mo) during flowering stage at 12 days interval	108	20	The harvesting has been completed by the end of March, 2021.					
2.	Greengram (Summer 2020)	Choti Moong	8.25	720	630	1200	i)Variety IPM 205-7(Virat) ii) Seed inoculation with *Rhizobium* @1.5 kg/ha iii)Foliar spray of Micro nutrient (B, Mo & Zn) @ 2g/lit.of water at flowering stage iv)Spraying of Indoxacarb 14.5% SC @ 500 ml/ha	208	40	10.35	8.85	9.50	31.94	50.79	-

B. Economic parameters

Sl. No.	Variety demonstrated & Technology demonstrated	Farmer's Existing plot				Demonstration plot			
		Gross Cost (Rs/ha)	Gross return (Rs/ha)	Net Return (Rs/ha)	B:C ratio	Gross Cost (Rs/ha)	Gross return (Rs/ha)	Net Return (Rs/ha)	B:C ratio
1	i)*Variety- Moitree (WBL-77)* *ii) Rhizobium, Trichoderma viride @ Pseudomonas fluorescens* @1.5 kg/ha each as seed inoculation iii)Two time spray with micro nutrient (B & Mo) during flowering stage at 12 days interval	21718	36000	14282	1.66	22113	37800	15687	1.71
2	i)Variety IPM 205-7 (Virat) ii) Seed inoculation with *Rhizobium* @1.5 kg/ha iii)Foliar spray of Micro nutrient (B, Mo & Zn) @ 2g/lit.of water at flowering stage iv)Spraying of Indoxacarb 14.5% SC @ 500 ml/ha	25800	54450	28650	2.11	27000	66500	39500	2.46

C. Socio-economic impact parameters

Sl. No.	Crop and variety Demonstrated	Total Produce Obtained (kg)	Produce sold (Kg/household)	Selling Rate (Rs/Kg)	Produce used for own sowing (Kg)	Produce distributed to other farmers (Kg)	Purpose for which income gained was utilized	Employment Generated (Mandays/house hold)
1	Lentil, Var. Moitree (WBL-77)	925	45.0	60.00	90	150	Family maintenance and invested in bank	10
2	Crop: Greengram Variety: IPM 205-7 (Virat)	24090.0	42.0	70.00	10.00	10.0	Family maintenance & invested in bank	21

D. Oilseed Farmers' perception of the intervention demonstrated

Sl. No.	Technologies demonstrated (with name)	Farmers' Perception parameters					
		Suitability to their farming system	Likings (Preference)	Affordability	Any negative effect	Is Technology acceptable to all in the group/village	Suggestions, for change/ improvement, if any
1	i)Variety- Moitree (WBL-77) ii) *Rhizobium, Trichoderma viride @ Pseudomonas fluorescens* @1.5 kg/ha each as seed inoculation iii) Two time spray with micro nutrient (B & Mo) during flowering stage at 12 days intervals	As it is grown during Rabi season, it is need to sow by the last week of November. In the district of South 24 Parganas, the medium land situation becomes ready for sowing in the mid of December. Thus the crop yield is less as per the potential yield	i)It is more remunerative crop ii) Used for dal iii) It is also improve soil fertility	As the organic matter content in soil is very low, they are convinced to apply organic manures during land preparation	Plants are stunted in growth in few plots due to soil salinity	The productivity of this variety is better in late sown situation	Use of bio agents against root rot and other fungal diseases
2	i)Variety IPM 205-7(Virat) ii) Seed inoculation with *Rhizobium* @1.5 kg/ha iii)Foliar spray of Micro nutrient (B, Mo & Zn) @ 2g/lit.of water at flowering stage iv)Spraying of Indoxacarb 14.5% SC @ 500 ml/ha	The crop is cultivated during summer season and it is practiced after harvesting of *Kharif* rice under residual moisture	i)It is more remunerative crop ii) Used for dal iii) It also improves soil fertility	Afford *Rhizobium* bio- fertilizer for seed treatment	-	Yes	-

E. Specific Characteristics of Technology and Performance

Specific Characteristic	Performance	Performance of Technology vis-a vis Local Check	Farmers Feedback
Lentil			
Variety- Moitree (WBL-77)	Better crop growth i.e. higher no. of branches & higher pods per plant	i) No. of pod /plant (Demo.-30.2, L. Check-27.6)	i) By using *Rhizobium* dose of nitrogenous fertilizer is reduced. ii) Using *Trichoderma viride* the crop did not damaged by root rot disease in seedling stage iii) No. of branches, flower and pod per plant were more by using micronutrient
Rhizobium , *Trichoderma viride @ Pseudomonas fluorescens* @ 1.5 kg/ha each as seed inoculation	i)Crop growth is better than farmers plot ii) No appearance was found on disease infestation during seedling stage	i) Saved 10 kg chemical nitrogenous fertilizer /ha ii) Control root rot disease	
Two time spray with micro nutrient (B & Mo) during flowering stage at 12 days intervals	Crop growth is better than farmers plot	i) No. of pods per plant and No. of healthy grain per pod were recorded higher	
Greengram			
Variety-IPM 02-03	No YMV infestation, bold grain and higher pod length than local var. (choiti moong)	i) Plant height- 36.4 cm (Local check) Plant height-64.5 cm (Demo.) ii)Pod length-6.6 cm (Local check) Pod length-7.3 cm (Demo.) iii)100 seed wt.-2.7 g (Local check) 100 seed wt.-3.4 g (Demo.) iv)Seed yield-850 kg/ha (Local check) Seed yield-950 kg/ha (Demo.)	i)The productivity of Demo. Variety is more than local variety ii)The application of nitrogenous fertilizer is reduce to 10 kg /ha for the use of rizobium culture
Rhizobium-1.5 kg/ha (as seed treatment)	Crop growth was better than choiti moong		
Foliar spray of Micro nutrient (B, Mo & Zn) @ 2g/lit.of water at flowering stage	No. of pod and/plant was more than local variety (Choiti moong)		
Spraying of Indoxacarb 14.5% SC @ 500 ml/ha	Pod borer damage was very low in demo. plot		

F. Extension activities under FLD conducted:

Sl. No.	Extension Activities organized	Date and place of activity	Number of farmer attended
1	Training under CFLD-Pulse (Lentil)	07.12.19	50
2	Field visit and GPS reading (Lentil)	22.01.20	16
3	Field visit (Lentil)	19.02.20	10
4	Field Day (Lentil)	13.03.20	20
5	Training programme (Greengram)	14.02.20 at Radhakantapur of Mathurapur-II	127
		19.02.20 at Kalinagr & Raghunathpur of Joynagar-II	81
		03.02.20 at RAKVK, Nimpith	107
6	Distribution of critical inputs (Greengram)	14.02.20 at Radhakantapur of Mathurapur-II	127
		19.02.20 at Kalinagr & Raghunathpur of Joynagar-II	81
7	Field visit (Greengram)	16.03.20 at Radhakantapurr of Mathurapur-II	48
		18.03.20 at 27 No. Lat & Bhadrapara of Mathurapur-II	45
		23.03.20 at Baribhangaabad of Mathurapur-II	27
		24.03.20 at Bijoynagar of Joynagar-II	35
		26.03.20 at Raghunathpur of Joynagar-II	41
8	Field Days (Greengram)	27.04.20 at Radhakantapur of Mathurapur-II	20
		28.04.20 at Bijoynagar of Joynagar-II	15
		0.1.05.20 at Raghunathpur of Joynagar-II	13

G. Sequential good quality photographs (as per crop stages i.e. growth & development)

Field visit at Bijoynagar of Joynagar-II and Radhakantapur of Mathurapur-II

Field visit during harvesting stage at Raghunathpur of Joynagar-II

H. Farmers' training photographs

I. Quality Action Photographs of field visits/field days and technology demonstrated.

J. Details of budget utilization

Crop (provide crop wise information)	Items	Budget Received (Rs.)	Budget Utilization (Rs.)	Balance (Rs.)
Lentil	i) Critical input	81000.00	88500.00	-
	ii) TA/DA/POL etc. for monitoring	3000.00	1400.00	-
	iii) Extension Activities (Field day)	2500.00	-	-
	iv)Publication of literature	2500.00	-	-
	v) Contingencies	1000.00	-	-
	Total	90000.00	89900.00	100.00
Greengram	i) Critical input	3,60,000.00	3,26,098.00	**93.14**
	ii) TA/DA/POL etc. for monitoring		6,450.00	
	iii) Extension Activities		14,178.00	
	iv) Publication of literature		12,615.36	
	v) Contingencies		565.50	
	Total	**3,60,000.00**	**3,59,906.00**	**93.14**

Farmers' details (Crop: Lentil, Season: Rabi, 2019)

Sl No.	Name of Farmer	Father's name	Village	Block	Mobile No	Email ID	GPS Coordinates		Soil testing done (Yes/ No)	Recommendations based on soil test value	Brief technology intervention	Variety	Seed quantity used	Demo. Yield (q/ha)			Yield of local check q/ha	% increase
							Lat	Long						H	L	A		
1	MANIK SARDAR	BHAKRTIPADA SARDAR	Gopinathpur,Karanjali	KULPI	9775232658	Nil	22°02′55″ N	88°14′08″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	i)Variety-Moitree (WBL-77) ii)*Rhizobium , Trichoderma viride @ Pseudomonus* @1.5 kg/ha each as seed inoculation iii) Two time spray with micro nutrient (B & Mo) during flowering stage at 12 days interval	Moitree (WBL-77)	13.0 kg	6.43	6.25	6.30	6.00	5.00
														-	-	6.34	6.00	5.66
2	BISWAJIT HALDER	ANANTA HALDER	Andinagar,Karanjali	Do	8145836259	Nil	22°02′32″ N	88°14′09″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	13.0 kg	Damaged				
3	SATYENDRANATH HALDER	BANSHINATH HALDER	Andinagar,Karanjali	Do		Nil	-	-	No	-	do	do	6.5 kg	Not sown				
4	SANJIT BHANDARI	JIBAN BHANDARI	Andinagar,Karanjali	Do		Nil	-	-	No	-	do	do	13.0 kg	Not sown				
5	DHARAPATI BHANDARI	GURUPADA BHANDARI	Andinagar,Karanjali	Do		Nil	-	-	No	-	do	do	19.5 kg	Not sown				
6	KHOKAN NAIYA	JAYANTA KUMAR NAIYA	Andinagar,Karanjali	Do		Nil	-	-	No	-	do	do	13.0 kg	Not sown				
7	BIMAL PALTA	LAKSHAN PALTA	Andinagar,Karanjali	Do		Nil	22°02′44″ N	88°14′36″ E	Yes	20:40:20 kg N:P_2O_5:K_2O/ha	do	do	13.0 kg	Damaged				
8	BIRAT CHANDRA BAIRAGI	BISHTUPADA BAIRAGI	Ramtanunagar,Karanjali	Do	9647142743	Nil	-	-	No	-	do	do	13.0 kg	Not sown				
9	SIDDHESHWARI BAGANI	BASUDEV BAGANI	Andinagar,Karanjali	Do	7501106394	Nil	-	-	No	-	do	do	6.5 kg	Not sown				
10	RADHYA RANI HALDAR	MADAN HALDAR	Andinagar,Karanjali	Do	9547947659	Nil	-	-	No	-	do	do	6.5 kg	Not sown				
11	JAGADISH CH	RAJKRISHNA	Andinagar,Karanjali	Do	97322873	Nil	22°01′48″	88°14′	Yes	30:40:20 kg	do	do	6.5 kg	-	-	6.27	6.0	4.50

	PALTA	PALTA			65		N	02″E		$N:P_2O_5:K_2O$/ha			kg				0		
12	BABLU RANJAN MONDAL	LALIT MONDAL	Bhairabinagar,Keoratala	Do	9734895003	Nil	-	-	No	-	do	do	19.5 kg	Not sown					
13	CHAMPA BAGANI	GOUTAM BAGANI	Andinagar,Karanjali	Do	8293451096	Nil	-	-	No	-	do	do	13.0 kg	Not sown					
14	MAHADEB SINGHA	HARIPADA SINGHA	Andinagar,Karanjali	Do	8436252907	Nil	-	-	No	-	do	do	13.0 kg	Not sown					
15	TRILOKESH KALSA	ASIT KALSA	Paschim Karanjali,Karanjali	Do	9609019798	Nil	22°05′22″ N	88°16′30″ E	Yes	20:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	13.0 kg	Damaged					
16	BINANDA BAIRAGI	KALIPADA BAIRAGI	Ramtanunagar,Karanjali	Do	8016998736	Nil	-	-	No	-	do	do	13.0 kg	Not sown					
17	SUBIR KUMAR PALTA	HARISADHAN PALTA	Kabasenre,Karanjali	Do	6297765512	Nil	22°07′40″ N	88°17′33″ E	Yes	30:50:20 kg $N:P_2O_5:K_2O$/ha	do	do	6.5 kg	Damaged					
18	KARTICK TANTI	SHASHADHAR TANTI	Andinagar,Karanjali	Do		Nil	22°01′48″ N	88°14′08″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	6.5 kg	-	-	6.25	6.00	4.16	
19	RUHIT KUMAR NAIYA	BIPIN BIHARI NAIYA	Andinagar,Karanjali	Do	9547145260	Nil	22°02′23″ N	88°1419″ E	Yes	20:50:20 kg $N:P_2O_5:K_2O$/ha	do	do	6.5 kg	Damaged					
20	BAPI MONDAL	MADHUSUDAN MONDAL	Andinagar,Karanjali	Do		Nil	-	-	No	-	do	do	6.5 kg	Not sown					
21	TAPAN HALDER	DAYAMAY HALDER	Andinagar,Karanjali	Do	9066080500	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
22	GOBINDA NAIYA	BIPIN NAIYA	Andinagar,Karanjali	Do		Nil	22°01′48″ N	88°14′02″ E	Yes	30:40:20 kg $N:P_2O_5:K_2O$/ha	do	do	6.5 kg	-	-	6.43	6	7.16	
23	GOPAL CHANDRA NAIYA	BIPIN BIHARI NAIYA	Andinagar, Karanjali	Do		Nil	22°02′01″ N	88°14′13″ E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	13.0 kg	-	-	6.25	6	4.16	
24	JHUMA MUKHERJEE	PRADIP MUKHERJEE	Andinagar, Karanjali	Do	9679150048	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
25	NIBHA MIDDYA	PANCHUGOPAL MIDDYA	Andinagar,Karanjali	Do	8167784188	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
26	TANMAY MONDAL	SATYENDRANATH MONDAL	Andinagar,Karanjali	Do	9093963240	Nil	-	-	No	-	do	do	13.0 kg	Not sown					
27	SHRIMATI MUKHERJEE	JAYDEB MUKHERJEE	Andinagar,Karanjali	Do	6297989474	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
28	ASHIT KR MIDDE	PRAFULLA MIDDE	Andinagar,Karanjali	Do	9732586172	Nil	22°01′48″ N	88°14′03″ E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	13.0 kg	-	-	6.27	6	4.50	
29	ANJANA PRAMANIK	KARTICK PRAMANIK	Ramtanunagar,Karanjali	Do		Nil	-	-	No	-	do	do	6.5 kg	Not sown					
30	SANTOSHI BAGANI	PRABIR BAGANI	Andinagar,Karanjali	Do	8420202639	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
31	ALOK RANJAN MIDDE	PRAFULLYA MIDDE	Andinagar,Karanjali,	Do	7699227514	Nil	-	-	No	-	do	do	13.0 kg	Not sown					
32	BANSHI RAUT	NIRAPADA RAUT	Ramtanunagar,Karanjali	Do		Nil	-	-	No	-	do	do	6.5 kg	Not sown					
33	SUNDAR PRAMANIK	BASUDEB PRAMANIK	Ramtanunagar,Karanjali	Do	9734895104	Nil	22°06′37″ N	88°15′13″ E	Yes	20:40:20 kg $N:P_2O_5:K_2O$/ha	do	do	19.5 kg	Damaged					
34	GHANASHYAM HALDER	ANADI HALDER	Andinagar,Karanjali	Do	8116954444	Nil	-	-	No	-	do	do	19.5 kg	Not sown					
35	SUSHAMA	GANESH	Ramtanunagar,Kara	Do		Nil	-	-	No	-	do	do	6.5 kg	Not sown					

	PRAMANIK	PRAMANIK	njali																
36	KHOKAN HALDER	ALTA HALDER	Andinagar,Karanjali	Do	9936830322	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
37	ARATI CHAKBARTI	PANCHANAN TATI	Ramtanunagar,Karanjali	Do	7602690707	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
38	SANJAY BAIRAGI	GURUPADA BAIRAGI	Ramtanunagar,Karanjali	Do	9002993154	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
39	PRABANSHU PRAMANIK	SRIMANTA PRAMANIK	Ramtanunagar,Karanjali	Do	8916884014	Nil	-	-	No	-	do	do	13.0 kg	Not sown					
40	RABIN KUMAR BAGANI	GURUPADA BAGANI	Andinagar,Karanjali	Do	7699176978	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
41	KANAILAL HALDER	ANANTA HALDER	Andinagar,Karanjali	Do	7076808509	Nil	22°02′34″ N	88°14′15″ E	Yes	30:50:20 kg N:P_2O_5:K_2O/ha	do	do	13.0 kg	Damaged					
42	DIPALI PALTA	MOHAN PALTA	Chakdulalpur,Karanjali	Do	7865826570	Nil	22°05′42″ N	88°16′19″ E	Yes	20:50:30 kg N:P_2O_5:K_2O/ha	do	do	13.0 kg	Damaged					
43	DINABANDHU NAIYA	SWARAJ NAIYA	Gopinathpur,Karanjali	Do	8972417571	Nil	22°06′20″ N	88°15′49″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	6.5 kg	Damaged					
44	ANCHAR MOLLA	ANDUL MOLLA	Lakshmipur,Karanjali	Do	9674139118	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
45	BISWANATH HALDER	KISHORIMOHAN HALDER	Dakshin Shukdebpur,Karanjali	Do	9153226358	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
46	TAPAN KUMAR GHOSH	PANCHANAN GHOSH	Dakshin Rajarampur,Karanjali	Do	9733770306	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
47	PANCHU NASKAR	NILRATAN NASKAR	Chakdulalpur,Karanjali	Do	7872267930	Nil	22°01′55″ N	88°01′42″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	13.0 kg	-	-	6.31	6.00	5.16	
48	DHANANJAY BAIRAGI	GURUPADO BAIRAGI	Ramtanunagar,Karanjali	Do	8609301698	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
49	SHANTI PRAMANIK	BASUDEB PRAMANIK	Ramtanunagar,Karanjali	Do	7384036464	Nil	-	-	No	-	do	do	6.5 kg	Not sown					
50	PARIBALA MIDDYA	HARIPADA MIDDYA	Andinagar,Karanjali	Do	7585844304	Nil	-	-	No	-	do	do	13.0 kg	Not sown					

Farmers' details (Crop: Greengram, Season: Summer, 2020)

Sl No	Name of Farmer	Father's name	Village	Block	Mobile No	Email ID	GPS Coordinates		Soil testing done (Yes/ No)	Recommendations based on soil test value	Brief technology intervention	Variety	Seed quantity used	Demo. Yield (q/ha)			Yield of local check q/ha	% increase
							Lat	Long						H	L	A		
													17.5 kg/ha	10.35	8.85	9.50		
1	RAMKRISHNA GAYEN	Lakshipada	Bhadrapara	Mathurapur-II	8116138173	Nil	22°3′50″N	88°27′33″E	Yes	20:50:30 kg $N:P_2O_5:K_2O$/ha	i)Variety IPM 205-7(Virat) ii) Seed inoculation with *Rhizobium* @1.5 kg/ha iii)Foliar spray of Micro nutrient (B, Mo & Zn) @ 2g/lit.of water at flowering stage iv)Spraying of Indoxacarb 14.5% SC @ 500 ml/ha	IPM - 205-7 (Virat)	2.33	-	-	9.26	8.25	12.24
2	MADHUSUDAN GAYEN	Manmatha	Bhadrapara	do	9933191990	Nil	22°3′54″N	88°27′36″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.84	8.25	19.27
3	BASUDEB GAYEN	Lakshipada	Bhadrapara	do	8343910531	Nil	22°3′50″N	88°27′33″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	10.22	8.25	23.87
4	NIMAI CHAND GAYEN	Manmatha	Bhadrapara	do	7063626171	Nil	22°3′54″N	88°27′34″E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	10.13	8.25	22.78
5	TAPAN HALDER	Haren	Bhadrapara	do	7407834033	Nil	22°3′52″N	88°27′35″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.95	8.25	20.60
6	TULSI MAJHI	Makhanlal	Bhadrapara	do	7407638550	Nil	22°4′19″N	88°27′55″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.27	8.25	12.36
7	KANAN MAJHI	Rabi	Bhadrapara	do	7063151860	Nil	22°4′19″N	88°27′56″E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	10.13	8.25	22.78
8	MANIK NASKAR	Nagen	Radhakantapur	do	9733536322	Nil	22°3′11″N	88°27′47″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	10.26	8.25	24.36
9	MANTURAM GAYEN	Ananda	27 N0. Lat	do	9609348821	Nil	22°3′3″N	88°27′55″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	10.07	8.25	22.06
10	BINANDA KANSARI	Sudhanya	Khari	do	9733536322	Nil	22°3′37″N	88°27′12″E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	7.0	-	-	9.50	8.25	15.15
11	TAPAN NASKAR	Sukdeb	Katlapara	do	6230890395	Nil	22°3′3″N	88°27′50″E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	10.13	8.25	22.78
12	BASUDEB GAYEN	Ananda	27 No. Lat	do	8927539528	Nil	22°3′3″N	88°27′52″E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	10.11	8.25	22.54
13	SADANANDA GAYEN	Ananta	27 No. Lat	do	9093404224	Nil	22°3′15″N	88°27′45″E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	10.27	8.25	24.48

14	BHRIGURAM HALDER	Shibcharan	**Gilarchat**	do	7047893966	Nil	22°3′16″N	88°27′46″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.16	8.25	23.15
15	NARAYAN HALDER	Arati	Radhakantapur	do	8512929550	Nil	22°3′18″N	88°27′59″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.34	8.25	13.21
16	SWAPAN MONDAL	Madhusudan	P. Kultali	do	9732450017	Nil	22°3′33″N	88°28′07″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	10.18	8.25	23.39
17	RAMESH NEOGI	Naderchand	P. Kultali	do	9091047695	Nil	22°2′59″N	88°27′41″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.41	8.25	14.06
18	ARUN NEOGI	Khirod	P. Kultali	do	8609581370	Nil	22°2′53″N	88°27′48″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	10.10	8.25	22.42
19	RAMKRISHNA NASKAR	Banshicharan	P. Kultali	do	8145423135	Nil	22°3′11″N	88°27′50″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	10.23	8.25	24.00
20	PRATIMA NASKAR	Banshi	P. Kultali	do	9733651113	Nil	22°2′56″N	88°27′49″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.11	8.25	22.54
21	MAHIRUDDIN BAIDYA	Madan	P. Kultali	do	8609862405	Nil	22°3′23″N	88°27′50″ E	Yes	30:5 0:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.08	8.25	22.18
22	SHAILEN DAS	Jadab	Gilarchat	do	9732668926	Nil	22°2′40″N	88°27′59″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.24	8.25	24.12
23	BHAGYADHAR HALDER	Shibprasad	Bhadrapara	do	8515058768	Nil	22°3′18″N	88°27′50″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	10.30	8.25	24.84
24	MANGAL HALDER	Ganesh	Bhadrapara	do	7479102328	Nil	22°3′54″N	88°27′34″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.95	8.25	20.60
25	PRABIR NIYOGI	Manmatha	Radhakantapur	do	8609098728	Nil	22°3′30″N	88°27′57″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.43	8.25	14.30
26	JAYANTA DAS	Kshudiram	Radhakantapur	do	9609447132	Nil	22°3′37″N	88°27′9″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	8.0	-	-	10.16	8.25	23.15
27	GUNADHAR MONDAL	Biswanath	Radhakantapur	do	9647481261	Nil	22°2′52″N	88°28′12″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.29	8.25	24.72
28	SAHADEB GAYEN	Sudhanshu	Radhakantapur	do	9091694129	Nil	22°3′10″N	88°27′50″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	10.24	8.25	24.12
29	MAHADEB GAYEN	Sudhanshu	Radhakantapur	do	7863955526	Nil	22°3′11″N	88°27′51″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.62	8.25	16.60
30	MAIDUL BAIDYA	Giyasuddin	Radhakantapur	do	9134598941	Nil	22°3′23″N	88°27′50″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.08	8.25	22.18
31	GOBINDA HALDER	Bidhubhusan	Gilarchat	do	9732574897	Nil	22°3′43″N	88°27′4″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	10.24	8.25	24.12
32	DILIP TANTI	Arabinda	Radhakantapur	do	7074193999	Nil	22°3′54″N	88°27′58″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.66	8.25	17.09
33	HASEM MOLLA	**Hachen**	Bhadrapara	do	6296156477	Nil	22°3′56″N	88°27′39″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.17	8.25	23.27
34	SAMIR KARMAKAR	Satyanath	Gilarchat	do	8345837212	Nil	22°3′53″N	88°28′18″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.90	8.25	20.00
35	BHARAT KARMAKAR	Naren	Gilarchat	do	9733680015	Nil	22°3′53″N	88°28′18″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	5.6	-	-	10.15	8.25	23.03
36	MOHAN CHANDRA KARMAKAR	Nani	Gilarchat	do	8768619855	Nil	22°2′56″N	88°28′4″E	Yes	20:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.13	8.25	22.78
37	GOBINDA GAYEN	Lakshipada	Gilarchat	do	9679431938	Nil	22°3′54″N	88°27′36″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	3.5	-	-	10.27	8.25	24.48
38	KAPILANANDA HALDER	Hrishikesh	Radhakantapur	do	9153090350	Nil	22°3′17″N	88°28′0″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	10.26	8.25	24.36
39	BIBEKANANDA HALDER	Hrishikesh	Radhakantapur	do	8537848510	Nil	22°3′18″N	88°28′02″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.72	8.25	12.36

