ANNUAL REPORT 2013-14

(April, 2013 to March, 2014)

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	kvknimp@cal2.vsnl.net.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	kvknimp@cal2.vsnl.net.in nimpithkvk@rediffmail.com nimpithkvk1979@gmail.com

1.3. Name of the Programme Coordinator with phone & mobile No.

Name	Telephone / Contact		
	Residence	Mobile	e-mail
Dr. Nilendu Jyoti Maitra	-	09434437053	njmaitra@rediffmail.com

1.4. Year of sanction of KVK: **1979**

1.5. Staff Position (as on 1st April, 2014)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay scale with present basic	Date of joining/ if vacant since when	Permanent /Temporary	Category(SC/ST/ OBC/Others)
1	Programme Coordinator	Dr. Nilendu Jyoti Maitra	Programme Coordinator	Administrative & Animal Husbandry	37400- 67000 (GP- 9000) (47,800)	01.06.2010	Permanent	Others
2	Subject Matter Specialist	Sri Swapan Kumar Samui	SMS (Agronomy)	Agronomy	15600- 39100 (GP-7000) (33,800)	01.04.1997	Permanent	Others
3	Subject Matter Specialist	Sri Prasanta Chatterjee	SMS (Fishery)	Fishery	15600- 39100 (GP 7000) (33,800)	28.10.1997	Permanent	Others
4	Subject Matter Specialist	Dr. Manasi Chakraborty	SMS (Home Science)	Home Science	15600- 39100 (GP 7000) (34,570)	08.12.2000	Permanent	Others
5	Subject Matter Specialist	Sri Chandan Kumar Mondal	SMS (Horticulture)	Horticulture	15600- 39100 (GP 6000) (29,950)	16.05.2005	Permanent	Others
6	Subject Matter Specialist	Dr. Subhasis Roy	SMS (Animal Husbandry)	Animal Husbandry	15600- 39100 (GP 6000) (27,390)	01.07.2010	Permanent	Others
7	Subject Matter Specialist	Sri Prabir Kumar Garain	SMS (Plant Protection)	Plant Protection	15600- 39100 (GP 22250)	17.10.2012	Permanent	OBC
8	Programme Assistant	Dr. Dipak Kumar Roy	Programme Assistant (Agronomy)	Agronomy	9300- 34800 (GP 4600) (21,030)	12.06.2001	Permanent	Others
9	Computer Programmer	Sri Partha Banik	Programme Assistant (Computer)	Office	9300- 34800 (GP 4600) (20,160)	09.06.2003	Permanent	Others
10	Farm Manager	Utpal Maity	Farm Manager	Fishery	9300- 34800 (GP 4200) (14,330)	02.12.2011	Permanent	Others
11	Accountant / Superintendent	Sri Aditya Guchhait	Assistant	Office	9300- 34800 (GP 4200) (15,780)	01.06.2010	Permanent	Others
12	Stenographer	Sri Debjyoti Maitra	Stenographer Grade-III	Office	5200- 20200 (GP 2400) (10,520)	04.01.2011	Permanent	Others
13	Driver	Sri Madhab Chandra Kayet	Driver –cum-Mechanic	Office	5200- 20200 (GP 2400) (12,100)	01.06.1995	Permanent	Others
14	Driver	Sri Birendra Nath Das	Driver –cum-Mechanic	Office	5200- 20200 (GP 2000) (11,450)	01.09.2003	Permanent	Others
15	Supporting staff	Sri Nemai Chand Mondal	Storekeeper-cum-Clerk	Office	5200- 20200 (GP 2800) (16,500)	01.02.1982	Permanent	SC
16	Supporting staff	Sri Sailen Das	Cook	Office	5200- 20200 (GP 4200) (18,540)	01.07.1979	Permanent	Others

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

1.7. Infrastructure Development:

A) Buildings and others

S. No.	Name of building	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	-	-	-	-	Totally completed	777.545	Use	ICAR
2.	Farmers Hostel	-	-	-	-	-do-	359.639	Use	ICAR
3.	Staff Quarters (6)	-	-	-	-	-do-	411.680	Use	ICAR
4.	Piggery unit	-	-	-	-	-	-	-	-
5.	Fencing	-	-	-	-	-do-	770.00 (mt.)	Use	ICAR
6.	Rain Water harvesting structure	-	-	-	-	-do-	17500	Use	ICAR
7.	Threshing floor	-	-	-	-	-do-	371.720	Use	CAPART
8.	Farm godown	-	-	-	-	-do-	378.790	Use	SDB, GOWB
9.	Dairy unit	-	-	-	-	-do-	3500.00	Use	ICAR & Revolving fund of KVK
10.	Poultry unit	-	-	-	-	-do-	280.00	Use	Revolving fund of KVK
11.	Goatary unit	-	-	-	-	-do-	2100.00	Use	ARD
12.	Mushroom Lab	-	-	-	-	-	-	-	-
13.	Mushroom production unit	-	-	-	-	-	-	-	-
14.	Shade house	-	-	-	-	-do-	300.00	Use	FPI & H
15.	Soil test Lab	-	-	-	-	-do-	280.00	Use	ICAR
16.	Others	-	-	-	-	-do-	397.300	Use	ICAR
17.	Demonstration unit(2)	-	-	-	-	-do-	675.750	Use	ICAR

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total km. Run	Present status
Tata Sumo Victa	2008-09	6,00,000.00	1,26,565	Running condition

C) Equipment & AV aids

Name of equipment	Year of purchase	Cost (Rs.)	Present status	Source of fund
a. Lab equipment				
Perkin-elmer UV-Vis Spectrophotomètre (Lamda 25)	2010-11	4,10,000.00	Working condition	ICAR
Perkin-elmer Atomic Absorption Spectrophotometer (AA-200)	2010-11	9,99,272.00		ICAR
pH meter	2010-11	4,000.00	Working condition	ICAR
Conductivity meter	2010-11	6,500.00	Working condition	ICAR
Eutech pH-Conductivity meter	2009-10	13,500.00		ICAR
Rescholar Laminar Air-flow	2008-09	49,500.00	Working condition	ICAR
Autoclave	20080-09	25,365.00	Working condition	ICAR
Refrigerator (GFE 25/2010)	2010-11	19,560.00	Working condition	NAIP
Rescholar Semi-automatic Corcyra rearing system (10 units)	2008-09	1,53,000.00	Working condition	ICAR
Rescholar Corcyra egg cleaning device	2008-09	18,000.00	Working condition	IRM
Rescholar Corcyra egg sterilization chamber	2008-09	22,500.00	Working condition	IRM
Rescholar Trinocular Zoom stereo microscope with eye-piece camera & software	2008-09	1,20,950.00	Working condition	IRM
Rescholar Binocular Research Microscope	2008-09	18,500.00	Working condition	IRM
Rotary shaker	2010-11	32,500.00	Working condition	ICAR
BOD incubator (Simeco)	2010-11	31,650.00	Working condition	ICAR
Double distillation unit	2010-11	33,250.00	Working condition	ICAR
Afcoset Electronic Balance(Model EK1200G)	2008-09		Working condition	ICAR
Afcoset Electronic Balance(Model ER 200A)	2008-09	45,500.00	Working condition	ICAR
REMI Centrifuge (Model R 8C)	2008-09	19,350.00	Working condition	ICAR
REMI Centrifuge (Model R 24)	2008-09	35,950.00	Working condition	NHM
Chrlorophyll meter (SPAD 502 plus)	2010-11	2,25,000.00	Working condition	ICAR

b. **c. Farm machinery**				
Seed grader	2010-11	2,10,000.00	Working condition	TMC
Pump sets	2003-04	50,000.00	Working condition	TMC
Tractor – Mahindra	2003-04	4,49,250.00	Working condition	ICAR
Thresher & Rotavator	2010-11	2,00,000.00	Working condition	ICAR
Disc Harrow	2009-10	70,000.00	Working condition	ICAR
Power Tiller	2009-10	1,43,000.00	Working condition	ICAR
Generator – 25 KVA	2010-11	3,56,852.00	Working condition	ICAR
d. AV Aids				
Camera TRV	2003-04	36,900.00	Working condition	NWDPRA
Printer	2003-04	4,000.00	Working condition	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	Working condition	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, 1-3KVA APC make UPS)	2009-10	-	Working condition (One Dell Optiplex-755 Computer and One 650VA APC make UPS are out of order)	ICAR
OPTOMA projector with 3M Digital annotation sensor with Aver-Media digital document visualizer (AF 300)	2009-10	1,70,000.00	Working condition (Projector is out of order)	RKVY
Lenovo Laptop	2008-09	48,000.00	Working condition	NHM
Samsung Notebook	2009-10	22,000.00	Working condition	TMC
HP Desk top Computer with Cannon Printer	2010-11	75,0000	Working condition	NAIP
Epson EB-825 Projector Samsung Touch 400TSn-2	2010	2,20,000.00	Working condition	NAIP
HP Office Jet All-in-one	2010-11		Working condition	NAIP
HP LaserJet M1522nf	2009-10	24,000.00	Working condition	AICRP
HP Color Jeser Jet 1215	2009-10	22,000.00	Out of order	NAIP
LG LED Projector	2014	1,18,000.00	Working condition	RKVY

D) Farm implements

Micro-metos MCR-300 automatic weather station with disease forecasting system (software GENEVA E2C)	2009-10	4,00,000.00	Working condition	NHM
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

1.8. A). Details SAC meeting* conducted in the year 2013-14

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
1.	24.08.2013	44	Use of $CuSO_4$ in paddy (to control *Chara*) should be in bag method and soil test should be done after it. Soil report should be presented in next SAC.	*Chara fragalis* has been controlled by the use of $CuSO_4$ @ 2.0 kg/*bigha*(0.13 ha) in paddy field. Presently, paddy has been harvested but soil is in moist condition. Therefore, after 10-15 days soil will be collected for testing the cupper (Cu) content.	
			Literature on coax and its' seed may be collected from CSSRI, canning.	Already requested for literature and seed	
			In the performance evaluation trial of AICRP-Sunflower, officers from line departments should be invited	ADA (Oilseed) was invited in the field in Kulpi.	
			Chilli leaf curl awareness programme may be conducted in collaboration with SDB.	Programme is being conducted in collaboration with SDB sponsored project at KVK Nimpith.	

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
1.	24.08.2013	44	Nutrition programme of Home Science section may be involved with mid-day meal programme.	Already nutrition programme is undertaken in schools.	
			DPO-ICDS should be included in SAC members list.	Already communicated	
			Mushroom produced by beneficiaries of KVK may be tagged with mid-day meal scheme.	Will be undertaken in this crop season	
			A mini sunflower crushing unit may be set-up in collaboration with SDB.	Already discussed. Decision will be taken by SDB.	
			In sunflower variety selection programme, oil content of a variety should be assessed by the farmers.	Farmers assessed & opined that oil content is more in DRSH-1	
			A small report of sunflower threshing by Bi-cycle should be sent to ZPD office very shortly.	Already communicated through e-mail dated 7th December,2013	
			Performances of sunflower varieties and *moong* varieties of these respective projects have to be sent to SDB for ease of their seed purchase decision.	The report was sent to the Member Secretary & Project Director, SDB on 27.08.2013. The copy was sent to the ZPD and the Deputy Director of Agriculture (Admn.), Alipore, Kolkata-700 027.	

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
1.	24.08.2013	44	Initiative should be taken to develop small cat-fish breeding units by progressive youths.	Already two progressive rural youths have established magur hatchery after receiving training from KVK (One last year & another in present year). Name & address – Rafique Ahmed, Vill. Khetia, Dist.-Burdwan Manas Sahana & Dhrubajyoti Bag, Vill. Jamalpur, Dist. Burdwan	
			Initiative should be taken to conserve pure breed of asian cat-fish and pangas.	Matter has been discussed with the Incharge, CIFE, Kolkata dated 27.11.2013	
			A brood bank project by NFDB may be developed.	Will be processed with technical support from CIFE.	
			Please inform Director, Fishery, GoWB about the importance of a SAC meeting of a KVK and the continuous absence of district fishery officer in the SAC meeting.	Already informed to the Director in a meeting by our respected ZPD himself dated 23.11.2013	
			Any agriculture related day or week celebration should be reported to ZPD office. Like 16th October, World Food Day.	Already reported and will also be reported.	
			Azolla, *Subabul* leaf and Drum stick leaf may be used as substitute to green fodder.	*Azolla* at 5% level already tested, *Subabul* leaf has also been tested & is being used. However, Drumstick leaf is not used for its nonavailability.	
			FLD performance of maize should be informed to SDB.	Discussed with SDB. Programme will be started by SDB during January, 2014 with technical support from KVK.	

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
1.	24.08.2013	44	Documentation of the farmers' innovation on 'Control of *Chara fragalis* using Coconut husk' should be informed to ZPD office along with photograph.	Potentiality of coconut husk to control *Chara fragalis* was tested at KVK Instructional Farm & in the farmers field under direct supervision of KVK Agronomists during the kharif, 2013. No remarkable result was observed.	
			Coax fodder seed may be procured from CSSRI, canning, and germination procedure may be adopted from the available literature published from CSSRI, Canning	Proposal have been given to AICRP unit of BCKV and procured and distributed to the farmers of NICRA village.	
			Report should be sent to ZPD regarding any day or week celebration	Krishi Mela celebration by IVRI on 6.09.2013 has been reported to ZPD.	
			Azolla may be promoted to poultry and dairy farming	Total 75 nos of beneficiaries of poultry farmer (backyard dual purpose bird) and dairy farmers have been demonstrated to their field on benefits of azolla feeding	
			Piggery farming may be promoted	As this farming is having social biasness and caste issues, KVK worked as linkage development for the interested farmers. 12 nos of interested farmers have been linked with ARD dept, Govt of West Bengal.	

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
2.	10.12. 2013	55	Soil test report on Cu content after use of $CuSO_4$ is used to control *Charafragilis* on *Kharif* paddy should be presented in the next SAC meeting	By the use of $CuSO_4$ @ 2 kg/0.13 ha to control of *Chara Fragilis* weed in *Khari*f paddy in the KVK instructional farm plot, after soil testing it was observed that Sulfur contain was 50.22 ppm before application and it increased to 74.09 ppm after application i.e. After harvesting of paddy.	
			Climatic vulnerability related project may be submitted to NABARD	Will be submitted	
			Financial support may be provided by NABARD for seed to market linkage programme. The support of RML Services may be taken for marketing of Agricultural commodities.	Discussion taken place with RML services regarding market information	
			CIFE should take initiative to collaborate with NABARD and KVK in developing the marketing channel for ornamental fish. In this respect, data base of Ornamental fish growers trained in KVK/ recipient of OF training in KVK is to be sent to CIFE for further connection with MPEDA or other organizations to strengthen the marketing channel	Action already taken and list of farmers has been sent to CIFE	

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
2.	10.12. 2013	55	Preparation of area specific mineral mixture project in collaboration with IVRI, ERS, Kolkata may incorporate fishery section, especially for NICRA village to evaluate / analyse water bodies for fish culture.	Fishery sector will be involved to prepare area specific mineral mixture for fish also.	
			A letter may be sent to IVRI, Baerilli for obtaining one CD on Protozoa's diseases of animals for farmers' demonstration.	Already sent	
			Mastitis screening in South 24 Parganas and its Zoonetic importance may be studied with the help of IVRI, ERS, Kolkata.	Screening visit has been done with IVRI For the dairy instructional farm	
			Proposal may be sent to NABARD for distant diagnosis in adopted villages through use of ICT.	Will be submitted.	
			Demonstration of Ornamental Bird in different villages of Coastal areas may be undertaken with the financial help from NABARD through small project.	NABARD will be approached	
			Technical support may be obtained from CIFE on value added products of fish and fish products.	Resource person is invited from CIFE	
			Trials on onion seed production during *Kharif* may be undertaken.	In contribution with Horticulture Department *Kharif* onion demonstration programme has been taken up in 10ha	

**** Salient recommendation of SAC in bullet form***

Meeting No. 24 **Date : 24.08.2013**
Place : Nimpith **Time : 10.30 a.m.**

A meeting of the Scientific Advisory Committee of Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith is held to-day, the 24th August, 2013 at 10.30 a.m. in the KVK premises with the following members :

Members Present:

1. Swami Sadananda, Chairman, KVK Nimpith
2. Dr. T.K.Naskar, MLA
3. Dr. B.K.Mahapatra, Principal Scientist, CIFE, Kolkata
4. Dr. Buddheswar Maji, Headm CSSRI, RRS, Canning Town
5. Dr. F.H.Rahaman, Senior Scientist, ZPD, Salt Lake
6. Shyamal Sarkar, Asstt. Supdt. of Livestock, Nimpith SPF
7. Dr. Binayak Purakayastha, Asst. Director, ARD,SPF Nimpith
8. Prof. (Dr.) Anil Chandra Pradhan, Advocacy Coordinator, R.K. Ashram R. D. Wing Nimpith
9. Dr. Aninda Sundar Ghosh, Dy.Project Director, Sundarban Development Board
10. Mr. Sirsendu Sinha, Project Officer, S. D. Board
11. Arun Kumar Mondal, Asst. D.A.(S.C.), Canning
12. Sudipta Das, Doordarshan, Kol.
13. Nilendu Jyoti Maitra, Prog. Coordinator
14. Swapan Kumar Samui, (SMS) Agronomy
15. Prasanta Chatterjee, (SMS) Fishery
16. Manasi Chakraborty (SMS, Home Sc.)
17. Chandan Kumar Mondal, SMS (Horticulture)
18. Subhasis Roy, SMS (A.H.)
19. Prabir Kumar Garain, SMS (Plant Protection)
20. Avijit Roy, Jr. Agronomist, AICRP on Sunflower
21. Dipak Kumar Roy, Programme Assistant (Agronomy), RAKVK, Nimpith
22. Utpal Maity, Farm Manager, RAKVK
23. Debasish Haldar, Tech. Asst., Sunflower
24. Kakali Pramanik, SHG, Shib Durga Sangha, Battala
25. Brihaspati Naskar, Padmapukur, SHG Swami Vivekananda
26. Sahanur Rahaman, SRF, NAIP
27. Atit Maji, SRF, NICRA
28. Tapas Kumar Sahana, SRF, NICRA
29. Arun Kumar Jana, SRF, NAIP
30. Bhaskar Mukherjee, Technical Assistant, KVK
31. Bapan Karmakar, Secretary, NWDPRA, Sri Durga Club, Gilarchhat
32. Tarak Nath Halder, Secretary, NWDPRA, Radhakantapur
33. Tarapada Ghosh, SRAN, RDW
34. Sukanta Banerjee, BGREI Project Staff, KVK
35. Lakshmi Ghosh, RAKVK, Home Science Section
36. Mousumi Halder, SDB Project, Home Science Section
37. Deb Jyoti Maitra, Stenographer-III, KVK
38. Partha Banik, Programme Assistant (Computer), RAKVK
39. Arabinda Samanta, Project Officer, BGREI
40. Shyam Sundar Lakshman, Jr. Breeder, AICRP on Sunflower
41. Subal Chandra Das, BGREI Project Staff

Resolutions:

1). The minutes of the last meeting are read and confirmed

2). The Programme Coordinator of KVK presented the progress of work of KVK for the period from August,2013 to November, 2013 before the members present in the meeting. Thereafter, Programme Coordinator with all Sectional Incharges of different disciplines of KVK participated in detail discussion on their respective subjects and problems raised on different aspects of work with the members present. After a good deal of discussion, the following recommendations have come out for betterment of the KVK activities.

a. Use of $CuSO_4$ in paddy (to control *Chara*) should be in bag method and soil test should be done after it. Soil report should be presented in next SAC.

b. Literature on coax and its' seed may be collected from CSSRI, canning.

c. In the performance evaluation trial of AICRP-Sunflower, officers from line departments should be invited.

d. Chilli leaf curl awareness programme may be conducted in collaboration with SDB.

e. Nutrition programme of Home Science section may be involved with mid-day meal programme.

f. DPO-ICDS should be included in SAC members list.

g. Mushroom produced by beneficiaries of KVK may be tagged with mid-day meal scheme.

h. A mini sunflower crushing unit may be set-up in collaboration with SDB.

i. In sunflower variety selection programme, oil content of a variety should be assessed by the farmers.

j. Performances of sunflower varieties and moong varieties of these respective projects have to be sent to SDB for ease of their seed purchase decision.

k. A small report of sunflower threshing by Bi-cycle should be sent to ZPD office very shortly.

l. Initiative should be taken to develop small cat-fish breeding units by progressive youths.

m. Initiative should be taken to conserve pure breed of *Asian cat-fish* and *Pangas.*

n. A brood bank project by NFDB may be developed.

o. Please inform Director, Fishery, GoWB about the importance of a SAC meeting of a KVK and the continuous absence of district fishery officer in the SAC meeting.

p. Any agriculture related day or week celebration should be reported to ZPD office. Like 16th October, World Food Day.

q. Azolla, Subabul leaf and Drum stick leaf may be used as substitute to green fodder.

r. FLD performance of maize should be informed to SDB.

s. Documentation of the farmers' innovation on 'Control of Chara fragalis using Coconut husk' should be informed to ZPD office along with photograph.

3) The performance of Front Line Demonstration on cotton, oilseeds and pulses during rabi-summer have been discussed in the meeting and the members present in the meeting satisfied with the progress of work on FLDs for the period under review.

4) The progress of work of the projects like, IRM, SDB, NICRA, ATMA, NAIP, NWDPRA, AICRP, IWMP, MGNREGA and BGREI for 2012-2013 have been discussed in the meeting and the Committee expresses its satisfaction for the work done during the period under review.

With a vote of thanks to and from the Chair the meeting dissolves.

Sd/- Swami Sadananda
Chairman. 24/08/2013

Meeting No. 25 **Date : 10.12.2013**
Place : Nimpith **Time : 10.30 a.m.**

A meeting of the Scientific Advisory Committee of Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith is held to-day, the 10th December, 2013 at 10.30 a.m. in the KVK premises with the following members :

Members Present:

Sl.No. Name &	Designation
1. Swami Sadananda,	Chairman, KVK Nimpith
2. Subrata Mondal	GM, NABARD,Kolkata
3. Dr. Ajit Kumar Poddar	Adviser, VIB, Nimpith
4. Dr. Subhasish Bandopadhyay	SIC, ERS, IVRI, Kolkata
5. Dr. B.K.Mahapatra,	SIC, CIFE, Kolkata-91
6. Sudipta Das,	Doordarshan, Kol.
7. Sandip Halder	Camerapex Channel 10
8. Subhabrata Das	Reporter Channel 10
9. Sumit Chakraborty	Programme Executive, All India Radio, Kol.
10. Tuhin Chatterjee	O.B. Producer, All India Radio, Kol.
11. Ishita Das Adhikary	Announcer, AIR
12. Dr. S. Roy	Scientist S.S., CSSRI, Canning
13. Dr. Binayak Purakayastha,	Asst. Director, ARD,SPF Nimpith
14. Prof. (Dr.) Anil Chandra Pradhan,	Advocacy Coordinator, R.A. R. D. W.
15. Kakali Pramanik,	SHG, Shib Durga Sangha, Battala
16. Sekhar De	R.A., CSSRI, Canning
17. Dr. N. J. Maitra,	Prog. Coordinator, KVK
18. Swapan Kumar Samui,	SMS (Agronomy)
19. Prasanta Chatterjee,	SMS (Fishery)
20. Dr. Manasi Chakraborty	SMS (Home Sc.)
21. Dr. Chandan Kumar Mondal	SMS (Horticulture)
22. Mr. Prabir Kumar Garain	SMS (Plant Protection)
23. Dr. Subhasis Roy	SMS (A.H.)
24. Dr. Dipak Kumar Roy,	Programme Assistant (Agronomy), RAKVK, Nimpith
25. Aditya Guchhait	Assistant
26. Bhaskar Mukherjee,	Tech. Asstt., KVK Nimpith
27. Brihaspati Naskar,	SHG, Swami Vivekananda, Padmapukur
28. Arun Kumar Jana,	SRF-NAIP, RAKVK
29. Debasish Haldar,	Tech. Asst., AICRP, Sun.
30. Utpal Maity,	Farm Manager, RAKVK
31. Sahanur Rahaman,	SRF, NAIP
32. Atit Maji,	SRF, NICRA
33. Swapan Barik	Secretary, Milani Sangha
34. Radhagobinda Jana	Secretary, Narayani Smriti Sangha
35. Tarun Burman	Asst. Secretary, Narayani Smriti Sangha
36. Goutam Pramanik	Secretary, D. Durgapur Kultali N.S.
37. Sanjoy Halder	President, D.Durgapur Kultali N.S.
38. Sukanta Banerjee	Secretary, Dumkal Uthhan Smriti Yuba Sangha
39. Bapan Karmakar	Secretary, Sree Durga Club, Gilarchhat
40. Tarak Nath Halder	Secretary, NWDPRA Radhakantapur
41. Debranjan Das	President, Madhabpur, VRDS
42. Deb Jyoti Maitra,	Gr.Steno., RAKVK, Nimpith
43. Sribendu Shit	Achintanagar Milani sangha
44. Pradip Halder	Dumkal Uthhan Smriti Yuba Sangha

Members Present:

Sl.No. Name	&	Designation
45. Parameshwar Gayen		Dumkal Uthhan Smriti Yuba Sangha
46. Banshi Nath Halder		Secretary, D.D.Friends; Club
47. Kalosona Sarder		Cashier, D.D. Friends' Club
48. Tapan Halder		President, D.D.Friends' Club
49. Partha Banik		Programme Assistant (Computer)
50. Tapas Kumar Sahana,		SRF, NICRA
51. Lakshmi Ghosh,		Project Assistant, SDB Project
52. Mousumi Halder,		Project Assistant, SDB Project
53. Arabinda Samanta,		Project Officer, BGREI
54. Tarapada Ghosh		R.K.Ashram R.D.Wing
55. Subal Chandra Das,		Accountant, BGREI Project

Resolutions:

1). The minutes of the last meeting are read and confirmed

2). The Programme Coordinator of KVK presented the progress of work of KVK for the period from August,2013 to November, 2013 before the members present in the meeting. Thereafter, Programme Coordinator with all Sectional Incharges of different disciplines of KVK participated in detail discussion on their respective subjects and problems raised on different aspects of work with the members present. After a good deal of discussion, the following recommendations have come out for betterment of the KVK activities.

a. Use of $CuSO_4$ in paddy (to control *Chara*) should be in bag method and soil test should be done after it. Soil report should be presented in next SAC.

b. Literature on coax and its' seed may be collected from CSSRI, canning.

c. In the performance evaluation trial of AICRP-Sunflower, officers from line departments should be invited.

d. Chilli leaf curl awareness programme may be conducted in collaboration with SDB.

e. Nutrition programme of Home Science section may be involved with mid-day meal programme.

f. DPO-ICDS should be included in SAC members list.

g. Mushroom produced by beneficiaries of KVK may be tagged with mid-day meal scheme.

h. A mini sunflower crushing unit may be set-up in collaboration with SDB.

i. In sunflower variety selection programme, oil content of a variety should be assessed by the farmers.

j. Performances of sunflower varieties and moong varieties of these respective projects have to be sent to SDB for ease of their seed purchase decision.

k. A small report of sunflower threshing by Bi-cycle should be sent to ZPD office very shortly.

l. Initiative should be taken to develop small cat-fish breeding units by progressive youths.

m. Initiative should be taken to conserve pure breed of *Asian cat-fish* and *Pangas.*

n. A brood bank project by NFDB may be developed.