40	RATAN CHHATUI	Nitai	Radhakantapur	do	7479107461	Nil	22°2′54″N	88°28′16″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	5.6	-	-	9.26	8.25	12.24
41	GAUTAM HALDER	Santyasi	Radhakantapur	do	9733539441	Nil	22°3′25″N	88°27′48″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.87	8.25	19.63
42	MAHADEB HALDER	Radhanath	Radhakantapur	do	9743742904	Nil	22°3′22″N	88°27′52″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.49	8.25	15.03
43	MADHAB CH. KARMAKAR	Nani	Gilarchat	do	9932153114	Nil	22°2′56″N	88°28′6″E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	3.50	-	-	9.28	8.25	12.48
44	RATAN KARMAKAR	Kesab	Gilarchat	do	9733790656	Nil	22°2′56″N	88°28′8″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.77	8.25	18.42
45	NILRATAN DAS	Balaram	Gilarchat	do	9143749210	Nil	22°3′26″N	88°27′52″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.97	8.25	20.84
46	UTTAM NEOGI	Dulapada	Radhakantapur	do	9091646559	Nil	22°2′57″N	88°28′6″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.88	8.25	19.75
47	SWAPAN GAYEN	Jhantu	Radhakantapur	do	8538056283	Nil	22°3′10″N	88°27′50″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.13	8.25	22.78
48	TARANI DAS	Jiban	Radhakantapur	do	8509504087	Nil	22°3′28″N	88°27′58″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	5.6	-	-	10.31	8.25	24.96
49	SHYAMALENDU MONDAL	Madhusudan	Radhakantapur	do	9732733091	Nil	22°3′33″N	88°27′07″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.67	8.25	17.21
50	PROBHAT GAYEN	Promathanath	Kayalerchak	do	8768618644	Nil	22°3′51″N	88°27′40″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.19	8.25	11.39
51	BHIM HALDER	Pulin	Radhakantapur	do	9093173445	Nil	22°3′2″N	88°27′53″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.26	8.25	24.36
52	BALARAM MANDAL	Prabhas	27 No. Lat	do	9062132451	Nil	22°2′46″N	88°27′42″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.22	8.25	11.75
53	RAMPRASAD HALDER	Bhimchand	27 No. Lat	do	7699136064	Nil	22°3′0″N	88°27′57″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.39	8.25	13.82
54	MANISANKAR BAIDYA	Prabhanjan	Gilarchat	do	9733485260	Nil	22°3′53″N	88°28′06″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.10	8.25	22.42
55	SUBRATA MAYRA	Barun	Radhakantapur	do	7679776365	Nil	22°2′44″N	88°27′38″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.54	8.25	15.63
56	SUSHIL NIYOGI	Barin	Radhakantapur	do	7074353341	Nil	22°3′10″N	88°27′51″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.11	8.25	22.54
57	BADAL HALDER	Bhirendra	Radhakantapur	do	9382731373	Nil	22°3′4″N	88°27′48″ E	Yes	20:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.75	8.25	18.18
58	HARENDRANATH SARKAR	Dhirendranath	P. Kultali	do	9933421837	Nil	22°3′37″N	88°28′23″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.23	8.25	11.87
59	CHANDRATAN HALDER	Amulya	Radhakantapur	do	7602119389	Nil	22°3′4″N	88°27′51″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.69	8.25	17.45
60	GOPAL HALDER	Bibhuti	27 No. Lat	do	9733534441	Nil	22°3′26″N	88°27′48″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.40	8.25	13.93
61	RAJENDRA MONDAL	Surendra	P. Kultali	do	8348866242	Nil	22°3′17″N	88°28′27″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	11.50	-	-	9.16	8.25	11.03
62	PRASANTA NEOGI	Basanta	Radhakantapur	do	8609203477	Nil	22°3′30″N	88°27′58″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.42	8.25	14.18
63	SUSHIL NEOGI	Prasanta	Radhakantapur	do	9732880918	Nil	22°3′4″N	88°27′48″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.00	8.25	9.09
64	BAPAN KARMAKAR	Keshab	Gilarchat	do	9733572784	Nil	22°03′.10″ N	88°28′10″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	5.6	-	-	10.35	8.25	25.45
65	TARAKNATH HALDER	Nityagopal	27 No. Lat	do	9733539441	Nil	22°3′17″N	88°27′59″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.10	8.25	10.30
66	BABLU TANTI	Sunil	Bhadrapara	do	9933342691	Nil	22°4′4″N	88°27′53″	Yes	30:50:30 kg	do	do	4.66	-	-	9.49	8.2	15.03

								E		$N:P_2O_5:K_2O$/ha							5	
67	BENIMADHAB HALDER	Nilratan	27 No. Lat	do	8145076122	Nil	22°3′20″N	88°27′53″ E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.34	8.25	13.21
68	NITAI CHUNARI	Purna	Radhakantapur	do	32597449980	Nil	22°3′37″N	88°28′23″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.62	8.25	16.60
69	SURATH NIYOGI	Jagadish	Radhakantapur	do	9093022018	Nil	22°3′9″N	88°27′45″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	7.0	-	-	9.50	8.25	15.15
70	FARMAN GHARAMI	Jiyad	Bhadrapara	do	8640983530	Nil	22°3′46″N	88°27′31″ E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.71	8.25	17.69
71	KHOKAN HALDER	Gaur	27 No. Lat	do	7074175317	Nil	22°3′4″N	88°27′48″ E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.23	8.25	11.87
72	GOSHTA BAIDYA	Chunilal	Radhakantapur	do	-	Nil	22°3′38″N	88°28′24″ E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.68	8.25	17.33
73	BADAL DAS	Rabin	Radhakantapur	do	9749833343	Nil	22°25′8″N	88°27′40″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	7.0	-	-	9.81	8.25	18.90
74	SIDDHISHWAR MANDAL	Ratanchandra	Bhadrapara	do	7407768003	Nil	22°4′4″N	88°27′55″ E	Yes	30:40:20 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.23	8.25	11.87
75	GOBINDA NIYOGI	Manmatha	P. Kultali	do	7074963572	Nil	22°3′12″N	88°28′10″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	7.0	-	-	9.42	8.25	14.18
76	BHANU HALDER	Amulya	P. Kultali	do	-	Nil	22°3′4″N	88°27′52″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.27	8.25	12.36
77	KAMALA KARMAKAR	Arabinda	Gilarchat	do	7449750107	Nil	22°2′56″N	88°28′7″E	Yes	30:40:20 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.71	8.25	17.69
78	PRADIP NEOGI	Sukumar	Radhakantapur	do	7699194276	Nil	22°3′30″N	88°27′58″ E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	3.5	-	-	9.75	8.25	18.18
79	DHANANJOY HALDER	Aratibhushan	Radhakantapur	do	9732746379	Nil	22°3′18″N	88°27′57″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.38	8.25	13.69
80	SUMATI HALDER	Dipankar	27 No. Lat	do	9932599194	Nil	22°3′28″N	88°27′48″ E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.20	8.25	11.51
81	UTPALENDU CHHATUI	Kishorimohan	Radhakantapur	do	9699954897	Nil	22°2′55″N	88°28′14″ E	Yes	30:50:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.96	8.25	20.72
82	SANAT KUMAR HALDER	Sudhangshu	Bhadrapara	do	8967336068	Nil	22°3′18″N	88°27′52″ E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.83	8.25	19.15
83	ALOK NASKAR	Sannasi	Bhadrapara	do	9091712523	Nil	22°4′4″N	88°27′59″ E	Yes	30:40:20 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.62	8.25	16.60
84	MANTU PRAMANIK	Gopal	27 No. Lqat	do	9733652059	Nil	22°3′18″N	88°27′56″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.28	8.25	12.48
85	BASUDEB MANDAL	Kshitish	Radhakantapur	do	7029838780	Nil	22°3′11″N	88°27′26″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.84	8.25	19.27
86	BASUDEB PRAMANIK	Gurupada	Baribhangabad	do	8617078019	Nil	22°2′22″N	88°28′9″E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.63	8.25	16.72
87	SAROJ JANA	Manmatha	23 No. Lat	do	8617078019	Nil	22°2′24″N	88°27′8″E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.12	8.25	10.54
88	SANAT KUMAR KAYAL	Jamini	24 No. Lat	do	9735653983	Nil	21°0′40″N	88°26′38″ E	Yes	30:40:20 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.29	8.25	12.60
89	SUDHIR BHANDARI	Kalipada	24 No. Lat	do	9732608817	Nil	22°0′41″N	88°26′51″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	2.33	-	-	9.46	8.25	14.66
90	DUDHKUMAR BHANDARI	Sudhir	24 No. Lat	do	8616410720	Nil	22°0′40″N	88°26′52″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.34	8.25	13.21
91	PRASENJIT TANTI	Sanjay	24 No. Lat	do	8327510491	Nil	22°0′43″N	88°36′38″ E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	3.50	-	-	9.13	8.25	10.66
92	SUNIL MAYRA	Rampada	24 No. Lat	do	-	Nil	22°0′42″N	88°26′25″ E	Yes	20:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	4.66	-	-	9.17	8.25	11.15

93	CHARAN TANTI	Nani	24 No. Lat	do	8695343517	Nil	22°0′45″N	88°26′39″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	3.50	-	-	9.46	8.25	14.66
94	SANJAY MANDAL	Ganesh	24 No. Lat	do	-	Nil	22°0′40″N	88°26′54″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	3.50	-	-	9.33	8.25	13.09
95	PRADIP CHAKRABORTY	Manmatha	Baribhangabad	do	8637893980	Nil	22°2′23″N	88°27′6″E	Yes	20:40:20 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.37	8.25	13.57
96	RAJISH DAS	Sushanta	Baribhangabad	do	8910277760	Nil	22°2′24″N	88°27′7″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.18	8.25	11.27
97	SANTI BATABYAL	Debendranath	Baribhangabad	do	9932169231	Nil	22°2′24″N	88°27′7″E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.35	8.25	13.33
98	MAHENDRA SIPAI	Bibhuti	Baribhangabad	do	9064286489	Nil	22°2′25″N	88°27′4″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	8.85	8.25	7.27
99	SANJIB SINGHA	Basari	Baribhangabad	do	7699967625	Nil	22°2′25″N	88°27′4″E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	8.94	8.25	13.13
100	RANAJIT PRAMANIK	Gurupada	Baribhangabad	do	7029217339	Nil	22°2′26″N	88°27′3″E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.19	8.25	11.39
101	DILIP PRAMANIK	Gurupada	Baribhangabad	do	7029217339	Nil	22°2′27″N	88°27′5″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.23	8.25	1.88
102	DHIMAN MONDAL	Nakul	Baribhangabad	do	9144301740	Nil	22°2′26″N	88°27′3″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	8.90	8.25	7.88
103	NAKUL CHANDRA MONDAL	Pandicharan	Baribhangabad	do	9733480030	Nil	22°2′28″N	88°27′4″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.28	8.25	2.48
104	SHUBHENDU DAS	Asim	Baribhangabad	do	7029668621	Nil	22°2′22″N	88°27′7″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	3.50	-	-	8.94	8.25	3.36
105	NABHENDU DAS	Asim	Baribhangabad	do	8609247970	Nil	22°2′21″N	88°27′7″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.07	8.25	0.94
106	PRADYOT JANA	Bankim	Baribhangabad	do	6294014380	Nil	22°2′25″N	88°27′8″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.39	8.25	3.82
107	SUSHANTA JANA	Jyotish	Baribhangabad	do	6297727520	Nil	22°2′23″N	88°27′8″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.11	8.25	10.42
108	SUSHIL SIPAI	Jiban	Baribhangabad	do	7387937389	Nil	22°2′23″N	88°27′8″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	8.96	8.25	3.61
109	MUKUL JANA	Hiranmay	Baribhangabad	do	8617078019	Nil	22°2′24″N	88°27′8″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.36	8.25	13.45
110	JOGINDRA SAPAI	Bibhuti	Baribhangabad	do	9932712713	Nil	22°2′46″N	88°26′21″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.18	8.25	1.27
111	SHANKAR BATABYAL	Deben	Baribhangabad	do	8337814419	Nil	22°2′22″N	88°27′9″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	8.86	8.25	7.39
112	BASPATI JANA	Karindra Mohan	Baribhangabad	do	8926793187	Nil	22°2′26″N	88°27′7″E	Yes	30:4 0:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.40	8.25	3.94
113	NANDA DULAL MONDAL	Bishnupada	Baribhangabad	do	7001401036	Nil	22°2′42″N	88°27′41″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	7.0	-	-	9.25	8.25	2.12
114	SAMIR MANDAL	Bhim	Radhakantapur	do	7908628211	Nil	22°3′34″N	88°28′26″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.59	8.25	6.24
115	DHULAPADA HALDAR	Harakrishna	Radhakantapur	do	3385837201 5	Nil	22°3′11″N	88°27′24″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.81	8.25	8.91
116	BUDDHANATH GAYEN	Panchanan	Bhadrapara	do	7584966442	Nil	22°3′42″N	88°27′22″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	10.1 7	8.25	23.27
117	TRAUN GAYEN	Rampada	Radhakantapur	do	9635312269	Nil	22°3′9″N	88°27′46″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.95	8.25	20.61
118	PRABIR BAIDYA	Nadiram	Radhakantapur	do	7470251514	Nil	22°3′4″N	88°27′28″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.64	8.25	6.85

119	MADAN MOHAN SARKAR	Dhiren	Radhakantapur	do	7872009573	Nil	22°3′34″N	88°28′26″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.86	8.25	9.52
120	KHUDIRAM DAS	Fani	Radhakantapur	do	9800141042	Nil	22°3′11″N	88°28′10″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.57	8.25	6.00
121	SHANTI NAIYA	Sailendranath	Radhakantapur	do	9641559257	Nil	22°3′43″N	88°27′38″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	10.0	-	-	9.36	8.25	13.45
122	SAHADEB NEOGI	Sanyasi	P. Kultali	do	9093742172	Nil	22°3′11″N	88°27′10″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.22	8.25	11.76
123	ARUP NEOGI	Pramatha	P. Kultali	do	6289627125	Nil	22°3′16″N	88°27′57″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.30	8.25	12.73
124	SANJAY KAYAL	Arabindu	Mukherjerchak	do	-	Nil	22°2′25″N	88°27′30″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.14	8.25	10.79
125	BISWANATH PURKAIT	Prahalad	Baribhangaabad	do	9593196531	Nil	22°2′25″N	88°27′32″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.10	8.25	10.30
126	GOPAL PURKAIT	Narendra	P. Kultali	do	8538056004	Nil	22°2′58″N	88°28′21″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.56	8.25	15.88
127	GUNASINDHU HALDER	Kanailal	Kayalerchak	do	9732788740	Nil	22°4′19″N	88°27′56″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.32	8.25	12.97
128	HARENDRANATH HALDER	Gayaram	Dakshin Bijoynagar	Joynagar-II	9609158732	Nil	22°10′46″N	88°27′51″E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.67	8.25	17.21
129	BHOLANATH HALDER	Gayaram	Dakshin Bijoynagar	do	7076388155	Nil	22°10′.47″N	88°27′51″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.50	8.25	15.15
130	DULAL CHANDRA HALDER	Pratap	Dakshin Bijoynagar	do	9564370153	Nil	22°10′48″N	88°27′52″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.34	8.25	13.21
131	PANCHUGOPAL HALDER	Upen	Dakshin Bijoynagar	do	9073243366	Nil	22°10′49″N	88°27′52″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.35	8.25	13.33
132	PANCHU HALDER	Nakul	Dakshin Bijoynagar	do	7797212220	Nil	22°10′46″N	88°27′51″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.28	8.25	12.48
133	PRABIR HALDER	Amulya	Kalinagar	do	-	Nil	22°10′48″N	88°27′53″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.78	8.25	18.55
134	MADAN HALDER	Nirapada	Dakshin Bijoynagar	do	9564508029	Nil	22°10′51″N	88°27′37″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.52	8.25	15.39
135	SHAMBHU HALDER	Ganesh	Dakshin Bijoynagar	do	6297718819	Nil	22°10′49″N	88°27′51″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.37	8.25	13.58
136	BUDDHISWAR HALDER	Muktaram	Dakshin Bijoynagar	do	9733707106	Nil	22°10′45″N	88°27′55″E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.33	8.25	13.09
137	SHYAMRAY HALDER	Binaykrishna	Dakshin Bijoynagar	do	9732597397	Nil	22°10′46″N	88°27′55″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.21	8.25	11.64
138	CHARUBALA HALDER	AMBIL	sahajadapur	do	8116941715	Nil	22°10′.49″N	88°27′55″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.19	8.25	11.39
139	UDAYCHAND HALDER	Rajanikanta	Dakshin Bijoynagar	do	9609349845	Nil	22°10′.47″N	88°27′54″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	8.97	8.25	8.73
140	ABHIMANYU HALDER	Nakul Chandra	Dakshin Bijoynagar	do	9732410694	Nil	22°10′46″N	88°27′52″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.10	8.25	10.30
141	JAGADISHWAR HALDER	Muktaram	Dakshin Bijoynagar	do	9733707106	Nil	22°10′48″N	88°27′52″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	8.90	8.25	7.88
142	SUNIL HALDER	Saroj	Dakshin Bijoynagar	do	8016503534	Nil	22°10′49″N	88°27′51″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.24	8.25	12.00
143	NETAI HALDER	Gayaram	Dakshin Bijoynagar	do	6295804465	Nil	22°10′47″N	88°27′38″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.45	8.25	14.55
144	SANJAY HALDER	Saroj	Dakshin Bijoynagar	do	8016503534	Nil	22°10′43″N	88°27′33″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.35	8.25	13.33

145	BANAMALI HALDER	Dhananjoy	Dakshin Bijoynagar	do	9083992027	Nil	22°10′40″N	88°27′37″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.26	8.25	12.24
146	KALIPADA HALDER	Ananta	Dakshin Bijoynagar	do	8697907707	Nil	22°10′46″N	88°27′35″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.31	8.25	12.85
147	DUKHEY SADDAR	Fakir	Dakshin Bijoynagar	do	7074117627	Nil	22°10′40″N	88°27′55″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.23	8.25	11.88
148	SUKANTA HALDER	Radhakrishna	Dakshin Bijoynagar	do	9609349845	Nil	22°10′52″N	88°27′56″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.54	8.25	15.64
149	MITHUN HALDER	Adhir	Dakshin Bijoynagar	do	-	Nil	22°10′51″N	88°27′53″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.58	8.25	16.12
150	BIDYUT PRAMANIK	Sahadeb	Kalinagar	do	9932424618	Nil	22°10′51″N	88°27′49″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.07	8.25	9.94
151	NIKUNJARAM HALDER	Binaykrishna	Dakshin Bijoynagar	do	9609349845	Nil	22°10′48″N	88°27′56″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.58	8.25	16.12
152	RADHAKRISHNA HALDER	Binaykrishna	Dakshin Bijoynagar	do	9609349845	Nil	22°10′48″N	88°27′56″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.35	8.25	13.33
153	RABIYA LASKAR	Imam	Chuknagar	do	8926791716	Nil	22°10′51″N	88°27′56″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.29	8.25	12.61
154	ECHAK GAZI	Icha	Chuknagar	do	8926791716	Nil	22°10′53″N	88°27′41″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.65	8.25	16.97
155	NURUDDIN GAJI	Icha	Chuknagar	do	8926791716	Nil	22°10′50″N	88°27′44″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.28	8.25	12.48
156	DELWAR GAJI	Chammad	Chuknagar	do	9153272511	Nil	22°10′53″N	88°27′43″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.61	8.25	16.48
157	RAHIMA LASKAR	Palan	Chuknagar	do	7044172572	Nil	22°10′49″N	88°27′49″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	4.66	-	-	9.16	8.25	11.03
158	ACHIYA LASKAR	Jaynal	Chuknagar	do	7044172572	Nil	22°10′52″N	88°27′41″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.34	8.25	13.21
159	JALALUDDIN SHIKARI	Nuralam	D. Bijonagar	do	9735702094	Nil	22°10′47″N	88°27′55″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.33	8.25	13.09
160	SANTU HALDER	Radhakrishna	D. Bijonagar	do	9093091945	Nil	22°10′49″N	88°27′57″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.46	8.25	14.67
161	GUNASINDHU HALDER	Khagendra	D. Bijonagar	do	8001364924	Nil	22°10′48″N	88°27′50″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.12	8.25	10.55
162	SHAMBHUNATH HALDER	Durgapada	D. Bijonagar	do	9332347968	Nil	22°10′38″N	88°27′46″ E	Yes	20:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.47	8.25	14.79
163	BIBHUTI BHUSAN NASKAR	Satish	Kalinagar	do	9775342911	Nil	22°10′47″N	88°27′38″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.13	8.25	10.67
164	GITA NASKAR	Panchanan	D. Bijonagar	do	9775342911	Nil	22°10′46″N	88°27′35″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.38	8.25	13.70
165	ANUPAM HALDERWE	Shyamal	D. Bijonagar	do	-	Nil	22°10′52″N	88°27′56″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.47	8.25	14.79
166	BASANTI SAMANTA	Lt. Sukumar	Nimpith	do	-	Nil	22°9′39″N	88°28′26″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.20	8.25	11.52
167	AMIN UDDIN PAIK	Jiyad	Nimpith	do	8609565887	Nil	22°9′35″N	88°28′21″ E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.15	8.25	10.91
168	ICHA PAIK	Miyaraddi	Nimpith	do	-	Nil	22°9′37″N	88°28′24″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.57	8.25	16.00
169	NUNNERHAR LASKAR	Alauddin	Nimpith	do	-	Nil	22°9′42″N	88°28′30″ E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.38	8.25	13.70
170	SUSANTA SAMANTA	Lt. Sukumar	Nimpith	do	-	Nil	22°9′33″N	88°28′29″ E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.26	8.25	12.24

171	NAJIMA LASKAR	Jakaria	Paschim Raghunathpur	do	7478911584	Nil	22°9′20″N	88°28′17″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.18	8.25	11.27
172	JAYNAL MALYA	Enath	Paschim Raghunathpur	do	-	Nil	22°9′32″N	88°28′25″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.51	8.25	15.27
173	JAYNAL MALLA	Imam	Paschim Raghunathpur	do	8335065637	Nil	22°9′32″N	88°28′25″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.17	8.25	11.15
174	HAJARAT GAZI	Alem	Paschim Raghunathpur	do	-	Nil	22°9′35″N	88°28′26″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.24	8.25	12.00
175	MURSHID ALI HALDER	Yakub	Paschim Raghunathpur	do	8597685103	Nil	22°9′33″N	88°28′26″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.39	8.25	13.82
176	IRAN MISTRI	Abubakkar	Hanarbati	do	-	Nil	22°9′23″N	88°28′19″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.22	8.25	11.76
177	MAFIJ MISTRI	Abubakkar	Hanarbati	do	-	Nil	22°9′23″N	88°28′19″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.36	8.25	13.45
178	MANO LASKAR	Taleb	Paschim Raghunathpur	do	8001973651	Nil	22°9′30″N	88°28′19″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.60	8.25	16.36
179	JAHANGIR LASKAR	Jabedali	Paschim Raghunathpur	do	-	Nil	22°9′34″N	88°28′25″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	8.93	8.25	8.24
180	SIRAJUL MALYA	Anjit	Paschim Raghunathpur	do	7076680712	Nil	22°9′36″N	88°28′29″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.24	8.25	12.00
181	ABUL HOSSAIN PAIK	Jiyad	Paschim Raghunathpur	do	-	Nil	22°9′23″N	88°28′18″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.31	8.25	12.85
182	SAJINA PAIK	Mahimuddin	Paschim Raghunathpur	do	-	Nil	22°9′36″N	88°28′31″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.36	8.25	13.45
183	KHATINA BIBI KHAN	Abul Hassain	Hanarbati	do	-	Nil	22°9′21″N	88°28′16″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.26	8.25	12.24
184	NASIR PAIK	Mohatali	Paschim Raghunathpur	do	-	Nil	22°9′37″N	88°28′40″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.17	8.25	11.15
185	TAHER ALI PAIK	Jiyad	Paschim Raghunathpur	do	7076345727	Nil	22°9′42″N	88°28′34″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.36	8.25	13.45
186	JALAL UDDIN PAIK	Morali	Paschim Raghunathpur	do	-	Nil	22°9′41″N	88°28′37″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	8.95	8.25	8.48
187	ANCHARHALDER	Ayub	Paschim Raghunathpur	do	-	Nil	22°9′38″N	88°28′29″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.20	8.25	11.52
188	RASIDA LASKAR	Eusuf	Paschim Raghunathpur	do	9749968439	Nil	22°9′40″N	88°28′37″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.33	8.25	13.09
189	MOJAFFAR MISTRI	Abubakkar	Hanarbati	do	7551041774	Nil	22°9′23″N	88°28′18″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	8.90	8.25	7.88
190	AFTAR PAIK	Miyaruddin	Paschim Raghunathpur	do	9735209885	Nil	22°9′36″N	88°28′25″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.24	8.25	12.00
191	ALAUDDIN PAIK	Morali	Paschim Raghunathpur	do	8001973651	Nil	22°9′36″N	88°28′31″E	Yes	30:50:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.37	8.25	13.58
192	MOYUDDIN LASKAR	Mawla	Paschim Raghunathpur	do	7890074611	Nil	22°9′35″N	88°28′29″E	Yes	30:40:20 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	8.97	8.25	8.73
193	AYZADDIN HALDER	Airup Ali	Paschim Raghunathpur	do	7699536713	Nil	22°9′36″N	88°28′31″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.28	8.25	12.48
194	DIN MAHAMMAD	Ayub	Paschim Raghunathpur	do	-	Nil	22°9′31″N	88°28′28″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.36	8.25	13.45
195	AIRUB HALDER	Saheb	Paschim Raghunathpur	do	-	Nil	22°9′32″N	88°28′24″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.40	8.25	13.94
196	JAKIR PAIK	Mohar Ali	Paschim Raghunathpur	do	-	Nil	22°9′34″N	88°28′27″E	Yes	30:40:30 kg N:P_2O_5:K_2O/ha	do	do	2.33	-	-	9.26	8.25	12.24
19	ABUKALM	Abdul Fajal	Paschim	do	9732897112	Nil	22°9′35″N	88°28′30″	Yes	30:40:30 kg	do	do	2.33	-	-	9.34	8.2	13.21

7	SARDAR		Raghunathpur					E		$N:P_2O_5:K_2O$/ha							5	
198	ABDUR RAHIM SARDAR	Abukalam	Paschim Raghunathpur	do	7679345071	Nil	22°9′38″N	88°28′36″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.40	8.25	13.94
199	AFATB LASKAR	Hanif	Paschim Raghunathpur	do	8017108856	Nil	22°9′25″N	88°28′17″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.08	8.25	10.06
200	ARFAT MOLLA	Kader	Paschim Raghunathpur	do	-	Nil	22°9′39″N	88°28′35″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.25	8.25	12.12
201	MOHIUDDIN SARDAR	Kalmaddi	Hanarbati	do	-	Nil	22°9′20″N	88°28′16″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.47	8.25	14.79
202	ABDULLA SARDAR	Arjed	Hanarbati	do	-	Nil	22°9′22″N	88°28′17″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.34	8.25	13.21
203	ABUTAHER SARDAR	Karim	Hanarbati	do	-	Nil	22°9′19″N	88°28′15″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.52	8.25	15.39
204	ABUL HOSSAIN SARDAR	Jachhimuddin	Hanarbati	do	-	Nil	22°9′23″N	88°28′19″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.29	8.25	12.61
205	AMINUDDIN PAIK	Mahar Ali	Paschim Raghunathpur	do	-	Nil	22°9′34″N	88°28′32″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.13	8.25	10.67
206	MAMIN ALI KHAN	Hajarat	Hanarbati	do	-	Nil	22°9′20″N	88°28′18″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.63	8.25	16.73
207	SIRAJUL SEKH	Hakimbari	Hanarbati	do	-	Nil	22°9′22″N	88°28′23″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.11	8.25	10.42
208	ABDULLA PAIK	Jerali	Paschim Raghunathpur	do	-	Nil	22°9′37″N	88°28′34″ E	Yes	30:40:30 kg $N:P_2O_5:K_2O$/ha	do	do	1.17	-	-	9.32	8.25	12.97