Resolutions: (Contd..)

o. Please inform Director, Fishery, GoWB about the importance of a SAC meeting of a KVK and the continuous absence of district fishery officer in the SAC meeting.

p. Any agriculture related day or week celebration should be reported to ZPD office. Like 16th October, World Food Day.

q. Azolla, Subabul leaf and Drum stick leaf may be used as substitute to green fodder.

r. FLD performance of maize should be informed to SDB.

s. Documentation of the farmers' innovation on 'Control of Chara fragalis using Coconut husk' should be informed to ZPD office along with photograph.

3) The performance of Front Line Demonstration on cotton, oilseeds and pulses during rabi-summer have been discussed in the meeting and the members present in the meeting satisfied with the progress of work on FLDs for the period under review.

4) The progress of work of the projects like, IRM, SDB, NICRA, ATMA, NAIP, NWDPRA, AICRP, IWMP, MGNREGA and BGREI for 2012-2013 have been discussed in the meeting and the Committee expresses its satisfaction for the work done during the period under review. With a vote of thanks to and from the Chair the meeting dissolves.

Sd/- Swami Sadananda
Chairman. 10/12/2013

** Salient recommendation of SAC in bullet form*
Attach a copy of SAC proceedings along with list of participants

2. District level data on agriculture, livestock and farming situation (2013-14)

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	Crop	Productivity (kg/ha)
		Paddy (*Aus*)	2496.0
		Paddy (*Aman*)	2374.0
		Paddy (*Boro*)	3134.0
		Khesari	845.0
		Greengram	606.0
		Sunflower	1288.0
		Mustard	1031.0
		Cotton	4.65(bales)
		Tomato	17736.18
		Brijal	17842.86
		cucurbits	9822.394
		Okra	10709.84
		Green chilli	3330.0
		Guava	15151.0
		Sapota	12812.5
		Litchi	10108.7
		Betelvine	6428310 no. leaf/ha

<table>
<tr><th>Sl. no.</th><th>Item</th><th></th><th colspan="3">Information</th></tr>
<tr><td>6</td><td>Mean yearly temperature, rainfall, humidity of the district</td><td></td><td colspan="3">Rainfall-1641.0 mm, Temperature- Max. 39.8^0 C , Mini.10.0^{0}C
Humidity- Max. 99.2% , Mini.39.0%</td></tr>
<tr><td>7</td><td>Production and productivity of livestock, poultry, fisheries etc. in the district (New census report is awaiting from the State Department)

(Source: Annual Action Plan on ARD(2011-12), South 24 Parganas, West Bengal)</td><td></td><td colspan="3"></td></tr>
<tr><td></td><td></td><td>Category</td><td>Population</td><td>Production</td><td>Productivity</td></tr>
<tr><td></td><td></td><td>Cattle</td><td colspan="3"></td></tr>
<tr><td></td><td></td><td>Crossbred</td><td>32550</td><td>2,65,8,750 lit</td><td>1800-2100 lit/lactation</td></tr>
<tr><td></td><td></td><td>Indigenous</td><td>968986</td><td>19,37,97,200 lit</td><td>400-500 lit/lactation</td></tr>
<tr><td></td><td></td><td>Buffalo</td><td>15604</td><td>56,71,300 lit</td><td>600-700 lit/lactation</td></tr>
<tr><td></td><td></td><td>Sheep</td><td colspan="3"></td></tr>
<tr><td></td><td></td><td>Crossbred</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td></td><td></td><td>Indigenous</td><td>212589</td><td>22,10,925 kg</td><td>10-12 kg/sheep/year</td></tr>
<tr><td></td><td></td><td>Goats</td><td>696935</td><td>78,05,672 kg</td><td>11-13 kg/sheep/year</td></tr>
<tr><td></td><td></td><td>Pigs</td><td colspan="3"></td></tr>
<tr><td></td><td></td><td>Crossbred</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td></td><td></td><td>Indigenous</td><td>32584</td><td>12,05,608 kg</td><td>35-40kg/pig/year</td></tr>
<tr><td></td><td></td><td>Rabbits</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td></td><td></td><td>Poultry</td><td>2869243</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Hens (improved)</td><td>713137</td><td>12,47,98,975 eggs</td><td>170 – 180 eggs/yr/bird</td></tr>
<tr><td></td><td></td><td>Desi</td><td>2156106</td><td>19,83,61,752 eggs</td><td>90 – 110 eggs/year/bird</td></tr>
<tr><td></td><td></td><td>Improved</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td></td><td></td><td>Ducks</td><td>1058706</td><td>7,67,56,185 eggs</td><td>140 – 160 eggs/yr/bird</td></tr>
<tr><td></td><td></td><td>Turkey and others</td><td>75897</td><td>6,22,355 kg</td><td>6 – 9 kg/year/bird</td></tr>
<tr><td>8.</td><td>Production of fish and prawn</td><td colspan="4">A. Marine fish-1.52lakh ton
B. Inland fish-
i) Pond/tank-10.636 lakh ton
ii) Beel/baor-0.483 lakh ton
iii) Reservoirs-0.016 lakh ton
iv) Rivers-0.043 lakh ton
v) Canals-0.020 lakh ton
vi) Sewage fed fisheries-0.24 lakh ton
vii) Brackishwater fisheries-1.575 lakh ton
viii) Fish seed production-15002 million
C. Prawn-
i) Inland-
a) Penaeid-77820 ton
b) Non penaeid-23907 ton
ii) Marine-
a) Penaeid-7643 ton
b) Non penaeid-2284 ton
D. Export of fish and prawn- 66941ton worth Rs.1825.12 crores
(Source: Annual report 2012-13, Aquaculture, Aquatic Resources and Fishing Harbours, Directorate of Fisheries, Govt. of West Bengal)</td></tr>
</table>

2.6 Details of operational area / villages (2013-14)

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 Diamond Harbour Sub-Division	Kultali Mathurapur-I Mathurapur-II Joynagar –II Joynagar- I Magrahat - II Patharprotima Kakdwip Namkhana Diamond Harber-I Kulpi	Kaikhali, Gopalganj, Madhabpur, Bongheri, Sankijahan, Katamari, Deulbari Lakshmikantapur Radhakantapur, Gilarchat, Bairagirchak, Dumkal, Ateswartala, Kayeler chawk, Bhadrapara, 27 no. Lat, Mandalpara Nimpith, Tulsighata, Hanarbati, Kasthamahal, Jouthia, Baishata, Sahajadapur, Hatchapuri, Bottala, Uttarpara, Beledurganagar Dakshin Barasat, Baharu Amratala, Sherpur Achintanagar, Herambagopalpur, Kuyemuri, Banashyamnagar, Kamdebpur Kamarhat, Takipur Abad, Shibkali Nagar, Madhabnagar Shibnagar, Chandanpiri Kapat Hat	Paddy, Cotton, Sunflower, Maize, Chilli, Betelvine, Bitter gourd, Okra, Tomato, nursery raising of carp spawn, 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 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	* 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

Sl. No.	Name of Taluk	Name of the block	Name of the villages	Major crops & enterprises	Major problems identified (crop-wise)	Identified Thrust Areas
		Mandirbajar	Tulshirchak, Gopalnagar, Rangafala Pukuria, Karbala		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**	channel

2.7 Priority thrust areas

S. No	Thrust area
1.	Assimilation of good agri-horticultural practices
2.	Providing quality seed, breed, bio-agents and planting materials
3.	Diversification of existing production system
4.	Efficient utilization of water resources
5.	Soil health management
6.	Popularization of small tools and implements for drudgery reduction
7.	Improvement of backyard system performance
8.	Widening of livelihood options and improvement of women led vocation through SHG
9.	Attaining food & nutrition security at household level
10.	Post harvest management of crops
11.	Development of marketing channel
12	Introduction of poly house concept for off season vegetable cultivation
13	Proper feed supplementation for fish & animal farming
14.	Providing animal health care service
15	Modernization of traditional Pan boroz

3. TECHNICAL ACHIEVEMENTS

3. A. Details of target and achievement of mandatory activities by KVK during 2013-14

OFT				FLD			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
13	13	111	207*	9	13	280	703**

* Outsourcing of the fund to conduct OFT from WHH, Germany

** Outsourcing of fund to conduct FLD from NHM

Training				Extension activities			
Number of Courses		Number of Participants		Number of activities		Number of participants	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achieve-ment
200	206	6356	6550	215	670	21030	39600

Seed production (q)		Planting material (Nos.)	
Target	Achievement	Target	Achievement
Foundation paddy-20.0 Certified paddy-30.0 TL Paddy-70.0 Turmeric – 20 Colocasia - 20 Amorphophallus- 30	Foundation paddy-21.40 Certified paddy-27.30 TL Paddy-68.38 Turmeric – 17 Colocasia - 27 Amorphophallus- 40	68000	166300

3.1 Achievements on technologies assessed and refined

OFT-1(2012-13)

1.	Title of On farm Trial	Assessment of sustainability on production of boro paddy through integrated use of organic manures with chemical fertilisers in South 24-Parganas district
2.	Problem diagnose	Low productivity of *boro* paddy due to injudicious use of fertilizers.
3.	Details of technologies selected for assessment/refinement	**Farmers' practice:** Transplanting of 25 days old seedlings of var. WGL-20471 with a spacing of 20 cm X 15cm, N:P2O5:K2O @ 80:40:40 kg/ha & two times manual weeding **Technology-1 to be assessed:** Transplanting of 25 days old seedlings of var. WGL-20471 with a spacing of 20 cm X 15cm, N:P2O5:K2O as per soil test based recommendation(70 % N through chemical fertilizers and 30% N through cowdung @ 9.0 t/ha) & two times manual weeding **Technology-2 to be assessed:** Transplanting of 25 days old seedlings of var. WGL-20471 with a spacing of 20 cm X 15cm, N:P2O5:K2O as per soil test based recommendation (70% N through chemical fertilisers & 30 %N through poultry manures @ 3.0 t/ha) & two times manual weeding **Technology-3 to be assessed :** Transplanting of 25 days old seedlings of var. WGL-20471 with a spacing of 20 cm X 15cm, N:P2O5:K2O as per soil test based recommendation (70 % N through chemical fertilizers and 30%N through Vermicompost @ 3.0 t/ha) & two times manual weeding
4.	Source of Technology	M.E. ALI,M.R.ISLAM AND M. JAHIRUDDIN: Effect of integrated use of organic manures with chemical fertilizers in the rice-rice cropping system and its impact on soil health. Bangladesh J. Agril. Res.,34(1):81-90, March,2009
5.	Production system and thematic area	Rice based production/Integrated nutrient management
6.	Performance of the Technology with performance indicators	The technological option 2 (70% N through chemical fertilisers & 30 %N through poultry manures @ 3.0 t/ha) is the better option for boro paddy cultivation in South 24 Parganas
7.	Final recommendation for micro level situation	After 2yrs observation it may be recommended that the Technology option-2 i.e. 70% nitrogen through chemical fertilizer and 30% nitrogen through poultry manure is economically viable.
8.	Constraints identified and feedback for research	Availability of poultry manure is not sufficient in the locality in a large scale.
9.	Process of farmers participation and their reaction	The same set of farmers as that of the previous year were considered for the 2nd year who were all selected in a participatory manner.

Soil Testing Report:

Before	Organic Carbon %	pH	EC(ds/m)	Available N (kg/ha)	Available P_2O_5(kg/ha)	Available K_2O (kg/ha)
	0.28	6.08	0.27	155.3(L)	23.0	846.1

After	Treatment	Organic carbon(%)	pH	EC(ds/m)	Available N (kg/ha)	Available P_2O_5(kg/ha)	Available K_2O (kg/ha)
	Farmers Practic	0.35	5.87	0.26	159.4	25.7	853.4
	Tech-1	0.40	5.94	0.23	188.2	32.5	857.1
	Tech-2	0.51	5.98	0.26	201.7	36.0	868.2
	Tech-3	0.46	5.96	0.24	193.5	34.9	864.4

- *Date of transplanting:10.01.13*
- *Date of harvesting: 12.04.13*
- *Village: Radhakantapur*
- *No. of farmer's: 5*

Thematic area: Production technology

Problem definition: Low productivity of *boro* paddy due to injudicious use of fertilizers.

Technology assessed:

Table:1

Technology option	No. of trials	Yield component			Disease/ insect pest incidence (Sheath blight) %	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.)						
Farmers' practice	5	12.3	7.9	13.7	35.4	55.27	40140	56700	16560	1.41
Technology-1		13.0	8.5	14.6	24.6	59.84	43818	63400	19582	1.44
Technology-2		14.7	8.9	15.3	19.2	62.63	43068	65880	22812	1.52
Technology-3		14.1	8.7	14.8	26.9	60.51	50518	64030	12512	1.26
SEm±		**0.37**	**0.26**	**0.13**	**0.27**	**0.40**	**-**	**-**	**-**	**-**
CD (P=0.05)		**0.76**	**NS**	**NS**	**0.51**	**0.82**	**-**	**-**	**-**	**-**

Results:

Result indicates that the technological option 2 (70% N through chemical fertilisers & 30 %N through poultry manures @ 3.0 t/ha) is the better option. This technology gave 13.31 % more grain yield and maximum gross return (Rs.65880/ha) than farmer's practice. The disease infestation was also recorded significantly low than other tech. options. Thus this technology may be sustainable in respect to good return & improvement of soil health in boro paddy cultivation in south 24 Parganas.

OFT-2 (2013-14)

1.	Title of On farm Trial	Assessment of production potential and economic feasibility of Sunflower based intercropping system with pulse crops in South 24-Parganas district
2.	Problem diagnose	The productivity of kharif paddy is low due to its high nutrient uptake by sunflower for 2 to 3 consecutive years of cultivation
3.	Details of technologies selected for assessment/refinement	**Farmers' practice:** Sunflower as sole crop (var. DRSH-1) with a spacing of 60 cm X 30cm, N:P2O5:K2O @ 80:40:40 kg/ha along with 2 irrigation **Technology-1 to be assessed:** Sunflower with greengram (2:3), Sunflower (var. DRSH-1) at a spacing of 60 cm X 30cm & Greengram(Var.PDM-84-139) at a rows of 30 cm apart, N:P2O5:K2O @ 80:40:40 kg/ha along with 2 irrigation **Technology-2 to be assessed:** Sunflower with Blackgram (2:3), Sunflower (var. DRSH-1) at a spacing of 60 cm X 30cm & Blackgram(Var.B-76) at a rows of 30 cm apart, N:P2O5:K2O @ 80:40:40 kg/ha along with 2 irrigation
4.	Source of Technology	**Source of Technology:** Sarkar RK, Sanyal SR (2000). Production potential and economic feasibility of sesame (Sesame indicum L.) based intercropping system with pulse and oilseed crops on rice-fallow land. Indian Journal of Agronomy, **45**(3): 545-550.
5.	Production system and thematic area	Production technology through inter cropping
6.	Performance of the Technology with performance indicators	Head diameter of Sunflower, No. of pod /plant of green gram, No. of pod /plant of black gram, Yield/kg/ha, Grain yield of sole and inter crops, Land Equivalent Ratio,Sunflower Equivalent Yield, economics & BCR, Soil Test report before and after.
7.	Final recommendation for micro level situation	OFT is in its 1st year and the final recommendation will be given after 3 years observation
8.	Constraints identified and feedback for research	NA
9.	Process of farmers participation and their reaction	The participants were identified through a group meeting followed by selection of land. The field visit with the farmers has been done regularly. The young seedlings of inter crops like green gram and black gram received 97.2 mm rainfall on 15th & 16th, Feb. 2014 for which about 40 % seedlings were damaged.

Soil Testing Report :

Before	**Organic Carbon %**	**pH**	**EC(ds/m)**	**Available N (kg/ha)**	**Available P_2O_5 (kg/ha)**	**Available K_2O (kg/ha)**
	0.40	6.02	0.12	201.6	22.16	337.4

Thematic area: *Production technology through inter cropping*

Problem definition: The productivity of kharif paddy is low due to its high nutrient uptake by sunflower for 2 to 3 consecutive years of cultivation

Technology assessed:

Table:2

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)	LER	BC ratio
		Head diameter of Sunflower (cm)	No. of pod /plant of green gram	No. of pod /plant of black gram	Test wt. (100 seeds) of sunflower	Test wt. (100 seeds) of Green gram	Test wt. (100 seeds) of black gram							
Farmers' practice	7	1st year results will be available by 1st wk. of May, 2014												
Technology-1														
Technology-2														

OFT-3 (2013-14)

1.	Title of On farm Trial	Assessment of profitability through cropping system in medium land under minimum irrigation facility during Rabi-Summer season
2.	Problem diagnose	Generally, after cultivation of sunflower the land remains fallow due to unavailability of irrigation water. Thus the profitability from this cropping system is less. In this OFT, 3rd crop like green gram or til has been taken under rainfed situation to achieve maximum profit from a unit area.
3.	Details of technologies selected for assessment/refinement	**Farmers' practice:** Paddy (Var. IET-5656) followed by Sunflower(var. PAC-36) with 2 irrigation **Technology-1 to be assessed:** Paddy (var.IET-5656) –Mustard(var.-Jumka)-Moong (PDM-84-139) with 2 irrigation **Technology-2 to be assessed:** Paddy (var.IET-5656) –Mustard(var.-Jumka)-Til (Tiloktama) with 2 irrigation
4.	Source of Technology	A. H. Khan, H.Rashid, A. Khatun, M. A. Quddus and A. R. Gomosta, Rice Farming System: improved rice-based cropping systems for different ecosystems. Paper presented at the National Farming Systems Technology Inventory Workshop held at CERDI, Gazipur-1701, July 17-19, 2004.
5.	Production system and thematic area	Cropping System
6.	Performance of the Technology with performance indicators	Test wt. (100 seeds) of paddy/mustard/green gram/til/Sunflower, yeld of different crops (kg/ha), disease-pest incidence, economics & cost benefit ratio, Soil Test report before and after.
7.	Final recommendation for micro level situation	OFT is in its 1st year and the final recommendation will be given after 3 years observation
8.	Constraints identified and feedback for research	NA
9.	Process of farmers participation and their reaction	The participants were identified through a group meeting followed by selection of land. The field visit with the farmers has been done regularly.

Soil Testing Report :

Before	**Organic Carbon %**	**pH**	**EC(ds/m)**	**Available N (kg/ha)**	**Available P_2O_5(kg/ha)**	**Available K_2O (kg/ha)**
	0.38	5.89	0.17	193.8	25.69	284.92

Thematic area: Cropping system

Problem definition: Generally, after cultivation of sunflower the land remains fallow due to unavailability of irrigation water. Thus the profitability from this cropping system is less. In this OFT, 3rd crop like green gram or til has been taken under rainfed situation to achieve maximum profit from a unit area.

Technology assessed:

Table: 3

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
		Test wt. (100 seeds) of paddy/ mustard/green gram/til/Sunflower	Length of siliqua of mustard (cm)	No. of pod/plant of Green gram	No. of capsule/ plant of til	Head diameter of sunflower						
Farmers' practice	7	The result will be obtained by the end of May, 2014										
Technology-1												
Technology-2												

OFT-4(2013-14)

1.	Title of On farm Trial	**Assessment of the efficacy of external application of some synthetic plant hormones for induction of femaleness in papaya**
2.	Problem diagnose	Papaya is a very remunerative fruit crop for the poor farmers of South 24 Parganas district. Papaya is usually propagated through seeds, where sex expression of the seedlings is a problem. There are equal chances of development of male plant and female plant from the seedlings. There are no ways of identifying male plant or female plant at the seedling stage, it is only observed when the plants bear flower. Maleness/femaleness of a plant is regulated by plant hormones, which may be manipulated through external application of synthetic plant hormones. More number of female plant in the main field secures high return for the farmers, where as more male plants causes huge loss.
3.	Details of technologies selected for assessment/refinement	• **Farmers' Practice:** Use of bold, black seed of Papaya (Var. Honey Dew) for seedling raising. No other treatment. • **Technology Option 1**: Spraying of GA3 @ 25 ppm upon seedlings twice at 45 and 75 days after transplanting. • **Technology Option 2**: Spraying of NAA@ 100 ppm upon seedlings twice at 45 and 75 days after transplanting. • **Technology Option 3**: Spraying of Ethrel @ 500 ppm upon seedlings twice at 45 and 75 days after transplanting.
4.	Source of Technology	Mitra, S.K. and Ghanta, P.K. (2000). Modification of sex expression in Papaya (Carica papaya), CV, Ranchi. Acta Horticulture, **515**: 281-286
5.	Production system and thematic area	Irrigated-Upland; Cultivation of Fruit
6.	Performance of the Technology with performance indicators,	

	Plant height at 150 days after planting	Days to 50% flowering	Female /Male plant ratio in the main field	Yield	B:C ratio
FP	186.7	112.6	0.91	61.6 t/ha	2.09
T.O.-1	179.4	89.4	1.37	93.7 t/ha	3.10
T.O.-2	Plant scorched after NAA application. The problem was discussed with Prof. Mitra. He suggested to lower the dose of NAA @ 50 ppm.				
T.O.-3	192.1	107.2	1.21	89.4 t/ha	2.96

7.	Final recommendation for micro level situation	The experiment need to be continued for another two years to come to a recommendation position.
8.	Constraints identified and feedback for research	-
9.	Process of farmers participation and their reaction	Farmers are interested with this experiment. Many farmers, who have left papaya farming due to maleness problem, are eager to accept the findings of this trial.

Thematic area: OFT on Production Technology

Problem definition: Papaya is a very remunerative fruit crop for the poor farmers of South 24 Parganas district. Papaya is usually propagated through seeds, where sex expression of the seedlings is a problem. There are equal chances of development of male plant and female plant from the seedlings. There are no ways of identifying male plant or female plant at the seedling stage, it is only observed when the plants bear flower. Maleness/femaleness of a plant is regulated by plant hormones, which may be manipulated through external application of synthetic plant hormones. More number of female plant in the main field secures high return for the farmers, where as more male plants causes huge loss.

Technology assessed:

- **Farmers' Practice:** Use of bold, black seed of Papaya (Var. Honey Dew) for seedling raising. No other treatment.
- **Technology Option 1**: Spraying of GA3 @ 25 ppm twice at 45 and 75 days after transplanting.
- **Technology Option 2**: Spraying of NAA@ 100 ppm twice at 45 and 75 days after transplanting.
- **Technology Option 3**: Spraying of Ethrel @ 500 ppm twice at 45 and 75 days after transplanting.

Table:

Technology option	No. of trials	Yield component			Yield (q/ha)	Cost of cultivation (Rs./ha/year)	Gross return (Rs/ha/year)	Net return (Rs./ha/year)	BC ratio
		Plant height at 150 days after planting	Days to 50% flowering	Female /Male plant ratio in the main field					
Farmers' Practice:	10	186.7	112.6	0.91	616	147500	308000	160500	2.09
Technology Option 1		179.4	89.4	1.37	937	151100	468500	317400	3.10
Technology Option 2		Plant scorched after NAA application. The problem was discussed with Prof. Mitra. He suggested to lower the dose of NAA @ 50 ppm.							
Technology Option 3		192.1	107.2	1.21	894	151100	447000	295900	2.96
CD (0.05)	-	4.89	10.61	0.13	23.71	-	-	-	-

Results: The one year data reveals that application of GA3 @ 25 ppm at 45 and 75 days after transplanting resulted to highest female plant population in the main field and better yield per unit area. The experiment need to be continued for another two years to come to a recommendation position. Farmers are interested with this experiment. Many farmers, who have left papaya farming due to maleness problem, are eager to accept the findings of this trial.

Farmers' Practice

Tech. Option - 1

Tech. Option - 3

OFT-5(2013-14)

1.	Title of On farm Trial	**Assessment of different bio-based plant growth promoters for horticultural crops under organic farming system in the South 24 Parganas district**
2.	Problem diagnose	Horticultural crops like betel leaf and guava are two important commercial crops of the district South 24 Parganas having huge export potential. The basic need of marketing a horticultural produce in the export market is free from toxic chemicals usually comes from pesticides and plant growth promoters. As both the crops are consumed directly without peeling/processing so, the demand for toxicity free produce is high. Our present experiment is framed with a view to producing good quality betel leaf without using chemical growth promoters. The experiment was conducted upon betel leaf only.
3.	Details of technologies selected for assessment/refinement	• **Farmers' Practice**: Commercial plant growth promoters (PGRs) having amino acids, synthetic hormones etc. @ 7-15 days interval upon full grown betel vine plantation. • **Technology Option -1:** Cowdung 1 kg + Glyricidia/Subabul leaf 1 kg + water 20 lt – rotting in lid covered mud pitcher for 3 weeks and spraying the decomposed solution @ 1:2 dilution upon the plant leaf at 10 days interval. • **Technology Option -2**: Spraying of germinated moong seed extract @ 20 g/lt upon the plant at 10 days interval. • **Technology Option -3**: Spraying of fresh milk @ 25ml/lt upon the plant at 10 days interval.
4.	Source of Technology	Chalker-Scott's web page at http://www.theinformedgardener.com.
5.	Production system and thematic area	Irrigated-Upland
6.	Performance of the Technology with performance indicators	

	Leaf shape index (length:width)	Size (sqcm)	Leaf weight (g)	Leaf thickness (mm)	Glossiness of leaf (10 point scale)	Yield (No./Year)	B:C ratio
FP	1.16	186.4	3.67	0.22	6	21,50,000	2.39
T.O.-1	1.14	183.7	3.71	0.23	7	22,30,000	2.52
T.O.-2	1.19	172.1	3.58	0.19	6	20,45,000	2.06
T.O.-3	1.17	182.9	3.64	0.21	7	21,70,000	2.44

7.	Final recommendation for micro level situation	The experiment need to be continued for another two years to come to a recommendation position.
8.	Constraints identified and feedback for research	-
9.	Process of farmers participation and their reaction	Farmers are interested with this experiment.The bio-based formulations (T.O.-1 & T.O.-3) resulted to production of better quality leaf attributed by roundish shape (lower value of shape index) with higher weight, thickness and glossyness. These leaves are fetching good market price also. Many betel vine farmers are willing to follow organic based crop management practices not only for export market, but for better crop management by their own.

Thematic area: OFT on quality improvement

Problem definition: Horticultural crops like betel leaf and guava are two important commercial crop of the district South 24 Parganas having huge export potential. The basic need of marketing a horticultural produce in the export market is freeness from toxic chemicals usually comes from pesticides and plant growth promoters. As both the crops are consumed directly without peeling/processing so, the demand for freeness from toxicity is high. Our present experiment was framed with a view to produce good quality betel leaf without using chemical growth promoters.

Technology assessed:

- **Farmers' Practice**: Commercial plant growth promoters (PGRs) having amino acids, synthetic hormones etc. @ 7-15 days interval upon full grown betel vine plantation.
- **Technology Option -1:** Cowdung 1 kg + Glyricidia/Subabul leaf 1 kg + water 20 lt – rotting in lid covered pitcher for 3 weeks and spraying the decomposed solution @ 1:2 dilution upon the plant leaf at 10 days interval.
- **Technology Option -2**: Spraying of germinated moong seed extract @ 20 g/lt upon the plant at 10 days interval.
- **Technology Option -3**: Spraying of fresh milk @ 25ml/lt upon the plant at 10 days interval.

Table:

Technology option	No. of trials	Yield component					Residual toxicity	Yield (No of leaf/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Leaf shape index (length :width)	Size (sqcm)	Leaf weight (g)	Leaf thick-ness (mm)	Glossiness of leaf (10 point scale)						
Farmers' Practice:	10	1.16	186.4	3.67	0.22	6	Sample sent to J.U. for analysis.	21,50,000	1310000	3135000	1825000	2.39
Technology Option 1		1.14	183.7	3.71	0.23	7		22,30,000	1305000	3290000	1985000	2.52
Technology Option 2		1.19	172.1	3.58	0.19	6		20,45,000	1270000	2610000	1340000	2.06
Technology Option 3		1.17	182.9	3.64	0.21	7		21,70,000	1297000	3170000	1873000	2.44
CD (0.05)	-	**0.07**	**4.21**	**0.19**	**0.04**	-		-	-	-	-	-

Results: Farmers are interested with this experiment. First year's result reveals that Technology Option -1 (i.e. Cowdung + Glyricidia/Subabul leaf) and Technology Option -3 resulted to better performance than commercial PGRs interms of B:C ratio and net return. The bio-based formulations (T.O.-1 & T.O.-3) resulted to production of better quality leaf attributed by roundish shape (lower value of shape index) with higher weight, thickness and glossyness. Yet, to come to a final recommendation, the experiment needs to continue for another two year. Many betel vine farmers are willing to follow organic based crop management practices not only for export market, but for better crop management by their own.

OFT- 6 (2013-14)

1.	Title of On farm Trial	Assessment of profitability of kharif paddy under medium land situation of coastal saline belt of South 24- Parganas by effective control measures against Lepidopteran pests.
2.	Problem diagnose	Low productivity of Paddy due to Lepidopteran pest infestation
3.	Details of technologies selected for assessment/refinement	**Farmer practice:** Use of Carbofuran 3G (30 kg/ha) at transplanting + Spraying of conventional insecticides - (Chlorpyriphos 50 EC + Cypermethrin 5 EC) @ 1.5 ml/lit (6 – 7 spray) **Technology Option 1:** Use of Rynaxypyr 0.4% G (@7.5 kg/ha) at 15 days after transplanting + Use of *Trichogramma* Card (50000 wasp/ha) at 15 days interval and spraying of *Bt* (twice, at 30 and at 45 days after transplanting @1 ml/L) **Technology Option 2**: Use of Rynaxypyr 0.4% G (7.5 kg/ha) at 15 days after transplanting + spraying of Flubendiamide 20% WDG (twice, at 30 and at 45 days after transplanting @0.3 g/lit) **Technology Option 3:** Use of Rynaxypyr 0.4% G (7.5 kg/ha) at 15 days after transplanting + Need based spraying of Rynaxypyr 5 % SC (twice, at 30 and at 45 days after transplanting @0.3 ml/lit) (Fertilizer: 60:30:30 Kg NPK/ha, Spacing: 20 cm x 20 cm, Variety: Pratiksha, same for all options)
4.	Source of Technology	1. Mallikarjunappa, S., Kendappa, G.N. and Ganesh Bhat, U., 2008."Flubendiamide 20% WG-a novel … and leaf folder *Cnaphalocrosis medinalis"*. In Coleman memorial National Symp. on Plant prot., 4-6, December, Univ. Agric. Sci., GKVK, Bangalore 2. Mandal, S. K., Karam, N. and Das, A. 2010. "Bioefficacy of rynaxypyr … against stem borer complex of rice". The third International Rice Congress 2010, 8-12 NOV, 2010, National Convention Center, Hanoi, Vietnam./ www. Ricecongress.com/pdflink/4033.pdf
5.	Production system and thematic area	Rice based production system with Integrated Pest Management
6.	Performance of the Technology with performance indicators	White ear head %, Leaf folder and Armyworm infected leaf %, Beneficiary insect population, Yield, BC ratio
7.	Final recommendation for micro level situation	Use of Rynaxypyr 0.4% G (@7.5 kg/ha) at 15 days after transplanting + Use of *Trichogramma* Card (50000 wasp/ha) at 15 days interval and spraying of *Bt* (twice, at 30 and at 45 days after transplanting @1 ml/L) gave maximum profit to the farmers.
8.	Constraints identified and feedback for research	Application of pesticides were difficult during rainy days
9.	Process of farmers participation and their reaction	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 the disease incidence and severity in the village, both the beneficiaries as well as the non-beneficiaries took interest in the trial. The OFT was well managed by the beneficiaries themselves.





Thematic area: Integrated Pest Management

Problem definition: Low productivity of *Kharif* Paddy due to Lepidopteran pest infestation

Technology assessed: Assessment of profitability of kharif paddy under medium land situation of coastal saline belt of South 24- Parganas by effective control measures against Lepidopteran pests.

In coastal saline belt of South 24- Parganas *Kharif* Paddy is cultivated over more than 3 lakh ha area. But indiscriminate use of conventional pesticides has resulted in widespread infestation by Lepidopteron pests like stem borer (*Scirpophaga incertulas*), leaf folder (*Cnaphalocrosis medinalis*), armyworm (*Mythimna separate*), etc., resulting in low yield and poor benefit-cost ratio. To address this problem, KVK, South 24 Parganas has conducted trial to assess the efficacy of new generation pesticides and bio pesticides. Whereas the farmers are still using organo-phosphorus compounds and synthetic pyrethroids without any restriction in their dose or frequency, a modern approach was used to evaluate new generation, eco-safe pesticides as well as bio-pesticides.

Table:

Technology option	No. of trials	Disease/ insect pest incidence (%)			Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio (Gross return/ Cost of cultivation	No. of beneficial insects per hill after 2nd spray	
		White ear head % (due to stem borer)	Leaf folder %	Army worm %						Lady bird beetles	Spiders
Farmer's practice	15	17.58	11.86	9.44	35.98	22200	43176	20976	1.94	-	0.1
Technology Option – 1		5.16	7.82	4.62	44.52	23600	53424	29824	**2.26**	**0.35**	**0.6**
Technology Option – 2		3.32	3.66	7.92	45.56	24500	54672	30172	2.23	0.25	0.42
Technology Option - 3		4.76	5.14	8.42	43.22	24100	51864	27764	2.15	0.1	0.2
CD (0.05)		1.06	1.37	0.54	0.76						

Results: Maximum reduction of stem borer and leaf folder infestation was observed in "Technology option – 2". But maximum BC ratio (2.26) was found in "Technology option – 1" due to lesser cost of inputs. At the same time, the use of bio-pesticides helped to maintain a better population of beneficial insects, which controls the armyworm population under "Technology option – 1". Thus considering the ecological and economical aspects "Technology option – 1" can be recommended for the coastal South 24 Parganas.

OFT-7(2013-14)

1.	Title of On farm Trial	Assessment of profitability of Cabbage under upland land situation of coastal saline belt of South 24- Parganas by effective control measures against *Spodoptera litura*.
2.	Problem diagnose	Low productivity of Cabbage due to infestation of *Spodoptera litura*
3.	Details of technologies selected for assessment/refinement	**Farmer practice:** No soil treatment + Spraying of conventional insecticides - (Chlorpyriphos 50 EC + Cypermethrin 5 EC) @ 1.5 ml/lit (6 – 7 spray) **Technology Option 1:** Soil treatment with *Metarhizium anisopliae* (2.5 kg/ha) along with cowdung manure (10q/ha) + three foliar spray with *Metarhizium anisopliae* (@ 5g/litre) **Technology Option 2**: Soil treatment with *Metarhizium anisopliae* (2.5 kg/ha) along with Neem cake (5q/ha) + three foliar spray with *Metarhizium anisopliae* (@ 5g/litre) **Technology Option 3:** Soil treatment with *Metarhizium anisopliae* (2.5 kg/ha) along with Vermicompost (7.5q/ha) + three foliar spray with *Metarhizium anisopliae* (@ 5g/litre) (Fertilizer 80:40:40 Kg NPK/ha, Spacing: 60 cm x 60 cm, Variety:Rare Ball, same for all treatments)
4.	Source of Technology	1. Anand, R., Prasad, B. and Tiwary, B. P., 2009. Relative susceptibility of *Spodoptera litura* pupae to selected entomopathogenic fungi. In Biocontrol, 54:85-92, available online at http://www.peipfi-komdasulsel.org/wp-content/uploads/2012/03/Fungi.pdf 2. Ekesi, S., Maniania, N. K., Mohamed, S. A. and Lux, S. A. 2005. Effect of soil application of different formulations of *Metarhizium anisopliae* on African tephritid fruit flies and their associated endoparasitoids. In Biological Control, 35: 83-91, available at www.sciencedirect.com 3. OST conducted in KVK, Nimpith
5.	Production system and thematic area	Rice based production system with Integrated Pest Management
6.	Performance of the Technology with performance indicators	Population of *Spodoptera* moth in hormone trap, Pest infestation %, Yield, B:C ratio
7.	Final recommendation for micro level situation	Soil treatment with *Metarhizium anisopliae* (2.5 kg/ha) along with Neem cake (5q/ha) + three foliar spray with *Metarhizium anisopliae* (@ 5g/litre)
8.	Constraints identified and feedback for research	Production and supply of *Metarhizium anisopliae*
9.	Process of farmers participation and their reaction	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 the disease incidence and severity in the village, both the beneficiaries as well as the non-beneficiaries took interest in the trial. The OFT was well managed by the beneficiaries themselves.

Thematic area: Integrated Pest Management

Problem definition: Low productivity of Cabbage due to infestation of *Spodoptera litura*

Technology assessed: Assessment of profitability of Cabbage under upland land situation of coastal saline belt of South 24- Parganas by effective control measures against *Spodoptera litura*.

Spodoptera litura (Fab.) (Lepidoptera: Noctuidae), is a serious polyphagous pest of several cultivated crops and has attained global importance. Widespread development of resistance to chemical insecticides including the widely used pyrethroids has been reported in *Spodoptera litura*. Indiscriminate and injudicious use of pesticides has grossly poisoned almost each component of the biosphere, caused resurgence of pests and reduction of natural enemies in agroecosystems allowing rapid build-up of target and minor pests. Cabbage is cultivated as an important winter vegetable in the coastal saline belt of South 24- Parganas. However growing incidence of *Spodoptera litura* in this vegetable along with indiscriminate use of conventional pesticides has become a limiting factor for its productivity. KVK, South 24 Parganas subsequently has conducted trial to assess the efficacy of *Metarhizium anisopliae* as a fungal bio-pesticide which is species specific and ecologically safe.

Table:

Technology option	No. of trials	% of damage		*Spodoptera* moth/ trap/night		Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		30 DAT*	50 DAT	20 DAT - 40 DAT	41 DAT - 50 DAT					
Farmer's practice	15	12.36	21.44	16.8	26.2	282.4	48700	141200	92500	2.90
Technology Option – 1		6.42	7.36	14.1	16.2	309.2	50320	154600	104280	3.07
Technology Option – 2		5.24	6.31	12.7	14.4	325.6	55260	162800	107540	2.95
Technology Option - 3		6.66	7.72	14.8	17.9	321.7	51130	160850	109720	3.15
CD (0.05)		0.46	0.52	1.05	1.06	9.42				

*DAT = Days after transplanting

Results:

Infestation of *Spodoptera litura* (larva) and the no. of *Spodoptera* moth per pheromone trap per night were found to be least in "Technology Option – 2" (soil treatment with *Metarhizium anisopliae* along with neem cake and foliar spray with *Metarhizium anisopliae*). The production was highest in this treatment (325.6 q/ha). But due to higher cost of neem cake, the total cost of cultivation became higher. However considering the long term residual action of neem cake in association with *Metarhizium* against pupation of *Spodoptera* in soil, the "Technology Option – 2" is found to be more effective in controlling the pest.




OFT-8(2013-14)

1.	Title of On farm Trial	Management of Fungal Wilt in bottle gourd (*Lagenaria siceraria*) in coastal South 24 Parganas
2.	Problem diagnose	Low productivity of bottle gourd due to fungal wilt
3.	Details of technologies selected for assessment/refinement	**Farmer practice:** No seed treatment + Need based foliar spray of (Metalaxyl-M 4% + Mancozeb 64%) @ 2.5g/L **Technology Option 1:** Use of *Trichoderma viride* and *Pseudomonas fluorescens* as (i) Seed treatment (@ 10 g each per litre of water) (ii) Seedling root dip (@ 10 g each per litre of water), (iii) Soil treatment (@2.5 kg per ha) and (iv) Foliar spray (@ 5 g each per litre of water) **Technology Option 2**: Seed treatment with (Carboxin 37.5% + Thiram 37.5%) @ 3g/kg of seed + Need based spraying with Azoxystrobin @ 1ml/L water + Need based spraying with (Captan 70% + Hexaconazole 5%) @ 2g/ L water **Technology Option 3:** Seed treatment with (Carboxin 37.5% + Thiram 37.5%) @ 3g/kg of seed + Need based spraying with Azoxystrobin @ 1ml/L water + Need based spraying with (Chlorothalonil 75% WP @ 1.5 g/L+ Thiophenate methyl 70%WP @ 1g/L) (Fertilizer: 100:50:50 Kg NPK/ha, Spacing: 2 m x 2 m, Variety: Jora Bota, same for all treatments)
4.	Source of Technology	1. Khan, J., Ooka, J. J., Miller, S. A., Madden, L. V., and Hoitink, H. A. J. 2004. Systemic resis tance induced by Trichoderma hamatum 382 in cucumber against Phytophthora crown rot and leaf blight. Plant Dis. 88:280-286
5.	Production system and thematic area	Rice based production system with Integrated Pest Management
6.	Performance of the Technology with performance indicators	Disease incidence (%), Benefit-cost ratio, Yield
7.	Final recommendation for micro level situation	OFT ongoing
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	

Thematic area: Integrated Pest Management

Problem definition: Low productivity of bottle gourd due to Fungal Wilt

Technology assessed: Assessment of biological and chemical approach of Fungal Wilt management in bottle gourd (*Lagenaria siceraria*) in coastal South 24 Parganas through

Fungal wilt in Bottle gourd in South 24 Parganas is caused by a group of soil borne pathogens like *Rhizoctonia solani, Sclerotium rolfsii, Sclerotinia sclerotiorum*, etc, and sometimes by *Phytophthora capsici*. The symptoms vary from root rot, crown rot, leaf and stem blight to fruit rot. Once the disease is established in a field, the farmer has to drop the crop for next two to three years or more. Bottle gourd is an important vegetable of the district grown during rabi-summer season. Due to inadequate knowledge about the disease, farmers spend lots of money behind indiscriminate fungicidal spray. To address this problem, KVK, South 24 Parganas has conducted trial to assess the efficacy of bio-pesticides like *Trichoderma viride* and *Pseudomonas fluorescens* and some new generation pesticides.

Table:

Technology option	No. of trials	Disease/ insect pest incidence (%)	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
Farmer's practice	15	OFT ongoing					
Technology Option – 1							
Technology Option – 2							
Technology Option - 3							

Results: Expected in July, 2014

OFT-9(2013-14)

1.	Title of On farm Trial	**Assessment of efficacy of bird feed on production attributes of ornamental birds reared by the farm women of South 24 Parganas**
2.	Problem diagnose	Heavy price hike of the concentrate feed reducing the profit margin in ornamental bird rearing and the farmers are often losing their interest in this farming system. The easy and locally available feed sources remain unexplored
3.	Details of technologies selected for assessment/refinement	• **FP :** Concentrate feed @ 1Kg/ day for 100 birds+ *Tulsi* leaves • **Tech.-1 :** Commercial layer feed @1Kg/ day for 100 birds+ *Tulsi* leaves liver tonic 5 ml/100 bird for 5 consecutive days with a pause of 15 days and repeat • **Tech.-2** : Broken Cereal mix (75% broken Rice+ 25%broken Wheat) @ 1.3Kg /day for 100birds+ *Tulsi* leaves • **Tech.-3** : Broken Cereal mix (75% broken Rice+ 25%broken Wheat)@ 1.3Kg/dayfor100birds+Leafy vegetables (Hinche, Kulekhara,Thankuni,) @ 200gm /week distributed in 2 days for 100 birds+ *Tulsi* leaves + liver tonic 5 ml/100 bird for 5 consecutive days with a pause of 15 days and repeat
4.	Source of Technology	OST conducted in KVK, Nimpith
5.	Production system and thematic area	Livestock based production system, feed management
6.	Performance of the Technology with performance indicators	No of eggs layed, hatchibility, chick mortality, Disease incidence.
7.	Final recommendation for micro level situation	Broken cereals mix along with leafy vegetables in combination with liver tonic not only reduces the feed cost but also enhances hatchability vis-à-vis reduces chick mortality and disease incidence. Hence, this modified practice of feeding can be promoted to the farmers of budgerigar bird rearers.
8.	Constraints identified and feedback for research	Nil
9.	Process of farmers participation and their reaction	The trial has been set following problem identification by the farmers. From the exercise it is revealed that some leafy vegetables and unfamiliar leafy vegetables are used occasionally in their diet and these are easily available in huge quantity in these areas.

Thematic area: Feed management

Problem definition: Heavy price hike of the concentrate feed reducing the profit margin in ornamental bird rearing and the farmers are often losing their interest in this farming system. The easy and locally available feed sources remain unexplored

Technology assessed:

- **FP :** Concentrate feed @ 1Kg/ day for 100 birds+ *Tulsi* leaves
- **Tech.-1 :** Commercial layer feed @1Kg/ day for 100 birds+ *Tulsi* leaves liver tonic 5 ml/100 bird for 5 consecutive days with a pause of 15 days and repeat
- **Tech.-2** : Broken Cereal mix (75% broken Rice+ 25%broken Wheat) @ 1.3Kg /day for 100birds+ *Tulsi* leaves
- **Tech.-3** : Broken Cereal mix (75% broken Rice+ 25%broken Wheat)@ 1.3Kg/dayfor100birds+Leafy vegetables (Hinche, Kulekhara,Thankuni,) @ 200gm /week distributed in 2 days for 100 birds+ *Tulsi* leaves + liver tonic 5 ml/100 bird for 5 consecutive days with a pause of 15 days and repeat

Table:

Treatments	No. of trials	No. of egg laid/pair/ cycle	Hatch ability (%)	Chick mortality (%)	Disease incidence (% ill)	Colour intensity (visual point scale)	Diversity in diet during hunger time	Hunger time burrowing	BC ratio
Farmers' practice	22	4.7	75.1	12.4	13.2	+	Rice, potato, veg (2Day)	+++	1.01
Technology-1 to be assessed		5	70.1	15.4	18.6	+	Rice, potato, veg (2Day)	+++	1.53
Technology-2 to be assessed		5.3	76.4	12.1	13.6	+	Rice, potato, veg (3Day)	+++	1.59
Technology-3 to be assessed		5.6	76.5	10.4	13.1	++	Rice, potato, veg (2Day), Small fish (1day)	++	2.12
SEM		0.16	4.20	0.35	0.29	-	-	-	-
SE		0.25	0.95	0.58	0.41	-	-	-	-

Results: Broken cereals mix along with leafy vegetables in combination with liver tonic not only reduces the feed cost but also enhances hatchability vis-à-vis reduces chick mortality and disease incidence. Along withthis the technological option 3 also helps to improve diet diversity and decreases hunger time borrowing, this modified practice of feeding can be promoted to the farmers of budgerigar bird rearers.

OFT- 10 (2013-14)

1.	Title of On farm Trial	Assessment of Reproductive and behavioral effect of phytoestrogen on Black Bengal Buck in south 24 parganas
2.	Problem diagnose	
3.	Details of technologies selected for assessment/refinement	**Farmers' practice :** Bucks maintained additionally with fresh berseem fodder (phytoestyrogenic plants) @ 160gms/day/Kg body weight for three months along with concentrate mixture @ 150 gms/day/buck **Technology option-1:** Bucks maintained additionally under ensilaged berseem fodder @160gms/day/Kg body weight for three months along with concentrate mixture @ 150 gms/day/buck **Technology option-2:** Bucks maintained additionally under fresh berseem fodder (phytoestrogenic plants) treated under sunlight for 3 hours and feeding @ 160gms/day/Kg body weight for three months along with concentrate mixture @ 150 gms/day/buck
4.	Source of Technology	Franke *et. Al., 2004.* Quantitation of phytoestroengs in legumes. *J. Agric. Food. Chem.: 42-1905-13*
5.	Production system and thematic area	Livestock based production system, goat farming
6.	Performance of the Technology with performance indicators	a. Number of services from commencement of feeding b. Number of successful conception c. Number of kid born d. Total sperm concentration e. Live and dead spermatozoa percentage f. Total semen volume per ejaculation g. Aggression score (5 point scale, 5-very aggressive-0 docile) h. Service performing scale (3 colored scale)
7.	Final recommendation for micro level situation	December 2014
8.	Constraints identified and feedback for research	Availability of green fodder
9.	Process of farmers participation and their reaction	The trial has been set following problem identification by the farmers running goat farms

Thematic area: Feed management

Problem definition: Reproductive and behavioral effect of phytoestrogen on Black Bengal Buck

Farmers' practice : Bucks maintained additionally with fresh berseem fodder (phytoestyrogenic plants) @ 160gms/day/Kg body weight for three months along with concentrate mixture @ 150 gms/day/buck

Technology option-1: Bucks maintained additionally under ensilaged berseem fodder @160gms/day/Kg body weight for three months along with concentrate mixture @ 150 gms/day/buck

Technology option-2: Bucks maintained additionally under fresh berseem fodder (phytoestrogenic plants) treated under sunlight for 3 hours and feeding @ 160gms/day/Kg body weight for three months along with concentrate mixture @ 150 gms/day/buck

Result: Awaited (started in January, 2014)

OFT -11 (2013-14)

1.	Title of On farm Trial	Assessment of Causal- effect relationship of immunostimulation in goats in south 24 parganas
2.	Problem diagnose	Goats are prone to many diseases due to lack of immunity of varied origin. The availability of stimulant drugs are not always available or costly. So alternative way of stimulation is needed.
3.	Details of technologies selected for assessment/refinement	**Farmers' practice :** Goats kept without any deworming calendar maintenance and without any supplementary concentrate feeding. **Technology Option 1:** Goats dewormed with albendazole @7.5 mg/Kg body weight, per oral, every three months interval and supplementary feeding of mineral mixture @ 80 gms/goat/day for one months with interval of same and repeat. **Technology option 2:** Goats administered with levamisole injection @0.25 ml/15 kg body weight ratio deep Intramascular every three months interval **Technology option 3:** feeding of Panchagavya @1 ml/kg body weight/day for three months with interval of three months and repeat
4.	Source of Technology	"Panchakavya". Tamilnadu agricultural university, India. Retrieved 27 November 2012
5.	Production system and thematic area	Livestock based production system, goat management
6.	Performance of the Technology with performance indicators	➢ Disease incidence, ➢ Body weight ➢ Increase in productivity, ➢ Serum immune status, ➢ BC ratio
7.	Final recommendation for micro level situation	-
8.	Constraints identified and feedback for research	-
9.	Process of farmers participation and their reaction	Identified by farmers and jointly formulated by KVK scientist and farmer

Preparation of panchgavya

Cow dung, cow ghee, cow urine, water, cow milk, cow curd, tender coconut water, iggery and well ripened banana. The cow dung and cow ghee will be thoroughly mixed both in morning and evening hours and kept for 3 days. After 3 days cow urine and water will be added and kept for 15 days with regular mixing both in morning and evening hours. After 15 days the remaining ingredients will be mixed and panchakavya will be ready after 30 days.

Storage of Panchakavya

It will be stored in a wide-mouthed earthen pot or concrete tank in open. Sufficient shade will be provided, and the contents will be stirred twice a day, both in the morning and the evening. It will be diluted (1:1) with clean water before use.

Composition:

Cow dung: ½ part
Cow ghee- 1 part
Cow urine- 1 part
Cow curd- 2 part
Cow milk- 3 part
Banana- as required

Farmers' practice : Goats kept without any deworming calendar maintenance and without any supplementary concentrate feeding.