3.3 Achievements on Training (Including the sponsored and FLD training programmes):

A) Farmers and farm women (on campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
I. Crop Production													
Weed Management													
Resource Conservation Technologies													
Cropping Systems													
Crop Diversification													
Integrated Farming	1	11	9	20	4	10	14	2	1	3	17	20	37
Water management													
Seed production													
Nursery management													
Integrated Crop Management													
Fodder production													
Production of organic inputs													
Others, (cultivation of crops)													
II. Horticulture													
a) Vegetable Crops													
Integrated nutrient management	1	0	0	0	0	26	26	0	0	0	0	26	26
Water management													
Enterprise development													
Skill development													
Yield increment													
Production of low volume and high value crops	1	11	0	11	5	0	5	0	0	0	16	0	16
Off-season vegetables	1	0	0	0	47	3	50	0	0	0	47	3	50
Nursery raising													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)													
Others, if any (Cultivation of Vegetable)													
Training and Pruning													
Crop Diversification	2	2	0	2	64	39	103	0	0	0	66	39	105
Backyard Farming	1	0	0	0	0	50	50	0	0	0	0	50	50
b) Fruits													
Layout and Management of Orchards													
Cultivation of Fruit													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Management of young plants/orchards													
Rejuvenation of old orchards													
Export potential fruits													
Micro irrigation systems of orchards													
Plant propagation techniques													
Others, if any(INM)													
c) Ornamental Plants													
Nursery Management													
Management of potted plants													
Export potential of ornamental plants													
Propagation techniques of Ornamental Plants													
Others, if any													
d) Plantation crops													
Production and Management technology													
Processing and value addition													
Others, if any													
e) Tuber crops													
Production and Management technology													
Processing and value addition													
Others, if any													
f) Spices													
Production and Management technology													
Processing and value addition													
Others, if any													
g) Medicinal and Aromatic Plants													
Nursery management													
Production and management technology													
Post harvest technology and value addition													
Others, if any													
III. Soil Health and Fertility Management													
Soil fertility management													
Soil and Water Conservation													
Integrated Nutrient Management													
Production and use of organic inputs													
Management of Problematic soils													
Micro nutrient deficiency in crops													
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
IV. Livestock Production and Management													
Dairy Management													
Poultry Management													
Piggery Management													
Rabbit Management													
Disease Management													
Feed management													
Production of quality animal products													
Others, if any Goat farming													
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening													
Design and development of low/minimum cost diet													
Designing and development for high nutrient efficiency diet													
Minimization of nutrient loss in processing													
Gender mainstreaming through SHGs													
Storage loss minimization techniques													
Enterprise development													
Value addition													
Income generation activities for empowerment of rural Women	1	0	12	12	0	16	16	0	0	0	0	28	28
Location specific drudgery reduction technologies													
Rural Crafts													
Capacity building													
Women and child care													
Others, if any													
VI.Agril. Engineering													
Installation and maintenance of micro irrigation systems													
Use of Plastics in farming practices													
Production of small tools and implements													
Repair and maintenance of farm machinery and implements													
Small scale processing and value addition													
Post Harvest Technology													
Others, if any													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
VII. Plant Protection													
Integrated Pest Management	2	0	0	0	19	3	22	0	0	0	19	3	22
Integrated Disease Management													
Bio-control of pests and diseases													
Production of bio control agents and bio pesticides													
Organic Farming	4	18	30	48	35	12	47	0	0	0	53	42	95
Beekeeping	1	7	8	15	0	0	0	0	0	0	7	8	15
VIII. Fisheries													
Integrated fish farming													
Carp breeding and hatchery management													
Carp fry and fingerling rearing													
Composite fish culture & fish disease	3	59	0	59	83	0	83	11	0	11	153	0	153
Fish feed preparation & its application to fish pond, like nursery, rearing & stocking pond													
Hatchery management and culture of freshwater prawn													
Breeding and culture of ornamental fishes													
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming													
Edible oyster farming													
Pearl culture													
Fish processing and value addition													
Others, if any													
IX. Production of Inputs at site													
Seed Production													
Planting material production													
Bio-agents production													
Bio-pesticides production													
Bio-fertilizer production													
Vermi-compost production													
Organic manures production													
Production of fry and fingerlings													
Production of Bee-colonies and wax sheets													
Small tools and implements													
Production of livestock feed and fodder													
Production of Fish feed													
Others, if any													
X. Capacity Building and Group Dynamics													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Leadership development													
Group dynamics													
Formation and Management of SHGs													
Mobilization of social capital													
Entrepreneurial development of farmers/youths													
WTO and IPR issues													
Others, if any													
XI Agro-forestry													
Production technologies													
Nursery management													
Integrated Farming Systems													
XII. Others (Pl. Specify)													
TOTAL	**18**	**108**	**59**	**167**	**257**	**159**	**416**	**13**	**1**	**14**	**378**	**219**	**597**

B) Rural Youth (on campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Mushroom Production													
Bee-keeping													
Integrated farming													
Seed production													
Production of organic inputs	1	8	1	9	11	0	11	0	0	0	19	1	20
Integrated Farming													
Planting material production													
Vermi-culture													
Sericulture													
Protected cultivation of vegetable crops													
Commercial fruit production													
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops	1	14	0	14	6	0	6	0	0	0	20	0	20
Training and pruning of orchards													
Value addition													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Production of quality animal products													
Dairying													
Sheep and goat rearing													
Quail farming													
Piggery													
Rabbit farming													
Poultry production													
Ornamental fisheries													
Enterprise development													
Para vets													
Para extension workers													
Composite fish culture													
Freshwater prawn culture													
Shrimp farming													
Pearl culture													
Cold water fisheries													
Fish harvest and processing technology													
Fry and fingerling rearing													
Small scale processing													
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts													
TOTAL	**2**	**22**	**1**	**23**	**17**	**0**	**17**	**0**	**0**	**0**	**39**	**1**	**40**

C) Extension Personnel (on campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Productivity enhancement in field crops													
Value addition													
Integrated Pest Management													
Integrated Nutrient management													
Rejuvenation of old orchards													
Protected cultivation technology													
Formation and Management of SHGs													
Group Dynamics and farmers organization													
Information networking among farmers													
Capacity building for ICT application													
Care and maintenance of farm machinery and implements													
WTO and IPR issues													
Management in farm animals													
Livestock feed and fodder production													
Household food security													
Women and Child care													
Low cost and nutrient efficient diet designing													
Production and use of organic inputs													
Gender mainstreaming through SHGs													
Beekeeping (under RAWE)	1	0	1	1	0	0	0	0	0	0	0	1	1
TOTAL	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

D) Farmers and farm women (off campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
I. Crop Production													
Weed Management													
Resource Conservation Technologies													
Cropping Systems													
Crop Diversification	1	9	0	9	17	3	20	1	0	1	27	3	30
Integrated Farming													
Water management													
Seed production	1	0	0	0	50	0	50	0	0	0	50	0	50
Nursery management													
Integrated Crop Management	5	126	19	145	127	47	174	0	0	0	253	66	319
Fodder production													
Production of organic inputs													
Others, (cultivation of crops)													
II. Horticulture													
a) Vegetable Crops													
Integrated nutrient management													
Water management													
Enterprise development													
Skill development													
Yield increment													
Production of low volume and high value crops													
Off-season vegetables	1	14	4	18	50	12	62	0	0	0	64	16	80
Nursery raising													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)													
Crop management	2	36	0	36	47	0	47	0	0	0	83	0	83
Exotic vegetables	1	21	0	21	17	0	17	0	0	0	38	0	38
b) Fruits													
Layout and Management of Orchards													
Cultivation of Fruit	1	22	10	32	45	16	61	0	0	0	67	26	93
Management of young plants/orchards													
Rejuvenation of old orchards													
Export potential fruits													
Micro irrigation systems of orchards													
Plant propagation techniques													
Others, if any(INM)													
c) Ornamental Plants													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Nursery Management													
Management of potted plants													
Export potential of ornamental plants													
Propagation techniques of Ornamental Plants													
Others, if any													
d) Plantation crops													
Production and Management technology													
Processing and value addition													
Others, if any													
e) Tuber crops													
Production and Management technology													
Processing and value addition													
Others, if any													
f) Spices													
Production and Management technology													
Processing and value addition													
Others, if any													
g) Medicinal and Aromatic Plants													
Nursery management													
Production and management technology													
Post harvest technology and value addition													
Others, if any													
III. Soil Health and Fertility Management													
Soil fertility management													
Soil and Water Conservation													
Integrated Nutrient Management	1	9	0	9	17	3	20	1	0	1	27	3	30
Production and use of organic inputs													
Management of Problematic soils													
Micro nutrient deficiency in crops													
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any													
IV. Livestock Production and Management													
Dairy Management													
Poultry Management													
Piggery Management													
Rabbit Management													
Disease Management													
Feed management													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Production of quality animal products													
Others, if any Goat farming													
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening													
Design and development of low/minimum cost diet													
Designing and development for high nutrient efficiency diet													
Minimization of nutrient loss in processing													
Gender mainstreaming through SHGs													
Storage loss minimization techniques													
Enterprise development													
Value addition													
Income generation activities for empowerment of rural Women													
Location specific drudgery reduction technologies													
Rural Crafts													
Capacity building													
Women and child care													
Others, if any													
VI.Agril. Engineering													
Installation and maintenance of micro irrigation systems													
Use of Plastics in farming practices													
Production of small tools and implements													
Repair and maintenance of farm machinery and implements													
Small scale processing and value addition													
Post Harvest Technology													
Others, if any													
VII. Plant Protection													
Integrated Pest Management	4	24	10	34	77	18	95	0	0	0	101	28	129
Integrated Disease Management	1	0	0	0	30	4	34	0	0	0	30	4	34
Bio-control of pests and diseases													
Production of bio control agents and bio pesticides													
Beekeeping	1	23	2	25	0	0	0	0	0	0	23	2	25
VIII. Fisheries													
Integrated fish farming													
Carp breeding and hatchery management													
Carp fry and fingerling rearing													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Composite fish culture & fish disease	1	25	0	25	2	0	2	0	0	0	27	0	27
Fish feed preparation & its application to fish pond, like nursery, rearing & stocking pond													
Hatchery management and culture of freshwater prawn													
Breeding and culture of ornamental fishes													
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming													
Edible oyster farming													
Pearl culture													
Fish processing and value addition													
Others, if any													
IX. Production of Inputs at site													
Seed Production													
Planting material production													
Bio-agents production													
Bio-pesticides production													
Bio-fertilizer production													
Vermi-compost production													
Organic manures production													
Production of fry and fingerlings													
Production of Bee-colonies and wax sheets													
Small tools and implements													
Production of livestock feed and fodder													
Production of Fish feed													
Others, if any													
X. Capacity Building and Group Dynamics													
Leadership development													
Group dynamics													
Formation and Management of SHGs													
Mobilization of social capital													
Entrepreneurial development of farmers/youths													
WTO and IPR issues													
Others, if any													
XI Agro-forestry													
Production technologies													
Nursery management													
Integrated Farming Systems													
XII. Others (Pl. Specify)													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
TOTAL	**20**	**309**	**45**	**354**	**479**	**103**	**582**	**2**	**0**	**2**	**790**	**148**	**938**

E) RURAL YOUTH (Off Campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Mushroom Production													
Bee-keeping													
Integrated farming													
Seed production													
Production of organic inputs													
Integrated Farming													
Planting material production													
Vermi-culture													
Sericulture													
Protected cultivation of vegetable crops													
Commercial fruit production													
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops													
Training and pruning of orchards													
Value addition													
Production of quality animal products													
Dairying													
Sheep and goat rearing													
Quail farming													
Piggery													
Rabbit farming													
Poultry production													
Ornamental fisheries													
Para vets													
Para extension workers													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Composite fish culture	1	20	0	20	2	0	2	0	0	0	22	0	22
Freshwater prawn culture													
Shrimp farming													
Pearl culture													
Cold water fisheries													
Fish harvest and processing technology													
Fry and fingerling rearing													
Small scale processing													
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts													
Fish breeding	1	6	0	6	11	0	11	0	0	0	17	0	17
TOTAL	**2**	**26**	**0**	**26**	**13**	**0**	**13**	**0**	**0**	**0**	**39**	**0**	**39**

F) Extension Personnel (Off Campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Productivity enhancement in field crops													
Integrated Pest Management													
Integrated Nutrient management													
Rejuvenation of old orchards													
Protected cultivation technology													
Formation and Management of SHGs													
Group Dynamics and farmers organization													
Information networking among farmers													
Capacity building for ICT application													
Care and maintenance of farm machinery and implements													
WTO and IPR issues													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Management in farm animals													
Livestock feed and fodder production													
Household food security													
Women and Child care													
Low cost and nutrient efficient diet designing													
Production and use of organic inputs													
Gender mainstreaming through SHGs													
Crop intensification													
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

G) Consolidated table (ON and OFF Campus)

i. Farmers & Farm Women

Thematic Area	**No. of Courses**	**No. of Participants**									**Grand Total**		
		Other			**SC**			**ST**					
		M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
I. Crop Production													
Weed Management													
Resource Conservation Technologies													
Cropping Systems													
Crop Diversification	1	9	0	9	17	3	20	1	0	1	27	3	30
Integrated Farming	1	11	9	20	4	10	14	2	1	3	17	20	37
Water management													
Seed production	1	0	0	0	50	0	50	0	0	0	50	0	50
Nursery management													
Integrated Crop Management	5	126	19	145	127	47	174	0	0	0	253	66	319
Fodder production													
Production of organic inputs													
Others, (cultivation of crops)													
TOTAL													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
II. Horticulture													
a) Vegetable Crops													
Integrated nutrient management	1	0	0	0	0	26	26	0	0	0	0	26	26
Water management													
Enterprise development													
Skill development													
Yield increment													
Production of low volume and high value crops	1	11	0	11	5	0	5	0	0	0	16	0	16
Off-season vegetables	2	14	4	18	97	15	112	0	0	0	111	19	130
Nursery raising													
Exotic vegetables like Broccoli													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)													
Crop diversification	2	2	0	2	64	39	103	0	0	0	66	39	105
Backyard farming	1	0	0	0	0	50	50	0	0	0	0	50	50
Crop management	2	36	0	36	47	0	47	0	0	0	83	0	83
Exotic vegetables	1	21	0	21	17	0	17	0	0	0	38	0	38
TOTAL													
b) Fruits													
Training and Pruning													
Layout and Management of Orchards													
Cultivation of Fruit	1	22	10	32	45	16	61	0	0	0	67	26	93
Management of young plants/orchards													
Rejuvenation of old orchards													
Export potential fruits													
Micro irrigation systems of orchards													
Plant propagation techniques													
Others, if any(INM)													
TOTAL													
c) Ornamental Plants													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Nursery Management													
Management of potted plants													
Export potential of ornamental plants													
Propagation techniques of Ornamental Plants													
Others, if any													
TOTAL													
d) Plantation crops													
Production and Management technology													
Processing and value addition													
Others, if any													
TOTAL													
e) Tuber crops													
Production and Management technology													
Processing and value addition													
Others, if any													
TOTAL													
f) Spices													
Production and Management technology													
Processing and value addition													
Others, if any													
TOTAL													
g) Medicinal and Aromatic Plants													
Nursery management													
Production and management technology													
Post harvest technology and value addition													
Others, if any													
TOTAL													
III. Soil Health and Fertility Management													
Soil fertility management													
Soil and Water Conservation													
Integrated Nutrient Management	1	9	0	9	17	3	20	1	0	1	27	3	30

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Production and use of organic inputs													
Management of Problematic soils													
Micro nutrient deficiency in crops													
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any													
TOTAL													
IV. Livestock Production and Management													
Dairy Management													
Poultry Management													
Piggery Management													
Rabbit Management													
Disease Management													
Feed management													
Production of quality animal products													
Others, if any (Goat farming)													
TOTAL													
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening													
Design and development of low/minimum cost diet													
Designing and development for high nutrient efficiency diet													
Minimization of nutrient loss in processing													
Gender mainstreaming through SHGs													
Storage loss minimization techniques													
Enterprise development													
Value addition													
Income generation activities for empowerment of rural Women	1	0	12	12	0	16	16	0	0	0	0	28	28
Location specific drudgery reduction technologies													
Rural Crafts													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Capacity building													
Women and child care													
Others, if any													
TOTAL													
VI.Agril. Engineering													
Installation and maintenance of micro irrigation systems													
Use of Plastics in farming practices													
Production of small tools and implements													
Repair and maintenance of farm machinery and implements													
Small scale processing and value addition													
Post Harvest Technology													
Others, if any													
TOTAL													
VII. Plant Protection													
Integrated Pest Management	6	24	10	34	96	21	117	0	0	0	120	31	151
Integrated Disease Management	1	0	0	0	30	4	34	0	0	0	30	4	34
Bio-control of pests and diseases													
Production of bio control agents and bio pesticides													
Beekeeping	2	30	10	40	0	0	0	0	0	0	30	10	40
Organic Farming	4	18	30	48	35	12	47	0	0	0	53	42	95
TOTAL													
VIII. Fisheries													
Integrated fish farming													
Carp breeding and hatchery management													
Carp fry and fingerling rearing													
Composite fish culture & fish disease	4	84	0	84	85	0	85	11	0	11	180	0	180
Fish feed preparation & its application to fish pond, like nursery, rearing & stocking pond													
Hatchery management and culture of freshwater prawn													
Breeding and culture of ornamental fishes													
Portable plastic carp hatchery													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Pen culture of fish and prawn													
Shrimp farming													
Edible oyster farming													
Pearl culture													
Fish processing and value addition													
Others, if any													
TOTAL													
IX. Production of Inputs at site													
Seed Production													
Planting material production													
Bio-agents production													
Bio-pesticides production													
Bio-fertilizer production													
Vermi-compost production													
Organic manures production													
Production of fry and fingerlings													
Production of Bee-colonies and wax sheets													
Small tools and implements													
Production of livestock feed and fodder													
Production of Fish feed													
Others, if any													
TOTAL													
X. Capacity Building and Group Dynamics													
Leadership development													
Group dynamics													
Formation and Management of SHGs													
Mobilization of social capital													
Entrepreneurial development of farmers/youths													
WTO and IPR issues													
Others, if any													
TOTAL													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
XI Agro-forestry													
Production technologies													
Nursery management													
Integrated Farming Systems													
TOTAL													
XII. Others (Pl. specify)													
TOTAL	**38**	**417**	**104**	**521**	**736**	**262**	**998**	**15**	**1**	**16**	**1168**	**367**	**1535**

ii. RURAL YOUTH (On and Off Campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Mushroom Production													
Bee-keeping													
Integrated farming													
Seed production													
Production of organic inputs	1	8	1	9	11	0	11	0	0	0	19	1	20
Planting material production													
Vermi-culture													
Sericulture													
Protected cultivation of vegetable crops													
Commercial fruit production													
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops	1	14	0	14	6	0	6	0	0	0	20	0	20
Training and pruning of orchards													
Value addition													
Production of quality animal products													
Dairying													
Sheep and goat rearing													

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Quail farming													
Piggery													
Rabbit farming													
Poultry production													
Ornamental fisheries													
Para vets													
Para extension workers													
Composite fish culture	1	20	0	20	2	0	2	0	0	0	22	0	22
Freshwater prawn culture													
Shrimp farming													
Pearl culture													
Cold water fisheries													
Fish harvest and processing technology													
Fry and fingerling rearing													
Small scale processing													
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts													
Enterprise development													
Fish breeding	1	6	0	6	11	0	11	0	0	0	17	0	17
TOTAL	**4**	**48**	**1**	**49**	**30**	**0**	**30**	**0**	**0**	**0**	**78**	**1**	**79**

iii. Extension Personnel (On and Off Campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST					
		M	F	T	M	F	T	M	F	T	M	F	T
Productivity enhancement in field crops													
Integrated Pest Management													
Integrated Nutrient management													
Rejuvenation of old orchards													
Value addition													
Protected cultivation technology													

Formation and Management of SHGs													
Group Dynamics and farmers organization													
Information networking among farmers													
Capacity building for ICT application													
Care and maintenance of farm machinery and implements													
WTO and IPR issues													
Management in farm animals													
Livestock feed and fodder production													
Household food security													
Women and Child care													
Low cost and nutrient efficient diet designing													
Production and use of organic inputs													
Gender mainstreaming through SHGs													
Crop intensification													
Beekeeping (for RAWE)	1	0	1	1	0	0	0	0	0	0	0	1	1
TOTAL	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**

Please furnish the details of training programmes as Annexure in the proforma given below

Discipline	**Clientele**	**Title of the training programme**	**Duration in days**	**Venue (Off / On Campus)**	**Number of participants**			**Number of SC/ST**		
					Male	**Female**	**Total**	**Male**	**Female**	**Total**
Agronomy	F & FW	Scientific management of Agri. & Horticultural crops	4	ON	11	9	20	6	11	17
Agronomy	F & FW	Seed treatment with Bio-fertilizer, use of micro nutrients and disease & pest management in Greengram	1	OFF	36	5	41	1	1	2
Agronomy	F & FW	Seed treatment with Bio-fertilizer, use of micro nutrients and disease & pest management in Lentil	1	OFF	5	2	7	3	1	4
Agronomy	F & FW	Seed treatment with Bio-fertilizer, use of micro nutrients and disease & pest management in Greengram	1	OFF	71	3	74	52	1	53
Agronomy	F & FW	Technique of kharif paddy seed production	1	OFF	0	0	0	50	0	50
Agronomy	F & FW	Seed treatment and nutrient management on HYV kharif paddy	1	OFF	10	1	11	61	8	69
Agronomy	F & FW	Suitable cropping patteren in Land Development Plots	1	OFF	9	0	9	18	3	21

Agronomy	F & FW	Use of organic and inorganic fertilizers in oilseed crops	1	OFF	9	0	9	18	3	21
Agronomy	F & FW	Seed treatment with Bio-fertilizer, use of micro nutrients and disease & pest management in Lentil	1	OFF	4	8	12	36	0	36
Horticulture	F & FW	Modification of sex expression in cucurbits through ethylene application	1	Off	49	0	49	28	0	28
Horticulture	F & FW	Cultivation of non traditional fruits for better profitability	1	Off	67	26	93	45	16	61
Horticulture	F & FW	Improved methods of early summer Vegetable cultivation	1	Off	64	16	80	50	12	62
Horticulture	F & FW	Improved Method of Hi-Value Vegetable Cultivation	5	On	16	0	16	5	0	5
Horticulture	F & FW	Crop management in summer vegetables	1	Off	34	0	34	19	0	19
Horticulture	F & FW	Self-employment generation through cultivation of non-conventional vegetables	1	Off	38	0	38	17	0	17
Horticulture	F & FW	Improved methods of early winter Vegetable cultivation	4	On	0	50	50	0	50	50
Horticulture	F & FW	Scientific methods of diversified rabi vegetable cultivation	4	On	27	28	55	25	28	53
Horticulture	F & FW	Scientific methods of early summer vegetable cultivation	4	On	47	3	50	47	3	50
Horticulture	F & FW	Scientific methods of diversified farming in backyard land	4	On	39	11	50	39	11	50
Horticulture	F & FW	Nutrient management in vegetable farming with special emphasis to micronutrient fertilizer and foliar feeding	4	On	0	26	26	0	26	26
Horticulture	RY	ASCI Training on Coconut Grower	15	On	20	0	20	6	0	6
Plant Protection	F & FW	Integrated pest management for Rabi crops	1	Off	22	3	25	22	3	25
Plant Protection	F & FW	Backyard beekeeping with Indian Honey Bees to enhance overall farm income in Sundarbans	4	On	7	8	15	0	0	0
Plant Protection	F & FW	Biointensive pest management practices for Rabi crops	1	Off	24	10	34	0	0	0

Plant Protection	F & FW	Importance and conservation of pollinators for better crop production in climate change prospective	1	Off	23	2	25	0	0	0
Plant Protection	F & FW	Organic Farming	4	On	25	0	25	25	0	25
Plant Protection	F & FW	Organic Farming	4	On	0	26	26	0	8	8
Plant Protection	EP	RAWE (Apiculture)	21	On	0	1	1	0	0	0
Plant Protection	F & FW	Organic Farming (22)	4	On	22	0	22	4	0	4
Plant Protection	F & FW	Organic Farming (22)	4	On	6	16	22	6	4	10
Plant Protection	RY	Vermicompost Producer	25	On	19	1	20	11	0	11
Plant Protection	F & FW	Integrated pest and disease management in Kharif vegetables	1	Off	28	14	42	28	14	42
Plant Protection	F & FW	Integrated pest and disease management in Kharif paddy	1	On	10	0	10	10	0	10
Plant Protection	F & FW	Management of bacterial wilt in Tomato through biointensive integrated disease management	1	Off	30	4	34	30	4	34
Plant Protection	F & FW	Management of rugose spiraling whitefly in the changing climate scenario	1	Off	27	1	28	27	1	28
Plant Protection	F & FW	Preparation and use of Pheromone traps in pest monitoring and IPM	1	On	9	3	12	9	3	12
Fishery	F & FW	Integrated Fish Farming	4	On	53	0	53	6	0	6
Fishery	F & FW	Freshwater fish & prawn farming	4	On	50	0	50	43	0	43
Fishery	F & FW	Freshwater fish & prawn farming	4	On	50	0	50	45	0	45
Fishery	RY	Induced breeding of carps in eco hatchery	1	OFF	17	0	17	11	0	11
Fishery	F & FW	Sustainable integrated farming system	1	OFF	27	0	27	2	0	2
Fishery	RY	Freshwater fish culture	1	OFF	22	0	22	2	0	2
Home Science	F & FW	Income generation avenues for SHG members through integrated farming		On	0	28	28	0	16	16

H) Vocational training programmes for Rural Youth

Details of training programmes for Rural Youth

Crop / Enterprise	Identified Thrust Area	Training title*	Duration (days)	No. of Participants			Self-employed after training			Number of persons employed else where
				Male	Female	Total	Type of units	Number of units	Number of persons employed	
Vermicompost	Organic farming	Vermicompost Producer	25	19	1	20	Commercial / own use	6	10	-
Coconut	Nursery raising	ASCI Training on Coconut Grower	25	20	0	20	Own orchard	8	5	-
Fish	Fish breeding	Induced breeding of carps in eco hatchery	1	17	0	17	Breeding pool, hatching pool, spawn collection chamber	1	3	-
Fish	Composite fish culture	Freshwater fish culture	1	22	0	22	Small freshwater ponds	10	10	-

Sponsored Training Programmes

Sl. No	Title	Thematic area	Month	Duration (days)	Client	No. of courses	No. of Participants										Sponsoring Agency
					PF/RY/EF		Male			Female			Total				
							Others	SC	ST	Others	SC	ST	Others	SC	ST	Total	
1	Scientific management of Agri. & Horticultural crops	Integrated Farming	January	4	PF	1	11	4	2	9	10	1	20	14	3	37	ATMA
2	Income generation avenues for SHG members through integrated farming	Income generation activities for empowerment of rural Women	January	5	PF	1	0	0	0	12	16	0	12	16	0	28	ATMA
3	Backyard beekeeping with Indian Honey Bees to enhance overall farm income in Sundarbans	Beekeeping	January	4	PF	1	7	0	0	8	0	0	15	0	0	15	ATMA
4	Organic Farming	Organic Farming	February	4	PF	2	0	25	0	18	8	0	18	33	0	51	DFO, Suth 24 Pgs
5	Integrated Fish Farming	Composite fish culture	February	4	PF	1	47	6	0	0	0	0	47	6	0	53	WWF India
6	Organic Farming	Organic Farming	March	4	PF	2	18	10	0	12	4	0	30	14	0	44	DFO, Suth 24 Pgs
7	Freshwater fish & prawn farming	Composite fish culture	March	4	PF	2	12	77	11	0	0	0	12	77	11	100	SCSP-IIPR Kanpur

3.4. A. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	No. of activities	Farmers				Extension Officials			Total		
		M	F	T	SC/ ST (% of total)	Male	Female	Total	Male	Female	Total
Field Day	3	76	22	98	95.9	-	-	-	76	22	98
State Oilseed Kisan Mela	1	1813	680	2493	38.6	45	12	57	1858	692	2500
Kisan Ghosthi	-	-	-	-	-	-	-	-	-	-	-
Exhibition	1	1638	770	2408	34	29	13	42	1667	783	2450
Film Show	21	417	221	638	39	-	-	-	417	221	638
Method Demonstrations	3	123	69	192	33.5	-	-	-	123	69	192
Farmers Seminar	2	323	249	572	27.8	13	5	18	336	254	590
Workshop	5	215	118	333	30.3	30	8	38	245	126	371
Group meetings (Online)	2	22	7	29	27.2	-	-	-	22	7	29
Lectures delivered as resource persons	12	232	145	377	31.6	27	9	36	259	154	413
Advisory Services	147517	145320	1981	147301	43.1	197	19	216	145517	2000	147517
Scientific visit to farmers field	66	696	386	1082	37.5	-	-	-	696	386	1082
Farmers visit to KVK	582	774	107	881	32.7	-	-	-	774	107	881
Diagnostic visits	176	188	17	205	39.6	-	-	-	188	17	205
Exposure visits	12	217	171	388	34.2	13	5	18	230	176	406
Ex-trainees Sammelan	-	-	-	-	-	-	-	-	-	-	-
Soil health Camp	1	53	22	75	29.3	-	-	-	53	22	75
Animal Health Camp	1317	46781	14333	61114	32.8	627	267	894	47408	14600	62008
Agri mobile clinic	-	-	-	-	-	-	-	-	-	-	-
Soil test campaigns	-	-	-	-	-	-	-	-	-	-	-
Farm Science Club Conveners meet	-	-	-	-	-	-	-	-	-	-	-
Self Help Group Conveners meetings	-	-	-	-	-	-	-	-	-	-	-
Mahila Mandals Conveners meetings	-	-	-	-	-	-	-	-	-	-	-
Celebration of important days (specify)											
International Women's Day 2020	1	-	87	87	34.5	-	16	16	-	103	103
World Bee Day	1	32	14	46	37.2	-	-	-	32	14	46
National Fish Farmer's Day	1	31	2	33	26.4	2	-	2	32	2	35
92nd Foundation Day	1	24	2	26	23.0	-	-	-	24	2	26
National Nutrition Week 2020	1	11	27	38	37.6	-	4	4	11	31	42
Poshan maah 2020	5	67	37	104	24.3	10	3	13	77	40	117

World Cotton Day 2020	1	35	3	38	20.8	-	-	-	35	3	38
Mahila Kisan Diwas 2020	1	-	30	30	35.4	-	-	-	-	30	30
World Food Day 2020	1	-	37	37	39.2	-	3	3	-	40	40
Vigilance Awareness Week 2020	2	38	5	43	36.0	4	1	5	42	6	48
World Fisheries Day	1	27	1	28	25.8	2	-	2	29	1	30
Constitution Day	1	25	6	31	34.7	2	1	3	27	7	34
World Soil Day 2020	1	20	9	29	20.2	4	2	6	24	11	35
Sankalp Se Siddhi	-	-	-	-	-	-	-	-	-	-	-
Swatchta Hi Sewa	-	-	-	-	-	-	-	-	-	-	-
Any Other (Specify)											
Audio conference	10	246	56	302	41.7	15	7	22	261	63	324
Video conference	2	35	7	42	35.6	18	9	27	53	16	69
Webinar	4	376	96	472	32.3	4	2	6	380	98	478
Webcasting	2	135	23	158	27.4	6	1	7	141	24	165
Internet Radio Station	2	100	27	127	29.5	-	-	-	100	27	127
Online Meeting	2	-	-	-	-	22	7	29	22	7	29
Total	**149761**	**200090**	**19767**	**219857**	**1168.7**	**1070**	**394**	**1464**	**201159**	**20161**	**221271**

B. Other Extension activities

Nature of Extension Activity	No. of activities
Newspaper coverage	1
Radio talks	5
TV talks	1
Popular articles	
Extension Literature	
Other, if any Research paper Books Technical reports Electronic Publication (CD/DVD etc)	 4 2 214 1

3.5 a. Production and supply of Technological products

Village seed

Crop	Variety	Quantity of seed (q)	Value (Rs)	No. of farmers involved in village seed production	Number of farmers to whom seed provided			
					SC	ST	Other	Total
Fish (Spawn)	Indian major carps	37.2 million	184800.00	6	12	2	18	32
Catfish (Fry)	Magur & singhi	0.2517 million	755100.00	16	28	4	93	125
Greengram	IPM-205-7 (Virat)	33.30	233100	40	349	22	461	832
	IPM-02-14	4.50	31500	7	46	8	58	112
Total								

KVK farm

Crop	Variety	Quantity of seed (q)	Value (Rs)	Number of farmers to whom seed provided			
				SC	ST	Other	Total
Paddy	Sabita(NC-492)-Certified	15.0	52500	37	4	107	148
	Varshadhan-Certified	16.0	56000	56	3	103	162
	Sampriti (IET-21987)-Certified	3.50	12250	10	-	27	37
	DRR-46-Certified	1.75	6125	8	-	15	23
	DRR-42-Certified	3.0	10500	11	2	25	38
	Sabita(NC-492)-Foundation	5.50	22000	20	3	38	61
	Sujala-Foundation	9.50	38000	36	5	62	103
	CR-1009 Sub-I-Foundation	3.50	14000	12	-	26	38
	DRR-46-Foundation	2.20	8800	9	1	12	22
	Ciherang Sub-I-Foundation	6.50	26000	22	4	39	65
	Luna Suvarna-Foundation	5.50	22000	18	-	37	55
	Rajdeep-Foundation	11.0	44000	40	5	65	110
	MTU-1121	3.50	14000	28	3	11	42
	Gosaba-5	2.30	9200	11	-	14	25
Greengram	IPM-02-14-Foundation	0.45	3600	4	-	7	11
	IPM-205-7 (Virat) Certified	1.75	12250	15	2	28	45
Blackgram	PU-31-Foundation	1.42	11360	20	-	15	35
Grand Total							

Production of planting materials by the KVKs

Crop	Variety	No. of planting materials	Value (Rs)	Number of farmers to whom planting material provided			
				SC	ST	Other	Total
Vegetable seedlings							
Brinjal	Muktakeshi	2700	2700	21	-	62	83
Chilli	Tejaswini	26000	31200	11	-	27	38
Tomato	Deb	47130	70695	12	-	16	28
Cauliflower	Dawn	4200	4200	7	1	16	24
Cabbage	Rare ball	4500	4500	4	-	9	13
Knolkhol	Taki Winner	3490	3490	3	-	2	5
Beet	Crimson Globe	5200	5200	-	-	-	-
Fruits							
Guava	Allahabad Safeda	1500	30000		-		
Mango	Amrapali	4481	268860	32	-	47	79
Sapota	Cricket Ball	10630	637800	68	-	41	109
Lime	Pati	1014	20280	12	-	4	16
Papaya	Ranchi	455	2275	6	-	11	17
Dragon fruit	Pink fleshed	8200	246000				
Ornamental plants	Dahlia, Chrysanthemum	13580	40740	240	-	470	710
Medicinal and Aromatic (Betel vine cutting)	Mitha Pata	11200	112000	2	0	3	5
Plantation (Coconut)	East Coast tall	3080	154000	51	-	69	120
Elephant yams							
Fodder crop saplings							
Forest Species							
Total		**147360**	**1633940**	**469**	**1**	**777**	**1247**

Production of Bio- product by KVKs

Bio -product	Name of the Bio - product	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers
Bio- fertilisers		**A&N Islands**				**Odisha**				**West bengal**				**Total**			
Non Symbiotic Azotobacter																	
Vermi compost											**32790**	**327900**	**-**				
Azolla																	
Earth worms																	
Compost																	
Worms																	
Blue green algae																	
NADEP																	
Azatobactor																	
Azospirillum																	
PSB																	
Rhizobium																	
Azolla culture																	
Total																	
Bio- pestisides																	
Neem extract																	
Tobacco extract																	
Trichodermaviride																	
Panchagavya																	
Trichoderma																	
Total																	
Worms																	
Eudriluseuniae																	
Total																	
Earth worm																	
Eiseniafoetida																	
Earth worm																	
Total																	

Bio -product	Name of the Bio - product	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	Quantity (no.)	Quantity (Kg.)	Value (Rs.)	Number of farmers
Bio- fertilisers		**A&N Islands**				**Odisha**				**West bengal**				**Total**			
Bio- fungicides																	
Trichoderma harzianum										**-**	**2500**	**-**	**900**				
Pseudomonas fluorescens										**-**	**3180**	**-**	**940**				
Total																	
others																	
Vermiculture																	
Mushroom-spawn																	
Cuelure																	
Mineral mixture																	
Cow dung(dry)																	
Cow dung(wet)																	
Total																	
Grand Total																	

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers benefitted			
				SC	ST	Other	Total
Dairy animals							
Cows							
Buffaloes							
Calves	Jersey Cross, Halstein Friesian	4	16,000.00	0	0	0	0
Others (Pl. specify)							
Small ruminants							
Sheep							
Goat	Black Bengal	8 nos	12,000.00	0	0	0	0
Other, please specify							
Poultry							
Broilers	Vanraja, Kabari	850 nos.	26,000.00	113	15	314	442
Layers	RIR	3500 nos	1,30,000.00	12	0	38	50
Duals (broiler and layer)							
Japanese Quail							
Turkey							
Emu							
Ducks	Khanki campbel, Pekin duck	1600 nos.	48,000.00	58	2	82	142
Others (Pl. specify)							
Piggery							
Piglet							
Hog							
Others (Pl. specify)							
Fisheries							
Indian carp							
Exotic carp							
Mixed carp	Katla, Rohu, Mrigal, Bata, Kalbasu, Silver carp, Grass carp, Java punti, Common carp	235 kg	4,58,654.00				
Fish fingerlings	-	-					
Spawn	IMC Spawn	8.4 million pcs					
Others (Pl. specify)	IMC Fry	2.4 lakh pcs					
	Asian catfish –Singhi	57,600 pcs					
	Asian catfish –Desi magur	92,200 pcs					
Grand Total			**6,90,654.00**				

3.5. b. Seed Hub Programme-*"Creation of Seed Hubs for Increasing Indigenous Production of Pulses in India"*

1. i) Name of Seed Hub Centre:: RAKVK Oilseed Seed Hub (Sunflower & Sesame)
Ramkrishna Ashram KVK, Nimpith, South 24 Parganas
West Bengal - 743338

Name of Nodal Officer :	Dr. Chandan Mondal
Address :	Subject Matter Specialist, Ramkrishna Ashram KVK, Nimpith, South 24 Parganas, West Bengal - 743338
e-mail :	nimpithkvk@redifmail.com, nimpithkvk1979@gmail.com
Phone No. : Mobile :	03218-226002 9239443957

ii) Details of Quality Seed Production

Season	Crop	Variety	Production (q)			
			Target	Area sown (ha)	Production	Category of Seed (F/S, C/S)
Kharif 2020	-	-	-	-	-	-
Rabi 2020-21	Sesame	Suprava (CUMS-17)	500	7	2 q	F/S
	Sunflower	LFSH-171	1250	65	5 Q	Certified F1 Hybrid
Summer/Spring 2021	-	-	-	-	-	-

iii) Financial Progress

Fund received		Expenditure (Rs. in lakhs)		Unspent balance (Rs. in lakhs)	Remarks
		Infrastructure	Revolving fund		
2018-19	100.00	50.00	2.311	47.852	Infrastructure work completed
2019-20	10.00	-	20.42	63.252	

iv) Infrastructure Development

Item	Progress
Seed processing unit	A Seed processing unit has been established with facility of Fine Cleaner (Cap. 4 TPH) and Gravity Separator.
Seed storage structure	A seed godown of 1200 sqft has been constructed with fully insulated wall.

3.6. (A) Literature Developed/Published (with full title, author & reference)

Item	Title	Author's name	Number	Circulation
Research paper	Survey of Major Diseases in Mitha Pata variety of Betelvine (*Piper betle* L.) under Coastal Saline Zone of West Bengal, India	P. K. Garain	*Int.J.Curr.Microbiol.App.Sci* (2020) 9(3): 2490-2498	-
	Influence of edaphological factors on *Sclerotium rolfsii* Sacc., causing collar rot of betelvine (*Piper betle* L.) under coastal saline zone of West Bengal	P. K. Garain	*Plant Archives* Vol. 20 Supplement 1, 2020 pp. 1943-1946	-
	Effect of Some Plant Growth Regulators on Growth, Yield and Quality of Broccoli (Brassica oleracea L. var. italica Plenck)	Vandana Mandingbam, Chandan Kumar Mandal and Sayan Jana	Int.J.Curr. Microbiol. App.Sci. 2020.9(11): 2437-2442	
	Studies on Genetic Variability in Chilli (Capsicum annuum L.) in the Sundarban Region of West Bengal	Chandan Kumar Mondal, Pinaki Acharyya and Pranab Hazra.	Int.J.Curr. Microbiol. App.Sci. 2020. 9(12): 1938-1943.	
Seminar/conference/ symposia papers	"Innovative Method of Betel Vine Cultivation: A Climate Smart Approach" in the 2nd National Conference Of Society Of Krishi Vigyan On "Advances In Sustainable Agriculture" (web-conference), 26-28 September, 2020.	Chandan Kumar Mondal and Kartick Chandra Bhowmik		
Books	Krishi Vigyan o Samprasaran Porisheba – 2nd edision	P. K. Garain	5000	1000
	'Stresses of Cucurbits: Current Status and Management' published by Springer Nature	Bholanath Mondal, Chandan Kumar Mondal and Palash Mondal		
Bulletins				
News letter				
Popular Articles				
Book Chapter				
Extension Pamphlets/ literature				
Technical reports	Annual report and Action Plan of AICRP (HB & P)	P. K. Garain	2	
	Annual report and action plan for NICRA	P. K. Garain	16	
	Weekly report for DAESI diploma course	P. K. Garain	96	
Electronic Publication (CD/DVD etc)	Bongheri: The journey of a climate smart village	P. K. Garain & P. Chatterjee		
TOTAL				

N.B.: Please enclose a copy of each. In case of literature prepared in local language please indicate the title in English

(B) Details of HRD programmes undergone by KVK personnel:

Sl. No.	Name of programme	Name of course	Name of KVK personnel and designation	Date and Duration	Organized by
1	RE Meeting	RE Meeting	Dr. C. K. Mondal, SMS	07.01.2020	ICAR-ATARI, Kolkata
2	JSW Steel		Dr. C. K. Mondal, SMS	16.01.2020	Paradwip
3	Review Meeting	ARYA Review Meeting	P. Chatterjee, In-charge, Sr. Scientist & Head	24.01.2020	ICAR-ATARI, Kolkata
4	Workshop	ARYA review workshop	P. K. Garain& P. Chatterjee	24 – 30 January 2020	ICAR-ATARI, Kolkata
5	Workshop	NINFET workshop on Fibres	P. K. Garain	6 February, 2020	NINFET, Tollyganj, Kolkata
6	National Conference	National KVK Conference	Dr. C. K. Mondal, SMS	28.02.2020	ICAR-NASC Complex, New Delhi
7	HRD Programme	HRD program for KVK personel	Dr. C. K. Mondal, SMS	22.03.2021	BCKV, Nadia
8	Webinar	Webinar on migrant labourers	P. K. Garain	30 May, 2020	ATARI Jabalpur
9	Online Workshop	Consultation workshop for after-Amphan situation of Sundarban blocks	P. K. Garain	4 June, 2020	SAMETI, Narendrapur
10	Online Workshop	AICRP (HB&P) annual review meet	P. K. Garain	22 July, 2020	AICRP (HB & P), IARI, New Delhi
11	Online Workshop	FAD workshop by BIS	P. K. Garain	4 July, 2020	BIS, New Delhi
12	Online Workshop	DAESI workshop by SAMETI	P. K. Garain	6 July, 2020	SAMETI, Narendrapur
13	Online Workshop	NICRA workshop	P. K. Garain	17 August, 2020	ATARI, Kolkata
14	Online Workshop	DAESI workshop by SAMETI	P. K. Garain	28 July, 2020	SAMETI, Narendrapur
15	Online Workshop	NICRA workshop	P. K. Garain	24 November, 2020	ATARI, Kolkata

3.7. Success stories/Case studies, if any (two or three pages write-up on 1-2best case(s) with suitable action photographs)

Name of farmer	Barnali Dhara
Address	Vill+PO: Aswathatala, Block: Kulpi, Dist: South 24 Parganas, Pin: 743374, West Bengal
Contact details (Phone, mobile, email Id)	9547793747
Landholding (in ha.)	1.73ha
Name and description of the farm/ enterprise	Integrated Farming and Agri Input Enterprise
Economic impact	Present Annual income Field crop Rs. 43800/- | Vegetables Rs. 86800/- | Dairy Rs. 62000/- | Fishery Rs. 135000/- | Total net income Rs. 326800/- Mrs. Dhara is a licensed agri input dealer. She extends scientific agro-advisory to the farmers. She earns approximately Rs. 1.5 lakh per annum from this enterprise. She has completed a Diploma course (DAESI) at KVK Nimpith, affiliated by MANAGE, Hyderabad in 2018-19.
Social impact	Mrs. Dhara also provides farm advisory on soil testing, seed treatment and judicious application of agro-chemicals
Environmental impact	After the cyclonic storm Umphan, she has facilitated and advocated to the Chakunda Beria Krishi Samabaya Samity in the area to extend their hand for financial support to the affected group members. 31 beneficiaries have been benefited by the Samity for re-construction of betel vine boroz, poultry rearing and cultivation of new crops in the field

Horizontal/ Vertical spread	1. She acts as a dynamic leader to motivate , mobilize and empower farm women by forming Self Help Groups 2. With her solo leadership she has formed 35 fully operational SHGs 3. She facilitates, builds linkages and advocates for the SHGs 4. SHGs are benefited by the different Government and Non-Government agencies under her leadership 5. She, as an input dealer, has contact with more than 500 farmers in and around her village with whom she shares her knowledge regarding GAP and other related information accrued from different extension and Research Institutes and Social Media. 6. She takes initiative involving farmers and farm women in research conducted by extension and research Institutes. 7. She provides farm advisory on soil testing, seed treatment and judicious application of agro-chemicals in her Gram Panchayat

Name of farmer	Smt. Basanti Naskar
Address	Vill: Bongheri, PO: Kaikhali Ashram, Block : Kultali, South 24 Parganas, West Bengal
Contact details (Phone, mobile, email Id)	6294316937
Landholding (in ha.)	0.08 ha
Name and description of the farm/ enterprise	Roof Top Rain Water Harvesting in Bongheri to support Asian Catfish Hatchery and Cooking
Economic impact	It was perfectly suitable for breeding and larval rearing. The storage tank was filled for three times during the rainy season that supported 3 breeding cycles of Asian catfish and Koi. She produced 12000 Asian catfish and 12000 Koi fry and earned a net profit of Rs. 32050/- in four months in the 1st year. Next year, the net profit will go up to Rs. 60550/- considering the recurring cost and depreciation value of the assets created. Even in the period of Lockdown she earned upto Rs 52100/- by selling fingerlings to the other farmers of the nearby villages through local market.

Social impact	She motivated many others to cultivate Asian Catfish using roof top rain water. This fish fetches better market price (Rs. 600/ kg) than common carps and tolerant to biotic and abiotic stresses, arising due to occasional brackish water ingress during cyclonic disturbances.
Environmental impact	The most astounding impact was witnessed by the farm women of the village who reaped the benefit of the potable rain water for the cooking. The catfish breeding season was over in September. But the last harvest of rainwater was sufficient to support the kitchen up to the end of December, by 20 litres per day. So from the start of the rainy season and upto December, i.e., for six months period, the women members had to travel less to outside for collecting water for cooking and it reduces drudgery for collecting water
Horizontal/ Vertical spread	All the villagers are encouraged and highly motivated to harvest rooftop rainwater as they could observe the reduction of drudgery of the villagers who have already adopted this technology. Many farmers are also encouraged to take up catfish breeding with the fresh harvested rainwater

Name of farmer	Mrs. Gouri Dey
Address	Vill: Debipur , PO: Block : Kultali, South 24 Parganas, West Bengal
Contact details (Phone, mobile, email Id)	6296944833
Landholding (in ha.)	Nil
Name and description of the farm/ enterprise	Animal Husbandry and Women Empowerment
Economic impact	Her present stock is 100 pairs of birds and monthly income is around Rs. 5000/- to 6000/-. The dietary diversity of the family changed from 3.5 to 5.6. She could able to repair her damaged thatched house and has become psychologically empowered to be the decision maker of the family regarding all household issues. She meets all her requirement with her own hard earn money
Social impact	She has facilitated to tie up with RAKVK, Nimpith for the training of group members for 15 days on ornamental bird rearing in the year of 2017.

	New members are also rearing high value ornamental birds like cockatiel and java etc. The income of each member varies from Rs. 5000/- to 9000/- per month They are selling the off springs in the local market. She has mobilized other women to start this venture with her guidance and tied up with RAKVK, Nimpith, Green College, RDW, SRAN, Samabaya Samity Debipur for technical and financial support.
Environmental impact	Under her leadership all the group members are motivated and trained by her initially, to start the ornamental bird rearing and they stopped to going deep forest area violating environmental law which affects the eco system.
Horizontal/ Vertical spread	**Now her village is known as ornamental bird village** Observing the success of the empowered women, the farm women of neighbouring villages namely Paschim Debipur, Nakuler More, Maipith, Dakshin Colony, Bhasa have taken this venture for income generation and to improve their quality of life.

3.8. Give details of innovative methodology or innovative technology of Transfer of Technology developed and used during the year

Sl. No.	Name/ Title of the technology	Name/ Details of the Innovator(s)	Brief details of the Innovative Technology

3.9. a. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development
(in detail with suitable photographs)

Sl. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK

b. Give details of organic farming practiced by the farmer

Sl. No.	Crop / Enterprise	Area (ha)/ No. covered	Production	No. of farmers involved	Market available (Y/N)

3.10. Indicate the specific training need analysis tools/methodology followed by KVKs

Sl. No.	Brief details of the tool/ methodology followed	Purpose for which the tool was followed
1	Identification of courses for farmers/farm women, Rural Youth, In-service personnel through participatory discussion during rapport building	Specific training need analysis of different cliental group
2	Training modules are developed by conducting PRA in villages	Problem analysis of different activities and prioritization
3	Semi-structured interview	Assessment of existing knowledge and practice and training need analysis
4	Need analysis and designing of training module through filling the printed proforma “Initial Evaluation” of KVK.	To fulfill the demand and to meetup the requirement of the trainees
5	Impact analysis of training and future planning for refresher courses through filling the printed proforma “Final Evaluation” of KVK.	To mitigate the gap, if any, during training period and also to plan for future off campus/on campus refresher courses for the same trainees.
6	Online training through Googly Meet and Zoom	Due to COVID situation Online training programme was organized to prevent contamination and spread of COVID -19
7	Webinar	Do

3.11. a. Details of equipment available in Soil and Water Testing Laboratory

Sl. No	Name of the Equipment	Qty.
1	Atomic Absorption Spectrophotometer PerkinElmer PinAAcleTM 900F AAS	1
2	Kel Plus Automatic Nitrogen Estimation System (Model KES 06L R; Model Distyl EM VA)	1
3	Digital UV-Vis Spectrophotometer (‘Systronics’ Make; Model 117)	1
4	Colorimeter (‘Systronics’ Make; Model 115)	1
5	Name of the Equipment	Qty.
6	Turbidity Meter (‘Systronics’ Make; Model 135)	1
7	Digital Bottle Top Burrete (‘Brand’ Make)	1
8	Micro Controller Based Digital Flame Photometer (‘Systronics’ Make; Model 128)	2
9	Digital pH Meter (‘Systronics’ Make; Model 335)	22
10	Digital Conductivity Meter (‘Systronics’ Make; Model 307)	2
11	Bouyoucos Hydrometer (ASTM 152H; Range 5 – 60 g/lt)	1
12	Brass Sieve (2mm; 1mm; 0.5mm; 0.25mm; 0.1mm; 0.02mm)	1 Set
13	Double Distillation Unit (Borosil; All Glass; Horizontal; Output 2.5 lt/hr)	1
14	Single Distillation Unit (All Glass) (3Kw; 5 lt/ha)	1
15	Refrigerator (LG make, Model – GL Q2925DSRBOSZEBN)	1
16	Digital Balance (‘K. Roy’ Make; Model DJ – 302A)	1
17	Digital Balance (Portable Type)	3
18	Hot Air oven (3’ x 2’ x 2’)	1
19	Water Bath (6 hole)	1
20	Hot plate	1
21	Mechanical Shaker (2 hp motor, 3’ x 2’ x 2’)	1
22	Mechanical Shaker (0.5 hp motor, 1’ x 1’)	1
23	Muffel Furnace (2’ x 1.5’ x 1.5’)	1
24	HP Desktop Computer MODEL 48PA; Cor-i 3 7th Gen, 4gb RAM/1 TB HDD/ 18.5” Monitor/ Key Board/ Mouse/ (3 yrs on-site warranty)	1
25	HP Laser Printer All in One A3 size/ Print/Scan/Copy (Model: MFP M435NW) (1 yr on-site warranty)	1
26	Kjeldahl digestion and distillation unit	1

3.11.b. Details of samples analyzed so far :

Number of soil samples analyzed			No. of Farmers	No. of Villages	Amount realized (in Rs.)
Through mini soil testing kit/labs	Through soil testing laboratory	Total			
-	2073	2073	2045	84	237000

3.11.c. Details on World Soil Day

Sl. No.	Activity	No. of Participants	No. of VIPs	Name (s) of VIP(s)	Number of Soil Health Cards distributed	No. of farmers benefitted
1	Soil Health Cards distribution	29	3	Sri Biswanaith Das (MLA, Joynagar Assembly) Shri Subrata Acharya, Chief Manager (Agril. Services), IFFCO Shri Arun Kumar Mondal, WBSSCL - District Manager, South 24 Parganas	29	29
2	Webinar	45	-	-	-	-

3.12. Activities of rain water harvesting structure and micro irrigation system

No of training programme	No of demonstrations	No of plant material produced	Visit by the farmers	Visit by the officials
5	11		150	7

3.13. Technology week celebration

Type of activities	No. of activities	Number of participants	Related crop/ livestock technology
Seminar, Exhibition, flower & vegetable show, Technology display stalls, Cattle show	1	2450	Rainwater harvesting, oilseed cultivation, ornamental fish, vegetables

3.14. RAWE/ FETprogramme - is KVK involved? (Y/N)

No of student trained	No of days stayed
1	21

ARS trainees trained	No of days stayed

3.15. List of VIP visitors (Minister/ MP/MLA/DM/VC/ZilaSabhadipati/Other Head of Organization/Foreigners)

Date	Name of the person	Purpose of visit
05.12.2020	Sri Biswanaith Das (MLA, Joynagar Assembly)	Soil Health Day observation
03.02.2020	Sri Biswanaith Das (MLA, Joynagar Assembly)	Agriculture Exhibition cum Technology Week
05.02.2020	Sri Subrata Mondal, CGM, NABARD, Kolkata	Agriculture Exhibition cum Technology Week
10.02.2020	Sri Sampad Ranjan Patra, Director of Agriculture & EO Secretary, GoWB	State Oilseed Kishan Mela
10.02.2020	Dr. P. Ulaganathan, District Magistrate, Sotuh 24 Parganas	State Oilseed Kishan Mela
10.02.2020	Sri Sunil Kumar Gupta, Additional Chief Secretary, Agriculture Dept., GoWB.	State Oilseed Kishan Mela
10.02.2020	Dr. Pradip Kr. Mazumdar, Advisor to H'CM, GoWB	State Oilseed Kishan Mela
10.02.2020	Dr. Anupam Barik, Addl. Commissioner (Oilseeds), GOI	State Oilseed Kishan Mela
10.02.2020	Smt. Shubha Thakur, Jt. Secretary (Oilseeds), GOI	State Oilseed Kishan Mela
10.02.2020	Dr.Sudhakar Babu, Principal Scientist, IIOR, Hyderabad	State Oilseed Kishan Mela

4. IMPACT

4.1. Impact of KVK activities (Not to be restricted for reporting period).

Name of specific technology/ skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Pekin duck farming	101	95	3500-4000 (200 broiler birds)	21000.00 (in 200 batch strength)
Vanaraja farming	87	85	3500-4000 (200 broiler birds)	13000.00/(in 200 batch strength)
Use of soft music 30 minutes before milking	310	90	24000/year/3 dairy unit	28000/year/3 dairy unit
Hydroponics fodder cultivation	25	29	1800/month (4+1 unit size goatery)	1950/month (4+1 unit size goatery)
Artificial Insemination in goat	30	20	1800/month (4+1 unit size goatery)	2050/month (4 unit size goatery)
Use of specific antibiotic in mastitis after C/S test	180	75	24000/year/3 dairy unit	31000/year/3 dairy unit
Regular screening of faecal samples	570	82	24000/year/3 dairy unit	32500/year/3 dairy unit
Asian catfish breeding	315	64	-	Rs. 3.20 lakh per 700 square ft. (40 glass trays) per year
Mixed fish and prawn farming	583	62	Rs. 262500 per ha per yr	Rs. 450000 per ha per yr
Hi-tech betel vine boroz	398	85	Rs. 80,000/- per 500 sqm uint	Rs. 1,10,000 per 500 sqm unit
On-farm mass production of *Trichoderma* and its use in betelvine cultivation	610	63	Rs. 2.87 lakh per ha	Rs. 3.66 lakh per ha
Use of bio-control agents in bacterial wilt management in tomato and bitter gourd	300	65	Rs. 2.66 lakh per ha	Rs. 4.53 lakh per ha
Scientific management practices in Beekeeping	220	55	Rs. 2.64 lakh per yr	Rs. 3.10 lakh per yr
Diploma in Agricultural Extension Services for Input Dealers	400	35	Rs. 5.6 lakh per yr	Rs. 6.8 lakh per yr

NB: Should be based on actual study, questionnaire/group discussion etc. with ex-participants

4.2. Cases of large scale adoption

(Please furnish detailed information for each case)

Horizontal spread of technologies	
Technology	**Horizontal spread**
Use of biocontrol agents (*Trichoderma harzianum, Pseudomonas fluorescens, Metarhizium anisopliae*) in pest disease management	2200 farmers
On-farm mass production of microbial bio-pesticide	400 farmers
Cotton cultivation in rice fallows	600 ha (3500 farmers)
Land shaping	1500 ha (6000 farmers)
Aerial vegetable cultivation	500 ha (14800 farmers)
Improved method of Greengram cultivation a. YVMV resistant variety IPM-02-14, IPM-205-7 (Virat) b. Seed treatment with Rhizobium, PSB, KSB, *Trichoderma harzianum and Pseudomonas fluorescens* c. Judicious use of environment friendly pesticides d. Micronutrient application (B and Mo)	350 ha (550 farmers)
Sunflower cultivation under irrigated situation during Rabi-Summer	900 ha (6700 farmers)
Hi-tech betelvine boroj a. GI structure b. Shade net boroj	1200 farmers
Breeding and larval rearing of Asian catfish (Desi Magur and Singhi)	155 rural youths
Mixed fish and prawn farming a. Stocking density of 11250 carp fingerling, 3750 prawn and 3750 catfish fingerling per ha b. Release of 23 different species of fishes	400 farmers
Scientific Beekeeping	2000 beekeepers

4.3. Details of impact analysis of KVK activities carried out during the reporting period: NA

Sl. No.	Brief details of technology	Impact of the technology in subjective terms	Impact of the technology in objective terms

4.4. Details of innovations recorded by the KVK

Thematic area	
Name of the Innovation	
Details of Innovator	
Back ground of innovation	
Technology details	
Practical utility of innovation	

4.5. Details of entrepreneurship development

Name of the enterprise	Catfish Hatchery (ICAR-ARYA)
Name & complete address of the entrepreneur	Dipankar Bera C/o – Gaur Hari Bera Vill – Dakshin Gabindapur, Block – Pathar Pratima, Dist- South 24 Parganas.
Role of KVK with quantitative data support:	The KVK provided the following inputs: i. 1 (180 sqft of 20 glass aquaria) ii. 1pc. Water reservoir (capacity 1,000 litre) iii. 1 HP electric pump iv. Accessories: 25 pc. Key, 25 pc. T joint and 25 pc. I joint. v. 2 Cans brine Shrimp vi. 2 pc. Hormone
Timeline of the entrepreneurship development	2019-2020
Technical Components of the Enterprise	One unit of catfish hatchery was established in the year 2019-20 Continuous technical backstopping and hands on training was provided to the beneficiary as well as her family members for his successful establishment in the new venture. Received skill development training on breeding and cultivation of catfish.
Status of entrepreneur before and after the enterprise	Before ARYA activity, average income: 4000-5000.00 per month Present income: 16000.00 per month Fry production: 65,000 nos., Fingerlings: 5000 nos. Yearly Income : Fry : 1,95,000.00 Fingerlings : 25,000.00 Gross income : 2,20,000.00 ~~Net income: 1,90,000.00~~
Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	Fully operational and the catfish fry and fingerlings are in great demand in the locality
Horizontal spread of enterprise	Many rural youths in South 24 Parganas are encouraged to take up the activity as an avenue for livelihood generation.