Technology Option 1: Goats dewormed with albendazole @7.5 mg/Kg body weight, per oral, every three months interval and supplementary feeding of mineral mixture @ 80 gms/goat/day for one months with interval of same and repea

Technology option 2: Goats administered with levamisole injection @0.25 ml/15 kg body weight ratio deep Intramascular every three months interval

Technology option 3:feeding of Panchagavya @1 ml/kg body weight/day for three months with interval of three months and repeat

Technology option	No. of trials	Yield component				Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Disease incidence	Body weight	Increase in productivity	Serum immune status				
Farmers' practice	8								
Technology Option 1									
Technology option 2									
Technology option 3:									

Result: OFT started in January, 2014

OFT-12 (2013-14)

1.	Title of On farm Trial	Assessment of the growth performance of carps in ponds of South 24 Parganas district by introducing SIF species – *Amblypharyngodon mola* and *Puntius sophore*
2.	Problem diagnose	Low profitability of domestic fish culture ponds due to culture of only carps
3.	Details of technologies selected for assessment/refinement	**Farmers practice** : Culture of different fishes in domestic ponds (Unit area: 0.065 ha) with usual package of practice for composite fish culture i. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm ii. Stocking of carps @ 10,0000/ha iii. Post stocking management: Monthly organic manuring with cow dung@1000kg/ha, lime@30kg/ha, daily supplementary feed (mustard oil cake:rice bran::1:1)@3% body weight, monthly netting **Technology option 1** : F.P.+ *Amblypharyngodon mola* @ 20000/ha **Technology option 2** : F.P.+ *Puntius sophore* @ 20000/ha T**echnology option 3** : Farmers practice + *Amblypharyngodon mola* @ 10000/ha + *Puntius sophore* @ 10000/ha
4.	Source of Technology	OST done at KVK instructional farm in collaboration with CIFE, Kolkata
5.	Production system and thematic area	**Fish based small production system / Diversified fish farming**
6.	Performance of the Technology with performance indicators	**Parameters:** Yield, length of fish, weight of fish, survivality, BC ratio
7.	Final recommendation for micro level situation	Trial continuing
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	Identification of the problem by farmers followed by designing of the trial jointly by researcher and farmer and managed by farmer

Thematic area: **Diversified fish farming**

Problem definition: Low profitability of domestic fish culture ponds due to culture of only carps

Technology assessed: Assessment of the growth performance of carps in ponds of South 24 Parganas district by introducing SIF species- *Amblypharyngodon mola* and *Puntius sophore*

Farmers practice : Culture of different fishes in domestic ponds (Unit area: 0.065 ha) with usual package of practice for composite fish culture

i. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm
ii. Stocking of carps @ 10,0000/ha
iii. Post stocking management: Monthly organic manuring with cow dung@1000kg/ha, lime@30kg/ha, daily supplementary feed (mustard oil cake:rice bran::1:1)@3% body weight, monthly netting

Technology option 1 : F.P.+ *Amblypharyngodon mola* @ 20000/ha
Technology option 2 : F.P.+ *Puntius sophore* @ 20000/ha
T**echnology option 3** : Farmers practice + *Amblypharyngodon mola* @ 10000/ha + *Puntius sophore* @ 10000/ha

Table:

Technology option	No. of trials	Yield component			Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Length of fish (mm)	Weight of fish (gm)	Survivality (%)					
Farmers practice	7								
Technology option 1									
Technology option 2									
T**echnology option 3**									

Results: Expected in May, 2014

OFT-13 (2013-14)

1.	Title of On farm Trial	Assessment of the profitability of carp ponds of South 24 Parganas district by introducing *Notopterus chitala* and *Ompok pabda*
2.	Problem diagnose	Low profitability of domestic fish culture ponds due to culture of only carps
3.	Details of technologies selected for assessment/refinement	**Farmers practice :** Culture of different fishes in domestic ponds (Unit area: 0.065 ha) with usual package of practice for composite fish culture i. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm ii. Stocking of carps @ 10,000/ha iii. Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily supplementary feed (mustard oil cake:rice bran::1:1)@3% body weight, monthly netting **Technology option 1**: F.P.+ *Notopterus chitala* @ 1500/ha **Technology option 2**: F.P.+ *Ompok pabda* @ 1500/ha
4.	Source of Technology	**:** i) OST done at KVK instructional farm in collaboration with CIFE, Kolkata ii) Borah, B. C.; Bhagawati, A. K.; Deka, P. Culture possibility of Ompok pabda (Ham.) under controlled condition. *Journal of the Agricultural Science Society of North-East India* 2000 Vol. 13 No. 2 pp. **207-208**
5.	Production system and thematic area	**Fish based small production system / Diversified fish farming**
6.	Performance of the Technology with performance indicators	**Parameters:** Yield, length of fish, weight of fish, survibility, BC ratio
7.	Final recommendation for micro level situation	Trial continuing
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	Identification of the problem by farmers followed by designing of the trial jointly by researcher and farmer and managed by farmer

Thematic area: **Diversified fish farming**

Problem definition: Low profitability of domestic fish culture ponds due to culture of only carps

Technology assessed: Assessment of the profitability of carp ponds of South 24 Parganas district by introducing *Notopterus chitala* and *Ompok pabda*

Farmers practice : Culture of different fishes in domestic ponds (Unit area: 0.065 ha) with usual package of practice for composite fish culture

i. Pond preparation: Organic manure @10,000kg/ha, lime@ 400kg/ha, mahua oil cake@250ppm
ii. Stocking of carps @ 10,000/ha
iii. Post stocking management: Monthly organic manuring with cow dung @1000kg/ha, lime@30kg/ha, daily supplementary feed (mustard oil cake:rice bran::1:1)@3% body weight, monthly netting

Technology option 1: F.P.+ *Notopterus chitala* @ 1500/ha

Technology option 2: F.P.+ *Ompok pabda* @ 1500/ha

Table:

Technology option	No. of trials	Yield component			Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
		Length of fish (mm)	Weight of fish (gm)	Survivality (%)					
Farmers practice	7								
Technology option 1									
Technology option 2									

Results: Expected in May, 2014

OFT-14 (2013-14)

1.	Title of On farm Trial	Assessment of feeding practices of children and behavior of mother for growth enhancement of children
2.	Problem diagnose	10.9 percent children have Mid upper arm circumference (MUAC) below the WHO recommended cut for SAM and stunting rate high in backward villages of Joynagar II in South 24 PGS due to lack of knowledge on childcare practices.
3.	Details of technologies selected for assessment/refinement	**Traditional practice** :Food taken from AWC for home consumption+ mother attend awareness camp (lecture method) **Technology 1**: Spot feeding practice at AWC+ mother attend awareness camp (lecture method) **Technology 2**: Spot feeding practice at AWC + mother attend awareness camp (lecture method + new teaching Aids + game material for active feeding)
4.	Source of Technology	Active feeding behavior compensate for low interest in food ***www.jn.nutrition.org***
5.	Production system and thematic area	Women and child care
6.	Performance of the Technology with performance indicators	Weight/age, disease incidence, adoption of child rearing practice by mother in the area diet diversity of weaning food,active feeding practice at home, frequency of complementary diet
7.	Final recommendation for micro level situation	Demonstration of Active feeding and sharing of positive learning of mother should be organized in village health and nutrition day (VHND)and in Anganwadi center
8.	Constraints identified and feedback for research	Community participation in management of Severely malnourished children are very poor.
9.	Process of farmers participation and their reaction	Active feeding and games materials are good process for positive behavioural changes

Thematic area: Attaining food & nutrition security at household level

Problem definition: 10.9 percent children have MUAC below the WHO recommended cut for SAM and stunting rate high in backward villages of Joynagar II in South 24 PGS due to lack of knowledge on childcare practices.

Traditional practice :Food taken from Anganwadi Centre (AWC)for home consumption+ mother attend awareness camp (lecture method)
Technology assessed: **Technology 1**: Spot feeding practice at AWC+ mother attend awareness camp (lecture method)
Technology 2: Spot feeding practice at AWC + mother attend awareness camp (lecture method + new teaching Aids + game material for active feeding)

Technology option	No of trial	Z score of weight (initiation)	Z score of weight (after 3 months)	Disease incidence	Diet diversity score of diet of child	Active feeding practice at home	Frequency of complementary food
Traditional practice	21 SAM Children	>-2 (100%)	>1 (16%) >-1(71%) >-2(13%)	59%	2.2	nil	1-2
Technology 1:	18 SAM Children	>-2(100%)	>1 (21%) >-1(64%) >-2(15%)	61%	2.2	nil	2
Technology 2:	19 SAM Children	>-2(100%)	>1 (73%) >-1(24%) >-2(03%)	22%	5.6	87%	4

Results: result indicates that technological option 2 helps to increase weight/ age of SAM child through the promotion of active feeding and good child care practices better than technological option 1. The result is shared with the DPO (south 24 PGS) and CDPO (Joynagar II) to upscale the practice with the ICDS Mission programme for better community management of SAM children. A 30 days module for the programme is also designed and shared with the authority.

Z = (Child's measurement – Reference median) /Reference SD

where,
Child's measurement = height or weight of a given child at age X
Reference median = mean or 50th percentile of the reference population at age X
Reference SD = standard deviation of the reference population at age X

3.2 Achievements of Frontline Demonstrations

A. Details of FLDs implemented during 2012-13

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	
1.	Sunflower	Crop diversification	Component demonstration: Variety:DRSH-1 Micro nutrient: Boron @ 2.0 gm/lit. of water	15	16	26	14	40	
2.	Maize	Crop diversification	Component demonstration:Variety - All rounder along with 100:50:50 kg/ha	1.3	1.3	6	4	10	

Details of FLDs implemented during 2013-14

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	
1.	Sunflower	Crop diversification	Component demonstration: Variety:DRSH-1 Micro nutrient: Boron @ 2.0 gm/lit. of water	15	20	33	17	50	
2.	Maize	Crop diversification	Component demonstration: Variety – PAC-740 along with 100:50:50 kg/ha	2	2	15	-	15	
3	Onion	Introduction of improved variety	Component: Seed, Variety Agrifound Light Red	-	10	62	48	110	
4	Pointed Gourd	Yield improvement through pollination management	Introduction of male plant in the conventional pointed gourd cultivation field Component: Root as planting material	-	1	7	8	15	
5	Betel vine	Protected Cultivation	Introduction of Hi-tech Pan boroz for better production with quality leaf Component: Boroz structure	9.75 ha	10	46	104	150	
6	Ber (Jujuba)	Introduction of new crop	Introduction of new fruit crop BAU Ber for better profitability Component: Seedling of Ber	0.65 ha	1	9	11	20	
7.	Tomato	Integrated Pest and Disease management	Use of Panchagavya, a fermented product of 5 products of Cow (cow dung, cow urine, milk, curd and ghee), at 30, 45 & 60 days after transplanting of tomato (SG1458) Component: Panchagavya	0.065	0.065	2	3	5	

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	
8.	Bird rearing	Feeding management	Introduction of scientific rearing practice of budgerigar bird for profit maximization by the womenfolk of remote Sundarban Component demonstration: Variety:budgerigar Deworming-3 months interval with albendazole@ 2 drop per bird	60 (no)	60 (no)	24	36	60	
9.	Bottom feeder in carp ponds	Freshwater fish culture	Introduction of *Pangasius pangasius* as bottom feeder in carp culture ponds	0.65	0.65	7	3	10	
10.	Oyster mushroom	Attaining food & nutrition security at household level	Innovative (Iron frame of 10"height and 12" diameter having 4ft long perforated plastic pipe (4" dia) inserted into the centre stand of iron frame) production technique of oyster mushroom	-	-	15	10	25	
11.	-	Nutrient efficient diet preparation	Component demonstration - Utilization of unfamiliar food sources like Drumstick leaves fry/cauliflower leaves/ash gourd leaves/Kundri/Batua/ Sushni sag/bengalgram leaves to prepare nutrient efficient diet	-	-	13	52	65	

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	
12.		Attaining food & nutrition security at household level	Component demonstration - Innovative Teaching learning material for health Play tools for reproductive health awareness Food flag of micro nutrient education	-	-	39	76	115	
13.		Empowerment of farm women	Full package-Innovative technology for nutrition eduation through Ngo Ideas tool box education	-	-	26	37	63	

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					
Sunflower, 2012-13	Rabi-Summer	Irrigated	Clay	212.8	26.5	480.7	Kharif Paddy	2nd week of January'13	Last week of April'12	24.6	4
Maize, 2012-13	Rabi-Summer	Irrigated	Clay	159.9	27.5	482.2	Kharif Paddy	1st wk. of February'13	Last wk. of May'13	44.2	6
Sunflower, 2013-14	Rabi-Summer	Irrigated	Clay	228.4	29.7	392.2	Kharif Paddy	2nd week of January'14	Last week of April'14	97.2	2
Maize , 2013-14	Rabi-Summer	Irrigated	Clay	219.5	27.1	413.6	Kharif Paddy	1st wk. of February'14	Crop damaged in seedling stage due to heavy rainfall (97.2 mm) on consecutive 2 days (15th & 16th Feb.'14)	97.2	2
Onion	Rabi, 2013-14	Irrigated	Non-saline sandy loam	210.1	45.7	533.6	Paddy	1st Week of Decmber, 2013	Yet to harvest (April, 2014)		
Pointed Gourd	Rabi, 2013-14	Irrigated	Non-saline sandy loam to clay loam	159.9	27.5	482.2	Paddy	2nd week of January, 2014	Harvesting started by March, 14 and will continue upto June, 2014		

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					
Betel vine	Round the Year	Irrigated	Non-saline sandy loam to loam	212.8	26.5	480.7	Betel vine	June to October, 2013	Harvesting continued for round the year		
Ber (Jujuba)	Round the Year	Rainfed	Non-saline or Saline Clay loam to sandy loam	160.2	27.2	543.8	Vegetables	June to September, 2013	Harvest period January-February, 2014		
Tomato	Rabi - Summer	Irrigated	Clay loam	212.8	26.5	480.7	*Kharif* paddy	1st week of October'13	Last week of February, 14	280	5
Bird rearing	Round the Year	Homestead	-	-	-	-	*Nil*				
Bottom feeder (Pangasius pangasius) in carp ponds	Round the Year	Homestead	-	-	-	-	*Common carp*	July'13	May'14		
Oyster mushroom	Winter	Homestead	-	-	-	-	Oyster mushroom inplastic bags	Sept.'13	Oct.'13		
-	Round the Year	Homestead	-	-	-	-	-	-	-		
-	Round the Year	Homestead	-	-	-	-	-	-	-		
-	Round the Year	Homestead	-	-	-	-	-	-	-		

Performance of FLD

Oilseeds:

Frontline demonstrations on oilseed crops, 2012-13

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
Sunflower	Crop diversification	Component demonstration: Variety:DRSH-1 Micro nutrient: Boron @ 2.0 gm/lit. of water	40	16	16.63	12.62	32.0	19518	41740	22222	2.14	18465	31557	13092	1.70

Frontline demonstrations on oilseed crops, 2013-14

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
Sunflower	Crop diversification	Component demonstration: Variety:DRSH-1 Micro nutrient: Boron @ 2.0 gm/lit. of water	50	20	Yet to be harvested										

* 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)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Maize	Crop diversification	Component demonstration:Variety –PAC-740 along with 100:50:50 kg/ha	15	2	Crop damaged in seedling stage due to heavy rainfall (97.2 mm) for consecutive 2 days (15th & 16th Feb.'14)												
Onion	Introduction of improved variety	Component: Seed, Variety Agrifound Light Red	110	10	Yet to harvest (April, 2014). Result would be available by May, 2014.												
Pointed Gourd	Yield improvement through pollination management	Introduction of male plant in the conventional pointed gourd cultivation field	15	1	Harvesting started by March, 14 and will continue upto June, 2014. Result would be worked out after June.												
Betel vine	Protected Cultivation	Introduction of Hi-tech Pan boroz for better production with quality leaf	150	10	2650000 no./ha	2130000 no./ha (Boroz made up of Bamboo structure and paddy straw as shading material)	24.41	**Data on parameters**		1470000	2980000	1510000	2.03	1875000	2890000	1015000	1.54
Ber (Jujuba)	Introduction of new crop	Introduction of new fruit crop BAU Ber for better profitability	20	1	67.8 t/ha	-	-	Fuel wood : 27 t/ha	-	340000	1030000	690000	3.03	-	-	-	-

***Data on parameters**

Data	Demo	Check
Temp (^{0}C) at 12.05 pm, on 28.02.13; (environ-mental temp- 29.3)	28.08	30.05
RH (%) (environ-mental RH- 41)	49	38
Light intensity (Lux) (Outside – 1,08,500)	30700	5400 - 95300
Leaf colour	Uniformly green	Scorching discolour-ation in some leaves
Chlorophyll (SPAD)		
3rd leaf from top	41.5	37.8
mature leaf	55.7	48.1
Leaf shape (length/width)	1.12	1.18
Avg. leaf weight (g)	4.29	3.52
Leaf thickness (mm)	0.25	0.22
Plant internodal length (cm)	9.45	7.86
Disease severity (5 point scale)	3.5	3.5

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

Other crops, 2012-13

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)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Maize	Crop diversification	Component demonstration:Variety -All rounder along with 100:50:50 kg/ha	10	1.3	19.67	-	-	i) Cob length-Av.17.0 cm ii) Cob diameter-10.6 cm	-	38475	49175	10700	1.28	-	-	-	-

Other crops, 2013-14

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)			
					Demonstration	Check		Parameters	Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Tomato	Integrated Pest Management	Use of Panchagavya in SG1458 variety of tomato at 30, 45 and 60 days after transplanting	5	0.065	504	482	4.56	Early blight (1-5 scale)	2	4	71460	252200	180540	3.53	73820	241000	167180	3.26
								White fly (no./leaf)	0.45	1.64								
								Tomato leaf curl virus	5.78	11.42								
								Leaf miner (%)	4.46	8.54								
								Beneficial insect (Lady bird beetle)	1.06	0.15								
								Beneficial insect (Spider)	1.12	0.35								
								Avg. fruit wt (g)	78.3	72.9								
	Total																	

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) Ornamental bird	Feeding management	Introduction of scientific rearing practice of budgerigar bird for profit maximization by the womenfolk of remote Sundarban Demonstration: Variety:budgerigar Deworming- 3 months interval @ 2 drop per bird Feeding: leafy vegetables two days per week @ 200 gms for 100 birds Calcium- at the time of laying 1 drop per bird.	60	60	Continuing												
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.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Common carps																	
Mussels																	
Ornamental fishes																	
Others (pl.specify) Bottom feeder in carp ponds	Freshwater fish culture	Introduction of *Pangasius pangasius* as bottom feeder in carp culture ponds	10	10	Continuing												
	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		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Oyster mushroom	Innovative (Iron frame of 10"height and 12" diameter having 4ft long perforated plastic pipe (4" dia) inserted into the centre stand of iron frame) production technique of oyster mushroom	53	46 (10nos/unit)	1.25kg/kg straw	Traditional practice: Small plastic bag placed upon bamboo rack 1.0 kg/kg 2.0 straw	20	-	-	15450.00	34530.00	19080.00	2.23	10190.00	11530.00	10612.00	1.13
Button mushroom																
Vermicompost																
Sericulture																
Apiculture																
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

Women empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Farm Women	Nutrient efficient diet preparation Utilization of unfamiliar food sources (Drumstick leaves fry/cauliflower leaves/ash gourd leaves/*Kundri/Batua/ Sushni sag/bengalgram leaves*)to prepare nutrient efficient diet	65	1)Diet diversity score 2)Menu of daily diet Drumstick leaves fry/cauliflower leaves/ash gourd leaves/*Kundri/Batua/ Sushni sag/bengalgram leaves*	5.6 Twice in a week (43 % family)	3.4 Once in six month (14.% family)
Pregnant women					
Adolescent Girl	Innovative Teaching learning material for health Play tools for reproductive health awareness Food flag of micro nutrient education	115	1)Behavioral changes in health practice a.Contact with Annesha clinic b.Hand wash before eating c.Inclusion of Iron rich vegetables and pulses in daily diet 2)a. knowledge score for health & nutrition issue increased b.Knowledge Score	 16% 53% 21% 58% 6.5	 3% 12% 6% 12% 3.6
Other women	nutrition eduation through Ngo Ideas tool box	63	1)Diet diversity score of weaning food 2)Affinity to taboo 3) initiation age of child weaning food	6.3 35% 7-8 months	2.2 86% 1- $1^{1/2\ yrs}$
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	PAC-740	15	2.0	Crop damaged in seedling stage due to heavy rainfall (97.2 mm) for consecutive 2 days (15th & 16th Feb.,14)						
Paddy										
Sorghum										
Wheat										
Others (pl.specify)										
Total										
Oilseeds										
Castor										
Mustard										
Safflower										
Sesame										

Contd..

Sunflower										
Groundnut										
Soybean										
Others (pl.specify)										
Total										
Pulses										
Greengram										
Blackgram										
Bengalgram										
Redgram										
Others (pl.specify)										
Total										
Vegetable crops										
Bottle gourd										
Capsicum										
Cucumber										
Tomato										
Brinjal										
Okra										
Onion										
Potato										
Field bean										
Others (pl.specify)										
Total										
Commercial crops										
Cotton										
Coconut										
Others (pl.specify)										

Contd…

Total										
Fodder crops										
Napier (Fodder)										
Maize (Fodder)										
Sorghum (Fodder)										
Others (pl.specify)										
Total										

Technical Feedback on the demonstrated technologies

S. No	Crop	Feed Back
1	Onion	Yet to get final result
2	Pointed Gourd	Yet to get final result
3	Betel vine	The technology spread among the betel vine farmers like wildfire. At present more than 2000 number of farmers approached KVK for this new system of *Pan* Boroz for modifying their own system of betel vine cultivation.
4	Ber (Jujuba)	This new crop, BAU Ber created a new vista in crop cultivation entrepreneurship.
5	Ornamental birds	Ornamental birds lay more eggs with improved hatchability with feeding of different green leaves of leafy vegetables
6	Tomato	The positive result created interest among the neighbouring farmers who are now enquiring about the preparation of Panchagavya.
7	Less familier food	Increased diet diversity in the family without spening exess money
8	Innovative teaching methodology for adolescent girls	Increased access to Annesha Clinic under NRHM by adolescent
9	Nutrition eduation through Ngo Ideas tool box education	Increased awareness about rights and entitlements to attain food and nutrition security

Farmers' reactions on specific technologies

Sl. No	Feed Back
1	Plant performance is very good. Expected that a good yield would be observed.
2	-
3	Farmers are willing to erect this new *boroz* by their own in coming days.
4	At present the cultivation of this ber crop is profitable, but farmers are worried that expansion of ber orchard will lead to market glut in future days, then profitability may not persist.
5	Feeding of water logged vegetables in ornamental bird poses gastric disturbances
6.	Preparation of panchagavya is very time consuming. Availability of ready to spray material would be a better alternative.
7	Children learn to eat vegetables
8	Teaching session is joyfull and topics are related improve quality of life
9	Learned to raise voice against malpractice
10	Seed yield of Sunflower is higher in boron applied fields compare to non application of boron
11	Wilt of Sunflower is satisfactory control when Sunflower seed were treated with *Trichodrama viride* and *Pseudomonas fluorescens* @ 10gm /kg of seed
12	Fallow land is utilized through maize cultivation and it gives additional return to the farmers due to seed yield of the crop is satisfactory

Extension and Training activities under FLD

SL. No.	Activity	Date	No. of activities organized	Number of participants	Remarks
1.	Field days	25.04.2013, 03.02.2014, 22.11.13, 03.01.14, 11.01.14	5	93	
2.	Farmers Training	02.02.2014,13.0813, 18.2.14, 20.02.14	4	96	5Nos. of off campus training have been conducted in AICRP on Sunflower FLD programme.
3.	Media coverage	04.11.13, 11.11.13	2	-	Radio coverage of programme
4.	Training for extension functionaries	22.05.13 to 24.05.13	1	30	

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

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	1	29		29	4		4				33		33
Crop Diversification	2	25	6	31	10	1	11				35	7	42
Integrated Farming	8	66	11	77	162	9	171	58	1	59	286	21	929
Water management													
Seed production	1	2		2	15	5	20				17	5	22
Nursery management													
Integrated Crop Management	2	26		26	23		23				49		49
Fodder production													
Production of organic inputs	2	21	1	22	13		13				34	1	35
Others, (cultivation of crops)													
Crop Intensification	1	19		19	6		6				25		25
II. Horticulture													
a) Vegetable Crops													
Integrated nutrient management	1	10	11	21	0	1	1	6	10	16	16	22	38
Water management-Micro irrigation	1	24	2	26	3	0	3	-	-	-	27	2	29
Enterprise development													
Skill development	1	20	-	20	19	-	19	-	-	-	39	-	39
Yield increment													
Production of low volume and high value crops	1	0	30	30	0	1	1	0	0	0	0	31	31
Off-season vegetables	1	24	0	24	4	0	4		-	-	28	0	28
Nursery raising													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)	2	0	12	12	0	48	48	-	-	-	0	60	60
Others, if any (Cultivation of Vegetable)	1	-	16	16	-	13	13	-	-	-	-	39	39
Training and Pruning													
b) Fruits													

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
Layout and Management of Orchards													
Cultivation of Fruit													
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													
Betel vine management	3	66	0	66	4	0	4	-	-	-	70	0	70
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													
IV. Livestock Production and Management													
Dairy Management													
Poultry Management	1	9	3	12	11	4	15	0	0	0	20	7	27
Piggery 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
Rabbit Management	1	2	0	2	16	0	16	0	0	0	18	0	18
Disease Management	1	19	0	19	3	0	3	1	0	1	23	0	23
Feed management													
Production of quality animal products													
Others, if any Goat farming	1	3	16	19	3	12	15	0	0	0	6	28	34
Others/ Livelihood through animal husbandry (ornamental bird rearing)	2	21	0	21	46	0	46	1	0	1	68	0	68
Integrated farming and poultry-duckery	3	14	0	14	90	2	92	11	0	11	115	2	117
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening	3	-	23	23	-	48	48	-	19	19	-	90	90
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	2	-	38	38	-	26	26	-	-	-	-	64	64
Storage loss minimization techniques	2	1	9	10	-	36	36	-	--	-	1	45	46
Enterprise development													
Value addition													
Income generation activities for empowerment of rural Women	5	-	60	60	-	32	32	-	-	-	-	92	92
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													
Integrated Disease Management	2	50	0	50	44	0	44	1	0	1	95	0	95
Bio-control of pests and diseases	2	32	0	32	23	30	53	0	0	0	55	30	85
Bio intensive IDM	4	94	0	94	23	0	23	0	0	0	117	0	117
Organic Farming	1	30	0	30	0	0	0	0	0	0	30	0	30
Production of bio control agents and bio pesticides													
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
VIII. Fisheries													
Integrated fish farming	2	1	11	12	-	19	19	15	-	15	16	30	46
Carp breeding and hatchery management													
Carp fry and fingerling rearing	2	18	3	21	14	-	14	-	-	-	32	3	35
Composite fish culture & fish disease	5	106	1	107	7	7	14	12	-	12	125	8	133
Fish feed preparation & its application to fish pond, like nursery, rearing & stocking pond													
Hatchery management and culture of freshwater prawn	1	8	-	8	8	-	8	-	-	-	16	-	16
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	1	-	-	-	-	-	-	50	-	50	50	-	50
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	1	10	8	18	28	7	35				38	15	53
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	**70**	**750**	**261**	**1081**	**579**	**301**	**880**	**155**	**30**	**185**	**1484**	**595**	**2079**

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	1	11	5	16	-	-	-	-	-	-	11	5	16
Bee-keeping													
Integrated farming													
Seed production													
Production of organic inputs													
Integrated Farming													
Planting material production													
Vermi-culture													
Sericulture													
Protected cultivation of vegetable crops	1	8	2	10	3	5	8	-	-	-	11	7	18
Commercial fruit production													
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops	1	0	0	0	0	30	30	-	-	-	0	30	30
Training and pruning of orchards													
Value addition													
Production of quality animal products													
Dairying													
Sheep and goat rearing	2	15	16	31	16	14	30	0	1	1	31	31	62
Quail farming													
Piggery													
Rabbit farming													
Poultry production	2	35	32	67	20	3	23	0	0	0	55	35	90
Ornamental fisheries	1	9	-	9	7	-	7	-	-	-	16	-	16
Enterprise development													
Para vets	1	31	0	31	3	0	3	0	0	0	34	0	34
Para extension workers	1	12	0	12	3	0	3	0	0	0	15	0	15
Composite fish culture	10	131	134	265	58	28	86	1	1	2	190	163	353
Freshwater prawn culture													
Shrimp farming													
Pearl culture													
Cold water fisheries													
Fish harvest and processing technology													
Fry and fingerling rearing													
Integrated fish farming	1	15	-	15	25	-	25	3	-	3	43	-	43
Breeding of endangered indigenous fish	2	15	2	17	14	-	14	-	-	-	29	2	31
Small scale processing													
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts													
Agri-clinic and agri-business	1	24	3	27	8	0	8	0	0	0	32	3	35
Integrated Pest Management	1	15	0	15	9	0	9	0	0	0	24	0	24
Integrated Crop Management	1	23	3	26	3	1	4	6	1	7	32	5	37
TOTAL	**26**	**344**	**197**	**567**	**169**	**81**	**250**	**10**	**3**	**13**	**523**	**281**	**804**

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													
Management of problematic soil	1	22		22	18		18				40		40
Rejuvenation of old orchards													
Protected cultivation technology (Green Houses, Shade Net etc.) of vegetables	1	19	0	19	5	0	5	-	-	-	24	0	24
Formation and Management of SHGs													
Group Dynamics and farmers organization													
Leadership development	3	44	8	52	19	4	23				63	12	75
Information networking among farmers													
Capacity building for ICT application	1	27	0	27	14	0	14	0	0	0	41	0	41
Capasity building for Watershed Management	2	13	5	18	34	21	55				47	26	73
Care and maintenance of farm machinery and implements													
WTO and IPR issues													
Management in farm animals													
Livestock feed and fodder production	1	10	0	10	3	0	3	0	0	0	13	0	13
Integrated fish farming	1	-	-	-	-	-	-	23	2	25	23	2	25
Carp breeding and hatchery management	1	2	2	4	1	-	1	-	-	-	3	2	5
Breeding of endangered indigenous fish	3	8	-	8	5	-	5	3	3	6	16	3	19
Composite fish culture	3	60	2	62	8	1	9	1	-	1	69	3	72
Artificial insemination	2	78	0	78	9	0	9	0	0	0	87	0	87
Azolla cultivation	1	13	0	13	9	0	9	2	0	2	24	0	24
Prani bandhu (45days)	2	25	0	25	32	0	32	4	0	4	61	0	61
Household food security													
Women and Child care	4	-	58	58	-	29	29	-	-	-	-	87	87
Low cost and nutrient efficient diet designing													
Production and use of organic inputs													
Gender mainstreaming through SHGs													
Krishak Mitra	1	11	0	11	3	0	3	-	-	-	14	0	14
Friends of Coconut Tree (FOCT)	1	19	0	19	3	0	3	-	-	-	22	0	22
National Vegetable Initiative for Urban Cluster	2	29	0	29	31	0	31	-	-	-	60	0	60
National Vegetable Initiative for Urban Cluster	1	26	0	26	4	0	4	-	-	-	30	0	30
Hi-Tech Horticulture for the East Singbhum District of Jharkhand	1	3	0	3	4	0	4	17	0	17	24	0	24
Evaluation and monitoring tool	1	-	20	20	-	-	-	-	-	-	-	20	20
Natural Resource Management, Farm Production System & Livelihood Support System	1	6		6	18	5	23		3	3	24	8	32
TOTAL	**34**	**415**	**95**	**544**	**220**	**60**	**280**	**50**	**8**	**58**	**685**	**163**	**848**

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	1	12		12	15		15				27		27
Resource Conservation Technologies													
Cropping Systems	1				22		22				22		22
Crop Diversification	3	24	12	36	45	13	58	4	1	5	73	26	99
Integrated Farming													
Water management													
Seed production	1	4		4	18	3	21				22	3	25
Nursery management													
Integrated Crop Management	2	35		35	32		32				67		67
Fodder production													
Production of organic inputs													
Others, (cultivation of crops) Zero tillage cultivation	2	18		18	32		32				50		50
Crop Intensification	1				27	7	34	4		4	31	7	38
Pest management	2	79	-	79	38	-	38	-	-	-	117	-	117
II. Horticulture													
a) Vegetable Crops													
Integrated nutrient management													
Water management													
Enterprise development													
Skill development for vegetable cultivation	1	10	0	10	27	0	27	0	0	0	37	0	37
Yield increment													
Production of low volume and high value crops	1	25	0	25	8	0	8	-	-	-	33	0	33
Off-season vegetables	1	19	0	19	13	0	13	-	-	-	32	0	32
Nursery raising													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)													
Others, if any (Cultivation of Vegetable)													
Training and Pruning													
b) Fruits													
Layout and Management of Orchards													
Cultivation of Fruit-Ber	1	14	0	14	3	0	3	-	-	-	17	0	17
Management of young plants/orchards													
Rejuvenation of old orchards													
Export potential fruits	1	19	0	19	13	0	13	-	-	-	32	0	32
Micro irrigation systems of orchards	1	17	0	17	2	0	2	-	-	-	19	0	19
Plant propagation techniques													
Others, if any(INM)													
Betel vine management	1	21	0	21	3	0	3	-	-	-	24	0	24
c) Ornamental Plants													
Nursery Management													
Management of potted plants													
Export potential of ornamental plants													
Propagation techniques of 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
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	1	12		12	12	3	15				24	3	27
Micro nutrient deficiency in crops	2	86	-	86	20	-	20	8	-	8	114	-	114
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any													
IV. Livestock Production and Management													
Dairy Management													
Poultry Management	2	0	59	59	0	20	20	0	1	1	0	80	80
Piggery Management													
Rabbit Management													
Disease Management	1	0	36	36	0	1	1	0	0	0	0	37	37
Feed management													
Production of quality animal products													
Rearing of ornamental birds	2	69	23	92	21	11	32	6	2	8	96	36	132
Awareness on vaccination of animals	3	71	32	103	28	31	59	13	6	19	112	69	181
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening	7	-	193	193	-	104	104	-	-	-	-	297	297
Design and development of low/minimum cost diet													
Designing and development for high nutrient efficiency diet	2	-	96	96	-	73	73	-	23	23	-	192	192
Minimization of nutrient loss in processing													
Gender mainstreaming through SHGs	1	-	24	24	-	6	6	-	-	-	-	30	30
Storage loss minimization techniques													

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
Enterprise development	5	-	24	24	-	60	60	-	-	-	-	84	84
Value addition													
Income generation activities for empowerment of rural Women	2	-	16	16	-	-	-	-	11	11	-	27	27
Location specific drudgery reduction technologies													
Rural Crafts													
Capacity building													
Women and child care	4	-	52	52		36	36	-	18	18	-	106	106
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													
Bio-intensive IDM	1	27	0	27	6	0	6	0	0	0	33	0	33
Bio-intensive IPM	2	36	5	41	3	1	4	0	0	0	39	6	45
Integrated pest and Disease Management	2	23	0	23	33	2	35	0	0	0	56	2	58
Bio-control of pests and diseases	1	33	1	34	3	0	3	0	0	0	36	1	37
Integrated Pest Management	1	17	6	23	3	2	5	0	0	0	20	8	28
Indigenous Technological Knowledge (ITK)	1	5	0	5	8	0	8	0	0	0	13	0	13
Production of bio control agents and bio pesticides													
Others, if any													
VIII. Fisheries													
Integrated fish farming	1	10	-	10	8	-	8	-	-	-	18	-	18
Carp breeding and hatchery management													
Carp fry and fingerling rearing													
Composite fish culture & fish disease	4	31	16	47	73	48	121	2	2	4	106	66	172
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	2	12	9	21	14	11	25	-	-	-	26	20	46
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming	1	14	-	14	26	-	26	-	-	-	40	-	40
Edible oyster farming													
Pearl culture													
Fish processing and value addition													
Others, if any													
IX. Production of Inputs at site													
Seed Production													

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
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)													
TOTAL	**61**	**524**	**549**	**1130**	**471**	**390**	**861**	**18**	**56**	**74**	**1011**	**995**	**2006**

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	1	18	0	18	4	0	4	0	0	0	22	0	22
Sericulture													
Protected cultivation of vegetable crops	1	15	2	17	12	3	15	0	0	0	27	5	32
Commercial fruit production	1	22	0	22	3	0	3	0	0	0	25	0	25
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops	1	21	0	21	15	0	15	0	0	0	36	0	36
Training and pruning of orchards	1	24	0	24	19	0	19	0	0	0	43	0	43
Value addition													
Production of quality animal products													

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
Dairying													
Sheep and goat rearing													
Quail farming													
Piggery													
Rabbit farming													
Poultry production													
Ornamental fisheries													
Para vets													
Para extension workers													
Composite fish culture	1	35	-	35	7	-	7	-	-	-	42	-	42
Freshwater prawn culture	1	27	-	27	3	-	3	-	-	-	30	-	30
Shrimp farming	1	5	-	5	14	-	14	-	-	-	19	-	19
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													
Others, if any													
Maintenance of reproductive	7	-	228	228	-	140	140	-	-	-	-	368	368
TOTAL	**15**	**167**	**230**	**412**	**77**	**143**	**220**	**-**	**-**	**-**	**244**	**373**	**617**

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													
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	-	-	-	-	-	-	-	-	-	-	-	-	-

Consolidated table (ON and OFF Campus)

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	1	12	-	12	15	-	15	-	-	-	27	-	27
Resource Conservation Technologies													
Cropping Systems	2	29	-	29	26	-	26	-	-	-	55	-	55
Crop Diversification	5	49	18	67	55	14	69	4	1	5	108	33	141
Integrated Farming	8	66	11	77	162	9	171	58	1	59	286	21	307
Water management													
Seed production	2	4	-	6	33	8	41	-	-	-	39	8	47
Nursery management													
Integrated Crop Management	4	61	-	61	55	-	55	-	-	-	116	-	116
Fodder production													
Production of organic inputs	2	21	1	22	13	-	13	-	-	-	34	1	35
Crop Intensification	2	-	-	-	33	7	40	4	-	4	56	7	63
Others, (cultivation of crops) Zero Tillage Cultivation	2	18	-	18	32	-	32	-	-	-	50	-	50
Pest management	2	79	-	79	38	-	38	-	-	-	117	-	117
II. Horticulture													
a) Vegetable Crops													
Integrated nutrient management, IPM and IDM of Horticultural crops	1	10	11	21	0	1	1	6	10	16	16	22	38
Water management-– Micro Irrigation	1	24	2	26	3	0	3	-	-	-	27	2	29
Skill development for vegetable cultivation	1	10	0	10	27	0	27	0	0	0	37	0	37
Enterprise development													
Skill development training for onion cultivation	1	20	-	20	19	-	19	-	-	-	39	-	39
Yield increment													
Production of low volume and high value crops	1	25	30	55	8	1	9	0	0	0	33	31	64
Off-season vegetables	1	24	0	24	4	0	4		-	-	28	0	28
Off-season vegetables	1	19	0	19	13	0	13	-	-	-	32	0	32
Nursery raising													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.) of horticultural crops	2	0	12	12	0	48	48	-	-	-	0	60	60
Others, if any (Cultivation of Vegetable)	1	-	16	16	-	13	13	-	-	-	-	39	39
Training and Pruning													
b) Fruits													
Layout and Management of Orchards													
Cultivation of Fruit – Ber	1	14	0	14	3	0	3	-	-	-	17	0	17
Management of young plants/orchards													
Rejuvenation of old orchards													
Export potential fruits	1	19	0	19	13	0	13	-	-	-	32	0	32
Micro irrigation systems of orchards	1	17	0	17	2	0	2	-	-	-	19	0	19
Plant propagation techniques													
Others, if any(INM)													
c) Ornamental Plants													
Nursery 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
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													
Betel vine management	4	87	0	87	7	0	7	0	0	0	94	0	94
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	2	86	-	86	20	-	20	8	-	8	114	-	114
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any													
IV. Livestock Production and Management													
Dairy Management													
Poultry Management	3	9	62	71	11	24	35	0	1	1	20	87	107
Piggery Management													
Rabbit Management	1	2	0	2	16	0	16	0	0	0	18	0	18
Disease Management	2	19	36	55	3	1	4	1	0	1	23	37	60
Feed management													
Production of quality animal products													
Others, if any Goat farming	1	3	16	19	3	12	15	0	0	0	6	28	34
Others/ Livelihood through animal husbandry (ornamental bird rearing)	2	21	0	21	46	0	46	1	0	1	68	0	68
Awareness on vaccination of animals	3	71	32	103	28	31	59	13	6	19	112	69	181
Rearing of ornamental birds	2	69	23	92	21	11	32	6	2	8	96	36	132

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
Integrated farming and poultry-duckery	3	14	0	14	90	2	92	11	0	11	115	2	117

V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening	10	-	216	216	-	152	152	-	19	19	-	387	387
Design and development of low/minimum cost diet													
Designing and development for high nutrient efficiency diet	2	-	96	96	-	73	73	-	23	23	-	192	192
Minimization of nutrient loss in processing													
Gender mainstreaming through SHGs	3	-	62	62	-	32	32	-	-	-	-	94	94
Storage loss minimization techniques	2	1	9	10	-	36	36	-	-	-	1	45	46
Enterprise development													
Value addition													
Income generation activities for empowerment of rural Women	7	-	76	76	-	32	32	-	11	11	-	119	119
Location specific drudgery reduction technologies													
Rural Crafts													
Capacity building													
Women and child care	4	-	52	52	-	36	36	-	18	18	-	106	106
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	1	17	6	23	3	2	5	0	0	0	20	8	28
Integrated pest and disease management	2	23	0	23	33	2	35	0	0	0	56	2	58
Integrated Disease Management	2	50	0	50	44	0	44	1	0	1	95	0	95
Bio-control of pests and diseases	3	65	1	66	26	30	56	0	0	0	91	31	122
Bio-intensive IDM	5	121	0	121	29	0	29	0	0	0	150	0	150
Bio-intensive IPM	2	36	5	41	3	1	4	0	0	0	39	6	45
Indigenous Technological Knowledge (ITK)	1	5	0	5	8	0	8	0	0	0	13	0	13
Organic farming	1	30	0	30	0	0	0	0	0	0	30	0	30
Production of bio control agents													

and bio pesticides													
Others, if any													
VIII. Fisheries													
Integrated fish farming	3	11	11	22	8	19	27	15	-	15	34	30	64
Carp breeding and hatchery management													
Carp fry and fingerling rearing	2	18	3	21	14	-	14	-	-	-	32	3	35
Composite fish culture & fish disease	9	137	17	154	80	55	135	14	2	16	231	74	305
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	3	20	9	29	22	11	33	-	-	-	42	20	62
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming	1	14	-	14	26	-	26	-	-	-	40	-	40
Edible oyster farming													
Pearl culture													
Fish processing and value addition													
Others, if any – i) Fishing gears and techniques	1	-	-	-	-	-	-	50	-	50	50	-	50
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	1	10	8	18	28	7	35	-	-	-	38	15	53
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	**129**	**1374**	**841**	**2335**	**1103**	**670**	**1773**	**184**	**94**	**278**	**2682**	**1615**	**4297**

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													
Integrated Farming													
Planting material production													
Vermi-culture	1	18	0	18	4	0	4	-	-	-	22	0	22
Sericulture													
Protected cultivation of vegetable crops	2	23	4	27	15	8	23	0	0	0	38	12	50
Commercial fruit production	1	22	0	22	3	0	3	-	-	-	25	0	25
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops	2	21	0	21	15	30	45	-	-	-	36	30	66
Training and pruning of orchards	1	24	0	24	19	0	19	0	0	0	43	0	43
Value addition													
Production of quality animal products													
Dairying													
Sheep and goat rearing	2	15	16	31	16	14	30	0	1	1	31	31	62
Quail farming													
Piggery													
Rabbit farming													
Poultry production	2	35	32	67	20	3	23	0	0	0	55	35	90
Ornamental fisheries	1	9	-	9	7	-	7	-	-	-	16	-	16
Para vets	1	31	0	31	3	0	3	0	0	0	34	0	34
Para extension workers	1	12	0	12	3	0	3	0	0	0	15	0	15
Composite fish culture	11	166	134	300	65	28	93	1	1	2	232	163	395
Freshwater prawn culture	1	27	-	27	3	-	3	-	-	-	30	-	30
Shrimp farming	1	5	-	5	14	-	14	-	-	-	19	-	19
Pearl culture													
Cold water fisheries													
Fish harvest and processing technology													
Fry and fingerling rearing													
Integrated fish farming	1	15	-	15	25	-	25	3	-	3	43	-	43
Breeding of endangered indigenous fish	2	15	2	17	14	-	14	-	-	-	29	2	31

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
Small scale processing													
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts													
Enterprise development													
Agri-clinic and agri-business	1	24	3	27	8	0	8	0	0	0	32	3	35
Integrated Pest Management	1	15	0	15	9	0	9	0	0	0	24	0	24
Integrated Crop Management	1	23	3	26	3	1	4	6	1	7	32	5	37
Maintenance of reproductive health and nutritional Status	7	-	228	228	-	140	140	-	-	-	-	368	368
TOTAL	**40**	**500**	**422**	**962**	**246**	**224**	**470**	**10**	**3**	**13**	**756**	**649**	**1405**

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													
Management of Problematic Soil	1	22	-	22	18	-	18	-	-	-	40	-	40
Integrated Nutrient management													
Rejuvenation of old orchards													
Value addition													
Protected cultivation (Green Houses, Shade Net etc.) of vegetables	1	19	0	19	5	0	5	-	-	-	24	0	24
Formation and Management of SHGs													

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
Group Dynamics and farmers organization													
Leadership development	3	44	8	52	19	4	23	-	-	-	63	12	75
Information networking among farmers													
Capacity building for ICT application	1	27	0	27	14	0	14	0	0	0	41	0	41
Capacity building for Water shed management	2	13	5	18	34	21	55	-	-	-	47	26	73
Capacity building on Natural Resource Management, Farm production system and livelihood support system	1	6	-	6	18	5	23	-	3	3	24	8	32
Care and maintenance of farm machinery and implements													
WTO and IPR issues													
Management in farm animals													
Livestock feed and fodder production	1	10	0	10	3	0	3	0	0	0	13	0	13
Artificial Insemination	2	78	0	78	9	0	9	0	0	0	87	0	87
Azolla cultivation	1	13	0	13	9	0	9	2	0	2	24	0	24
Prani bandhu (45 days)	2	25	0	25	32	0	32	4	0	4	61	0	61
Integrated fish farming	1	-	-	-	-	-	-	23	2	25	23	2	25
Carp breeding and hatchery management	1	2	2	4	1	-	1	-	-	-	3	2	5
Breeding of endangered indigenous fish	3	8	-	8	5	-	5	3	3	6	16	3	19
Composite fish culture	3	60	2	62	8	1	9	1	-	1	69	3	72
Household food security													
Women and Child care	4	-	58	58	-	29	29	-	-	-	-	87	87
Low cost and nutrient efficient diet designing													
Production and use of organic inputs													
Gender mainstreaming through SHGs													

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
Krishak Mitra	1	11	0	11	3	0	3	-	-	-	14	0	14
Friends of Coconut Tree (FOCT)	1	19	0	19	3	0	3	-	-	-	22	0	22
National Vegetable Initiative for Urban Cluster	2	29	0	29	31	0	31	-	-	-	60	0	60
National Vegetable Initiative for Urban Cluster	1	26	0	26	4	0	4	-	-	-	30	0	30
Hi-Tech Horticulture for the East Singbhum District of Jharkhand	1	3	0	3	4	0	4	17	0	17	24	0	24
Crop intensification													
Evaluation and monitoring tool	1	-	20	20	-	-	-	-	-	-	-	20	20
TOTAL	**34**	**415**	**95**	**544**	**220**	**60**	**280**	**50**	**8**	**58**	**685**	**163**	**848**

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

Date	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										
08.04.13	PF	Quality management of cotton	1	Off	22	12	34	12	5	17
25.04.13 to 26.04.13	PF	Cropping System in landshaping plot	2	On	33		33	4		4
29.04.13	PF	Capacity building to the SHGs & UGs	2	On	38	15	53	28		28
17.05.13	PF	Quality management of cotton	1	Off	25	5	30	13		13
23.05.13 to 24.05.13	PF	Selection of kharif rice varieties, seed treatment & nursery management	2	On	27		27	12		12
12.06.13	PF	Management of *Aila* affected soil & selection of salt tolerant kharif paddy varieties	1	Off	24	3	27	12	3	15
25.06.13 to 26.06.13	PF	Use of organic manure and bio-fertilizer in kharif paddy	2	On	25		25	10		10

Date	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
16.07.13 to 17.07.13	PF	Technique of kharif paddy seed production (Certified)	2	On	19	5	24	17	5	22
23.07.13	PF	Technique of kharif paddy seed production (Certified)	1	Off	24	4	28	20	4	24
17.08.13	PF	Possibilities of multiple cropping in land shaping plot	1	Off	22		22	22		22
20.08.13	PF	Weed management practices on medium & low land paddy	1	Off	27		27	15		15
04.09.13 to 05.09.13	PF	Integrated farming in landshaping plot	2	On	36		36	26		26
10.09.13 to 11.09.13	PF	Suitable cropping pattern for rabi and summer season in landshaping plot	2	On	14	6	20	1		1
09.09.13 to 14.09.13	PF	Integrated farming in landshaping plot	6	On	44		44	39		39
19.09.13 to 24.09.13	PF	Integrated farming in landshaping plot	6	On	50		50	32		32
25.09.13 to 26.09.13	PF	Production of ntrep- compost	2	On	9	1	10	3		3
28.10.13 to 02.11.13	PF	Integrated farming in landshaping plot	6	On	41	2	43	32	1	33
08.11.13	PF	Lathyrus cultivation as paira crop under Zero tillage	1	Off	20		20	18		18
08.11.13	EP	Soil testing & management of problematic soil	1	On	40		40	18		18
11.11.13	PF	Lathyrus cultivation as paira crop under Zero tillage	1	Off	30		30	14		14
11.11.13 to12.11.13	EP	Capacity Building to the WDT members of Integrated Watershed Management Programme	2	On	39	6	45	10	2	12

Date	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
13.11.13	PF	Boro paddy cultivation through SRI	1	Off	31	7	38	31	7	38
15.11.13 to16.11.13	PF	Boro paddy cultivation through SRI	1	On	25		25	6		6
18.11.13 to 23.11.13	PF	Integrated farming in landshaping plot	6	On	32	1	33	23	1	24
28.11.13	EP	Meeting cum training of Executive members of watershed association under IWMP	1	On	12	3	15			
29.11.13	EP	Meeting cum training of Executive members of watershed association under IWMP	1	On	12	3	15	9	2	11
03.12.13	PF	Integrated farming system module	1	On	42		42	28		28
04.12.13 to 05.12.13	PF	Advance technology on second crop cultivation in sundarban	2	On	22		22	11		11
18.12.13	PF	Cotton cultivation under residual moisture	1	Off	38		38	32		32
20.12.13	EP	Preparation of action plan on NRM, FPS & LSS activities under IWMP	1	Off	7	4	11	5	3	8
20.12.13	EP	Preparation of action plan on NRM, FPS & LSS activities under IWMP	1	Off	5	3	8	3	2	5
24.12.13	EP	Preparation of action plan on NRM, FPS & LSS activities under IWMP	1	Off	6	3	9	6	3	9
24.12.13	EP	Preparation of action plan on NRM, FPS & LSS activities under IWMP	1	Off	6	5	11	6	5	11

Date	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
06.01.14	PF	Cotton cultivation under residual moisture	1	Off	29		29			
13.01.14 to 14.01.14	PF	Modern technology on Sunflower cultivation	2	On	22		22	10		10
22.03.14	PF	Pest management in cotton	1	off	43		43	22		22
25.03.14	PF	Pest management in cotton	1	off	36		36	16		16
31.01.14	EP	Preparation of 5 yrs action plan for the Executive members of Watershed association under IWMP	1	On	24	8	32	18	8	26
02.02.14	PF	Maize cultivation	1	Off	26	9	35	24	9	33
24.02.14 to 28.02.14	PF	Integrated Farming	2	On	9	18	27	6	8	14
24.03.14 to 25.03.14	EP	Capacity building on watershed management for watershed committee	2	On	25	13	38	22	13	35
28.03.14 to 29.03.14	EP	Capacity building on watershed management for watershed committee	2	On	22	13	35	12	8	20
Fishery										
24.4.13	PF	Ornamental fish farming in domestic ponds	1	Off	0	20	20	0	11	11
27.5.13-30.5.13	RY	Small scale ornamental fish farming for additional income generation	4	On	16	0	16	10	0	10
1.6.13	PF	Integration of fish with horticulture	1	Off	18	0	18	8	0	8

Date	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
13.6.13	EP	Freshwater fish breeding and culture technology	1	On	3	2	5	1	0	1
17.6.13-21.6.13	RY	Breeding and larval rearing of Asian catfish	5	On	14	2	16	11	0	11
19.6.13-22.6.13	RY	Mixed fish and prawn culture in freshwater ponds of South 24 Parganas	4	On	21	0	21	11	0	11
21.6.13	PF	Small scale ornamental fish farming for additional income	1	Off	26	0	26	14	0	14
24.6.13-28.6.13	PF	Integrated farming	5	On	0	30	30	0	19	19
25.6.13	EP	Breeding of the Asian catfish and its farming	1	On	6	2	8	5	2	7
16.7.13-17.7.13	EP	Mixed fish and prawn farming	2	On	19	3	22	6	1	7
23.7.13-26.7.13	RY	Breeding of the Asian catfish and its farming	4	On	15	0	15	3	0	3
31.07.13-02.08.13	EP	Breeding of the Asian catfish and its aquaculture options in freshwater ponds	3	On	3	1	4	3	1	4
7.8.13	PF	Monosex tilapia and its management in carp culture ponds.	1	Off	33	19	52	24	14	38
3.9.13	EP	Fresh water fish culture.	1	On	25	0	25	2	0	2
19.9.13-21.9.13	RY	Mixed fish and prawn culture in fresh water ponds of south 24 Parganas	3	On	38	0	38	22	0	22
25.09.13	PF	Fishery management in carp culture ponds	1	Off	19	25	44	12	19	31
27.09.13	RY	Monosex tilapia and its management in carp culture ponds.	1	Off	42	0	42	7	0	7
3.10.13	EP	Fresh water fish culture	1	On	25	0	25	1	0	1

Date	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
29.10.13-31.10.13	PF	Carp fry and fingerling production in freshwater ponds as an avenue for income generation	3	On	17	0	17	7	0	7
31.10.13-1.11.13	RY	Integrated fish farming.	2	On	43	0	43	28	0	28
9.12.13-13.12.13	PF	Integrated farming	5	On	16	0	16	15	0	15
11.12.13	RY	Mixed fish and prawn farming	1	On	15	18	33	0	2	2
18.12.13	PF	Fresh water pisciculture	1	On	27	0	27	0	0	0
19.12.13	PF	Improved fishing nets and responsible fishing techniques.	1	On	50	0	50	50	0	50
19.12.13-21.12.13	RY	Culture of Pangasius pangasius along with carps.	3	On	4	26	30	4	14	18
27.12.13	RY	Shrimp farming hazards-methods of diagnosis and prevention	1	Off	19	0	19	14	0	14
8.1.14	PF	Fresh water pisciculture	1	On	38	0	38	0	0	0
9.1.14	PF	Fish farming hazards-methods of diagnosis and prevention	1	Off	28	14	42	23	12	35
15.1.14-17.1.14	RY	Modified composite fish culture for small domestic ponds	3	On	13	0	13	4	0	4
20.1.14	RY	Mixed fish and prawn farming	1	On	30	32	62	6	4	10
25.1.14	PF	Fresh water pisciculture	1	On	26	0	26	6	0	6
29.1.14	RY	Mixed fish and prawn farming	1	On	10	23	33	0	0	0
29.1.14-31.1.14	PF	Management of carp grow out ponds	3	On	15	3	18	7	0	7
13.2.14	PF	Fish and prawn culture	1	On	14	8	22	8	7	15

Date	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
13.2.14-15.2.14	PF	Ornamental fish farming as an avenue for self-employment generation	3	On	16	0	16	8	0	8
26.2.14	EP	Some skills involved in Catfish breeding and culture	1	On	7	0	7	0	0	0
26.2.14	RY	Mixed fish and prawn farming	1	On	15	29	44	1	2	3
27.2.14	PF	Problems of fish and shrimp farming and their remedies	1	Off	40	0	40	26	0	26
4.3.14	RY	Mixed fish and prawn farming	1	On	16	18	34	3	3	6
7.3.14	RY	Pond preparation for fresh water fish and prawn farming	1	Off	30	-	30	3	-	3
21.3.14	PF	Pond preparation for Indian Major Carp culture	1	Off	26	8	34	16	5	21
24.3.14	EP	Integrated fish farming	1	On	23	2	25	23	2	25
25-26.3.14	PF	Composite fish culture in domestic ponds	2	On	20	-	20	5	-	5
28.3.14	RY	Mixed fish and prawn culture	1	On	28	17	45	8	4	12
Home Science										
18.04.13	EP	Orientation training programme for SHG leaders on strengthening of group	1	On	-	34	34	-	16	16
30.04.13	FW	Nutrition Garden management for kharif season	1	Off	-	40	40	-	21	21
05.04.13	RY	Maintainance of reproductive health for adolescent girls	1	Off	-	41	41	-	21	21

Date	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
02.05.13	FW	Nutrition Garden management during kharif season	1	Off	-	30	30	-	-	-
06.05.13	FW	Nutrition Garden management during kharif season	1	Off		27	27	-	27	27
08.05.13	FW	House hold milky mushroom cultivation for attaining nutrition security	1	On		32	32	-	16	16
09.05.13	FW	House hold milky mushroom cultivation for attaining nutrition security	1	On	-	10	10	-	-	-
10.05.13	FW	House hold milky mushroom cultivation for attaining nutrition security	1	On	-	18	18	-	16	16
22.05.13-24.05.13	EP	Refresher training for anganwadi worker on growth monitoring	3	On	-	30	30	-	12	12
13.05.13	FW	Self employment through chowmin (Noodles) making	1	Off	-	24	24	-	18	18
13.05.13-13.07.13	FW	Self employment through Tailoring and Sweing	2 Months	Off	-	30	30	-	6	6
31.05.13	EP	Orientation training programme for anganwadi worker on growth monitoring	1	On	-	30	30	-	2	2