Name of the enterprise	Horticulture nursery (ICAR-ARYA)
Name & complete address of the entrepreneur	Sanjib Halder C/O – Subal Chandra Halder Vill - Basudebpur, P.o- Parya Chali, Block - Falta Dist- South 24 Parganas.
Role of KVK with quantitative data support:	The KVK provided the following inputs: i. 50 % Shade Net ii. 1 HP Electric Pump iii. Delivery Pipe iv. Poly Packets v. Tool sets – (Grafting Knife, Secateurs, saw, sprayer, spade, Plant hormone)
Timeline of the entrepreneurship development	2019-2020
Technical Components of the Enterprise	One Horticulture Nursery was established in 400 sqm of land in the year 2019 Continuous technical backstopping and training was provided to the beneficiary as well as her family members for his successful establishment in the new venture. Received skill development training on Management of Horticulture Nursery.
Status of entrepreneur before and after the enterprise	Before ARYA activity, average income:7000.00 per month Present income: 15000.00 per month Vegetable seedlings : 1,38,300 no., Flower seedlings 23,750 no, Fruit saplings: 1500 First year income: Rs. 1,85,000/- (Manure, fertilizer, pesticides, seed, laborer etc.)
Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	Fully operational and is popular among the vegetable and fruit growers for procuring seedlings and saplings
Horizontal spread of enterprise	Presently 2 new youths have approached KVK for getting this types of support for establishing a nursery by their own

4.6. Any other initiative taken by the KVK

4.6.1. Diploma in Agricultural Extension Services for Input Dealers (DAESI)

The public extension system of our country alone is not enough to make our farming community keep appraised on the daily developments in Agriculture. Hence the Ministry of Agriculture, Govt. of India in its National Agricultural Policy and in the 10th Plan approach paper emphasized on the need for reforms in agricultural extension of our country through increased participation of Multi Agency Extension Services like Multi-National Companies, corporate bodies, Voluntary Organizations, Farmers' Associations and Input Dealers, etc.

The large network of about 3 lakh Agri-Input Dealers in our Country are acting as an important source of Farm Information to the Farming Community. However, nearly 90% of them do not have any formal Agriculttural Education. They act basically as businessmen without realizing the implication of "laws" relating to handling of Agricultural Inputs. If they are transformed into para-professionals by providing adequate agricultural knowledge, they can be very useful in Market led Extension.

Considering all these facts and opportunities, the National Institute of Agricultural Extension Management (MANAGE), Hyderabad, has designed Diploma in Agricultural Extension Services for Input Dealers (DAESI), a One Year Diploma Course which imparts formal agricultural education to the dealers so that they can couple their business with extension services.

Objectives of the Course:

- To orient on location specific crop production technologies of broad-based agriculture and specific package of practices related to field problems
- To build capacity of Input dealers in efficient handling of Inputs
- To impart knowledge about the laws governing regulation of Agricultural Inputs
- To make Input Dealers an effective source of farm information at the village level (one stop shop) for the farmers/farm women

Initiative taken by RAKVK, Nimpith:

This course has been popularized since 2004-05, but mostly in South Indian States like, Andhra Pradesh, Tamilnadu, etc. It is the first time that any States from the Eastern part of the country has thought off such programme in 2013-14. Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith and SAMETI, Narendrapur are the two pioneer Institutes that have taken initiative to implement this diploma course for the benefit of the farmers of South 24 Parganas District. 40 Agricultural Input Dealers from different Blocks of the District are selected for each batch per center.

Year	Enrolled candidates	Passed out candidates
2013-14 (1 batch)	40	40
2014-15 (1 batch)	41	41
2015-16 (1 batch)	40	40
2016-17 (2 batches)	80	80
2017-18 (2 batches)	80	80
2018-19 (1 batch)	40	40
2019-20 (2 batches)	80	Pursuing

Methodology:

The course is completed in 48 weekly classroom interactions as well as practical and field visits. The weekly classes are mutually agreed upon to be conducted on every Thursday (market holiday for most Dealers). Supply of study

materials, use of multi-media instructional devices and engagement of experts as Resource Persons and continuous monitoring as well as final evaluation are followed upon.

Content and coverage:

Along with the basic Agricultural knowledge and practices, more emphasis is given on development of problem-solving apprehensive capabilities among the trainees. This will help the farmers to be mostly benefitted from the course. The overall course is divided into some modules like (a) Local Agro-ecological situation, (b) Soil and integrated nutrient management, (c) Crop production technology, (d) Integrated Pest and Disease Management, (e) Water management, (f) Extension management and (g) Agriculture related Laws.

Till date seven batches (281 dealers) have been completed at KVK Nimpith center. The 2019-20 sessions has been started with 80 candidates (ninth and tenth batch) from December 2019. More and more numbers of Agri-Input Dealers are enquiring for enrollment for the next session. Hope this novel approach will bring enormous changes in the mind of the Input Dealers towards a sustainable production system with minimal exploitation of ecological resources.

4.6.2. Establishment of Beekeeping demonstration unit

Honeybees not only help us by providing highly nutritive 'honey' but also play an important role in increasing the productivity of crops through pollination. Almost one third of the arable crops in the world are pollinated by bees and non-bee pollinators. Considering pollination services for the farm crops and production of honey as bi-product, a beekeeping demonstration unit was set up in the KVK Instructional farm.

Three species of Bees are being maintained in the farm:

- *Apis cerana* (Indian honeybee),
- *Apis mellifera* (Italian honeybee) and
- *Tetragonula irridipennis* (Stingless Bee)

To increase honey production, bee loving crops and flowering plants are also introduced into the cropping system of the farm.

A small, manual honey filtering unit has also been set up for pasteurization, filtering and bottling of the farm produced honey.

Indian honey beehive

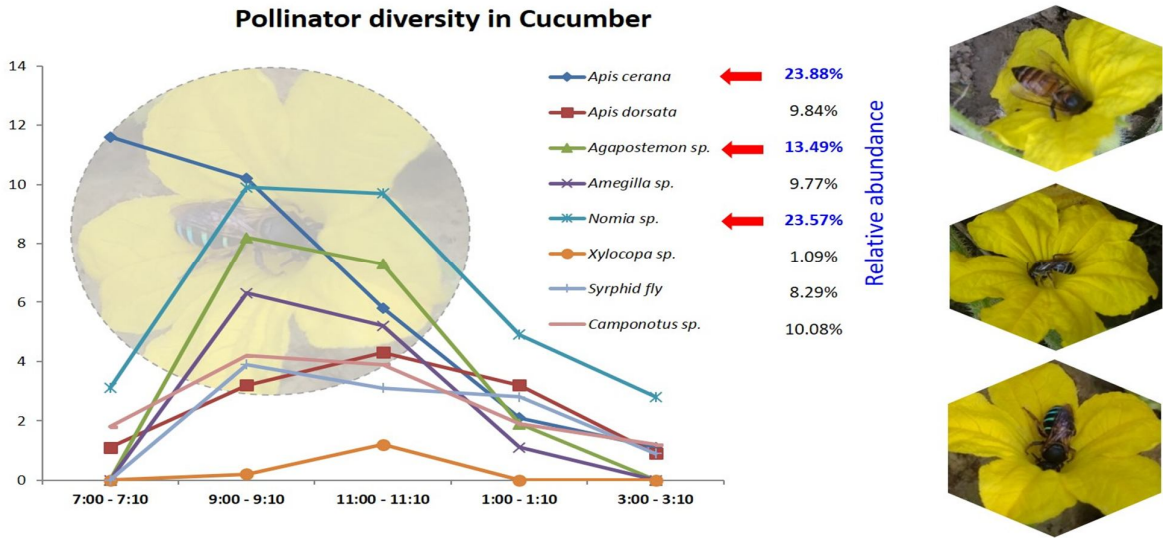
Stinglessbeehive

European honey beehive

4.6.3. Celebration of World Honey Bee Day 2020

A Webinar was organized on celebration of "World Bee Day" by AICRP (HB & P), RAKVK, Nimpith centre on 20 May 2020 (9:00 – 10:00 a.m.), through Google Meet, for the beekeepers, farmers and agri-input dealers. The programme emphasised on "Save the Bee" initiative, where all the stakeholders were reminded about their responsibilities in promotion of scientific beekeeping, conservation of natural pollinators and to follow good agricultural practices. The programme was scheduled with power point and video presentation on the importance of bees and beekeeping and interaction with the participants. 20 beekeepers, 15 farmers, 4 scientists participated in the webinar.

4.6.4. Effect of Pollination Service on yield of Cucumber



Cucumber is a monoecious, obligate cross-pollinated crop in the Cucurbitaceae family. To achieve successful pollination and fruit production, insects are required to transfer pollen from male flowers to female flowers. One of the effective traditional practices has been the hand pollination by the farmers to improve the fruit setting in this crop.

A comparative study was undertaken between pollination exclusion, open pollination and bee pollination with Indian Honeybee (*Apis cerana)* and Stingless Bee (*Tetragonula irridipennis).*

40 mesh nylon cages of 3m x 3m x 2m size were erected for studying the effect of pollination exclusion and bee pollination. A 4-frame hive of*Apis cerana*and a stingless bee hive (*Tetragonula irridipennis*), having 500 bees, were placed separately inside two cages. For each treatment three replications were maintained. Pollinator diversity in open field was recorded. Pollination service was engaged 30 days after sowing when the plants attained 5% flowering stage.

Yield Parameter	**Pollination exclusion**	**Open pollination**	***Apis cerana* Pollination**	**Stingless bee pollination**
Fruit set (%)	16.9	58.4	64.2	65.4
Fruit weight (g)	102.5	131.3	143.3	141.8
Fruit length (cm)	10.3	17.6	18.05	18.2
Percentage of misshapen fruits with incomplete pollination	80%	8.2%	3.1%	3.7%
Yield (t/ha)	1.5	7.33	7.78	8.11
Increase over PE or OP	-		+419%	+441%

Result of pollination service study:

- The results show that there is minimum fruit set when all insect pollinators are excluded.
- Insect pollination is almost obligatory in achieving cucumber production. The studies demonstrate the absolute necessity of insect pollination on fruit set as there was 70-80% percent abortion of all pistillate flowers that received no entomophilous visitation when they were covered with nylon net cages.
- Apart from *Apis cerana* and stingless bees, the native solitary bees and *Apis dorsata* also contribute significantly in pollination service.
- Bee pollination with *Apis cerana* resulted in highest fruit set, fruit length, fruit weight, yield and least Percentage of misshapen fruits, followed by Stingless bee pollinated crop and open pollination.
- Stingless bee pollination does not add burden to the farmers regarding management of bee hive. Hence the overall B:C ratio was highest in this treatment.

Study of floral biology in cucumber:

- Inflorescence is cymose
- Flowers are bracteates, pedicellate, unisexual, actinomorphic, pentamerous and epigynous
- Anther dehiscens occurred in the morning hours at temperatures around 21^{o}C.
- Pollen fertility was greatly reduced after 2:00 p.m.
- Stigmatic secretion as well as nectar content in flowers also drastically dried up with increase in temperature after noon.
- Nectar content varied from 2 – 9 mg per female flower and 1 – 3 mg per male flower.
- Brix value of nectar was found between 57and 58.

4.6.5. Meliponiculture (Stingless beekeeping) for sustainable agriculture and sustainable livelihood:

Stingless bees, also known as Dammar bees, belong in the family Apidae, and are closely related to common honey bees.Stingless bee is the smallest (4.0 to 5.0 mm long) of the honey bees. They can be found in most tropical or subtropical regions of the world, such as Australia, Africa, Asia and tropical America. Stingless bees are dispersed throughout most parts of India and form an important group of pollinators in agricultural and natural ecosystems. Being tropical, they are active all year round. Unlike other social bees, they do not sting (due to vestigial sting organ), but can defend by biting if their nest is disturbed. They usually nest in hollow tree trunks, wall cavities, underground cavities, termite nests or rock crevices.

Nesting site: The stingless bees, found in Nimpith and Bankura District, are *Tetragonula irridipennis.* At Nimpith they were mostly found to nest inside tree trunk cavities of Teak and Coconut. Whereas, in Bankura, they preferred to nest in wall cavities, apart from tree trunk cavities. The nests were located at a height ranging from 1 ft above ground to 9 ft.

Nest structure**:** Unlike common social bees, stingless bees construct egg-shaped pots in cluster. They are made up of bees-wax and plant resin (known as cerumen). These pots are often arranged around a central set of horizontal brood combs, wherein the larvae are housed. When the young worker bees emerge from their cells, they tend to initially remain inside the hive, performing different jobs. As workers grow older, they become guards or foragers. Unlike the larvae of common honeybees and many social wasps, stingless bee larva are not actively fed by adults. Pollen and nectar are placed in a cell, within which an egg is laid, and the cell is sealed until the adult bee emerges after pupation. At any one time, hives can contain 300–80,000 workers, depending on species. The pollen and honey storage pots are larger than the brood pots.

Meliponiculture**:** Beekeeping with stingless bees is called as **meliponiculture**, which has been practiced for many centuries in various parts of the world. It is found in the wild and also deliberately kept by beekeepers for pollination and its highly priced honey, because of its high medicinal value. They can be easily can be kept in hives like other honeybees. Their small size allows them to have access to many kinds of flowers

whose openings are too narrow to permit penetration by other bees and they are common visitors to flowering plants in the tropics. However, there is dearth of information on floral resources of stingless bees in India.

***Medicinal properties of stingless bee honey*:** The honey of *T. iridipennis* is a rich source of antioxidant flavanoids. This is because workers collect honey from medicinally important herbal plants and flowers. Stingless bee honey able to protect against gastrointestinal infection in humans. Due to the emerging of the antibiotic resistant bacteria such as Methicillin-resistant Staphylococcus aureus (MRSA), the potential of this honey to become an antibacterial agent to against this problem were proved by studies done by Nishio et al. (2016) and Medeiros et al. (2016). The antimicrobial activities of honey were reported due to phytochemicals, acidity, high osmolarity, and the presence of hydrogen peroxide in the honey.

Stingless bee honey has been found to show chemo-preventive properties in rats, induced with colorectal cancer and also was found not toxic towards the animals. Stingless bees honey, propolis and beebread were found to exhibit antioxidant activity and inhibit human breast adenocarcinoma (MCF-7) cell lines growth.

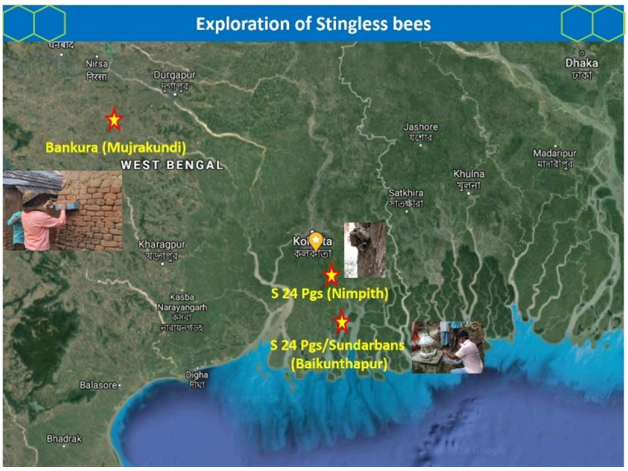
The quantity of honey produced per hive is a relatively small 200-300 gram per year. But the medicinal properties of this honey has also made its price higher (Rs. 1500 to Rs. 4000 per kg) than the normal honey.

Objectivesof study: Hence a study has been undertaken by KVK Nimpith with the following **objectives**:

- To survey the natural habitation of Stingless bees in the coastal regions
- To design and standardize stingless beehive
- To study the life cycle and foraging behaviour
- To survey and enlist forage plants
- To find out the scope of pollination service with stingless bees

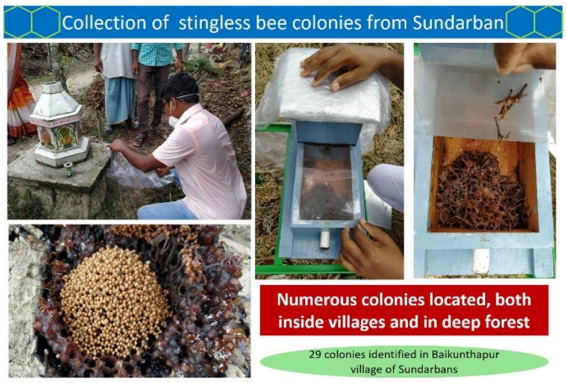
Progress of study:

- Survey of stingless bees:
  - Natural colonies were located in South 24 Parganas District (Nimpith and Baikunthapur village) and in Bankura District (Mujrakundi village) and
- Foraging behaviour:
  - The were found to forage on seasonal flowers, flowering trees, mustard, sunflower, cucurbits, mango, guava, litchi, coconut, areca nut, weeds and on other wild flowers
  - Peak foraging time was found between 9:00 a.m. to 4:00 p. m.

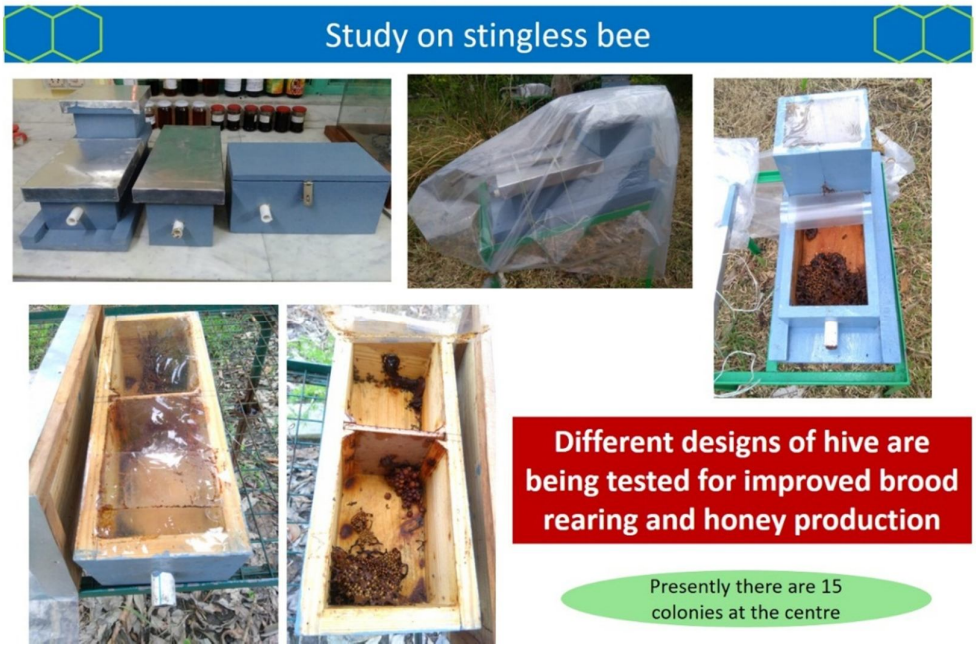


- Collection of stingless bee colony
  - Direct method: The colonies were collected directly from wall cavities. At first 50-100 bees were collected in a plastic bottle by holding mouth of the bottle closely over the entrance of the nest and beating the wall slowly. Then a portion of the wall at the entrance of the nest was cut open carefully. After that a portion of the brood cells along with some pollen and honey pots were collected from the nest and kept in a wooden hive. Then the entrance of the nest in the wall was closed with mud leaving a narrow hole. The original colony returned to its normal activities within one or two days. The collected colony and the bees in the plastic bottle were taken back to the AICRP centre at Nimpith.

- Indirect method: Wooden hives were made with two holes on them at opposite side. One hole was connected with the entrance of the nest on the wall with a transparent water level pipe (2.5 mm diameter). The junction at the nestentrance was pasted with mud to prevent escape of the bees. Now the bees have only one way to move out of their nest – through the plastic pipe. The bees started to move out through the plastic pipe into the wooden hive and escape through its second hole. The wooden hive was fixed to the wall and covered for protection against heat and rain. The bees are expected to store pollen and honey inside the wooden hive first and then slowly develop a secondary colony inside it. After a certain time, such wooden hives with newly developed colony will be separated from the original colony and taken out. Presently the wooden hives are being monitored regularly.



- Colony growth:
  - Wooden boxes of different sizes (length: 30 cm, width: 10 cm and height: 10, 15, 20 cm) are being evaluated for optimum colony development and growth.
  - The new colony collected from Mujrakundi, developed new queen after 12 days.
  - The brood volume doubled within two months.



4.6.6. Promotion of Beekeeping for the Honey Hunters (Moule) of Sundarbans in collaboration with Divisional Forest Office, South 24 Parganas and WWF-India

Honey hunting is a traditional practice of collection of forest honey from Sundarbans. The people associated with this profession are called honey hunters (Moule). This profession is associated with high risk resulting from Man-Animal conflict and often leading to casualties of human lives. To minimize this life risk and provide alternative source of livelihood an effort has been initiated by the Divisional Forest of South 24 Parganas and WWF-India in collaboration with AICRP centre on honeybees at KVK Nimpith. As a part of such initiative, skill development trainings have been organized jointly by both the organizations. After completion of training, beehives have been provided to the interested farmers for starting their own apiary, with a condition that they will not venture into the forest for honey collection.

- 120 honey hunters trained by AICRP (HB & P) RAKVK, Nimpith Centre
- Three cooperatives have formed by Forest Department who have purchased 1500 Apis mellifera colonies through bank loan
- 35 tonne honey has been produced in 2020.
- Marketing tie up with West Bengal Forest development Corporation Limited

4.6.7. Promotion of Backyard Beekeeping with Indian Honey Bee (*Apis cerana*) for Doubling of Farm Income in Sundarban

Honey collection in the Sundarbans is a life risking business. Yet, thousands of poor fishermen and villagers living around the forests of the Sundarbans Biosphere Reserve depend upon honey collection for their livelihood. This is a seasonal activity that lasts for about three months (March to May) in Sundarbans. During this season, the traditional honey collectors (known as '*Mouli'*) risk their lives to reach the most remote parts of the forest to collect one of the best quality honey in the country and in the process, many lose their lives in fatal tiger attacks. About 34% of death attributed to human tiger conflict is reported during this activity. Apart from this, honey collection from natural hives from the wild, there is a growing trend of managed beekeeping at the fringe of the Sundarbans Mangrove forest. Hives of European bees (*Apis mellifera*) are placed in the forest fringes to harvest the mangrove nectar during March to end of May. A total of 56,90,958 kg of honey valuing approximately INR 68,29,14,960 was produced over a period of 12 years (2005-2017) from Sundarban Tiger Reserve alone (STR Annual Reports).

The problem with European Honeybee (*Apis mellifera*) is its voracious foraging habit that makes it mandatory for migratory beekeeping. A beekeeper has to move to different districts with his hives to catch up with floral abundance at different season. As for example, during November-December a beekeeper goes to Midnapur and Bankura to harvest honey from eucalyptus bloom, during December-January to Nadia and Murshidabad for Mustard and Coriander honey, during February-March to Malda, Murshidabad and Baruipur for litchi honey and during April-May to Sundarbans for Mangrove honey. But this seasonal migration may detach the farmers from their regular farming practices and may disturb the social security of the women members of their families. Another problem with *Apis mellifera* colonies is their relative susceptibility to various diseases and mites.

Scope of Indian Honey Bees for backyard beekeeping: On the other hand, Indian Honeybees (*Apis cerana*) are fit for stationary beekeeping as they can easily survive the harsh climatic condition of Sundarbans throughout the year. They can survive with the available forage plants in and around the Mangrove forest, natural vegetation, weeds and agricultural crops. They are also better tolerant to most of the diseases. So the farmers need not migrate to a distant place from their residence and continue beekeeping activities along with the normal farming activities.

Considering all these scopes, Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith, through its All India Coordinated Research Project on Honeybees and Pollinators and through ATMA project has started necessary research work and awareness activities in some of the villages around Sundarbans to promote stationary beekeeping with Indian Honeybees as Backyard Beekeeping. From various research activities of the centre, it has been proved that honeybees also help in increasing crop production by 10-40% through improved pollination, especially in Cucurbits.

Objectives

- Research and development of standard management practices of Indian honeybees (*Apis cerana indica*) under Sundarbans climatic condition
- Backyard beekeeping with Indian honeybees (*Apis cerana indica*)
- Increase in overall farm income from honey production and increased crop production through improved pollination

Strategies

- Skill development on beekeeping
- Establishment of apiary
- Collection of data (weather and bee colony growth parameters) and analysis
- Processing and marketing of Honey

Selection of Beneficiaries and Establishment of Apiary:

Village	Beneficiary	*Apis cerana* colonies distributed	Sponsored by
Chuprijhara	10	50	AICRP (HB & P)
Baikunthapur	15	150	ATMA

Presently the hives are placed near Mangrove forest to tap the floral nectar of Mangrove plants. At the end of June, the hives will be kept at the backyard of individual members to tap nectar from agricultural and horticultural crops in the village.