Date	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
26.06.13–28.06.13	FW	Food processing from locally available vegetables and fruits	3	On	-	29	29	-	26	26
02.07.13	RY	Maintainance of reproductive health for adolescent girls	1	Off	-	56	56	-	27	27
04.07.13	RY	Maintainance of reproductive health for adolescent girls	1	Off	-	62	62	-	28	28
10.07.13	RY	Maintainance of reproductive health for adolescent girls	1	Off	-	69	69	-	28	28
23.07.13	FW	Milky mushroom production for IGA in SHG	1	Off	-	17	17	-	11	11
25.07.13	FW	Milky mushroom production for IGA in SHG	1	Off	-	10	10	-	-	-
12.08.13	FW	Nutrition Garden management in kharif	1	Off	-	30	30	-	27	27
07.08.13-08.08.13	FW	Ornamental bird & poultry rearing for IGA SHG members	2	On	-	15	15	-	-	-
13.08.13	FW	Nutritional care of mother and child	1	Off	-	30	30	-	5	5
09.09.13-14.09.13	EF	community score card for monitoring and evaluation	6	On	-	20	20	-	-	-
28.10.13-29.10.13	FW	Nutrition Garden management through organic Farming	2	On	-	21	21	-	13	13
28.10.13-31.10.13	EF	Skill development on safe delivery	4	On	-	18	18	-	9	9
06.11.13 - 07.11.13	RY	Milky mushroom production for IGA in SHG	2	On	11	5	16	-	-	-
18.11.13	FW	Nutrition Garden management during rabi season	1	Off	-	29	29	-	29	29

Date	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
19.11.13	RY	Nutritional& health management for adolescent girl	1	Off	-	26	26	-	17	17
21.11.13	FW	Maintenance of food and nutrition security at household level	1	Off	-	35	35	-	15	15
25.11.13	FW	Nutrition Garden management during Rabi season	1	Off	-	64	64	-	-	-
27.11.13	FW	House hold mushroom production for nutrition security	1	On	-	17	17	-	16	16
06.12.13-07.12.13	FW	Food processing for employment generation	2	On	-	17	17	-	7	7
10.12.13-14.12.13	FW	Nutrition garden management and drudgery reduction for womenfolk	5	On	2	27	29	-	19	19
23.12.13 – 27.12.13	FW	Nutrition garden and drudgery reduction for womenfolk	5	On	1	39	40	-	35	35
26.12.13-28.12.13	EP	Nutritional management of pregnant mother and safe delivery	2	On	-	9	9	-	6	6
06.01.14	FW	Awareness & cooking demonstration	1	Off	-	40	40	-	13	13
17.01.14	FW	Training & Mid term evaluation	1	Off	-	50	50	-	-	-
10.01.14	FW	Nutrition Garden management	1	Off	-	31	31	-	-	-
22.01.14	FW	Nutrition Garden management	1	Off	-	46	46	-	-	-
10.02.14	FW	Value addition in Noodles for SHG	1	Off	-	12	12	-	8	8
12.02.14	RY	Reproductive health management	1	Off	-	65	65	-	-	-
14.02.14	RY	Reproductive health management	1	Off	-	49	49	-	19	19
18.02.14	FW	Nutritional care of mother & Child	1	Off	-	22	22	-	5	5
18.02.14	FW	Value addition in Noodles for SHG	1	Off	-	12	12	-	8	8
20.02.14	FW	Nutritional care of mother & Child	1	Off	-	19	19	-	11	11

Date	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
10.02.14	FW	Value addition in Noodles for SHG	1	Off	-	12	12	-	8	8
19.03.14 - 23.03.14	FW	Livelihood development for the SHG ntrepreneurs of the coastal and saline areas of West Bengal with emphasis on NRLM	5	on	1	29	30	-	10	10
30.03.14	FW	Nutrient efficient diet preparation for mother and child	1	Off	-	98	94	-	45	45
30.03.14	FW	Nutrient efficient diet preparation for mother and child	1	Off	-	94	94	-	51	51
Horti-culture										
06.05.13 - 10.05.13	PF	Protective cultivation (Green Houses, Shade Net etc.) of horticultural crops	5	On	0	30	30	0	26	26
13.05.13	PF	Micro irrigation systems for betelvine plantation and guava orchards	1	Off	19	0	19	2	0	2
20.05.13 - 24.05.13	PF	Protective cultivation (Green Houses, Shade Net etc.) of horticultural crops	5	On	0	30	30		22	22
10.06.13 - 15.06.13	PF	Integrated Farming of Vegetables and crop in the land-shaping technology	6	On	32	0	32	25	0	25
17.06.13 - 21.06.13	PF	Production of low volume and high value vegetable crops	5	On	0	31	31	0	1	1
25.06.13	PF	Skill development training for vegetable cultivation	1	Off	37	0	37	27	0	27
06.08.13	PF	Off-season vegetable cultivation technology	1	Off	32	0	32	13	0	13
20.09.13	PF	Production of low volume and high value vegetable crops	1	Off	33	0	33	8	0	8
21.09.13	PF	Export potential of guava fruits of Baruipur belt of South 24 Parganas	1	Off	32	0	32	13	0	13
31.10.13	PF	Cultivation of Fruit – Ber	1	Off	17	0	17	3	0	3

Date	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
08.11.13 - 09.11.13	PF	Off-season vegetable cultivation technology	2	On	28	0	28	4	0	4
22.11.13 - 23.11.13	PF	Water management – Micro Irrigation for Horticultural crops	2	On	27	2	29	3	0	3
03.12.14	PF	Cultivation of Betel vine within the Hi-tech boroz	1	Off	24	0	24	3	0	3
04.12.13	PF	Skill development training for onion cultivation	1	On	39	0	39	19	0	19
19.12.13	PF	Cultivation of Vegetable on land embankment	1	On	0	39	39	0	13	13
21.01.14 - 22.01.14	PF	Cultivation of Betel vine within the Hi-tech boroz	2	On	23	0	23	3	0	3
27.01.14 - 28.01.14	PF	Cultivation of Betel vine within the Hi-tech boroz	2	On	26	0	26	0	0	0
29.01.14 - 30.01.14	PF	Cultivation of Betel vine within the Hi-tech boroz	2	On	21	0	21	1	0	1
10.03.14 – 15.03.14	PF	Integrated nutrient management, IPM and IDM of Horticultural crops	6	On	16	22	38	6	11	17
31.03.14	F& FW	Micro nutrient deficiency in vegetable crops-symptoms and management	1	Off	78	-	78	18	-	18
31.03.14	F& FW	Micro nutrient deficiency in vegetable crops-symptoms and management	1	Off	36	-	36	10	-	10
22.04.13 - 26.04.13	RY	Nursery Management of Horticulture crops	5	On	0	30	30	0	30	30
19.06.13	RY	Vermi-culture	1	Off	22	0	22	4	0	4
04.07.13	RY	Commercial fruit production	1	Off	25	0	25	3	0	3
01.08.13 – 02.08.13	RY	Protected cultivation of vegetable crops	2	On	11	7	18	3	5	8
05.10.13	RY	Nursery Management of Horticulture crops	1	Off	36	0	36	15	0	15
20.03.14	RY	Protected cultivation of vegetable crops	1	Off	27	5	32	12	3	15
25.03.14	RY	Training and pruning of orchards	1	Off	43	0	43	19	0	19
02.04.13 - 06.04.13	EP	Hi-Tech Horticulture for the East Singbhum District of Jharkhand	5	On	24	0	24	21	0	21

Date	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
23.07.13 - 25.07.13	EP	Krishak Mitra	3	On	14	0	14	3	0	3
19.08.13 - 20.08.13	EP	National Vegetable Initiative for Urban Cluster	2	On	30	0	30	4	0	4
07.10.13 - 08.10.13	EP	National Vegetable Initiative for Urban Cluster	2	On	30	0	30	14	0	14
25.10.13 - 26.10.13	EP	National Vegetable Initiative for Urban Cluster	2	On	30	0	30	17	0	17
15.01.14	EP	Protective cultivation (Green Houses, Shade Net etc.) of vegetables	1	On	24	0	24	5	0	5
17.02.14 - 22.02.14	EP	Friends of Coconut Tree (FOCT)	6	On	22	0	22	3	0	3
Plant Protection										
27-04-2013	F & FW	Bio-intensive integrated pest management	1	Off	19	6	25	3	1	4
14-05-2013	F & FW	Eco-friendly pest management-principles and practices	1	Off	20	8	28	3	2	5
03-06-2013 to 07-06-2013	F & FW	Importance and application of bio-control agents for pest and disease management of kharif crops	5	On	0	30	30	0	30	30
17-06-2013 to 22-06-2013	F & FW	Integrated disease management of kharif paddy	6	On	35	0	35	30	0	30
25-06-2013	F & FW	Bio-intensive pest management in vegetables	1	Off	36	1	37	3	0	3
06.08.2013	F & FW	Use of indigenous technical knowledge in preparation of bio-pesticides	1	Off	13	0	13	8	0	8
26-08-2013	F & FW	Integration of eco-friendly chemical pesticides and organic plant protection measures	1	Off	20	0	20	0	0	0

Date	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
29-08-13 to 30-08-13	F & FW	Organic plant protection through botanicals, bioagents, biopesticides and organic pesticides	2	On	30	0	30	0	0	0
10-09-13	F & FW	Integrated disease management of ail-cultivated vegetables	1	On	60	0	60	15	0	15
11-09-13	RY	Self-employment generation by farm advisory service in agriculture	1	On	32	3	35	8	0	8
22-09-13	F & FW	Production of bio-control agents and their use in agriculture	1	On	55	0	55	23	0	23
03-10-13	F & FW	Use of relatively eco-safe modern generatioin pesticides in vegetables	1	Off	36	2	38	32	2	34
15-11-13	F & FW	Role and use of organic pesticides for winter crop disease management	1	Off	33	0	33	6	0	6
11-12-13	F & FW	Important diseases of rabi vegetables and their management	1	Off	20	0	20	1	0	1
18-12-13 to 19-12-13	F & FW	Pest and disease management of betel vine	2	On	32	0	32	11	0	11
23-12-13	F & FW	Pest and disease management of betel vine	1	On	14	0	14	5	0	5
27-12-13 to 28-12-13	F & FW	Pest and disease management of betel vine	2	On	41	0	41	5	0	5
23-01-14 to 24-01-14	F & FW	Pest and disease management of betel vine	2	On	30	0	30	2	0	2
24-02-14 to 01-03-14	RY	Pest and disease management in coconut (FOCT)	6	On	24	0	24	9	0	9
03-03-14 to 07-03-14	RY	Integrated crop management of winter vegetables with special emphasis on plant protection aspects	5	On	32	5	37	9	2	11
18-03-14 to 19-03-14	EP	Pest and disease management of agricultural crops through the use of internet and SMS alert in mobile	2	On	41	0	41	14	0	14

Animal Husbandry										
17.04.13	F & FW	Backyard poultry rearing	1	Off	0	50	50	0	11	11
19.04.13	F & FW	Backyard poultry rearing	1	Off	0	30	30	0	10	10
08.05.13	F&FW	Ornamental bird rearing	1	On	20	7	27	11	4	15
13.05.13-18.05.13	F&FW	Goatery farming	6	On	6	28	34	3	12	15
30.05.13-01.06.13	RY	Poultry and duck rearing	3	On	20	7	27	11	4	15
05.06.13	F&FW	Rabbit farming	1	On	18	0	18	16	0	16
10.06.13	F&FW	Ornamental bird rearing	1	On	40	1	41	31	1	32
17.06.13	F&FW	IFS- Poultry and duck rearing	1	On	35	0	35	30	0	30
19.06.13	RY	IFS- Poultry and duck rearing	1	On	40	1	41	35	1	36
26.6.13	F&FW	IFS- Poultry and duck rearing	1	On	0	29	29	0	18	18
15.07.13-19.07.13	EP	AI	5	On	34	0	34	3	0	3
24.07.13	EP	Vaccination of animals	1	On	15	0	15	3	0	3
29.07.13-02.8.13	EP	AI	1	On	39	0	39	1	0	1
27.08.13	RY	Backyard poultry	1	On	0	35	35	0	3	3
30.08.13	F&FW	Disease management	1	On	0	37	37	0	1	1
19.9.13	EP	Livestock feed and fodder production	1	On	13	0	13	3	0	3
26.9.13-28.9.13	RY	Poultry and duck rearing	3	On	35	0	35	20	0	20
23.11.13	EP	Goat rearing	1	On	23	0	23	10	0	10
16.12.13-21.12.13 & 23.12.13-28.12.13	RY	Dairy farming	6	On	31	31	62	16	15	31
17.12.13-18.12.13	EP	Modern scientific animal husbandry practices	2	On	33	0	33	0	0	0
31.12.13	EP	Azolla cultivation	1	On	24	0	24	11	0	11
02.01.14-15.02.14	EP	Pranibandhu	45	On	61	0	61	36	0	36
17.02.14-22.02.14	PF	Rural poultry	6	On	19	0	19	15	0	15
24.02.14-01.03.14	PF	Goat farming	6	On	0	20	20	0	10	10
03.03.14-08.03.14	PF	Rural poultry	6	On	0	51	51	0	37	37

Date	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
10.03.14-15.03.14	PF	Rural poultry	6	On	0	46	46	0	29	29
17.03.14-19.03.14	PF	Goat Farming	3	On	34	0	34	16	0	16
25.03.14-26.03.14	PF	Ornamental bird rearing	2	On	0	10	10	0	0	0
27.03.14	PF	poultry farming	1	Off	0	63	63	0	21	21
28.03.14	PF	Goat farming	1	Off	0	43	43	0	14	14
29.03.14	PF	Rearing of ornamental birds	2	Off	96	36	132	28	13	41
31.03.14	PF	Vaccination of animals	3	Off	112	69	181	41	37	78

(D) Vocational training programmes for Rural Youth

Vocational 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	
Ornamental fish	Improvement of backyard system performance	Small scale ornamental fish farming for additional income generation	4	16	-	16	Cemented tanks and hapa	9	11	7
Fish	Efficient utilization of water resources	Mixed fish and prawn culture in freshwater ponds of South 24 Parganas	4	21	-	21	Small ponds	18	25	3
Fish	Improvement of backyard system performance	Breeding and larval rearing of Asian catfish	5	14	2	16	Backyard hatchery	8	17	8
Fish, livestock, horti-culture	Diversification of existing production system	Integrated fish farming	2	43	-	43	Landshap-ing ponds	35	35	8
Fruit and forest plant nursery	Nursery Management	Nursery Management of Horticulture crops	5	0	30	30	Nnursery unit by SHG	12	150	-
Vermicompost	Vermicompost-ing	Vermicomposting for self employment	1	22	0	22	Individual unit	2	9	4
Guava	Commercial fruit production	Commercial guava production	1	25	0	25	Individual orchard	18	52	9
Vegetables and Betel vine	Protected cultivation	Protected cultivation of Horticultural crops	2	38	12	50	Individual unit	42	70	-
Guava & Ber	Training and pruning of orchards	Training and pruning of guava and ber orchards	1	43	0	43	Individual orchard	43	62	-
Fruit and forest plant nursery	Nursery Management	Nursery Management of Horticulture crops	5	0	30	30	Nnursery unit by SHG	12	150	-
Backyard farming	Poultry management	Scientific rearing of poultry and duck	6	6	28	34	Small	25nos/unit	19	-
Backyard farming	Poultry management	Disease incidence reduction and production optimization	1	0	37	37	Small	37 nos	37	-

*training title should specify the major technology /skill transferred

(E) Sponsored Training Programmes

Sl.No	Title	Thematic area	Month	Dura-tion (days)	Client	No. of courses	No. of Participants										Sponsoring Agency
							Male			Female			Total				
					PF/RY/EF		Others	SC	ST	Others	SC	ST	Others	SC	ST	Total	
1.	Cropping System in landshaping plot	Cropping system	April	2	PF	1	29	4					29	4		33	NWDPRA
2.	Capacity building to the SHGs & UGs	Formation & management of SHGs & UGs	April	2	PF	1	10	28		8	7		18	35		53	IWMP
3.	Integrated farming in landshaping plot	Integrated farming	September	6	PF	2	23	57	14				23	57	14	94	BGREI
4	Integrated farming in landshaping plot	Integrated farming	September	6	PF	1	9	19	4		1		9	20	4	33	BGREI
5	Capacity Building to the WDT members of Integrated Watershed Management Programme	Leadership development	November	2	EP	1	29	10		4	2		33	12		45	IWMP
6	Meeting cum training of Executive members of watershed association under IWMP	Capacity building for watershed Management	November	1	EP	2	15	9		4	2		19	11		30	IWMP
7	Soil testing and management of problematic soil	Management of problematic soil	November	1 yr	EP	1	22	18					22	18		40	DAESI
8	Preparation of action plan on NRM, FPS & LSS activities	Natural resource management	December	1	EP	4	4	18	2	2	11	2	6	29	4	39	IWMP

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9	Preparation of 5 yrs action plan on NRM, FPS & LSS activities	Natural resource management	January	1	EP	1	6	18			5	3	6	23	3	32	IWMP
10	Capacity building on watershed management for watershed committee	Capacity building for watershed management	March	2	EP	2	22	31		13	19	7	35	50	7	92	IWMP
11	Freshwater fish breeding and culture technology	Induced breeding	June	1	EF	1	2	1	-	2	-	-	4	1	-	5	Kumar's Hatchery, Kolkata
12	Breeding of the Asian catfish and its farming	Breeding of endangered fish	June	1	EF	1	1	5	-	-	-	2	1	5	2	8	Kumar's Hatchery, Kolkata
13	Fresh water fish culture.	Composite fish culture.	September	1	EF	1	23	2	-	-	-	-	23	2	-	25	CIFE, Kolkata
14	Integrated fish farming	Integrated farming	December	5	PF	1	1	-	15	-	-	-	1	-	15	16	East Singbhum KVK
15	Improved fishing nets and responsible fishing techniques.	Riverine and marine fisheries	December	1	PF	1	-	-	50	-	-	-	-	-	50	50	CIFT, Kochi
16	Fish and prawn culture	Composite fish culture	December	1	PF	1	6	1	7	1	7	-	7	8	7	22	CIFE, Kolkata
17	Integrated farming	Integrated fish farming	March	1	EF	1	-	-	23	-	-	2	-	-	25	25	CIFE, Kolkata

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18	Composite fish culture in domestic ponds	Composite fish culture	March	2	PF	1	15	5	-	-	-	-	15	5	-	20	Dept. of Forest, Govt of West Bengal
19	Integrated nutrient management, IPM and IDM of Horticultural crops	Integrated nutrient management	March, 14	6	PF	1	10	0	6	11	1	10	21	1	16	38	ATMA, Darjeeling
20	Nursery Management of Horticulture crops	Nursery Management	April, 13	5	RY	1	0	0	0	0	30	0	0	30	0	30	ATC, Narendrapur
21	Hi-Tech Horticulture for the East Singbhum District of Jharkhand	Hi-Tech Horticulture	April, 13	5	EP	1	3	4	17	0	0	0	3	4	17	24	East Singhbhum KVK
22	Krishak Mitra	Integrated Farming	July, 13	3	EP	1	11	3	0	0	0	0	11	3	0	14	IFFCO
23	National Vegetable Initiative for Urban Cluster	Production of low volume and high value crops	August, October	2	EP	3	55	35	0	0	0	0	55	35	0	90	DHO, Howrah
24	Friends of Coconut Tree (FOCT)	Production and Management technology of Coconut	February, 13	6	EP	1	19	3	0	0	0	0	19	3	0	22	CDB
25	Backyard farming of poultry	Poultry management	April	1	PF	2	0	0	0	59	20	1	59	20	1	80	Deptt. Forest, South 24 Pgs
26	Scientific rearing of goats	Goat management	May	6	PF	1	3	3	0	16	12	0	19	15	0	34	DRDC, South 24 Parganas
27	Rabbit farming	Rabbit farming	June	1	F&FW	1	2	16	0	0	0	0	2	16	0	18	WHH, Germany
28	Ornamental bird rearing	Coloured bird management	June	1	F&FW	1	4	31	5	0	1	0	4	32	5	41	BGREI, Govt of India
29	IFS- poultry-Duckery	Poultry management	June	1	F&FW	3	10	59	6	11	19	0	21	78	6	105	BGREI, Govt of India
30	AI	Dairy management	July	5	EP	1	31	3	34	0	0	0	31	3	0	34	PBGSBS, ARD, Govt of W.B.
31	Vaccination of animals	Immunizatio n	July	1	EP	1	12	3	15	0	0	0	12	3	0	15	IFFCO, Kolkata
32	AI	Dairy management	August	5	EP	1	38	1	0	0	0	0	38	1	0	39	PBGSBS, ARD, Govt of W.B.
33	Modern scientific rearing of dairy animals	Dairy Management	December	6	RY	2	16	15	0	15	16	1	31	31	1	62	DDDO, Jamshedpur
34	Modern husbandry practices	Integrated farming	December	2	EP	1	18	0	0	9	1	0	27	1	0	28	WBUAFSC, Kolkata
35	Mushroom production	Mushroom production	November	3	RY	1	11	-	-	5		-		-	-	16	Heritage School

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36	Maintenance of reproductive and nutritional Status	Attaining nutrition security	February	1	RY	7	-	--	-	228	140	-	228	140	-	368	Forest Dept –south 24 pgs
37	Management of nutrition garden and Drudgery reduction for womenfolk	Attaining nutrition security	December	5	FW	2	3	-	-	18	32	19	21	32	19	69	CARI, Port blair
38	Livelihood development for the SHG enterpreneurs of the coastal and saline areas of West Bengal with emphasis on NRLM	Gender mainstreaming through SHG	March	5	EP	1	1	-	-	19	10	-	20	10	-	30	SIPRD, Kalyani
39	Tracking of children through growth chart and NGO ideas tool box	Women and child care	May	3	EP	2	-	-	-	46	14	-	46	14	-	60	WHH, Germany
40	Skill development for safe delivery	Women and child care	October	4	EP	1	-	-	-	9	9	-	9	9	-	18	WHH, Germany
41	Skill development for nutritional care of pregnant mother & safe delivery	Women and child care	December	3	EP	1	-	-	-	6	6	-	12	6	-	12	WHH, Germany
42	Importance and application of bio-control agents for pest and disease management of kharif crops	Bio-control of pests and diseases	June	5	PF	1	0	0	0	0	30	0	0	30	0	30	ATC, SAMETI, Narendrapur
43	Self-employment generation by farm advisory service in agriculture	Agri-clinic and agri-business	September	1	RY	1	24	8	0	3	0	0	27	8	0	35	ATC, SAMETI, Narendrapur
44	Pest and disease management in coconut (FOCT)	Integrated Pest Management	February	6	RY	1	15	9	0	0	0	0	15	9	0	24	Coconut Development Board, State Centre Kolkata
45	Integrated crop management of winter vegetables with special emphasis on plant protection aspects	Integrated crop management	March	5	RY	1	23	3	6	3	1	1	26	4	7	37	ATMA, Darjeeling

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

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	31	459	142	601	24	6	30	483	148	631
Kisan Mela	4	615	385	1000	65	39	104	680	424	1104
Kisan Ghosthi										
Exhibition	3	17738	4904	22642	507	176	683	18245	5080	23325
Formation of SHGs under IWMP	17	129	115	244	0	0	0	129	115	244
Formation of User Groups under IWMP	14	189	14	203	0	0	0	189	14	203
Formation of Watershed Committee's	8	55	40	95	0	0	0	55	40	95
Film Show	76	756	594	1350	44	21	65	800	615	1415
Method Demonstrations	18	-	734	734	-	26	26	-	760	760
Farmers Seminar	2	195	107	302	-	-	-	195	107	302
Workshop	11	45	52	97	57	59	116	102	111	213
Group meetings	14	91	217	308	-	-	-	91	217	308
Lectures delivered as resource persons	141	3002	1233	4235	119	7	126	3121	1240	4361
Advisory Services	-	831	150	981	27	2	29	858	152	1010
Scientific visit to farmers field	178	786	411	1197	12	16	28	798	427	1225
Farmers visit to KVK	-	2035	545	2580	3	0	3	2038	545	2583
Diagnostic visits	117	259	185	444	0	13	13	259	198	457
Exposure visits	8	126	45	271	11	6	17	137	51	188
Ex-trainees Sammelan	1	46	39	85	8	2	10	54	41	95
Soil health Camp										
Animal Health Camp	5	269	64	335	5	0	5	274	64	338
Agri mobile clinic	0	0	0	0	0	0	0	0	0	0
Soil test campaigns										
Farm Science Club Conveners meet	4	0	0	0	52	21	73	52	21	73
Self Help Group Conveners meetings	2	5	46	51	-	2	2	5	48	53
Mahila Mandals Conveners meetings										
Celebration of important days Fish farmer day International Women day Breast feeding week Day World food day	6	52	295	342	7	20	27	59	315	369
Any Other (Specify) PRA	2	33	58	91	9	4	13	42	62	104
Mid term evaluation	1	15	38	53	6	8	14	21	46	67
Community score card	1	8	15	23	1	4	5	9	19	28
PIA	1	9	11	21	8	11	19	17	22	39
Surgical cases (operations done)	5	5	-	5	-	-	-	5	-	5
Total	**670**	**27753**	**10439**	**38192**	**965**	**443**	**1408**	**28718**	**10882**	**39600**

B. Other Extension activities

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Newspaper coverage	2									
Radio talks	5									
TV talks	7									
Popular articles	1									
Extension Literature	5	500	1602	2102	14	26	40	514	1628	2142

3.5 Production and supply of Technological products

Village seed

Crop	variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Total				

KVK farm

Crop	variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Paddy	Pratikhya (C)	15.0	37500	137
	CR-1009 (C)	5.30	13250	48
	CR-1017(C)	7.0	17500	65
	Swarna Sub-1(F)	4.30	12900	43
	CR-1009 (F)	10.0	30000	100
	CR-1017 (F)	4.1	12300	41
	NC-492 (F)	3.0	9000	30
	IET-5656 (TL)	4.3	8600	42
	Pankaj (TL)	1.0	2000	12
	CR-1017(TL)	0.90	1800	10
	Varsa (TL)	23.0	46000	225
	Dudswar	1.80	3600	20
	Amalmona (TL)	2.0	4000	22
	Gitanjali (TL)	3.4	6800	35
	NC-492 (TL)	7.3	14600	76
	WGL-20471 (TL)	24.68	49360	213
Grand Total		117.08	269210	1119

Production of planting materials by the KVKs

Crop	Variety	Quantity of seed/seedling	Value (Rs)	Number of farmers provided
Vegetable seedlings				
Cauliflower	Deepa	8,000 no.	4,800.00	4600
Cabbage	Rare Ball	30,000 no.	18,000.00	18300
Tomato	SG-1458 (F_1)	24,000 no.	19,200.00	17000
Brinjal	Bhangor, Muktakeshi	6,000 no.	2,400.00	1500
Chilli	Tejaswini	10,000 no.	6,000.00	7800
Onion	Agrifound Light Red	25,000 no.	5,000.00	8000
Others				
Fruits				
Mango	Himsagar, Amrapali, Mallika	13,500 no.	6,07,500.00	2400
Guava	Allahabad Safeda, Baruipur Khaja, L-49	4,800 no.	1,20,000.00	1800
Lime	Pati	3,000 no.	75,000.00	950
Papaya	Ranchi	12,000 no.	48,000.00	7900
Banana	Kanch Kala, Kanthali	8,000 no.	40,000.00	6100
Sapota	Cricket Ball	7,000 no.	3,15,000.00	1700
Others				
Ornamental plants	Inca, Chrysanthemum, Dahlia	15,000 no.	22,500.00	11400
Medicinal and Aromatic				
Plantation				
Spices				
Turmeric	Local	17 q	8,500.00	2
Colocasia	Bidhan Chaitanya	27	13,500.00	4
Elephant yams	Gajendra	40 q	48,000.00	12
Fodder crop saplings				q
Forest Species				
Others, pl.specify				
Total			13,31,400.00	

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
Bio Fertilisers				
Bio-pesticide	*Metarhizium anisopliae*	122 kg	17,700.00	82
	*Sl*NPV	6.8 lit	2,720.00	17
Bio-fungicide	*Pseudomonas fluorescens*	314.00 kg	33,900.00	628
	Trichoderma viride	322.00 Kg	34,700.00	644
	Trichoderma harzianum	42.0 kg	4,200.00	51
Bio Agents	*Trichogramma chilonis*	862 trichocards (Having 51.72 lakh *Trichogramma* wasp)	4,310.00	86
Others				
Total			**97530.00**	**1508**

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows	J.C, HF. C, GIR Sahiwal C.	81	27,20,000	-
Buffaloes				
Calves	-	9	60000	-
Others (Pl. specify)				
Poultry				
Broilers	Hygrow	200 (4 cycle)	91000	-
Layers				
Duals (broiler and layer)	RIR, Nirvik, Hitkari, Upkari	400	21000	36
Goat	Black Bengal	83	175000	31
Rabbit	White New Zealand	13	4200	12
Guinea pig	-	11	11000	-
Ornamental bird	Budgerigar, Cockatail	259	32000	102
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl. specify)				
Fisheries				
Indian carp-Spawn	Catla, rohu, mrigal, calbasu, bata, silver carp, java, punti, common carp	8.65 million	21500	17
Indian carp-fry & fingerlings	Catla, rohu, mrigal, calbasu, bata, silver carp, java, punti, common carp	1010 kg	126250	22
Ornamental fish	Gold fish, angel, koi carp,milky carp, rosy barb, venus tetra, gourami, fighter, guppy, molly, swordtail, platy	32329 no.	12725	215
Cat fish fingerlings	*Clarias batrachus*	16180 no.	43270	27
Exotic carp				
Others (Pl. specify)				
Grand Total				

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

Item	Title	Authors name	Number	Circulation
Research paper				
Seminar/conference/ symposia papers	Effect on household food and nutrition security through community based action in coastal vulnerable zone of Sunderban	Sulagna Sarker & Manasi Chakraborty	-	-
Books	Sunderboner upojogi gharoa pusti bagan	Manasi chakraborty & Laskmi Ghosh	-	-
Books	Technology modules towards climate smart agriculture Agricultural Contingency Plan for the District of South 24 Parganas	Prasanta Chatterjee, Nilendu Jyoti Maitra, Atit Maji Swapan Kumar Samui Prasanta Chatterjee Manasi Chakraborty Chandan Kumar Mondal Subhasis Roy Prabir Kumar Garain Dipak Kumar Roy	-	-
	Amrajakhan boyosandikhane	Manasi chakraborty (Editor)		
	NAIP Beacoms Road to the Future	Arun Kr. Jana Sahanur Rahaman Utpal Maity	200	200
	Striving for a Better Tomorrow	Arun Kr. Jana Sahanur Rahaman	150	150
Bulletins				
News letter				
Popular Articles	Landshaping Ail-Cultivation, Ornamental Bird Rearing, Ornamental Fish	Arun Kr. Jana Sahanur Rahaman Utpal Maity	600	600
Book Chapter				
Extension Pamphlets/ literature	Sundarbane misti alur chas	Chandan Kumar Mondal & Dipak Kumar Roy	2000	150
	PukuraTilapia Macher Chas	Prasanta Chatterjee		
	SRI projuktite dhan chas	Swapan Kumar Samui & Dipak Kumar Roy	2000	170

Extension Pamphlets/ literature	Sunderbane dhaner bij talay rog poka o tar protikar	Prabir Kumar Garain & Dipak Kumar Roy	2000	145
Technical reports	Success story of the NWDPRA of Radhakantapur Micro Watershed	Dipak Kumar Roy	20	12
	Success story of the NWDPRA of Dongajora Micro Watershed	Dipak Kumar Roy	20	12
Electronic Publication (CD/DVD etc)	Aiming towards sustenance under NWDPRA	Dr. N. J. Maitra & Dipak Kumar Roy	20	15
	Shine of Betel Vine	Chandan Kumar Mondal	50	50
	Guava bending technology	Chandan Kumar Mondal	25	25
	Crowning Glory	KVK	100	100
	Striving for a better tomorrow NAIP-I	Arun Kr. Jana Sahanur Rahaman Utpal Maity	50	50
	NAIP-II Film on *Ail* Cultivation	Arun Kr. Jana Sahanur Rahaman Utpal Maity	50	50
	NAIP-III Film on Landshaping	Arun Kr. Jana Sahanur Rahaman Utpal Maity	50	50
TOTAL			**7335**	**1779**

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:

S. No.	Name of programme	Name of KVK personnel and designation	Date and Duration	Organized by
1.	Zonal Workshop	Dr. N. J. Maitra Programme Coordinator	20.04.2013-22.04.2013	RAU,Samastipur
2.	Annual Ground nut Workshop on AICRP on Groundnut	Dr. N. J. Maitra Programme Coordinator Mr. S.K. Samui SMS(Agronomy)	25.04.2013-28.04.2013	DGR , Junagarh Agricultural University
3.	Annual group meet on Pigonpea and Moong bean and Urd bean (AICRP on Pigonpea &MULLaRP)	Dr. N. J. Maitra Programme Coordinator Mr. S.K. Samui SMS(Agronomy)	13.05.2013-15.05.2013	Tamilnadu Agricultural University Coimbator
4.	Workshop of NICRA	Dr. N. J. Maitra Programme Coordinator	03.07.2013-06.07.2013	CSSRI,Canning

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5.	National Workshop	Dr. N. J. Maitra, Programme Coordinator P. Chatterjee SMS (Fishery), P. K. Garain SMS(Plant Protection), Dr. Subhasis Roy SMS(Animal Husbandry) Dr. Manasi Chakraborty SMS(Home Science)	21.10.2013-24.10.2013	Bangalore Agricultural University
6.	NAIP Review Workshop	Dr. N. J. Maitra Programme Coordinator	26.10.2013-27.03.2013	CSSRI, Canning
7.	Selection of trainees for DAESI programme	P. K. Garain SMS(Plant Protection)	12.09.2013	SAMETI, Narendrapur
8	Distribution of operational area (Blocks) of South 24 Pgs for two KVKs of the District	Dr. N. J. Maitra Programme Coordinator And Mr. P. K. Garain SMS(Plant Protection)	25.09.2013	RMVU, Narendrapur
9	Inauguration programme of Diploma in Agricultural Extension Services for Input Dealers	P. K. Garain SMS(Plant Protection)	27.09.2013	SAMETI, Narendrapur
S. No.	Name of programme	Name of KVK personnel and designation	Date and Duration	Organized by
10	Technology backstopping workshop	S.K. Samui SMS (Agronomy)	16.01.14-17.01.14	BCKV,Lakehall Kalyani
11	Selection of trainees on "Agriclinic Agri Business Centre through interview	Mr. S.K. Samui SMS (Agronomy)	01.08.13	SAMETI,(ATC) Narendrapur
12	Quarterly Meeting	S.K. Samui SMS (Agronomy)	19.11.13	All India Radio
13	National workshop on fodder demonstration	Dr. Subhasis Roy SMS(Animal Husbandry)	19.12.2013-20.12.2013	Kalyani

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14	Sharing of best practices Workshop	Dr. Manasi Chakraborty SMS(Home Science)	28.05.13	IGA,West Bengal Chapter
15	Facilitator gender mainstreaming training	Dr. Manasi Chakraborty SMS(Home Science)	31.07.13	SAMETI, Narendrapur
16	Training on mother & child care	Dr. Manasi Chakraborty SMS(Home Science)	13.08.13	Prasari, Gosaba
17	Peer review Workshop	Dr. Manasi Chakraborty SMS(Home Science)	01.08.13	WHH,Delhi
18	Workshop on Community Score Card(PIA)	Dr. Manasi Chakraborty SMS(Home Science)	02.08.13	WHH, Germany
19	Evaluation of FHFI Project	Dr. Manasi Chakraborty SMS(Home Science)	27.08.13	CWS, Jharkhand
20	Workshop on nutrition security	Dr. Manasi Chakraborty SMS(Home Science)	03.03.14- 06-.03.14	WHH,Delhi
21	4th agro protech	Dr. N. J. Maitra Programme Coordinator Dr. Manasi Chakraborty SMS(Home Science) Mr. Prasanta Chatterjee SMS(Fishery) Dr. S. Roy SMS (Animal Husbandry)	28.11.13-30.11.13	ICAR and Dept of Agril, GOWB
22	Inauguration programme of Diploma in Agricultural Extension Services for Input Dealers (DAESI)	Dr. N. J. Maitra Programme Coordinator Dr. C. K. Mondal, SMS (Horticulture) Mr. P. K. Garain SMS(Plant Protection)	07.08.2013	SAMETI, Narendrapur
23	GI patenting of Moa	Dr. C. K. Mondal, SMS (Horticulture)	07.11.13	GI patenting of Moa
24	Acted as Guest speaker in the DAESI programme	Dr. C. K. Mondal, SMS (Horticulture)	21.11.13	SAMETI, Narendrapur
25	Zonal NICRA workshop	Prasanta Chatterjee SMS(Fishery)	04.07.2013-05.07.2013	UBKV
26	Project planning on National Resource Management at Bali,Island	Prasanta Chatterjee SMS(Fishery)	13.09.2013	Gosaba

Contd..

S. No.	Name of programme	Name of KVK personnel and designation	Date and Duration	Organized by
27	Meeting on "Consultation Meeting on Fisheries Dept. in the State of W.B. Research, Extension & development support of the ICAR fisheries Institutes	Prasanta Chatterjee SMS(Fishery)	23.11.13	CIFE,Kolkata
28	Mati Krishi, Uddan Palan, Matsya o Prani Sampad Mela-2014	Prasanta Chatterjee SMS(Fishery)	20.01.2014	Kamalpur, Namibala Primary School, Joynagar-II
29	National workshop on "Soil Management options for integrated farming towards better livelihood security	Prasanta Chatterjee SMS(Fishery)	28.01.2014	NBSS,UP
30	Delivered lecture of Agri business in fisheries sector for the students of Agri clinic and Agri business	Prasanta Chatterjee SMS(Fishery)	16.09.13	SAMETI,(ATC) Narendrapur
31	Delivered lecture on "Fisheries overviews, induced breeding Nursery rearing mixed fish &prawn, hazards, ornamental fish	Prasanta Chatterjee SMS(Fishery)	10.01.14	SAMETI,(ATC) Narendrapur

Contd..

S. No.	Name of programme	**Name of KVK personnel and designation**	Date and Duration	Organized by
32	Capacity Building programme on Baseline Survey and Financial Management	Dr. Dipak Roy Programme Assistant (Agronomy)	19.04.2013	SAMETI,(ATC) Narendrapur
33	MIS DATA Entry Workshop	Dr. Dipak Roy Programme Assistant (Agronomy)	03.10.2013	SAMETI,(ATC) Narendrapur
34	Workshop on Management Information System and Fund Management of IWMP	Dr. Dipak Roy Programme Assistant (Agronomy)	23.10.2013	New Administrative Building,AliporeKolkata
35	District level orientation training cum meeting on IWMP	Dr. Dipak Roy Programme Assistant (Agronomy)	11.11.2013	WCDC,South 24-Parganas at Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith
36	Workshop for preparation on Annual Action Plan for the year 2014-15 under IWMP	Dr. Dipak Roy Programme Assistant (Agronomy)	27.01.2014	WBSWDA, Writers' Buildings Kolkata-
37	Management of Information for efficient functioning of KVKs	Partha Banik, Programme Assistant (Computer)	29.01.2014-30.01.2014	BCKV(Lake Hall),Kalyani
38	Poultry Mela	Dr. Subhasis Roy SMS(Animal Husbandry)	02.05.0213-04.05.2013, 3 days	ARD Deptt, Govt W.B. and Poultry Federation
39	NIFTD	Dr. Subhasis Roy SMS(Animal Husbandry)	19.12.13-20.12.13, 2 days	ZPD zone II and IGFRI, Jhansi

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

a) Ornamental bird rearing – alternative income generating activity for island villagers

The agro-ecological situation of South 24 Parganas district is characterized by complex diverse risk prone nature resulting in low production from monocropped agricultural land. The frequency of natural calamity in this area is 4.4 per year affecting the Sundarbans as a whole and island villages in particular, destroying all their resources and even their home including livestock population facing forced selling and the land also became degraded due to ingression of saline water. In this situation, the male members had to migrate to the city in search of livelihood whereas the womenfolk had to depend on whatever natural resources were available after the devastation and had to struggle to survive. The womenfolk had to go either for prawn seed catching or worked as maidservants which did not meet up their monetory requirement of serving the family inspite of the additional drudgery. Considering the geographical situation as well as the untapped human resources, KVK entered into a new venture of promoting ornamental bird rearing in the riverine blocks of Sundarbans in particular and the district in general.

Ornamental bird rearing especially budgerigar rearing does not tread upon the government ban imposed on the caging of indigenous birds. As a result it provides a lucrative source of income for the landless community of Sundarbans. Initially, the KVK through NAIP, conducted training fro the landless womenfolk of island village and introduced ornamental bird rearing technology by supplying low cost inputs primarily with 10 pairs of birds and feed for 3 months. The farm women themselves managed to construct a house with net and some wooden structure so as to give the birds a shelter and prevent from predators. The standard quantity of earthen pots for laying eggs and water pots and feeder were provided. Measures to be adopted to overcome extremes of weather were also demonstrated to them along with health care management. KVK has also been providing diagnostic help and advisory services to the farm women as and when they are in need, besides regular monitoring of the rearing units.

Effects of this technology on production and economic gain

Unit Size	Cost of cultivation (Rs.) per month	Gross return (Rs) per month	Net return (Rs) per month
10 pairs of birds	900.00	2100.00	1200.00
After 4 months			
20 pairs of birds	1700.00	4200.00	2500.00

Introduction of this technology by KVK, Nimpith have contributed to the rural economy in general and *"Aila"* affected families in particular. This technology is providing the farm women with a steady cash flow to sustain their livelihood. Ornamental bird rearing proves to be a viable alternative livelihood option for *"Aila"* affected zone of Sundarbans. This technology not only provides an engagement for the womenfolk but also empower them by providing them with a source of income with which they are able to meet up the basic need of their family. Thus, this technology provides the farm women with a sustainable income vis-à-vis food security to their families.

b) Hi-Tech *Pan Boroz* : A new vista in Betel vine cultivation

Success story:

Betel leaf is one of the important commercial crops of the district South 24 Parganas. Out of total cultivable area of 368197 ha of the district, betel leaf occupies 2685 ha area covering around 35000 number of households from six coastal blocks (Sagar, Namkhana, Kakdwip, Pathar pratima, Mathurapur II and Kulpi). This crop has become mainstay of occupation for three blocks namely Sagar, Namkhana and Pathar Pratima.

Betel vine is a shade loving crop usually grown in artificial shade structure, called *Boroz*, made up of bamboo, paddy straw and other related bio-degradable items. Growing betel vine within this structure are prone to numerous diseases and insect pests. Also, in the coastal area these structures are frequently affected by storms and cyclones.

Weather affected traditional Boroz

Considering these aspects Ramkrishna Ashram KVK conceptualized a durable *boroz* structure using GI pipes on concrete basement fitted with green shade net, 75% on the top and 50% on the side walls. Unlike traditional *boroz*, this new *boroz* is made up of non-degradable items and there by chances of pest and disease attack is very less. Also, this modern *boroz* is fitted with micro-sprinkler irrigation facility, which not-only reduces irrigation cost, but maintains temperature and humidity within

New plantation in Hi-Tech Boroz

the boroz during the hot summer and dry winter. Another advantage of this hi-tech *boroz* is the uniformity in shading, there by uniform coloration of leaf is achieved.

Adopting this modern boroz, farmers are experiencing better profitability in betel vine cultivation due to lower cost of cultivation, minimum/no recurring cost for maintenance of *boroz* structure, higher production and higher market value of the produce (leaf) due to good colour, shape (roundish) and luster of the leaf.

Since 2011-12, KVK has demonstrated nearly 500 number of units in collaboration with Department of Horticulture, Govt. of W.B., South 24 Parganas through NHM programme. At present around 2000 farmers approached KVK for getting this type of hi-tech boroz in lieu of their traditional boroz.

A small comparison statistics is given below on this modern system of boroz.

Parameters	**Hi-tech *Boroz***	**Traditional *Boroz***
Temp (^{0}C) at 12.05 pm, on 28.02.13; (environmental temp- 29.3)	28.08	30.05
RH (%) (Environmental RH- 41)	49	38
Light intensity (Lux) (Outside – 1,08,500)	30700	5400 - 95300
Leaf colour	Uniformly green	Scorching discolouration in some leaves
Chlorophyll (SPAD) 3rd leaf from top mature leaf	 41.5 55.7	 37.8 48.1
Leaf shape (length/width)	1.12	1.18
Avg. leaf weight (g)	4.29	3.52
Leaf thickness (mm)	0.25	0.22
Plant internodal length (cm)	9.45	7.86
Disease severity (5 point scale)	3.5	3.0
Yearly yield	2650000 no./ha	2130000 no./ha

Non uniform light and poor plant growth in traditional Boroz

Healthy plant growth in traditional Boroz

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

a) Definition of DIET DIVERSITY SCORE (DDS)

- Diversity scores are created by summing either the number of individual foods or food groups consumed over a reference period. (FAO 2007)
- The dietary diversity scores described in a simple count of food groups that a household or an individual has consumed over the past 24 hours.(FAO 2007)

Utility of DDS

- Assessment of the usual diet of households/individuals
- Assessment of the food security situation in rural agriculture-based communities*(During the period of greatest food shortage, such as immediately prior to the harvest or immediately after emergencies or natural disasters)*
- Monitoring of food security/nutrition programmes or agricultural interventions such as crop diversification

Objectives of DDS in KVK SYSTEM

- To understand the dietary pattern of the household
- To identify if any gender disparity is present on daily food consumption in the family.
- To measure the change in intake of food groups by women during pregnancy as due social taboos they exclude the intake of fish & ripe papaya.
- To observe the importance of produce of Nutrition Garden in decreasing hidden hunger.
- To identify the presence of different food groups in weaning food.

Process of DDS by FAO

- Here individual or household member are asked to recall the food items taken yesterday at home.
- From the DDS list food groups are given point if consumed then “1” and if not then “0”.
- Now, the sum up of the points of all food groups denote the score against 16 food groups.
- *For example, a individual intook cereals, dark green leafy vegetables, white tubers and roots, legumes, nuts and seeds, fish, oils and fats, spices ,condiments, beverages in his yesterday meal which includes seven food groups . So, his DDS would be 7.*

Diet Diversity chart by FAO

DIETARY DIVERSITY QUESTIONNAIRE [1]

Please describe the foods (meals and snacks) that you ate yesterday during the day and night, whether at home or outside the home. Start with the first food eaten in the morning.

[Household level: consider foods eaten by any member of the household, and exclude foods purchased and eaten outside of the home]

Question number	Food group	Examples	YES=1 NO=0
1	CEREALS	bread, noodles, biscuits, cookies or any other foods made from millet, sorghum, maize, rice, wheat + *insert local foods e.g. ugali, nshima, porridge or pastes or other locally available grains*	
2	VITAMIN A RICH VEGETABLES AND TUBERS	pumpkin, carrots, squash, or sweet potatoes that are orange inside + *other locally available vitamin-A rich vegetables(e.g. sweet pepper)*	
3	WHITE TUBERS AND ROOTS	white potatoes, white yams, cassava, or foods made from roots.	
4	DARK GREEN LEAFY VEGETABLES	dark green leafy vegetables, including wild ones + *locally available vitamin-A rich leaves such as cassava leaves etc.*	
5	OTHER VEGETABLES	other vegetables (e.g. tomato, onion, eggplant) , including wild vegetables	
6	VITAMIN A RICH FRUITS	ripe mangoes, cantaloupe, dried apricots, dried peaches + *other locally available vitamin A-rich fruits*	
7	OTHER FRUITS	other fruits, including wild fruits	
8	ORGAN MEAT (IRON-RICH)	liver, kidney, heart or other organ meats or blood-based foods	
9	FLESH MEATS	beef, pork, lamb, goat, rabbit, wild game, chicken, duck, or other birds	
10	EGGS		
11	FISH	fresh or dried fish or shellfish	
12	LEGUMES, NUTS AND SEEDS	beans, peas, lentils, nuts, seeds or foods made from these	
13	MILK AND MILK PRODUCTS	milk, cheese, yogurt or other milk products	
14	OILS AND FATS	oil, fats or butter added to food or used for cooking	
15	SWEETS	sugar, honey, sweetened soda or sugary foods such as chocolates, sweets or candies	
16	SPICES, CONDIMENTS, BEVERAGES	spices(black pepper, salt), condiments (soy sauce, hot sauce), coffee, tea, alcoholic beverages OR *local examples*	
			YES=1 NO=0
Individual level only	Did you eat anything (meal or snack) OUTSIDE of the home yesterday?		
Household level only	Did you or anyone in your household eat anything (meal or snack) OUTSIDE of the home yesterday?		

[1] *FAO/Nutrition and Consumer Protection Division, version of May, 2007. Please acknowledge FAO in any documents pertaining to use of this questionnaire.*

Limitation of DDS(FAO) in KVK Activity

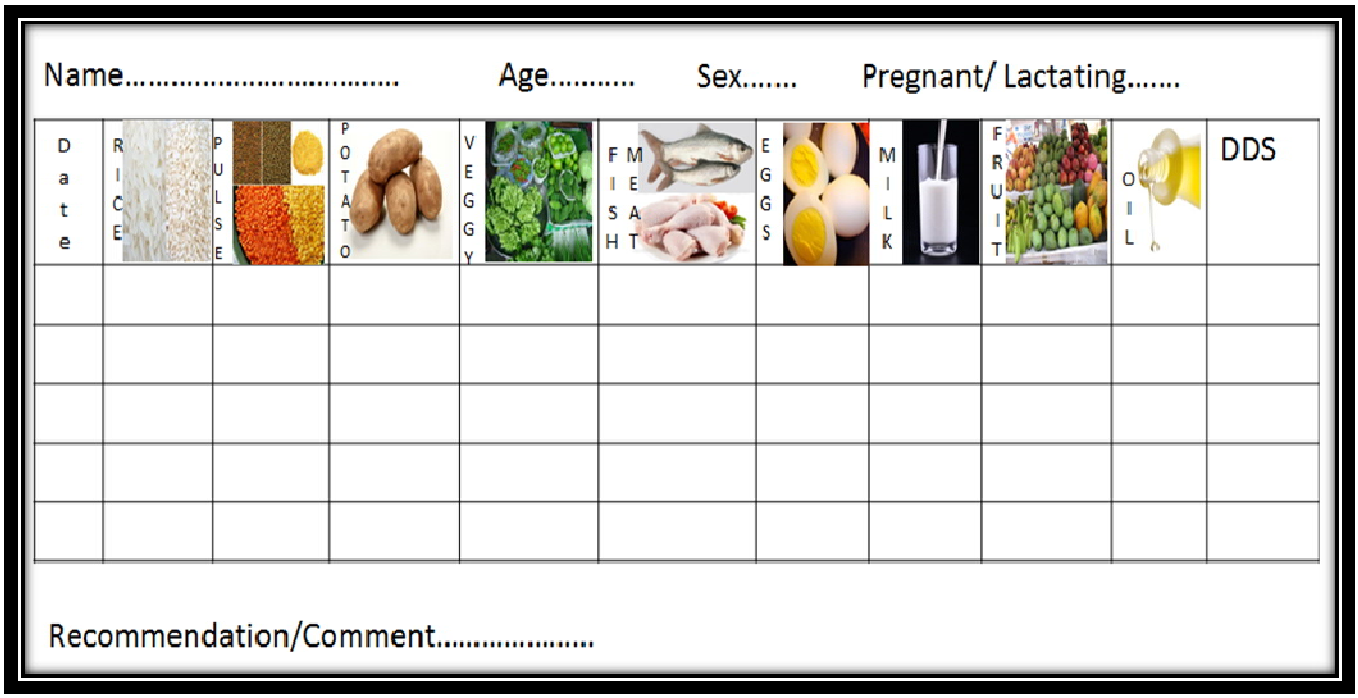
- In the target villages, most the **people are illiterate** they can not understand the scoring of "1" or "0".
- People do not have any idea about those food groups or their **nutritive value** so they would not answer if asked about the consumption of vitamin a rich vegetables and tubers or vitamin a rich fruits.
- The method of Diet Diversity Score by FAO is 24 hour recall method. But, people of target area occasionally stay in starvation due to some ritual reason. So, if DDS is taken for last day consumption that will show incorrect result as this is not his/her daily trend of diet. KVK intervention is to recall last **3 days diet and average of it**

Process of DDS calculation by KVK

- Before DDS community awareness programme on balance diet & diet diversity should be organized
- Preparation of DDS chart consisting of nine(9) food groups from balance diet chart like:
  1.Rice/Puffed rice/Pressed rice
  2.Dal
  3.Potato
  4.Green leafy veg etable
  5.Fish/Meat
  6.Egg
  7.Milk
  8.Fruit
  9.Oil

- Food groups are represented in pictorial way to facilitate easy recalling of last three days food intake
- Tick mark (✓) is used instead of "0"or "1" value during interview considering illiterate people
- Summation of no. of tick marks leads to DDS

Pictorial sheet for evaluation of DDS



Example of evaluation of DDS

Name..Sephali Maity..... Age.....23..... Sex.....F..... Pregnant/ Lactating.....Pregnant

Date	RICE	PULSE	POTATO	VEGGY	FISH MEAT	EGGS	MILK	FRUIT	OIL	DDS
12.8.13	√	√	√			√			√	5
11.8.13	√		√		√	√			√	5
10.8.13	√		√	√					√	4

Recommendation/Comment.....Egg intake from SNP.

DDS=(5+5+4)/3
= 4.6

Precaution

- Open ended question
- Identification of food groups from menu
- During interview ask questions with patience
- Do not allow so many people at a time
- Exclude special day diet
- Interviewer should conscious about the food avoided by family due to taboos
- Supplementary food from Supplementary nutrition programe should be noted under remarks

Application & Adoption:

DDS applied as indicator of OFT based on thematic area of attaining food and nutrition security.

Applied as an indicator in nutrition on project

Shared in the national forum of food & nutrition security workshop Sponsored by WHH, Germany

The methodology is adopted by the Ngo Prava, CWS , Avibyakti foundation(Jharkhand), DRCSC, Pradhan (West Bengal),Jansahas FES, IGSSS(Madhya Pradesh),living farm (Orisha), RNN (Nepal)

b) The innovative teaching methodology for knowledge up gradation of Adolescent girls

Objective of the programme

Adolescent girls are the future mother of our society. They play the key role for the nutritional status of the future generation.. Still now 50% of children in India are suffering from the malnutrition. one of the major cause behind it is low birth weight. This problem cannot be addressed unless mother are educated properly for good health and nutritional care. Naturally this should be started before their pregnancy. So, adolescent girls are the group, for promotion of knowledge regarding the health and nutrition issue.