Skill development training:

Four-day long residential capacity building programme was organized at the beginning of the programme and it was followed by 4-day refresher training. The beneficiaries were provided with training kit containing necessary literatures.

4.6.8. Study on bee flora and pollinator diversity in Mangrove forest

The bee flora and pollinator diversity of the Mangrove forest was studies. Sundarban is world's largest contiguous stretch of mangrove forest bestowed with 60-70 mangrove species. These plants are excellent source of pollen and nectare for honey bees. The wild honey, collected from the natural hives of rock bee (*Apis dorsata*) is world famous for its unique flavor and medicinal values. The main honey flow season in Sundarbans is March to May.

The major insect pollinators of Sundarbans are:

Order: Hymenoptera — *Apis dorsata, Apis cerana, Tetragonula sp., Megachile sp., Nomia sp., Amegilla sp., Agapostemon sp., Xylocopa sp., Polistes sp., Eumenes sp., Vespa cincta*

Order: Diptera — *Crysops sp., Chrysomya megacephal*

The major bee flora of Sundarbans is:

Sl	Botanical Name	Common English Name	Family	Bee Forage		Flowering month No.
				Pollen	Nectar	
1	*Heritiera fomes*	Sundari	Sterculiaceae	(+)		3 - 10
2	*Rhizophora apiculata*	Gorjon	*Rhizophoraceae*	(+)	(+)3	3 - 12
3	*Excoecaria agallocha*	Geoan	*Euphorbiaceae*	(+)2	(+)3	3-7
4	*Avicennia alba*	Kalo Bain	Avicenniaceae	(+)	(+)3	2-8
5	*Avicennia marina*	Peyara Bain	Avicenniaceae		(+)3	4-9
6	*Avicennia officinalis*	Karanja Bain	Avicenniaceae		(+)3	4-8
7	*Sonneratia apetala*	Tak Keora	*Sonneratiaceae*	(+)1	(+)3	3-8
8	*Sonneratia caseolaris*	Chak Keora	*Sonneratiaceae*	(+)1	(+)3	2-9
9	*Bruguiera gymnorrhiza*	Kakra	*Rhizophoraceae*	(+)1	(+)3	1-12
10	*Bruguiera parviflora*	Bokul Kakra	*Rhizophoraceae*	(+)1	(+)3	1-12
11	*Ceriops tagal*	Moth Garan	*Rhizophoraceae*	(+)3	(+)3	2-9
12	*Ceriops decandra*	Jhamti Garan	*Rhizophoraceae*	(+)3	(+)3	1-12
13	*Xylocarpus granatum*	Dhundul	Meliaceae	(+)3	(+)2	1-12
14	*Xylocarpus mekongensis*	Pasur	Meliaceae	(+)3	(+)2	2-9
15	*Aegiceras corniculatum*	Khalsi	Myrsinaceae	(+)2	(+)3	2-9
16	*Phoenix paludosa*	Hental / Bogra	Arecaceae / Palmac	(+)3		3-8
17	*Nypa fruticans*	Golpata	Arecaceae / Palmac	(+)3	(+)	5-9
18	*Lumnitzera racemosa*	Kripa / Kripal	Combretaceac	(+)	(+)	4-11
19	*Thespesia populnea*	Habal/ Paras Pipal	Malvaceae	(+)3	(+)3	1-12
20	*Acanthus ilicifolius*	Horgoja	Acanthaceae	(+)	(+)3	3-8

4.6.9. Biotic and abiotic stress tolerance in the bio-fortified (high protein content) rice variety "CR Dhan 310"

Demonstration plot of CR Dhan 310 variety of Nemai Naskar

A bio-fortified rice variety "CR Dhan 310", having higher protein content (10.3%), was demonstrated in the NICRA village during Kharif 2020, for the second consecutive year. It is a short duration rice variety (110-115 days), suitable for growing in the highland situation. The medium-bold grains remain firm and dry after cooking unlike other traditional varieties and were found to have a typical flavour and taste that was well accepted by the community for consumption. The productivity of rice, in the area, was much lower during this year due to less rainfall and high incidence of bacterial leaf blight (10-25% PDI). The yield, economics and disease incidence parameters observed during 2020 are compared below.

Yield and economics of bio-fortified variety compared to farmers practice (Kharif 2020)

Intervention		**Yield (q ha^{-1})**	**Gross returns (Rs. ha^{-1})**	**Cost of cultivation (Rs. ha^{-1})**	**Net returns (Rs. ha^{-1})**	**B:C Ratio (%)**	**Bacterial leaf blight (PDI%)**
Demonstration	Bio-fortified HYV rice: **CR Dhan 310**	39.64	69370.00	39600.00	29770.00	1.75	2.4%
Farmers Practice	HYV rice: **Santoshi**	35.6	62300.00	42900.00	19400.00	1.45	16.8%

The yield and net profit during 2019 (normal rainfall) and 2020 (54% deficient rainfall + BLB infestation) are compared below. The CR Dhan 310 variety recorded 6.73% less yield compared to 15.24% yield reduction in the farmers practice, in 2020, due to the abiotic and biotic stresses. Similarly there was only 4.35% less profit in CR Dhan 310, compared to 21.40% reduction in net profit, during 2020, in the farmers practice.

Variety	Yield (q/ha)		% change	Net profit (Rs./ha)		% change
	2019	2020*		2019	2020*	
CR Dhan 310	42.5	39.64	-6.73	31125	29770	-4.35
Santoshi	42	35.6	-15.24	28500	22400	-21.40

*****54% deficient rainfall + BLB infestation

5. LINKAGES

5.1. Functional linkage with different organizations

Name of organization	Nature of linkage
WBLDC	Marketing of goat, sheep and broiler duck meat from the farmers production, Marketing of pekin duck meat, and ARYA farmers produce
Dept of Forest, Govt. of West Bengal	Training on poultry, goatery, and duckery as alternative livelihood option.
West Bengal university of animal and fishery sciences	Different on farm research, conduction of health cum vaccination camp, organizing exposure visit for veterinarians of different states of West Bengal
Animal Resource development department, South 24 Pgs district	Implementing Prani Mitra programme, Mobile veterinary Clinic programme
Institute of Animal Health and Veterinary Biologicals, Kolkata, West Bengal	Joint diagnostic survey
SIPRD, West Bengal	Research and Extension
Central Glass and Ceramic Research Institute	
Rellience Foundation	Voice SMS, Toll Free Number, Dialout Audio Conference like ICT Based Extension Services
Central Institute of Fisheries Education, Salt Lake, Kolkata	Training and Extension
University of Calcutta, West Bengal	
University of Kalyani, Kalyani, Nadia, West Bengal	
West Bengal State University, Barasat	
District Rural Development Cell, North- 24 Parganas, WB	
District Rural Development Cell, South- 24 Parganas, WB	
SDB, GOWB	
Serampur College, Kolkata	
City College, Kolkata	Training
Vivekananda College, Kolkata	
ATMA, Howrah	
ATC & SAMETI, Narendrapur	
ATMA, South 24 Parganas	
SDB, GOWB (Cotton Cultivation)	Demonstration
CICR, Nagpur (IRM)	
Advanta, Excel Crop Care Ltd.	
National Horticulture Mission, Mayukh Bhavan, Salt Lake, Kolkata, West Bengal	
District Horticulture Office, Alipur, South 24 Parganas	
Directorate of Oilseed Research, Hyderabad	
National food security mission	Collaborating work
National food security mission	Collaborating work
Directorate of Extension, BCKV, Mohanpur, Nadia	
Sundarban Milk Union Limited, South 24 – Parganas	Collaborative programme
Central Institute of Fisheries Education, Salt Lake, Kolkata & Versova, Mumbai	

Cotton Corporation of India (CCI), Kolkata	Marketing of farm produce
Rural Development Wing of Ramkrishna Ashram	Conducting flood relief animal health camp at different block of Joynagar-II and Kultali.
ARD Dept, Govt. of West Bengal	Implementing Prani Mitra programme, Mobile veterinary Clinic programme
PBGSBS	Implementation of Artificial insemination technology
National dairy Research Institute, Kalyani	Technology dissemination at field level and organizing farmers meet
Poultry Federation, West Bengal Chapter	Attending Poultry Mela, farmers meet
MANAGE, Hyderabad	A one-year diploma course is being implemented by the KVK in collaboration with MANAGE, Hyderabad. The name of the course is "Diploma in Agricultural Extension Services for Input Dealers". 40 Agri input dealers from different blocks of the District are studying this course. Weekly classes (every Thursday) are arranged for this 48 week long course.
National Centre for Integrated Pest Management (NCIPM), New Delhi	Collaborative research project
AICRP (HB & P), ICAR, New Delhi	Voluntary Centre of AICRP

5.2. List of special programmes undertaken during 2020-21by the KVK, which have been financed by ATMA/ Central Govt/ State Govt./NABARD/NHM/NFDB/Other Agencies **(information of previous years should not be provided)**

a) Programmes for infrastructure development

Name of the programme/scheme	Purpose of programme	Date/ Month of initiation	Funding agency	Amount (in Lakhs)
All India Coordinated Research Project on Sunflower**(**AICRP**)**	Development of early duration Hybrids for rainfed situations and Rabi-Summer	2020	Indian Institute of Oil Seeds Research, Rajendranagar, Hyderabad	49.94
All India Coordinated Research Project on Sunflower**(**AICRP**) (SCSP Plan)**	SC, ST Training	2020	Indian Institue of Oil Seeds Research, Rajendranagar, Hyderabad	10.00
NFSM Oilseed	Oilseed Production	2020	Department of Agriculture, Govt. of West Bengal.	54.33
NFSM Cotton	Cotton Production	2020	Department of Agriculture, Govt. of West Bengal.	28.76
Cotton Development Mission **(**CDM**)**	Production of Raw Cotton and improve the bio mass statusof the North and South 24-Parganas districts.	2020	Directorate of Agriculture, Govt. of West Bengal	7.50
DAESI Programme	Diploma in Agricultural Extension Services for Input Dealers	2020	Self-Finance	16.00
National Innovations in Climate Resilient Agriculture **(**NICRA**)**	Strategies to enhance adaptive capacity to climate change in vulnerable regions of district	2020	ICAR, New Delhi	23.60
National Innovations in Climate Resilient Agriculture **(**NICRA**)**	Landshaping and Retaining Rural Youth in Agriculture through Self Employment Generation programme	2020	IARI, New Delhi	4.50

AICRP on Honey Bees & Pollinators (Voluntary Centre)	Research and Development of beekeeping and pollination services in South 24 Parganas	2020	Division of Entomology, IARI, New Delhi	4.05
Attracting and Retaining Youth in Agriculture (ARYA)	Attracting and Retaining Rural Youth in Agriculture through Self Employment Generation programme	2020	ICAR, New Delhi	13.63
MVC South	Extension of animal health care services in remot areas in west bengal through mobile veterinary clicnic	2020	ARD Department, GOWB	32.64
MVC North	Extension of animal health care services in remote areas in West Bengal through mobile veterinary clinic	2020	ARD Department, GOWB	39.91
SCSP Junagadh	SCSP programme	2020	ICAR-Directorate of Groundnut Research	6.27
IFS	Integrated Farming System	2020	ICAR- ATARI, Kolkata	1.50
Beekeeping Training	Training	2020	ICAR- ATARI, Kolkata	4.60
CFLD - Pulse	FLD Programme	2020	ICAR- ATARI, Kolkata	5.40
Groundnut Trial	AICRP -Goundnut Trial	2020	ICAR-Directorate of Groundnut Research	0.60
STRY Training	Training	2020	SAMITY, Narendrapur	0.82

(b) Programme for other activities (training, FLD, OFT, Mela, Exhibition etc.)

Name of the programme/scheme	Purpose of programme	Date/ Month of initiation	Funding agency	Amount (Rs.)
State Oilseed Kisan Mela	Vegetable Oil Scenario in National Perspective &Scope of Oilseed Cultivation in West Bengal	2020	NFSM (OS) Scheme of the Department of Agriculture, Govt. of West Bengal	11.95
Technology week	To spread awareness among the farming communities of the district on different scientific agricultural and allied technologies	2020	NABARD	1.00

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1. Performance of demonstration units (other than instructional farm)

Sl. No.	Name of demo Unit	Year of estt.	Area(Sq.mt)	Details of production			Amount (Rs.)		Remarks
				Variety/breed	Produce	Qty.	Cost of inputs	Gross income	
1									
2									
Total									

6.2. Performance of Instructional Farm (Crops)

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.(q)	Cost of inputs	Gross income	
Paddy	19.06.2020	24.11.2020	0.92	Sabita (NC-492)	Certified	15.0	7590	525000	
	19.06.2020	03.12.2020	1.43	Varshadhan	Certified	16.0	11800	56000	
	06.07.2020	27.11.2020	0.13	Sampriti (IET-21987)	Certified	3.50	1100	12250	
	26.07.2020	12.11.2020	0.20	DRR Dhan-42	Certified	3.0	1650	10500	
	21.08.2020	12.11.2020	0.13	DRR-46	Certified	1.75	1100	6125	
	29.06.2020	01.12.2020	0.20	Sabita (NC-492)	Foundation	5.50	1650	22000	
	30.06.2020	25.11.2020	0.40	Sujala	Foundation	9.50	3300	38000	
	06.07.2020	27.10.2020	0.33	Ciharang Sub-I	Foundation	6.50	2750	26000	
	06.07.2020	02.12.2020	0.13	CR-1009 –Sub-I	Foundation	3.50	1100	14000	
	26.06.2020	03.12.2020	0.33	Luna Suvarna	Foundation	5.5	2750	22000	
	06.07.2020	22.11.2020	0.33	Rajdeep	Foundation	11.0	3000	44000	
	26.07.2020	12.11.2020	0.13	DRR-46	Foundation	2.20	1200	8800	
	26.07.2020	28.11.2020	0.13	MTU-1121	Foundation	3.50	1200	14000	
	26.07.2020	13.11.2020	0.13	Gosaba -5	Foundation	2.30	1200	9200	
	26.07.2020	09.11.2020	0.40	CR-310	TL	9.10	3300	27300	
	06.07.2020	30.11.2020	0.03	Pratikshya	TL	1.0	300	3000	
	19.06.2020	27.11.2020	0.20	Dudswar	TL	2.72	1650	6960	
Greengram	27.01.2020	12.03.2020	0.13	IPM-02-14	Foundation	0.45	800	3600	
	27.01.2020	12.03.2020	0.40	IPM-205-7	Certified	1.75	2500	12250	
Blackgram	22.09.2020	19.12.2020	0.13	PU-31	Foundation	1.42	800	11360	

6.3 Performance of Production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)

Sl.No.	Name of the Product	Qty. (Kg)	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1.	Bio-fungicide (*Trichoderma harzianum& Pseudomonas fluorescens*)	5680	-	-	Distributed for demonstration
2.	Vermicompost	32790	-	-	Used in KVK farm

6.4 Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1.	Poultry	Vanaraja	Meat	600	12,000.00	7000.00	
		Kaberi	Meat	250	5000.00	3000.00	
2.	Broilers	RIR	Meat	3500	67,000.00	38,500.00	
3	Goat	Black Bengal	Meat, kid	32	30,000.00	47,000.00	
4	Ducks	Khaki cambel, Pekin duck	Meat	1600	1,30,000.00	56,000.00	
5	Fish	IMC	Table fish	235 kg	2,47,000.00	4,58,654.00	
		IMC	Spawn	8.4 million pcs			
		IMC	Fry	2.4 lakh pcs			
		Asian catfish –Singhi	Seed	57,600 pcs			
		Asian catfish – Desi magur	Seed	92,200 pcs			

6.5 Utilization of hostel facilities

Accommodation available (No. of beds)

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January, 2020	88	356	
February,2020	148	558	-
March, 2020	231	556	-
April, 2020	-	--	Due to COVID situation the hostel was closed during this period
May, 2020	-	-	
June , 2020	-	-	
July, 2020	-	-	
August, 2020	-	-	
September, 2020	-	-	
October, 2020	-	-	
November, 2020	-	-	
December, 2020	-	--	
Total :	**467**	**1470**	

(For the whole year)

6.6 Utilization of staff quarters

Whether staff quarters has been completed:
No. of staffquarters:
Date of completion:
Occupancy details:

Months	Q I	QII	Q III	QIV	Q V	QVI
January,2020	Full	Full	-	Full	Full	Full
February, 2020	Full	Full	-	Full	Full	Full
March, 2020	Full	Full	-	Full	Full	Full
April, 2020	-	Full	-	Full	Full	Full
May, 2020	-	Full	-	Full	Full	Full
June, 2020	-	Full	-	Full	Full	Full
July, 2020	-	Full	-	Full	Full	Full
August, 2020	-	Full	-	Full	Full	Full
September, 2020	-	Full	-	Full	Full	Full
October, 2020	-	-	-	Full	Full	Full
November, 2020	-	-l	-	Full	Full	Full
December2020	-	-	-l	Full	Full	Full

7 FINANCIAL PERFORMANCE

7.1. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
Ramkrishna Ashram KVK	SBI	Nimpith	11259497721
Ramkrishna Ashram KVK Revolving Fund	SBI	Nimpith	11259496614

7.2. Utilization of funds under CFLD on Oilseed *(Rs. In Lakhs)*

Item	Released by ICAR		Expenditure		Unspent balance as on -
	Kharif	Rabi	Kharif	Rabi	

7.3. Utilization of funds under CFLD on Pulses *(Rs. In Lakhs)*

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2021
	Kharif	Rabi	Kharif	Rabi	
Lentil	-	1,80000	-	1.79955	0.0045
Greengram	-	3,60000	-	3.59980	0.0020
Total	-	5.40000		5.39935	0.0065

7.4. Utilization of KVK funds during the year 2020-21(Not audited)

Sl. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	125, 00,000	125, 00,000	11263351.44
2	Traveling allowances	50,000	50,000	0
3	HRD	30,000	30,000	19999.72
4	Contingencies			
A	POL & Office expenses			
B		80,000	80,000	79920.22
C	Training of farmers			
D		60,000	60,000	59870.00
E	FLD	30,000	30,000	30000.00
F	OFT	30,000	30,000	29500.00
G	Maintenance of building	1,00,000	1,00,000	1,00,000
H	SCSP	15,00,000	15,00,000	1499759.60
I				
J				
TOTAL (A)		143,80,000	143,80,000	13092400.98
B. Non-Recurring Contingencies				
1	Library	10,000	10,000	9907.00
2				
3				
4				
TOTAL (B)		10,000	10,000	9907.00
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		143,90,000	143,90,000	13102307.98

7.5. Status of revolving fund (Rs. in lakh) for last three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year (Kind + cash)
2018-19	250.37345	95.62846	85.47711	260.5248
2019-20	260.5248	69.4567	65.4761	264.5054
2020-21	264.5054	55.46	52.32	267.6454

7.6. (i) Number of SHGs formed by KVKs : 10 nos.

(ii) Association of KVKs with SHGs formed by other organizations indicating the area of SHG activities : Training imparted on seasonal vegetable cultivation, pulse and oilseed cultivation during *Rabi* – Summer, a food processing and preservation.

(iii) Details of marketing channels created for the SHGs : Selling the product/produces to FPC and local market

7.7. Joint activity carried out with line departments and ATMA

Name of activity	Number of activity	Season	With line department	With ATMA	With both
Exposure visit of farmer of ATMA	1	2020		ATMA, Mayurbhanj, Baripada	
Short term research project on backyard beekeeping	1	2020		ATMA	
Training on Cotton	6	Rabi-Summer,2020	NFSM-Cotton, Department of Agriculture, Govt. of West Bengal.		
Training on Sunflower	4	Rabi,2020	NFSM-OS, Department of Agriculture, Govt. of West Bengal.		
Training on Sunflower	2	Rabi,2020	IIOR, Hyderabad		
Diploma in Agricultural Extension Service for Impute Dealers (DAESI)	2	Throughout the year	• Department of Agriculture, WB • SAMETI, Narendrapur • MANAGE, Hyderabad	ATMA	
IARI, NICRA	1	Throughout the year	NICRA, New Delhi		
AICRP on Sunflower		Throughout the year	IIOR, Hyderabad		
AICRP on Honeybees and Pollinators	1	Throughout the year	Division of Entomology, IARI, New Delhi		
NICRA	1	Throughout the year	CRIDA, Hyderabad		
Seed Hub	1	Throughout the year	IIOR, Hyderabad		
Biotech Kisan Hub	1	2020	WBUAFSc, Belgachia, Kolkata		

8. Other information

8.1. Prevalent diseases in Crops

Name of the disease	Crop	Date of outbreak	Area affected (in ha)	% Commodity loss	Preventive measures taken for area (in ha)
Rugose spiraling whitefly	Coconut	Throughout the year	200	10%	OFT set for selection and refinement of IPM technology

8.2. Prevalent diseases in Livestock/Fishery

Name of the disease	Species affected	Date of outbreak	Number of death/ Morbidity rate (%)	Number of animals vaccinated	Preventive measures taken in pond (in ha)
Myxosporidiosis	*Catla catla*	Post winter months	12%	-	Regular pond manuring, limimg and feeding
FMD	Dairy animals	Post winter months	-	28	-

9.1. Nehru Yuva Kendra (NYK) Training

Title of the training programme	Period		No. of the participant		Amount of Fund Received (Rs)
	From	To	M	F	

9.2. *mKisan*Portal (National Farmers' Portal/ SMSPortal)

Type of message	No. of messages	No. of farmers covered
Crop	21	31923
Livestock	0	0
Fishery	8	12390
Weather	1	1818
Marketing	0	0
Awareness	6	9443
Training information	0	0
Other	1	1818
Total	37	55574

9.3. *KVK* Portal and Mobile App

Sl. No.	Particulars	Description
1.	No. of visitors visited the portal	*NA*
2.	No. of farmers registered in the portal	*NA*
3.	Mobile Apps developed by KVK	1.Ornamental Bird Rearing - Source of Alternative Livelihood 2. Medicinal plants and its use
4.	Name of the App	Baidri Pakhi Chas, Banoushodhi
5.	Language of the App	Bengali
6.	Meant for crop/ livestock/ fishery/ others	*Others*
7.	No. of times downloaded	*NA*

N.B.

1. Toll free Number Call received through KVK Expert – 4180
2. Dial Out Audio Conference Attend – 8
3. VMS Send through Reliance Foundation, Kolkata – 109259 farmers
4. Video Conference: 6

9.4. a. Observation of Swachh Bharat Programme

Date/ Duration of Observation	Activities undertaken
January, 2020	Awareness about plastic free environment as a part of Swachhta Hi Sewa programme and plantation, Maintenance of personal hygiene to prevent infectious diseases, Demonstration on utilization of farmyard waste by composting covering 125 participants in the 5 programmes
February, 2020	Awareness about plastic free environment as a part of Swachhta Hi Sewa programme and plantation, Maintenance of personal hygiene to prevent infectious diseases, Demonstration on utilization of farmyard waste by composting covering 150 participants in the 5 programmes
March, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID19, Proper hand wash to break the chain of COVID19, Cleaning activity of KVK office premises conducted covering 672 participants in the 35 programmes
April, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID 19, Proper hand wash to break the chain of COVID 19,Cleaning activity of KVK office premises conducted, eco-friendly technologies covering 407 participants in the 26 programmes
May, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID19,Proper hand wash to break the chain of COVID19, Cleaning activity of KVK office premises conducted, eco-friendly technologies adopted, covering 455 participants in the 28 programmes
June, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID 19,Maintenance of personal hygiene to prevent infectious diseases, Cleaning activity of KVK office premises covering 237 participants in the 21 programmes
July, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID 19, Maintenance of personal hygiene to prevent infectious diseases, eco-friendly technologies adopted and climate smart, energy efficient measures taken covering 258 participants in the 15 programmes
August, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID 19, Maintenance of personal hygiene to prevent infectious diseases, eco-friendly technologies adopted and climate smart, energy efficient measures taken covering 221 participants in the 13 programmes

September, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID 19, Maintenance of personal hygiene to prevent infectious diseases, eco-friendly technologies adopted and climate smart, energy efficient measures taken covering 86 participants in the 4 programmes
October, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID19, Personal hygiene and nutritional care along with preventive measures, eco-friendly technologies adopted and climate smart energy efficient measures taken covering 184 participants in the 9 programmes
November, 2020	Maintenance of personal hygiene to prevent infectious diseases to prevent COVID19, Personal hygiene and nutritional care along with preventive measures, eco-friendly technologies adopted and climate smart energy efficient measures taken covering 153 participants in the 7 programmes
December, 2020	Personal hygiene and nutritional care along with preventive measures, Water, hygiene and sanitation, Maintenance of personal hygiene to prevent infectious diseases to prevent COVID19 covering 102 participants in the 4 programmes

b. Details of Swachhta activities with expenditure

Activities	Number	Expenditure (in Rs.)
1. Digitization of office records/ e-office	-	2100
2. Basic maintenance	9	2000
3. Sanitation and SBM	51	9000
4. Cleaning and beautification of surrounding areas	139	13000
5. Vermicomposting/ Composting of biodegradable waste management & other activities on generate of wealth for waste	5	6000
6. Used water for agriculture/ horticulture application	15	2000
7. Swachhta Awareness at local level	28	14000
8. Swachhta Workshops	1	2500
9. Swachhta Pledge	3	200
10. Display and Banner	4	1200
11. Foster healthy competition	8	-
12. Involvement of print and electronic media	2	-
13. Involving the farmers, farm women and village youth in the adopted villages (no. of adopted village)	30	2000
14. No of Staff members involved in the activities	11	-
15. No of VIP/VVIPs involved in the activities	5	-
16. Any other specific activity (in details)	3	-
Total		54000

9.5. Observation of National Science day

Date of Observation	Activities undertaken
28.02.2020	A seminar on pest management on cotton through IPM
	Field visit with cotton farmers and extension functionaries for eco system analysis
	Organized a field day on Sunflower seed production

9.6. Programme with Seema Suraksha Bal/ BSF: NA

Title of Programme	Date	No. of participants

9.7. Agriculture Knowledge in rural school

Name and address of school	Date of visit to school	Areas covered	Teaching aids used
Nimpith Ashram Sarada Vidyamandir for Girls, Vill. Nimpith Ashram Block – Joynagar II	15.01.2020	Nutrition Garden and personal health and hygiene	Drawing, quiz, film and PPT
Nimpith Ashram Sarada Vidyamandir for Girls, Vill. Nimpith Ashram Block – Joynagar II	13.02.2020	Plantation programme	Planting saplings of fruit plants like amla, jackfruit, guava and mango
Nimpith Vidya Bhavan Vill. Nimpith Ashram Block – Joynagar II	07.03.2021	Awareness about COVID-19 and nutritional management to prevent different disease. Preparation and management of nutrition garden with nutrient rich variety	Visual aids- Flash card on health and hygiene &food groups , picture card, food value chart, books ,Pamplets Audio visual aids- Flim, PPT

Due to pandemic situation all schools were closed from 23rd March, 2020 to February, 2021.
However, some webinars were conducted with school students to update their knowledge during this pandemic situation.

9.8. Details of '*Pre-Rabi Campaign*' Programme

Date of programme	No. of Union Ministers attended the programme	No. of Hon'ble MPs (Loksabha/ Rajyasabha) participated	No. of State Govt. Ministers	Participants (No.)							Coverage by Door Darshan (Yes/No)	Coverage by other channels (Number)
				MLAs Attended the programme	Chairman ZilaPanchayat	Distt. Collector/ DM	Bank Officials	Farmers	Govt. Officials, PRI members etc.	Total		

9.9. Details of Swachhta Hi Sewa programme organized

Sl. No.	Activity	No. of villages Involved	No. of Participants	No. of VIPs	Name (s) of VIP(s)

9.10. Details of Mahila Kisan Divas programme organized

Sl. No.	Activity	No. of villages Involved	No. of Participants	No. of VIPs	Name (s) of VIP(s)
1	Drawing competition	1	15	-	-
2	Felicitation of frontline worker and farm women	6	103	Block Medical Officer, Joynagar -II	Dr. S. Majumdar
3	Training on management of nutrition with nutrient rich variety	10	62	ADA, Joynagar -II	Mrs. Antima Halder
4	Webinar International Women's Day 2021' with the theme - 'Women in Leadership: Achieving an equal future in a COVID – 19 World'	15	36	Delegates from Green College, SRAN, WHH, Germany	Mrs. Sunita Panja, Mrs. Sudipta Roy, Mr. Hirak Bhandari, Mr. Puspendu Naskar

9.11. No. of Progressive/Innovative/Lead farmer identified (category wise)

Sl. No.	Name of Farmer	Address of the farmer with contact no.	Innovation/ Leading in enterprise
1	Gouranga Naskar	Kaikhali (Block: Kultali) 9733916917	Asian catfish breeding and larval rearing with water collected by rooftop rain water harvisting
2	Swapan Bhunia	Khansahebabad (Block: Sagar) 9800650883	Betelvine cultivation with home grown *Trichoderma* (Biofungicide) in hi-tech boroj
3	Gopal Jana	Rajnagar (Block: Namkhana) 9734015178	Betelvine cultivation in green shade net
4	Manoranjan Maity	Dakshin Durgapur (Block: Namkhana) 9002663283	Zero tillage potato cultivation in muddy soil
5	Barnali Dhara	Ashwathatala (Block: Kulpi) 7980870157	DAESI diploma holder, community mobilizer, progressive farmer
6	Sushanta Roy	Katamari (Block:Kultali) 9564716465	Lead the cyclone (Aila) affected farmers of his village to form a cooperative society with enrolment of about 210 members in fisheries field
7	Sachin Sardar	Sankijahan (Block:Kultali) 9733549702	Backyard system of breeding of the high priced fish *Mystus gulio*
8	Bapan Karmakar	Gilarchat (Block: Mathurapur II) 9733572784	Seed production of greengram
9	Ashok Bar	Mollar chak (Block: Joynagar-II) 9735817615	Cotton cultivation in lowland rice fallows

9.12. Revenue generation

Sl.No.	Name of Head	Income(Rs.)	Sponsoring agency
1.	Contingencies & outsourcing of contractual services	4,35,000	NFSM-cotton, CDM
2.		2,43,000	MVC, South & North 24 Parganas, Dept. of ARD, GoWB
4.		20,000	NICRA (ICAR)
5.		40,500	NICRA (IARI)
6.		15,000	AICRP Honey Bees
7.		20,000	ARYA
8.		25,000	DAESI
9.		6,000	CFLD

9.13. Resource Generation:

Sl. No.	Name of the programme	Purpose of the programme	Sources of fund	Amount (Rs. lakhs)	Infrastructure created
1	NICRA (ICAR)	Strategies to enhance adaptive capacity to climate change in vulnerable regions of district	ATARI,Kol	2.60	Equipment
2	ARYA	Attracting and Retaining Rural Youth in Agriculture through Self Employment Generation programme	ATARI,Kol	7.50	Capital
3	AICRP Honey bee	Development of early duration Hybrids for rainfed situations and Rabi-Summer	Division of Entomology, IARI, New Delhi	0.55	Equipment

9.14. Performance of Automatic Weather Station in KVK

Date of establishment	Source of funding i.e. IMD/ICAR/Others (pl. specify)	Present status of functioning
January, 2007	IMD	Working Condition

9.15. Contingent crop planning

Name of the state	Name of district/ KVK	Thematic area	Number of programmes organized	Number of Farmers contacted	A brief about contingent plan executed by the KVK
West Bengal	Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith, South 24 Parganas	Contingency Planning in Agriculture	14	1478	❖ Vegetable cultivation in land embankment ❖ Seedling raising in pot tray / plug tray ❖ Use of liquid fertilizers ❖ Application of *Trichoderma viridi* in vegetable seedling to prevent root rot. ❖ Hydroponic fodder cultivation ❖ Distribution of greengram ❖ Pond bleaching, liming and spraying of Potassium Permanganate

10. Report on Cereal Systems Initiative for South Asia (CSISA): NA

a) Year:
b) Introduction / General Information:

	Title	Objective	Treatment details	Date of sowing	Replication	Result with photographs
Experiment 1						
Experiment 2						
Experiment 3						
…						
..						
Others (If any)						

11. Details of TSP

a. Achievements of physical output under TSP during 2017-18

Programmes	**Physical achievements**
Asset creation (Number; Sprayer, ridge maker, pump set, weeder etc.)	
On-farm trials (Number)	
Frontline demonstrations (Number)	
Farmers training (in lakh)	
Extension personnel training (in lakh)	
Participants in extension activities (in lakh)	
Seed production (in tonnes)	
Planting material production (in lakh)	
Livestock strains and fingerlings production (in lakh)	
Soil, water, plant, manures samples testing (in lakh)	
Provision of mobile agro – advisory to farmers (in lakh)	
No. of otherprogrammes (Swachha Bharat Abhiyaan, Agriculture knowledge in rural school, Planting material distribution, Vaccination camp etc.)	

b. Fund received under TSP in 2020-21 (Rs. In lakh):

c. (i)Achievements of physical outcomeunder TSP during 2020-21

Sl. No.	Description	Unit	Achievements
1	Change in family income	%	
2	Change in family consumption level	%	
3	Change in availability of agricultural implements/ tools etc.	No. per household	

(ii) Table:

Sl. No.	***Description***	***Unit***	***Achievements***
1	Number of Technologies Identified after Assessment	Number	
2	Upgraded Skills and Knowledge of farmers	Number	
3	Oriented extension personnel in frontier areas of agricultural technology	Number	
4	Increased availability of quality seed	Quintal	
5	Increased availability of quality Planting material	Number	
6	Increased availability of live-stock strains and fingerlings	Number	
7	Testing of Soil & water samples for balance fertilizer use	Number	

d. Location and Beneficiary Details during2020-21

District	***Sub-district***	***No. of Village covered***	***Name of village(s) covered***	***ST population benefitted (No.)***		
				M	F	T

12. Schedule caste Output & Outcome achievements

Sl. No.	Indicator/Activities	Unit of Indicator	Achievements
1	Farmers, farm women trained by KVKs	Number	1536
2	Extension personnel trained by KVKs	Number	1
3	On-farm trials conducted by KVKs	Number	10 (87 farmers)
4	Frontline demonstrations conducted by KVKs	Number	11 (605 farmers)
5	Quantity of seeds produced	Quintal	147.95
6	Planting materials Produced	Number	147360
7	Livestock strains and fingerlings produced	Number	87.898 lakh
8	Soil & water samples tested	Number	2075

13. Information pertaining to ARYA Project

2020-21							
Name of KVK	Year since ARYA is initiated in the KVK (specify year)	No. of Training programs	No. of rural youth trained		No. of youth established units		No. of entrepreneurial units established
Ramkrishna Ashram Krishi Vigyan Kendra	2016	3	M	F	M	F	10
			102	3	10	-	

14. Progress report of NICRA KVK (Technology Demonstration component) during the period (Jan, 2020 – Dec, 2020)

(Applicable for KVKs identified under NICRA)

Natural Resource Management

Name of intervention undertaken	Numbers under taken	No of units	Area (ha)	No of farmers covered / benefitted									Remarks
				SC		ST		Other		Total			
				M	F	M	F	M	F	M	F	T	
Desiltation of derelict ponds	11	11	8	10	0	1	0	0	0	11	0	11	
Rooftop rain water harvesting for drinking purpose	10	10	-	7	3	0	0	0	0	7	3	10	

Crop Management

Name of intervention undertaken	Area (ha)	No of farmers covered / benefitted									Remarks
		SC		ST		Other		Total			
		M	F	M	F	M	F	M	F	T	
Bio-fortified (high protein) rice (Var.CR Dhan 310)	1.34	9	1	0	0	0	0	9	1	10	
Drought tolerant rice (Var. DRR Dhan -42)	1.06	7	1	0	0	0	0	7	1	8	
Salt tolerant rice (Var. Luna Suwarna)	0.8	5	1	0	0	0	0	5	1	6	
Submergence tolerant rice (Var.Ciherang Sub-1)	4.4	31	2	0	0	0	0	31	2	33	
System of Assured Rice Production (SARP) in kharif.	1.34	10	0	0	0	0	0	10	0	10	
Triple disease resistant Tomato (var. Arka Rakshak)	0.46	7	0	0	0	0	0	7	0	7	
Cycocel treated chilli (Var. Eagle)	0.34	5	0	0	0	0	0	5	0	5	
Short duration green gram (Var. IPM-205-7) treated with PSB and Rhizobium culture	8	56	4	0	0	0	0	56	4	60	

Livestock and fisheries

Name of intervention undertaken	Number of animals covered	No of units	Area (ha)	No. of farmers covered / benefitted									Remarks
				SC		ST		Other		Total			
				M	F	M	F	M	F	M	F	T	
Establishment of Carp Hatchery	-	1	-	5	0	0	0	0	0	5	0	5	
Asian catfish hatchery	-	3	-	3	0	0	0	0	0	3	0	3	
Installation of periphyton net	-	3	0.20	3	0	0	0	0	0	3	0	3	
Construction of cow shed floor	6	2	-	2	0	0	0	0	0	2	0	2	

Institutional interventions

Name of intervention undertaken	No of units	Area (ha)	No of farmers covered / benefitted									Remarks
			SC		ST		Other		Total			
			M	F	M	F	M	F	M	F	T	
Custom hiring centre (Power tiller, paddy thresher, pumpset)	3	25	41	11	0	0	0	0	41	11	52	The farm machineries are hired out to the resource poor farmers at easonable rent

Capacity building

Thematic area	No of Courses	No of beneficiaries								
		SC		ST		Other		Total		
		M	F	M	F	M	F	M	F	T
Integrated pest and disease management in Kharif vegetables	1	28	14	0	0	0	0	28	14	42
Hands-on training on breeding of Indian Major Carps	1	15	0	0	0	0	0	15	0	15
Management of Bacterial Wilt in tomato through bio-intensive integrated disease management	1	30	4	0	0	0	0	30	4	34
Management of Rugose spiraling whitefly in changing climate scenario	1	27	1	0	0	0	0	27	1	2
Preparation and use of pheromone traps in pest monitoring and IPM	1	9	3	0	0	0	0	9	3	18
Role and use of biofertilizer in pulse production	1	18	3	0	0	0	0	18	3	21
Application of biocontrol agents in pest and disease management in pulse and oilseeds	1	21	4	0	0	0	0	21	4	25

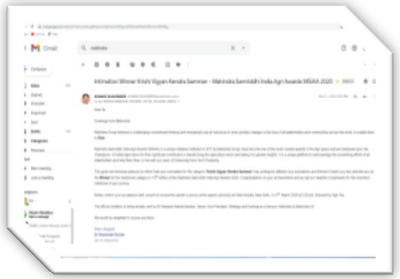
Extension activities

Thematic area	No of activities	No of beneficiaries								
		SC		ST		Other		Total		
		M	F	M	F	M	F	M	F	T
Field days	9	160	27	0	0	0	0	160	27	187
Method demonstrations	3	68	5	0	0	0	0	68	5	73
Audio conference	1	11	3	0	0	0	0	11	3	14
Video conference	3	49	14	0	0	0	0	49	14	63

15. Award received by Farmers from the KVK district

Sl. No.	Name of the Award	Name of the Farmer	Year	Conferring Authority	Amount	Purpose
1	Khet khamare baazi maat	Gouranga Naskar	2020	DD Bangla	-	Agricultural quiz competition
2	2nd National Water Award-2019	Gopalganj Gram Panchayat	2020	Ministry of Jalshakti, Govt. of India	200000	Water resource development

16. Any significant achievement of the KVK with facts and figures as well as quality photograph

SL	Achievement	
1	**Roof top Rainwater Harvesting** The KVK has been awarded with "Krishi Vigyan Kendra Samman - 2020" under Mahindra Samriddhi India Agri Awards MSIAA 2020, for assured drinking water in Sundarban villages	 
2	**Rainwater harvesting and integrated farming** The Gopalganj Gram Panchayat was adjudged best Village Panchayat by the Ministry of Jalshakti, Govt. of India, under 2nd National Water Award-2019, for the large scale water resource development in the Panchayat by the KVK	
3	SMS (Horticulture) was awarded "**Best KVK Scientist – Horticulture (National)**" in the National Conference of the Society of Krishi Vigyan – 26 - 28 Sep 2020	
4	1500 Honey hunters of Sundarbans were trained on **beekeeping** and grouped into three cooperative societies (at Kultali, Nalgora & Jharkhali). They purchased 1500 bee colonies (*Apis mellifera*) through bank loan and produced 35 tonne honey. The honey is processed and branded (Bonphool brand) after obtaining FSSAI liscence.	 

17. Number of commodity based organizations/ farmers' cooperative society/ FPO formed/ associated with during last one year (Details of the group/society may be indicated)

Sl. No.	Name of the organization/ Society	Trust Deed No.& date	Date of Trust Registration Address	Proposed Activity	Commodity Identified	No. of Members	Financial position (Rupees in lakh)	Success indicator
1	Joynagar Farmer Producer Company Ltd.	U01403WB2015PTC207939	29-Sep-2015	✓Production of vegetables and marketing of the produce of member farmers in organized way, ✓Create facility for the member farmers to get all types of critical inputs like seed, Pesticides, fertilizers at their door step at dealer's price. ✓Provision for financial support through short term loan to the member farmers	Bitter gourd, Ridge gourd, Cucumber , Cowpea, Bottle gourd, Okra, Tomato	1046	23.0	Increase in income, better health, education and nutrition. Overall betterment of the quality of life
2	Bhangar Vegetable Producer Company Ltd.,	U01403WB2012PTC186588	28 September, 2012	✓Production of vegetables and marketing of the produce of member farmers in organized way, through the marketing outlet of Mother Diary, GoWB ✓Create facility for the member farmers to get all types of critical inputs like seed, Pesticides, fertilizers at their door step at dealer's price. ✓Provision for financial support through short term loan to the member farmers	Capsicum, Potato, Ridge gourd, Cucumber , Cowpea, Bottle gourd, Okra	1751	25.0	
3	Suryanagar Madhusudanpur Farmer Producer Company Ltd.	U01403WB2016PTC210402	18 March, 2016	✓Marketing of agricultural and fishery inputs at doorstep to the farmers ✓Marketing of processed dal and rice to other FPCs of North Bengal districts for onward transmission to Sufal Bangla ✓Marketing of sunflower oil after crushing and processing with the oil expeller machine obtained on the recommendation of the KVK	Agricultural and fishery inputs and products	1000	15.0	
4	Dutipata Farmers Producer Company Ltd.	U01100WB2019PTC231331	4 April, 2019	✓Demonstration of oilseed and pulses among the SHG members ✓Training imparted to SHG members on	Organic inputs like biopesticides and	2000	3.0	

				agriculture technologies in collaboration with KVK ✓ Education to child labours ✓ Organic input marketing for betel vine and other agricultural crops	biofungicides			
5	Karnjali Sabuj Biplab Krishi Udyog Producer Company Ltd.	U01400WB2016PTC210073	4 March, 2016	✓ Marketing of agricultural inputs like pesticides, organic manure, crop seeds among the members as well as other farmers ✓ Marketing of seasonal vegetables ✓ Procurement of paddy grain and selling to Government Mills ✓ Demonstration on sunflower and pulses in collaboration with KVK	Tomato, cucumber , okra, bitter gourd, ridge gourd, snake gourd, green chilli, etc.	1000	10.0	

18. Integrated Farming System (IFS)

Details of KVK Demo. Unit

Sl. No.	Module details (Component-wise)	Area under IFS (ha)	Production (Commodity-wise)	Cost of production in Rs. (Component-wise)	Value realized in Rs. (Commodity-wise)	No. of farmer adopted practicing IFS	% Change in adoption during the year
1	Component 1 - Horticulture (Vegetables, fruit & mushroom)	0.10	6300 kg	41600	65200	135	25.18
2	Component 2 – Fish	0.12	211kg	14650	31650		
3	Component 3 – Field crops	0.18	1140	16430	29760		

19. Technologies for Doubling Farmers' Income

Sl. No.	Name of the Technology	Brief Details of Technology (3- 5 bullet points)	Net Return to the farmer (Rs.) per ha per year due to adoption of the technology	No. of farmers adopted the technology in the district	One high resolution 'Photo' in 'jpg' format for each technology
1	Seed production of Asian catfish	➢ Eggs of female fish collected and fertilized with squashed testis of male fish ➢ Fertilized eggs spread in glass trays for hatching ➢ Continuous cleaning of tray bottom and aeration ➢ Feeding with freshly hatched brne shrimp for 10 days followed by feeding with worms	135000.00/yr	155	
2	Horticulture nursery	➢ Quality seedlings of vegetables, flowers, fruits and ornamental plants are the key to horticultural plant multiplication and propagation. ➢ Vegetable seedlings were raised in 98 hole plug tray for healthy seedling growth, easy transplanting and better plant stand ➢ Fruit saplings were raised through budding and grafting upon rootstock raised in plastic bags	168000.00/0.13 ha/year	72	
3	Winter okra cultivation	➢ Okra is a summer crop, which is normally cultivated in summer and rainy season ➢ In this innovative method, okra is sown in December-January, after harvest of kharif paddy ➢ In winter, to overcome germination problem of okra seeds, special germination technique is followed and only germinated	98000.00/ha/season	1156	

		seeds are sown ➢ Before sowing, seeds are treated with cycocel 50ppm for 12 hours to enhance crop resistance against biotic (YVMV, sucking pest , etc) and abiotic (cold, draught, soil salinity etc.) stresses. ➢ This technology ultimately gives offseason harvest of okra with high market price as well as prolonged and better harvest due to cycocel treatment			
4	Integrated fish farming	➢ Integration of horticulture, fish and poultry ➢ Vegetables and fruit plants on pond embankment and aerial cultivation of cucurbits ➢ Vegetables on land embankment during kharif and rabi ➢ Poultry birds	50700.00/0.20ha/yr	1347	
5	Greengram cultivation	➢ YVMV resistant variety IPM-205-7 ➢ Seed inoculation with *Rhizobium*, PSB and KSB ➢ Use of *Trichoderma* and *Pseudomonas* biofungicides ➢ Use of micro nutrients (B & Mo)	40250.00/ha	550	

20. Report on Digital Farming Initiatives in Agriculture/ Digital Ag. Extension Service

	Database prepared/ covered for		KVK level Committee		Various activity conducted for farmers
Phase	Total no. of villages	Total no. of farmers	Date of formation	Name of members	
I (up-to 15.03.2018)					
II (up-to 24.04.218)					
Total					

21. Information on Visit of VIPs to KVKs, if any: NA

Date of Visit	Name of Hon'ble Minister	Name of Ministry	Salient points in his/ her observation (2-3 bulleted points)

22.a) Information on ASCI Skill Development Training Programme, if undertaken during 2019-20 and 2020-21

Year	Name of the Job role	Name of the certified Trainer of KVK for the Job role	Date of start of training	Date of completion of training	No. of participants	Whether uploaded to SDMS Portal (Y/N)	Fund utilized for the training (Rs.)
2020	Vermicompost producer	Mr. Prabir Kumar Garain, SMS, Plant Protection	02.03.2020	18.12.2020	20	Y	1,80,000.00
2020	Coconut grower	Dr. Chandan Kumar Mondal, SMS,Horticulture	01-02-2019	15-03-2019	20	Y	1,80,000.00

b) Information on Skill Development Training Programme (**Other than ASCI or less than 200 hrs**., if any) if undertaken during 2020-21

Thematic area of training	Title of the training	Duration (in hrs.)	No. of participants									Fund utilized for the training (Rs.)
			SC		ST		Other		Total			
			M	F	M	F	M	F	M	F	T	

23. Information on NARI Project(if applicable) : NA

Name of Nodal Officer	No. of OFT on specified aspects	Title(s) of OFT	No. of FLD on specified aspects	No. of capacity development programme on specified aspects	Total no. of farm women/ girls involved in the project	Details of Issues related to gender mainstreaming addressed through the project

24. Information on Krishi Kalyan Abhiyan Phase- I/ Phase-II/ Phase-III, if applicable : Nil

Krishi Kalyan Abhiyan- I and II

A. Training

Name of programme	*No. of programmes*	*No. of farmers benefitted*									*No. of officials attended the programme*
		SC		ST		Others		Total			
		M	F	M	F	M	F	M	F	T	
KKA-I											
KKA-II											

B. Distribution of seed/ planting materials/ input/ others

Name of programme	*No. of Programme*	*Total quantity distributed*				*No. of farmers benefited*									*No. of other officials (except KVK) attended the programme*
		Seed (q)	*Planting material (lakh)*	*Input (kg)*	*Other (kg/ No.)*	*SC*		*ST*		*Others*		*Total*			
						M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*T*	
KKA-I															
KKA-II															

C. Livestock and Fishery related activities

Name of programme	*No. of Programme*	*Activities performed*				*No. of farmers benefited*									*No. of other officials (except KVK) attended the programme*
		No. of animals vaccinated	*No. of animals dewormed*	*Feed/ nutrient supplements provided (kg)*	*Any other (Distribution of animals/ birds/ fingerlings) [No.]*	*SC*		*ST*		*Others*		*Total*			
						M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*T*	
KKA-I															
KKA-II															

D. Other activities

Name of programme	*Activities*	*No. of farmers benefited*									*No. of other officials (except KVK) attended the programme*
		SC		*ST*		*Others*		*Total*			
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	T	
KKA-I	Soil Health Card Distributed										
	NADEP Pit established										
	Farm implements distributed										
	Others, if any										
KKA-II	Soil Health Card Distributed										
	NADEP Pit established										
	Farm implements distributed										
	Others, if any										

Krishi Kalyan Abhiyan- III

No. of villages covered	*No. of animal inseminated*	*No. of farmers benefitted*									*Any other, if any (pl. specify)*
		SC		*ST*		*Others*		*Total*			
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	T	

25. Nutri-garden

Sl.no.	Name of KVK	Established in KVK Campus	No. of nutri-garden established in the village	Major vegetables production		
1	RAKVK	Two demonstration unit	55	***Rabi***	***Rabi*-Summer**	***Kharif***
				Green leafy vegetables	**Green leafy vegetables**	**Green leafy vegetables**
				Amranth red, raddies, , palak, phenugreek leaf, Ammarnth cordatas Ammaranth green,	White amaranthus, Red amaranthus, small amaranthus, basella (green & red),coriander, palak, Ipomea, jute leaves	Amaranthus, Ipomea, basella sweet potato leaf, ashgourd leaf
				Other vegetables	**Other vegetables**	**Other vegetables**
				Raddish, Carrot, Cauliflower (yellow & purple), broccoli, red cabbage, tomato, French bean, peas, broad bean	Ladies finger (red & green), pumpkin, bittergourd, spongegourd, cowpea (red & green)	Ashgourd, sponge gourd, brinjal, ladies finger, cowpea (red & green)




26. Any other programme organized by KVK, not covered above

Sl. No.	Name of the programme	Date of the programme	Venue	Purpose	No. of participants
1.	Mid-Term Review Workshop of Oilseeds Seed Hub	24.01.20	RAKVK, Nimpith	Mid-Term Review Workshop of Oilseeds Seed Hub under NFSM (Oilseeds) Ministry of Agriculture & Farmers Welfare Department of Agriculture, Cooperation & Farmer's Welfare, GOI, New Delhi in Collaboration with RAKVK, Nimpith, W.B.	72
2.	Annual Agricultural Exhibition cum Technology Week 2020	03.2.20 to 05.02.20	Vivekananda Play Ground, Nimpith	Demonstration of technologies developed and extended by the KVK in farmers field, generate enthusiasm among farmers to adopt new and sustainable situation specific technologies, etc.	2450
3.	State Oilseed KisanMela under NFSM(Oilseeds) 2019-20	10.02.20 to 11.02.20	Vivekananda Play Ground, Nimpith	State Oilseed KisanMela under NFSM(Oilseeds) 2019-20 Organised by Department of Agriculture, Govt. of West Bengal in Collaboration with RAKVK, Nimpith, W.B.	2500
4.	International Women's Day 2020	08.03.20	RAKVK, Nimpith	International Women's Day 2020 Theme: "I am Generation Equality: Realizing Women's Rights"	103
5.	Advisory for Farmers during COVID-19 lockdown	24.03.20 to 03.05.20	RAKVK, South 24 Parganas district, West Bengal	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during agricultural operations through SMS, voice SMS, whatsapp message, multilocation audio conference, social media, etc.	147517

6.	Multi location audio conference on Precautionary Measures against COVID 19 during farming work	17.04.20	RAKVK, South 24 Parganas district, West Bengal	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during agricultural operations	27
7.	Multi location audio conference on Fish Farming Practices during COVID 19 situation	20.04.20	RAKVK, South 24 Parganas district, West Bengal	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during fisheries operations and optimum technological options to be taken up for sustenance	30
8.	Multi location audio conference on Crop management in summer vegetables during COVID-19 situation	22.04.20	RAKVK, South 24 Parganas district, West Bengal	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during agricultural operations and optimum technological options to be taken up for sustenance	34
9.	Multi location audio conference on Precautionary Measures against COVID-19 during farming work	01.05.20	RAKVK, South 24 Parganas district, West Bengal	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during agricultural operations	32
10.	Agricultural extension activities undertaken by RAKVK, NIMPITH to reach the farming communities in Covid-19 scenario	15.05.20	RAKVK, South 24 Parganas district, West Bengal in collaboration with All India Radio, Kolkata	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during agricultural operationsand optimum technological options to be taken up for sustenance	-
11.	Benefits of nutritional garden and uncultivated food sources in Covid-19 situation	15.05.20	RAKVK, South 24 Parganas district, West Bengal in collaboration with All India Radio, Kolkata	Optimum technological options,with respect to household food security, to be taken up for sustenance	-
12.	Multi location audio conference on Precautionary Measures against COVID 19 during farming work	16.05.20	RAKVK, South 24 Parganas district, West Bengal	Awareness generation among the farmers regarding the preventive measures to be taken in lockdown during agricultural operations	36
13.	Video Conference on precautionary measures to be followed in the farming sector and preparedness to tackle the AMPHAN cyclone	18.05.20	RAKVK, South 24 Parganas district, West Bengal	Video Conference on precautionary measures to be followed in the farming sector and preparedness to tackle the cyclone AMPHAN	22
14.	Workshop on "Online classes of DAESI course and preparation of study materials" through video conferencing	18.05.20	Conducted by SAMETI, West Bengal	Preparation of study materials for online DAESI course to be conducted by video conferencing	69

15.	Celebration of “World Bee Day” by AICRP (HB & P), RAKVK, Nimpith Centre	20.05.20	Video Conference through Google Meet	To build awareness among the farming communities regarding the benefit of apiculture in agriculture and alternative livelihood generation	46
16.	Celebration of National Fish Farmer's Day	10.07.20	Audio conference	Fish Pond Management in Post Amphan Scenario	35
17.	Multi location audio conference on Integrated Pest and Disease Management	16.07.20	Audio conference	Plant protectionary measures in Post Amphan Scenario	34
18.	92nd Foundation Day and Award Ceremony of the Indian Council of Agricultural Research	16.07.20	Online video programme	Celebration of 92nd Foundation Day and Award Ceremony of the Indian Council of Agricultural Research by mobilizing farmers and farm women to view different programmes through ICAR social media/ Website	26
19.	Multi location audio conference on Breeding protocol of Asian Catfish	17.07.20	Audio conference	To inform the farmers regarding the following: 1. Equipments required for catfish breeding 2. Identifying characters of brooders 3. Dosage of hormone injection 4. Castration of male fish 5. Stripping of eggs from female fish 6. Fertilization 7. Hatching of eggs 8. Hatching of brine shrimp and feeding the small fries	24
20.	Annual Review Workshop of AICRP on Honeybee and Pollinators	22.07.20	Online video programme	Review of research activity during 2019-20 of AICRP on Honeybee and Pollinators	89
21.	"Release of benefit under PM KISAN and Launch of Financing Facility under Agriculture Infrastructure Fund"	09.08.20	RAKVK, Nimpith	To aware the farmer about the benefit under PM KISAN SammanNidhi Scheme launched by Hon'ble Prime Minister of India, ShriNarendraModiji on 9th August, 2020	24
22.	Integrated Pest and Disease Management	24.08.20	Video conference on Google Meet	To inform the farmers regarding the following: · Bitter Gourd crop diseases and their control · Bitter gourd Leaves turning yellow · Leaf Curling Management in Bitter gourd · White fly Management · Management of Sucking Insects · Fruit Fly Management in Bottle Gourd · Management of Flower dropping in pointed gourd	47

23.	Mixed fish and prawn farming for doubling farm income	25.08.20	Audio conference	To make the farmers aware regarding the steps to be taken in fish culture operations to double their income	36
24.	Fostering Freshwater Aquaculture Technology Dissemination through KVK Network	27.08.20	Webinar organized by ICAR-CIFA & NFDB	Using the KVK platform for effective dissemination of aquaculture technologies to the farming community	362
25.	Inauguration of Academic and Administrative Building of Rani Lakshmi Bai Central Agricultural University Jhansi" Webcasting through https://pmindiawebcast.nic.in/ portal at RAKVK	29.08.20	Webcasting through https://pmindiawebcast.nic.in/ portal at RAKVK	To show the event to farmers, extension workers and all staff of KVK	95
26.	Fish Pond Management	29.08.20	Audio conference	To make the farmers aware regarding the steps to be taken in fish pond management	33
27.	Preparation and management of nutrition garden to attain food and nutrition security at household level	03.09.20	Audio conference	To make the farm womenawareabout the preparation and management of nutrition garden to attain food and nutrition security at household level	38
28.	National Nutrition Week 2020	09.04.20	Online/ Google Meet	Online class and interactive session on preparation and management of nutrition garden to attain food and nutrition security at household level	42
29.	NRC Review and Orientation on Wash	15.09.20	Webinar through Zoom	NRC Review and Orientation on Wash by Dept. of Heath and Family Welfare, W.B. NRCs of West Bengal	44
30.	Poshan maah 2020	17.09.20	RAKVK, Nimpith	Special emphasis on POSHAN Special training programme for Anganwadi Workers and Farm Women Discussion on Nutri-garden, Nutri-thali for balanced diet, bio-fortified varieties in nutrition, vegetables & horticultural crops and distribution of seasonal vegetables seeds	117
31.	Food Fads and Taboos - Awareness Generation	25.09.20	Internet Radio Station –RAKVK, Nimpith	To eradicate Food Fads and Taboos for improvement of nutritional status specially for pregnant and lactating mother	62
32.	Identification and management of malnourished children at community level and Nutritional Rehabilitation Center(NRC)	25.09.20	Internet Radio Station-RAKVK, Nimpith	Identification and management of malnourished children at community level and admission of severely acute malnourished children at Nutritional Rehabilitation Center(NRC)	65

33.	Celebration of "World Cotton Day 2020"	07.10.20	RAKVK, Nimpith	Celebration of World Cotton Day by RAKVK, Nimpith, W.B. in collaboration with Cotton Corporation of India, Kolkata Centre	38
34.	Celebration of MahilaKisanDiwas 2020	15.10.20	RAKVK, Nimpith	The adolescent girls of the farm women were invited to participate in drawing competition at the KVK campus as well as online submission in view of maintaining social distancing during COVID situations. The theme of the drawing competition was – Women in Agriculture, Nutrition. All the participants were presented with a mango sapling and a booklet on nutrition garden published by RAKVK, Nimpith. 30 farm women from different regions of South 24 Parganas were also felicitated to recognize their contribution towards development of agriculture among their farming community.	30
35.	World Food Day 2020	16.10.20	RAKVK, Nimpith	A seminar was organized for the farmers and farm womenof different districts of the state for an overview of importance of the World Food Day 2020 with the theme “Grow, Nourish, Sustain. Together. Our actions are our future.” Several methods employed by the RAKVK to provide sustained nourishment for the farming communities at large were discussed. Webinar was also organized.	40
36.	Vigilance Awareness Week 2020	27.10.20	RAKVK, Nimpith	On the occasion of observance of Vigilance Awareness Week 2020 (SATARK BHARAT, SAMRIDDH BHARAT) at RAKVK, Nimpith premises the integrity pledge for the organization was taken by the employees of the institute on 27th October, 2020 Essay Competition wasorganized on the occasion on 28th October, 2020 on The topic – “In your opinion what steps may be taken to adopt Zero Tolerance Against Corruption in your organization” (Within 500 words). All the participants were appreciated with token gifts.	48

37.	Webinar on "New Farm Act 2020"	28.10.20	Webinar organized by MANAGE, Hyderabad	For capacity building of the KVK personnel on the three new farm acts	42
38.	National Nutrition Mission	11.11.20	One day Webinar organized by ICAR-ATARI, Kolkata	Participation in the webinar with adolescent girls, farm women, school girls, etc.	30
39.	World Fisheries Day	21.11.20	Audio conference	Multi location audio conference with the fishing communities of South 24 Parganas to make them aware regarding the profitable options for livelihood generation through fisheries activities	30
40.	Celebration of Constitution Day	26.11.20	RAKVK, Nimpith	To spread awareness among the citizens on different fundamental rights and reading out the preamble and fundamental rights	34
41.	World Soil Day 2020	05.12.20	RAKVK, Nimpith	Deliberations highlighting the importance of the day. Distribution of Soil Health Cards	35
42.	ARYA District Level Committee Meeting	16.12.20	Online through Google Meet	To get approval of the different activities under ARYA project and review of works	5
43.	34th Scientific Advisory Committee (SAC) Meeting	19.12.20	Online through Google Meet	To get approval of the Rabi action plan	24
44.	PradhanMantriKisanSammanNidhi (PM-KISAN)	25.12.20	Vivekananda Conference Hall of RAKVK, Nimpith	Viewed webcasting of PradhanMantriKisanSammanNidhi (PM-KISAN) programme through https://pmindiawebcast.nic.in at Vivekananda Conference Hall of RAKVK, Nimpith	70
45.	Training programme and input distribution under SCSP program of IIPR, Kanpur on Fishery and Horticulture (Fund received – Rs.630000/-)	10.03.20-13.03.20 and 16.03.20-19.03.20	RAKVK, Nimpith	Imparted training on “Freshwater fish and prawn farming” and “Climate resilient horticulture practices” Distribution of cast nets and integrated concrete plantation units	200
46.	Training programme and input distribution under SCSP program of DGR, Junagadh (Fund received – Rs.2289400/-)	2020	RAKVK, Nimpith	Input distribution in the form of fruit saplings, vermicompost, Trichoderma viridi, Pseudomonas flourescens, rooftop rainwater harvesting structure, battery sprayer, poultry chicks and feed, vegetable seeds	550
47.	Training programme and input distribution under SCSP program of IIOR, Hyderabad (Fund received – Rs.350000/-)	2020	RAKVK, Nimpith	Distribution of vegetable seed production materials Distribution of three sets of cooking utensils to three SHG members for demonstrating food processing under practical training	100

27. Good quality action photographs of overall achievements of KVK during the year (best 10)

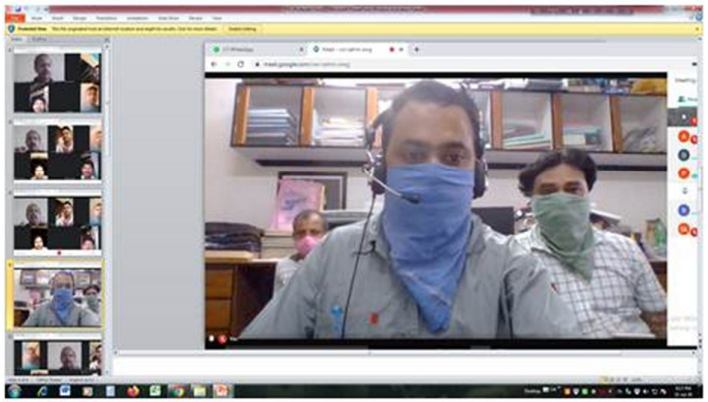
Mid-Term Review Workshop of Oilseeds Seed Hub under NFSM (Oilseeds), Ministry of Agriculture & Farmers Welfare, Department of Agriculture, Cooperation & Farmer's Welfare, GOI, New Delhi organised by ICAR-Indian Institute Of Oilseed Research, Rajendranagar, Hyderabad and RAKVK, Nimpith, South 24 Parganas, W.B. on 24.01.2020

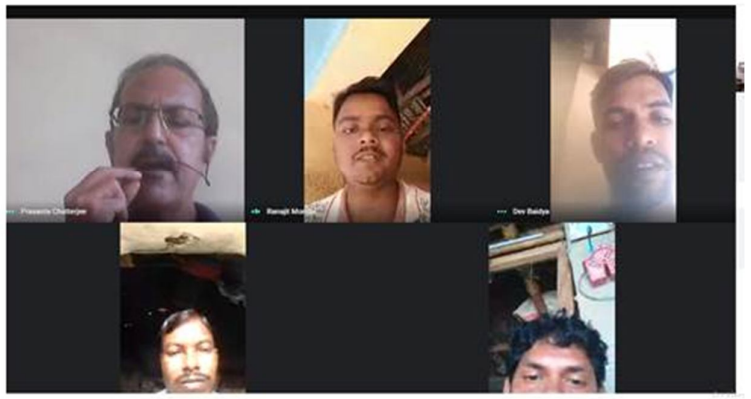
Annual Agricultural Exhibition cum Technology Week 2020

State Oilseed Kisan Mela under NFSM (Oilseeds) 2019-20 organised by RAKVK, Nimpith at Vivekananda Play Ground of Sri Ramkrishna Ashram, Nimpith, South 24 Pgs, W.B. from 10.02.20 to11.02.2020

Celebration of International Women's Day at RAKVK, Nimpith on 08.03.20

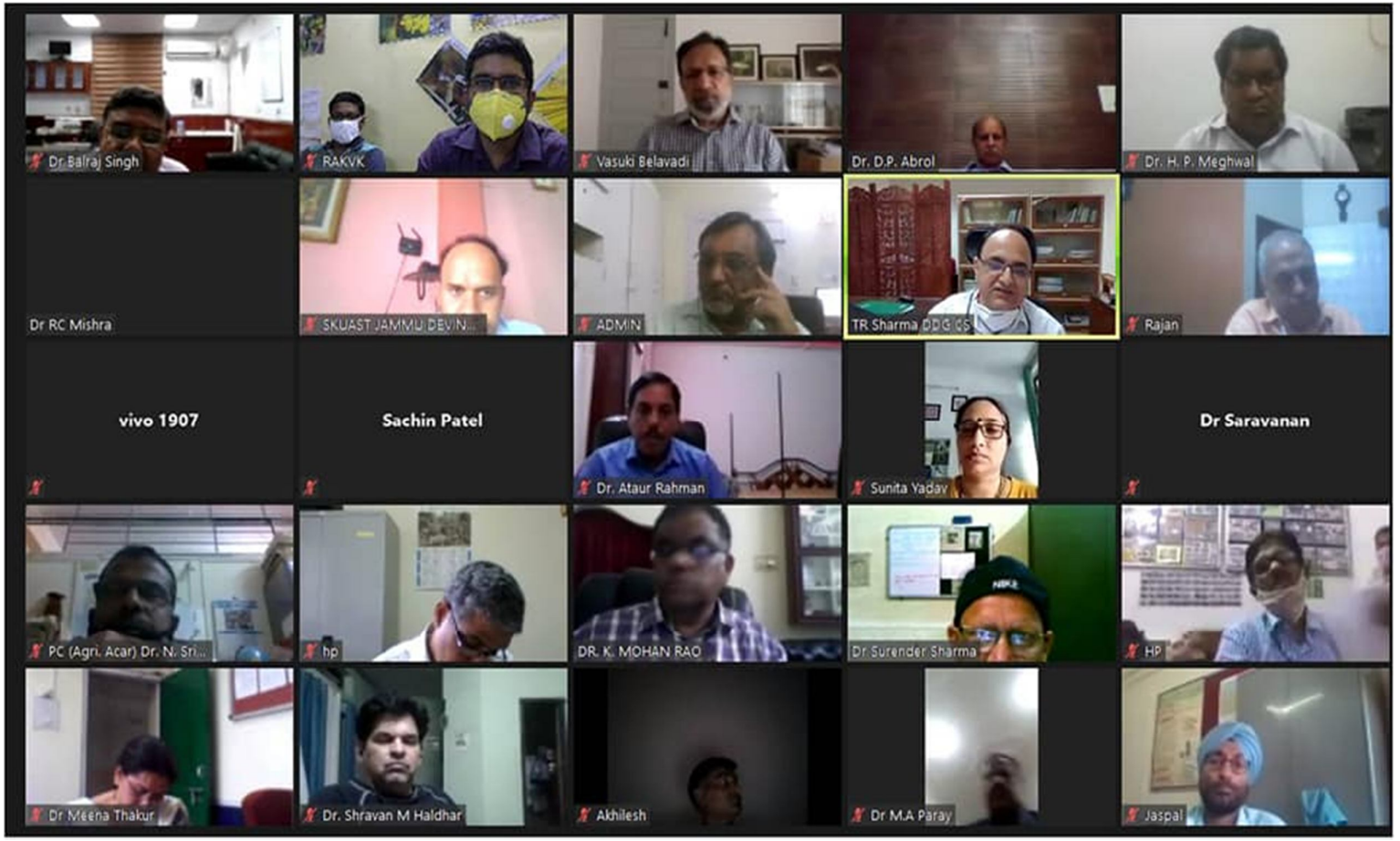
Video Conference on precautionary measures to be followed in the farming sector and preparedness to tackle the AMPHAN cyclone on 18.05.2020





Celebration of National Fish Farmer's Day Theme: Fish Pond Management in Post Amphan Scenario 10.07.2020

92nd Foundation Day of Indian Council of Agricultural Research and Award Ceremony was celebrated by RAKVK, Nimpith on 16.07.20



Online Annual Review Workshop of AICRP on Honeybees and Pollinators on 22.07.2020

Webinar to celebrate "National Nutrition Week 2020" (1st - 7th September, 2020) Theme: 'Eat Right, Bite by Bite'

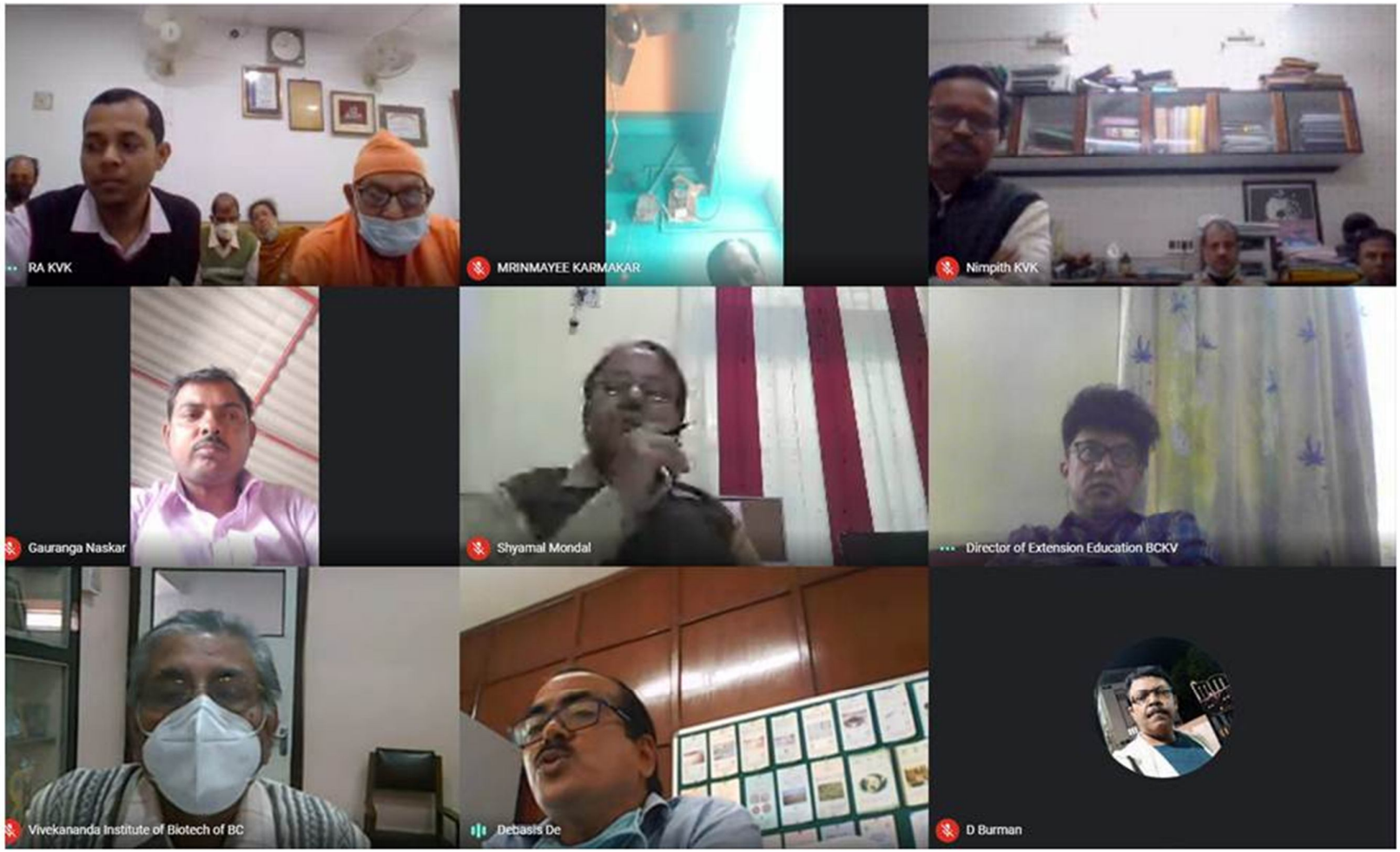
Hon'ble, MLA, Joynagar Assembly, Shri Biswanath Das delivering his valuable speech on Poshan Maah 2020 at Vivekananda Conference Hall on 17.09.20

Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith celebrated Mahila Kisan Diwas on 15th October, 2020

Integrity Pledge for the organization has been taken by the employees of RAKVK, Nimpith on 27th October, 2020 during observance of Vigilance Awareness Week 2020 at RAKVK, Nimpith premises on 27.10.20

Celebration of Constitution Day on 26.11.20 at RAKVK, Nimpith

Celebration of World Soil Day 2020 and distribution of soil health cards
by RAKVK, Nimpith on 05.12.20 at Vivekananda Conference Hall, Nimpith



34th Scientific Advisory Committee (SAC) Meeting organised by RAKVK, Nimpith through google meet on 19.12.20

Viewed webcasting of Pradhan Mantri Kisan Samman Nidhi programme
through https://pmindiawebcast.nic.in at Vivekananda Conference Hall of RAKVK on 25.12.2020

28. SC SP quarter-wise

Table-I: Schedule Caste Output & Outcome Achievement/Indicators for 2020-21 (QUARTER-WISE)

Physical Output 2020-2021

Sl. No.	Indicator/Activities	Unit of Indicator	Quarterly Breakup (Target)	Targets Achieved	No. of Beneficiaries	Outcome
1	Farmers, farm women trained by KVKs	Number	Q-1 : 11 (340) Q-2 : 26 (816) Q-3 : 21 (670) Q-4 : 20 (675)	Q-1 : 21 Q-2 : 4 Q-3 : 0 Q-4 : 13	Q-1 : 881 Q-2 : 166 Q-3 : 0 Q-4 : 489	Capacity building on different technologies resulting in enhancement of productivity and income and upliftment in the quality of life Entrepreneurship development
2	Extension personnel trained by KVKs	Number	Q-1 : 4 (140) Q-2 : 1 (20) Q-3 : 1 (30) Q-4 : 2 (60)	Q-1 :1 Q-2 Q-3 Q-4	Q-1 : 1 Q-2 Q-3 Q-4	-
3	On-farm trials conducted by KVKs	Number	Q-1 : 4 (42) Q-2 : 1 (10) Q-3 : 5 (51) Q-4 : 2 (20)	Q-1 : 3 Q-2 : - Q-3 : 5 Q-4 : 2	Q-1 : 21 Q-2 : - Q-3 : 51 Q-4 : 15	Identification of technologies for demonstration followed by large scale demonstration and dissemination in the district
4	Frontline demonstrations conducted by KVKs	Number	Q-1 : 4 (325) Q-2 : 2 (65) Q-3 : 3 (55) Q-4 : -	Q-1 : 4 Q-2 : 1 Q-3 : 4 Q-4 : 2	Q-1 :287 Q-2 :50 Q-3 : 130 Q-4 : 138	Horizontal spread of the technologies in the district Large scale demonstration by the line departments
5	Quantity of seeds produced	Quintal	Q-1 : 216q Q-2 : 8.6q Q-3 : 104q Q-4 : 15q	Q-1 : 41.4q Q-2 : - Q-3 : 94.55q Q-4 : 12q	Q-1 : 91 Q-2 : Q-3 : 929 Q-4 : 25	Farmers provided with quality(foundation/certified paddy and greengram) seeds at remunerative price
6	Planting materials produced	Number	Q-1 : - Q-2 : 10000 Q-3 : 5000 Q-4 : -	Q-1 : - Q-2 : 147360 Q-3 : - Q-4 : -	Q-1 : Q-2 : Q-3 : Q-4 :	Farmers are provided with good quality planting materials (seedlings and fruit saplings) at remunerative price for enhancing income
7	Livestock strains and fingerlings produced	Number	Q-1 : Q-2 :90000nos Q-3 : - Q-4 : -	Q-1 : Q-2 : 87.898lakh Q-3 : - Q-4 : -	Q-1 : - Q-2 : 72 Q-3 : - Q-4 : -	Providing farmers with various quality fish seeds for enhancing productivity and profitability
8	Soil & water samples tested	Number	Q-1 : 500 Q-2 : 500 Q-3 : - Q-4 :500	Q-1 : 600 Q-2 : 702 Q-3 : Q-4 : 771	Q-1 : 595 Q-2 : 688 Q-3 : Q-4 : 762	Distribution of soil health cards enabling farmers to adopt balanced use of fertilisers Reduced fertliser cost and sustaining soil health

Crop Damage in different Blocks of South 24 Parganas due to AMPHAN

Sl. No.	Crop	Type of damage	Affected Blocks	Approx Area (ha) of damage	Recommendation
1	Betel vine	• All leaves, vines and stems of plants are damaged. • Traditional boroz structure completely damaged • Nets of the GI structure shade net borozblown and torn away, only GI frame is unaffected	Sagar, Namkhana, PatharPratima, Kakdwip, Kulpi, Kultali	1150 ha (22700 no. Boroz)	• Erect the boroz structure • Removal of damaged vines and replanting • Soil drenching with copper oxychloride (4g/L) and spraying with copper oxychloride (2g/L) to prevent *Phytophthora* rot and bacterial leaf spot • Spraying the crop with IBA to induce rooting • Horticulture department may consider supporting the farmers with shade net (75% shade for top cover and 50% shade for side)
2	Summer Vegetables (Okra, bitter gourd, bottle gourd, snake gourd, pointed gourd, brinjal)	• All standing crop are scorched and defoliated. • Trellis and bowers are ruined.	Joynagar-I & II, Mathurapur I & II, Kultali, Diamond Harbour – I& II, Magrahat I & II, Mandirbazar, Kulpi, Kakdwip, PatharPratima, Namkhana, Sagar	2300 ha	• Avoid any management for the crops in late stage. • The crops at early stage of growth may be taken into consideration, if there is possibility to revive. • To strengthen the root system, apply 12:61:0 fertilizer @ 3g/L in the root zone • To revive plant growth, spray amino acid based growth promoter @ 1.5 ml/lt or simply apply immature coconut water @ 20 ml/lt. • Soil drench with copper oxychloride (@4g/L)
3	Fruit crops (Papaya, Banana, Sapota, Guava, Litchi, Mango, Coconut, Arecanut, Water apple)	• Papaya, Banana, Sapota, Mango, Water apple plants are broken from middle portion • Guava, Litchi, Mango, Coconut leaves are scorched and defoliated • Litchi, Mango, Coconut, Arecanut, Water apple plants are uprooted in many places	Joynagar-I & II, Mathurapur I & II, Kultali, Diamond Harbour – I& II, Magrahat I & II, Mandirbazar, Kulpi, Kakdwip, PatharPratima, Namkhana, Sagar	960 ha	Papaya: • Remove most of the older leaves • Spraying of rooting hormone (IBA) in the root zone • Apply 12:61:0 fertilizer 3g/L for strengthening of root system • Soil drench with Metalaxyl+ Mancozeb (@2.5g/L) to prevent *Phytophthora* collar rot Banana: • Remove the damaged stem and keep 2-3 good suckers

					• Apply fertilizers per plant as follows o Urea – 150g, SSP – 50g, MOP – 200g, Zinc – 10g, Boron – 5g, Organic manure – 500g to 1 kg, Sapota: • Remove the broken branches carefully using a saw • Paint the cut edges with COC • Apply fertilizers per plant as follows o 10:26:26 – 300 to 500g o Urea – 200 – 250g o Manure – 1 kg to 2 kg
4	Cotton	• Standing crops are scorched and defoliated.	Joynagar- II, MathurapurI &II, Kultali, PatharPratima, Namkhana	550 ha	• To strengthen the root system, apply 12:61:0 fertilizer @ 3g/L • To revive plant growth, spray amino acid based growth promoter @ 1.5 ml/lt or simply apply immature coconut water @ 20 ml/lt. N.B. As the crop is at the end of its season, and monsoon is about to set in, so it is very difficult to get time to revive the plant, but still the above may be tried.
5	Fresh water fish	• Pond water turned blackish and acidic due to decomposition of fallen plant parts and leaves. • Fish surfacing and mortality. • Brackish water ingress resulting in mass mortality • Pond embankment damaged	Joynagar-I & II, Mathurapur I & II, Kultali, Diamond Harbour – I& II, Magrahat I & II, Mandirbazar, Kulpi, Kakdwip, PatharPratima, Namkhana, Sagar	1390 ha	• Remove all the fallen trees and other plant parts • Weekly liming @ 10kg/bigha for at least 4 weeks • Spraying of diluted solution (5 ppm) of potassium permanganate in early morning and late evening for at least 10 days • Stocking of fingerlings and advanced fingerlings (2000/ bigha)
6	Brackish water fish	• Embankment of Bheri damaged resulting in escape of fish stock. • Water quality deterioration.	Kultali, Kakdwip, PatharPratima, Namkhana, Sagar	680 ha	• The brackish water inundated lowlands can be enclosed by raising bunds to facilitate growth of the captured

7	Livestock	• Injury and mortality of animals due to falling of roof sheds, trees etc.	Joynagar-I & II, Mathurapur I & II, Kultali, Diamond Harbour – I& II, Magrahat I & II, Mandirbazar, Kulpi, Kakdwip, PatharPratima, Namkhana, Sagar	All Blocks	• Prevent grazing to avoid enteric problem in animals following water subsidence of the grazing lands • Upper portion of green grass may be cut and fed to animals in-house • Meticulous vaccination should be followed • Double dose of de-worming, i.e. 2 dose at 21 days interval. • Encourage duck farming among the poultry growers as being scavengers, the duck could clean up the environment.
8	Beekeeping	• Hives damaged and Colonies swarmed. • Severe shortage of bee forage due to loss of crop plants and mangroves	Baruipur, Joynagar-I & II,Kultali	1200 no	• Clear the debris from the apiary site • Arrange for shade over the hives and clean water • Provide the colonies with pollen supplement and sugar syrup if the surrounding bee forage is destroyed • National Bee Board and Horticulture Department may take up this matter and consider supporting the beekeepers by providing beehives in case of such loss.

Suggestions for ensuing Kharif season:

- Paddy: In brackish water inundated fields, grow saline tolerant varieties like DRR – 42 and Luna Subarna
- RAKVK is having its own soil testing laboratory which may be utilized by the line departments for testing of soil samples of affected farmers


Samsung Dual Camera