The training session is designed with joy full learning for better retention of knowledge and positive behavioural changes.

The training module is adopted by the Forest Dept of South 24 PGS .

Joyful learning Session

Quiz competition and Prize distribution

3.9 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)

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

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

- Identification of courses for farmers/farm women
  - Rural Youth
  - In-service personnel

Applications are invited from the interested people through the farm science club or may be collected directly from the KVK. On receiving the application, structure questionnaires are given to the prospective trainees to fill up and submit the same to KVK.

The applications are scrutinize by the respective disciplines and called for to appear in a semi-structure interview for final selection. Participants are also selected by conducting PRA in villages where basing on their needs and problems, the interventions are made which quiet often points to training. Subsequently schedules of training programme are set according to seasonality and included in the KVK action plan for the particular year.

In addition to the above mentioned procedures for selecting participants for a training programme, persons are also open to apply through website or by contacting respective experts over mobile phone, the number of which is generally obtained from KVK web site, ZPD web site, Kisan Call Center, ETV Annadata, Doordarshan Agricultural programme and other sources.

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

Sl. No	Name of the Equipment	Quantity
1	Systronics Spectrophotometer (Model 167)	1
2	Systronics pH meter (Model 335)	1
3	Systronics Connductivity Bridge (Model 304)	1
4	Flame Photometer (Model 128)	1
5	Afcoset Electronic Balance(Model EK1200G)	1
6	Afcoset Electronic Balance(Model ER 200A)	1
7	REMI Centrifuge (Model R 23)	1
8	Head of the REMI Centrifuge(Cat.R236)	1
9	REMI Magnetic Stirrer (Model 1)	1
10	REMI Magnetic Stirrer (Model 2)	1
11	REMI Stirrer (Model RQ 121D)	1
12	Refrigerator LG Brand - 20 lits	1
13	Suction Pump PRECIVAC (Model DC 101)	1
14	Silica Crucible 100 ml.	6
15	Scientific Calculator FX	2
16	Rubber Cork Borer	1
17	Thermometre 360^{o}C	4
18	Moisture Box	6
19	Stop Watch	1
20	Mortar and Pestle (Wooden)	1
21	Mortar and Pestle (Porcelain)	6
22	Filter Paper (Whatman)	10
23	Seive	6
24	Hand Vaccum Pump (Terson)	1
25	Almirah	1
26	Double Glass Distillation Apparatus- 5 lits	3

Sl. No	Name of the Equipment	Quantity
27	Barnstead Type Distillation – Table model	1
28	Stokes Type Wall Hanging Distillation	1
29	Micro Kjeldhal Digestion Apparatus	1
30	Micro Digestion Apparatus (Mantle Heaters)	1
31	Micro Distillation Unit – Improved-Wangner	1
32	Micro Distillation Set (with S.S.Tank)	1
33	Kjeldhal Flask of BOROSIL	18
34	Kjeldhal Flask Head	6
35	Blower for Kjeldhal Flask of BOROSIL	2
36	Mechanical Shaker	1
37	Over (Digital controller)	1
38	Raymond Mill	1
39	Muffle Furnace (Upto 1200^{o}C)	1
40	High Precision Water Bath-12”X10”X8”	1
41	Hot Plate 12”X10”	1
42	C.V.T. Input – 2 KVA	1
43	C.V.T. – 5 KVA	1
44	Filtering Flask – 250 ml Borosil	6
45	Filtering Flask – 500 ml Borosil	6
46	Burette - 50 ml Borosil	6
47	Burette – 10 ml Borosil	2
48	Rubber Cork	100
49	Weight Box – 1 set	1 set
50	Platinum Crucible - 20—25 ml	1

3.11.b. Details of samples analyzed so far :

Year	**Details**	**No. of Samples**	**No. of Farmers**	**No. of Villages**	**Amount realized (Rs.)**
2013-14	Soil Samples	886	834	210	41700
	Water Samples	413	405	147	12150
	Total	1299	1239	357	53850

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
21	656	22600	5400	29

3.13 Technology week celebration on ‘Sustainable agricultural options for small holder farms’ (05.02.14-09.02.14)

Type of activities	No. of activities	Number of participants	Related crop/ livestock technology
Seminar, Demonstration, Quiz competition, Exhibition, Crop and animal show -cum-competition, prize distribution and cultural programmes.	13	More than 18000 no.	Sustainable agricultural options for small holder farms

3.14. RAWE programme - is KVK involved? NA

No of student/ARS trained	No of days stayed

3.15. List of VIP visitors including the officials of ZPD and DEE

Date	Name of the person	Purpose of visit
15.05.2013	Dr. S. Ayyappan, Director General (ICAR) & Secretary (DARE), Krishi Bhawan, New Delhi	Inauguration of Operation theatre, Agricultural contingency plan
15.05.2013	Dr. A.K. Singh, ZPD, Zone-II, Kolkata	Visit of DG, ICAR
23.12.2013		Inauguration of Bali Training programme
29.06.2013	Dr. G. Kalloo, Ex DDG (Horticulture), Ex Vice Chancellor, JNKV, Jabalpur	For inspection of KVK over all activities
21.08.13	Dr. D.K.Sharma, Director, CSSRI	Visit to the NAIP villages and have a glimpse on the KVK activity
15.02.2014	Dr. Ravindra Kumar, Assistant Director General (Co-ord.) ICAR, New Delhi	Vist for the KVK activities in their adopted villages
21.02.2014	Dr. H. S. Sen (Chairman of NICRA Monitoring Team	Visit of NICRA Village
27.02.2014	Dr. S. K. Maitra (Director Crop Science) ICAR, New Delhi	AICRP Sunflower centre monitoring visit
23.01.2014	Dr. H.K. De	Guest Lecturer in DAESI programme
08.01.2014	Dr. S.K. Roy	PPV & FRA seminar programme
07.11.2013	Sri Ashok Thakur, Secretary, Dept of FPI & Horticulture, GOWB	To attend seminar on '*Joynagar-er Moa*'
17.01.2014	Mrs. Nandini Chakraborty, Secretary, SDB, GOWB	For monitoring SDB sponsored Nutrition project.
17.01.2014	Sri Rajat Bose, PD & MS, SDB	
24.08.2013	Prof. Tarun Kanti Naskar, MLA, Joynagar, WB	To attend SAC meeting

4.0 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)
Rearing of budgerigar birds	325	85.5	300/month/10pairs unit	750/month/10 pairs unit
Goat pox vaccination	280	72.0	6000/year/5 goats unit	13000/year/5 goats unit
Alternate month supplement of calcium in layer birds	200	65.0	600/year/bird	840/year/bird
Feeding of azolla in layer duck	150	75.0	450/year/duck	925/duck/year
Standing (half an hour) posture after milking in cows	180	92.0	Milk for home consumption	250/month apart from home consumption for 5 months
Hi-Tech betel vine Boroz	150	96%	10,15,000/ha	15,10,000/ha
BAU ber cultivation	20	87%	4,45,000/ha	6,90,000/ha
Sunflower in rice fallow saline low land	50	93 %	9600/ha	16300/ha

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

4.2 Cases of large scale adoption

1. Ornamental bird rearing:

The agro-ecological situation of South 24 Parganas district is characterized by complex diverse risk prone nature resulting in low production from monocropped agricultural land. The frequency of natural calamity in this area is 4.4 per year. The last major devastating natural calamity "*Aila*" in 2008 affected the Sundarbans as a whole and island villages in particular, destroying all their resources and even their home. Almost all the livestock population either died or suffered from diseases or faced forced selling and the land also became degraded due to ingression of saline water. In this situation, the male members had to migrate to the city in search of livelihood whereas the womenfolk had to depend on whatever natural resources were available after the devastation and had to struggle to survive. The womenfolk had to go either for prawn seed catching or worked as maidservants which did not meet up their monetary requirement of serving the family inspite of the additional drudgery. Besides, the women also suffered from overburdening as they have to shoulder both productive and reproductive role. Thus, they were not in a position to go ahead for any venture in husbandry practices. Considering the geographical situation as well as the untapped human resources, KVK entered into a new venture of promoting ornamental bird rearing in the riverine blocks of Sundarbans in particular and the district in general.

Initially, the KVK introduced ornamental bird rearing technology by supplying low cost inputs primarily with 10 pairs of birds and feed for 3 months. The farm women themselves managed to construct a house with net and some wooden structure so as to give the birds a shelter and prevent from predators. After that, they were trained and motivated for construction of scientific house of 20 pair capacity with the profit from their prevailing bird unit with minimum input support from the KVK. The standard quantity of earthen pots for laying eggs and water pots and feeder were procured by the farm women themselves after receiving training. Measures to be adopted to overcome extremes of weather were also demonstrated to them along with health care management. KVK has also been providing diagnostic help and advisory services to the farm women as and when they are in need, besides regular monitoring of the rearing units.

At the initial stage, training was imparted to rural youths along with some farm women. Some of the rural youths took up the technology and started the enterprise and used to sell the product at distant market in the main land. After *"Aila"*, KVK conducted an off campus training cum awareness camp especially for the farm women to develop such enterprise as an alternative livelihood option. In spite of this effort from the KVK, the farm women were initially hesitant due to the lack of local marketing facilities. KVK then developed a doorstep marketing channel by collaborating with the practicing rural youth and motivated the farm women to adopt this enterprise. Now, a large number of womenfolk are involved with this enterprise and are earning a significant amount of money to support their family.

Horizontal spread of technologies	
Technology	Horizontal spread
Scientific Ornamental bird rearing	Sreaded to seven coastal blocks of South 24 Parganas namely Pathar Pratima, Mathurapur-II, Kultali, Basanti, Joynagar-II, Gosaba and Mathurapur-I.

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

4.4 Details of innovations recorded by the KVK

Thematic area	
Name of the Innovation	**Low-cost pedal pump**
Details of Innovator	Mr. Yaser Molla, Vill – Serhangampur, P.O. – Nimpith Ashram, South 24 Parganas
Back ground of innovation	In the Sundarban region, irrigation is an acute problem, particularly for the Rabi crop cultivation. As the ground water is saline, the rain water harvested in ponds and ditches are the only source of irrigation water. Lifting of water from these ponds/ditches for irrigation is a long-time problem for this zone. Possible ways of irrigation are bucket irrigation or use of electric/diesel pump. Bucket irrigation is a strenuous job, where as pump irrigation is a power/diesel consuming and some-time cost-intensive for small area of land. In this back-drop, this innovation is very much effective, particularly for small vegetable fields.
Technology details	This technology has been developed in the principle of a piston a pump. Unlike normal tube well, it is operated by foot, so working drudgery is much less here. The pump body is fitted upon an Iron frame. The entire system is portable. Bottom end of the pump is fitted with a suction pipe, which is dipped into the pond water, resting the pump by the side of water tank. The pump outlet lifts the water upto 12 ft height @ 2 lt/pump. Usually it lifts 25-30 lt of water per minute. To irrigate one cottah vegetable plot (Tomato), it takes only 90 minutes. The delivery outlet of the pump may be fitted with a small reservoir tank, which is useful, when the pump is used in domestic purpose.
Practical utility of innovation	Considering ease of use, discharge rate etc., local farmers are now very much interested about this new pump. Mr. Molla has developed the model as a plastic body pump fitted in an iron frame. KVK, Nimpith is now making arrangement to make this pump completely iron structure to make it durable.

4.5 Details of entrepreneurship development

S. No	Name of the enterprise	Burdwan Fish Nursery
1.	Name & complete address of the entrepreneur	Manas Kumar Sahana Vill-Haragobinda Pur, PO- SureKalna, Dist – Burdwan, Pin-713408 Mob. No-9734570523/9732272071
	Intervention of KVK with quantitative data support:	Capacity building, planning, linkage with financial organization, linkage for marketing of produce, regular consultation
	Time line of the entrepreneurship development	1 Year
	Technical Components of the Enterprise	Asian Catfish and Ornamental Fish Hatchery for production of catfish and ornamental fish seeds
	Status of entrepreneur before and after the enterprise	Unemployed before the enterprise. Now self employed and support family and provide employment to 2 persons
	Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	Economically viable with steady marketing due to high consumer demand
	Horizontal spread of enterprise	Not yet
2.	Name of the enterprise	Darthy Ornamental Fish Centre
	Name & complete address of the entrepreneur	Prasun Halder Vill-Mondalpara, PO- Khari, P.S.- Raidighi, Block – Mathurapur II, Dist –South 24 Parganas, Pin-743349, Mob. No-9641325035
	Intervention of KVK with quantitative data support:	Capacity building, planning, linkage with financial organization, linkage for marketing of produce, linkage for exposure at fairs, regular consultation
	Time line of the entrepreneurship development	1 Year
	Technical Components of the Enterprise	Ornamental Fish Breeding and Rearing Unit for production of ornamental fish seed and marketable fish
	Status of entrepreneur before and after the enterprise	Unemployed before the enterprise. Now self employed and support family and provide employment to 2 persons
	Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	Economically viable with steady marketing due to high consumer demand
	Horizontal spread of enterprise	3 units have started with his active support

Contd..

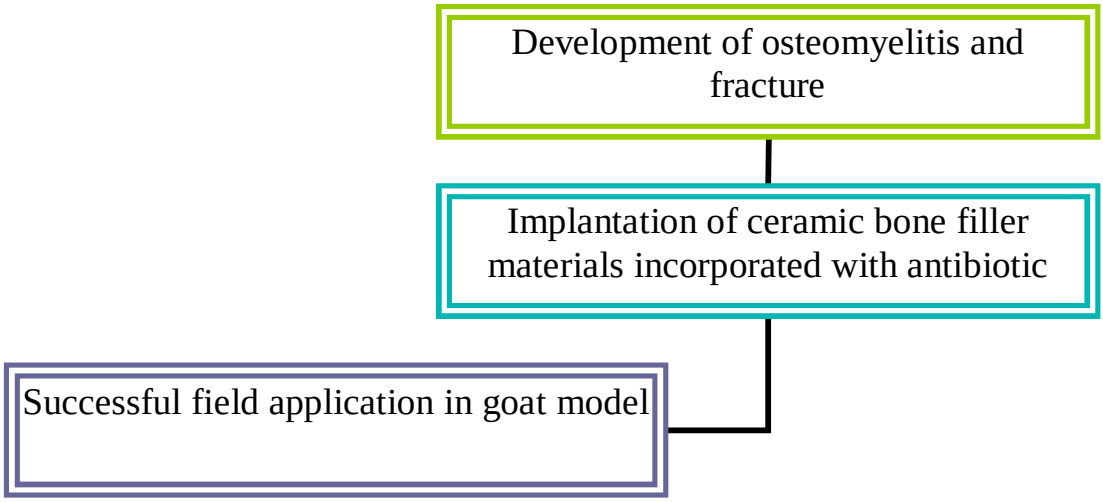
3.	Name of the enterprise	Ahhamed Hatchery
	Name & complete address of the entrepreneur	Rafique Ahhamed, Vill & PO-Kshetia, Dist –Burdwan, Pin-713102 Mob. No-9434846422
	Intervention of KVK with quantitative data support:	Capacity building, planning, linkage with financial organization, linkage for marketing of produce, regular consultation
	Time line of the entrepreneurship development	2 Years
	Technical Components of the Enterprise	Asian Catfish Hatchery for production of catfish seeds
	Status of entrepreneur before and after the enterprise	Used to practice as para-vet in his village before the enterprise. Now full time involvement in the enterprise, on partnership basis, with one of his relatives and supporting a big family
	Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	Economically viable with steady marketing due to high consumer demand
	Horizontal spread of enterprise	-

4.6 Any other initiative taken by the KVK

4.6.1. Incidence of fracture is very much common in field conditions especially in small ruminants and amongst pets. Repair of fracture is almost undertaken in unscientific ways in field conditions leading to opportunistic infection and wound contamination which progress to necrosis and resultant amputation remains the last resort. This not only fetches a good proportion of expenditure but also hinder the production attributes resulting to economic losses to the farming. Besides, the treated contaminated fracture did not respond well to the due to the fact that concentration of antibiotic to the local site is minimal as delivery to the site is very poor. Thus the revised protocol for the successful treatment of fracture will encompasses good filler materials along with incorporated antibiotic for local delivery.

The present endeavor includes development of osteomyelitis model and implantation of ceramic materials incorporated with antibiotics for testing the local drug delivery.





4.6.2. 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 Serviceces 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 of the Course centers. The course started on 27th September, 2013 and is continuing since.

Methodology:

The course will be completed 48 weekly classroom interactions as well as field visits. The weekly classes are mutually agreed upon to be conducted on every Thursday (market holiday for most Dealers). Supply of study materials, using multi-media instructional devices, engagement of experts as Resource Persons and continuous as monitoring as well as final evaluation are being 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 1. Local Agro-ecological situation, 2. Soil and integrated nutrient management, 3. Crop production technology, 4. Integrated Pest and Disease Management, 5. Water management, 6. Extension management and 7. Agriculture related Laws.

By the end of March, 2014, the course completed its half-yearly progress. 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.

4.6.3. KVK, Nimpith organized one-day training cum awareness programme on PPV&FRA and "Farmers' Rice Variety Registration Programme" on 08.01.2014

More than 130 farmers gathered in the "Farmers' Rice Variety Registration Programme" under PPV&FRA on 08.01.2014, organized by Ramkrishna Ashram Krishi Vigyan Kendra, Nimpith, West Bengal with the financial support from Plant Protection Varieties and Farmers' Rights Authority, DAC, Ministry of Agriculture, New Delhi.

The programme was inaugurated by Dr. S. K. Roy, Principle Scientist, ZPD, Zone-II, where he briefed about the Act and its relevance in present days agricultural scenario.

Dr. N. J. Maitra, Programme Coordinator, RAKVK, Nimpith, described the overall process of registration and the role of the farmers in a simple way. He emphasized on awareness building among the Indian farmers so as to protect the farmers' right in respect of their contributions made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties.

The farmers from South 24 Parganas as well as from North 24 Parganas district of West Bengal brought around 70 traditional land races of rice for sending the same to the PPV&FR authority to register in the National Register for Plant Varieties. Such varieties were unique for their morphological characters (size, shape, texture and colour of grain), tolerance to water logging, soil salinity, lodging as well as aroma, etc. The programme created a huge vibration among the farmers and they also requested the KVK to organize such programmes for registration of other crop varieties also.

4.6.4 Friends of Coconut Tree (FOCT) programme jointly with Coconut Development Board, Kolkata center

Two 'Friends of Coconut Tree (FOCT)' programme was conducted at the KVK in collaboration with Coconut Development Board, Kolkata center. In each batch 20 number of rural youths from different coastal blocks of South 24 Parganas district were trained for six days. They were trained on different management and plant protection practices of coconut palm and were trained on climing in the coconut palm using Coconut Clombing Device imported from Kerala. After successful completion of this programme, each trainee was provided with one coconut climbing device and were certified, so that they can act as coconut doctor in the village level. Thus 40 number of 'Coconut Friend' was developed as village level extension personnel.

5.0 LINKAGES

5.1 Functional linkage with different organizations

Sl. No.	Name of organization	Nature of linkage
1.	East Singhbhum KVK, Jharkhand	Training
2.	Indian Veterinary Research Institute, Eastern Regional Station, Kolkata	
3.	Central Institute of Fisheries Education, Salt Lake, Kolkata	
4.	University of Calcutta, West Bengal	
5.	University of Kalyani, Kalyani, Nadia, West Bengal	
6.	West Bengal State University, Barasat	
7.	District Rural Development Cell, North- 24 Parganas, WB	
8.	District Rural Development Cell, South- 24 Parganas, WB	
9.	SDB, GOWB	
10.	Vivekananda College, Kolkata	
11.	ATMA, Howrah	
12.	ATMA, Darjeeling	
13.	ATC & SAMETI, Narendrapur	
14.	ATMA, South 24 Parganas	Joint Survey
15.	Irrigation Dept., GOWB (Formation of water users association-WUA and preparation of micro plan of centrally sponsored pilot project for South 24 Parganas on repair, renovation & restoration of water bodies	
16.	TMC MM-II, DOCD, GOI (Cotton)	Demonstration
17.	SDB, GOWB (Cotton Cultivation)	
18.	CICR, Nagpur (IRM)	
19.	Advanta, Excel Crop Care Ltd.	
20.	National Horticulture Mission, Mayukh Bhavan, Salt Lake, Kolkata, West Bengal	
21.	BGREI, GOWB	
22.	District Horticulture Office, Alipur, South 24 Parganas	
23.	Directorate of Oilseed Research, Hyderabad	
24.	Institute of Animal Health and Veterinary Biologicals, Kolkata, West Bengal	Joint diagnostic survey
25.	West Bengal University of Animal & Fishery Sciences, Kolkata, West Bengal	
26.	Indian Veterinary Research Institute, Eastern Regional Station, Kolkata	
27.	National food security mission	Participation in meeting
28.	Directorate of Extension, BCKV, Mohanpur, Nadia	
29.	Sundarban Milk Union Limited, South 24 – Parganas	Collaborative programme
30.	Central Institute of Fisheries Education, Salt Lake, Kolkata & Versova, Mumbai	
31.	Vivekananda College, Kolkata	
32.	Dept. of ARD & PO, South 24- Parganas	
33.	Cotton Corporation of India (CCI), Kolkata	Marketing of farm produce
34.	CRM Services, Kolkata	
35.	Colour Zone, Ashoknagar, North- 24 Pgs	
36.	Central Glass and Ceramic Research Institute	Research and Extension
37.	Livestock Development Corporation, West Bengal	Marketing of animal produce

Sl. No.	Name of organization	Nature of linkage
38.	Paschim Banga Go Sampad Bikash Sanstha	Impart expertise training
39.	Indian Veterinary Research Institute	Research, project implementation and farmers demonstration of modern technologies
40.	Bidhan Chandra Krishi Visvavidaslaya, AICRPFP Unit	Distribution of fodder seed and demonstration of planting materials for animal feed to the farmers
41.	West Bengal University of Animal and Fishery Sciences	Demonstration of different field operation cases to VAC course students
42.	Animal Resource Development Department, Govt W.B.	Organization of animal health and vaccination camp.
43.	Department of Forest, Govt W.B.	Impart animal husbandry training and advisory services to the farmers.
44.	State department of panchayat and rural development	Training programme
45.	National Institute of Plant Health Management (NIPHM), Hyderabad	NIPHM will offer training to the KVK staff free of cost and provide technical back stopping in the areas of plant health management
46.	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 Thurseday) are arranged for this 48 week long course.

5.2. List special programmes undertaken during 2013-14 by the KVK, which have been financed by ATMA/ Central Govt/ State Govt./NHM/NFDB/Other Agencies **(information of previous years should not be provided)**

a) Programmes for infrastructure development

Sl. No.	Name of the programme/scheme	Purpose of the programme	Date/ Month of initiation	Funding agency	Amount (2013-2014) (in lakh)
1	All India Coordinated Research Project on Sunflower**(AICRP)**	Development of early duration Hybrids for rainfed situations and Rabi-Summer	July,2009	Director of Oil Seeds Research, Rajendranagar, Hyderabad	12.39
2.	FLD on Sunflower	Demonstration on Sunflower cultivation	2011-12	Director of Oil Seeds Research, Rajendranagar, Hyderabad	1.0
3.	Tribal Sub Plan	Popularization of Sunflower cultivation in the tribal belt of West Bengal	Dec., 2011	Director of Oil Seeds Research, Rajendranagar, Hyderabad	15.0
4.	Cotton Development Mission **(CDM)**	Production of Raw Cotton and improve the bio mass statusof the North and South 24-Parganas districts.	2007-2008	Directorate of Agriculture, Govt. of West Bengal	5.05
5.	Mini Mission-II of the Technology Mission on Cotton **(TMC)**	Intensive Cotton Development in the North and South 24-Parganas districts.	Oct.,2001	Department of Agriculture, (Development Branch) Govt.of West Bengal	18.65
6.	National Agricultural Innovation Project **(NAIP)**	Strategies for sustainable management of degraded coastal land and water for enhancing livelihood security of farming communities (Component-III)	Sept.,2009	National Co-ordinator, (NAIP), ICAR, Project Implementation Unit, Krishi Anusandhan Bhaban-II, New Delhi-110012	365.109
7.	TMC-MM-II-**IRM**(Insecticide Resistance Management)	Experimentation and collection of information for the pest fron the village level cotton field and monitoring for ***Helicoverpa armigera*** etc.	December, 2004	Director of Cotton Development, Central Institute For Cotton Research, ICAR,Nagpur	2.71

Sl. No.	Name of the programme/scheme	Purpose of the programme	Date/ Month of initiation	Funding agency	Amount (2013-2014) (in lakh)
8.	Agricultural Technology Management Agency **(ATMA)**	Landshaping for increasing cropping intensity	2010-2011	Deputy Director of Agriculture (Admn) & Project Director, ATMA, South 24-Pgs, Govt. of West Bengal.	5.00
9.	National Initiative on Climate Resilient Agriculture**(NICRA)**	Strategies to enhance adaptive capacity to climate change in vulnerable regions of district	Mar., 2011	Indian Council of Agricultural Research, New Delhi.	22.30
10.	MGNREGS	Extrapolation of landshaping & rain water harvesting technology developed by KVK	2012-2014	District Magistrate, South 24-Pargans	5.00
11.	Dairy development	Strengthening existing dairy farms to produce and distribute quality genetic materials to the farmers	Nov., 2013	PBGSBS, Salt lake city, Kolkata	50.00
12.	Bali island programme	Over all development of the farming community of bali farmers	Dec., 2013	CARI, Port Blair	36.30
13.	Ornamental Bird rearing through farmers of Sundarbans	Spread of the technology in large scale	Jan. 2014	ATMA, South 24 Parganas	2.00
14.	Alternative livelihood option for the coastal villages of Sundarbans	Protection of forest by preventing deforestation	Jan., 2014	Deptt. of Forest, Govt. of West Bengal	2.222
15.	Composite fish culture	Alternative livelihood option for the coastal villages of Sundarbans for protection of forest by preventing deforestation	Feb., 2014	Deptt. of Forest, Govt. of West Bengal	2.15
16.	IWMP-6	Integrated watershed development programme	Oct., 2012	Deptt. Of Agril. Govt. W.B.	77.8572
17.	IWMP-7	Integrated watershed development programme	Oct., 2012	Deptt. Of Agril. Govt. W.B.	64.881
18.	Model Nursery	Horticultural Nursery Development	May, 2013	DHO(South 24 Parganas), Deptt. of FPI & H, Govt. W.B.	6.25
19.	Poly lining of Sankir khal	Creation of Water resource with poly lining at Sankir khal	Nov,13	DHO(South 24 Parganas), Deptt. of FPI & H, Govt. W.B.	30.00

(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.)
Technology Week and Anuual Agriculture Exihibition	Demonstration of Innovative technologies for lage scale adoption	Feb., 2014	NABARD DHO(South)	109250.00 50000.00

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.)		Rem-arks
				Variety/breed	Produce	Qty.	Cost of inputs	Gross income	
1.	Carp hatchery	1989-90	355.0	Indian major carps and exotic carps (catla, rohu, mrigal, calbasu, bata, silver carp, java punti, common carp)	Carp spawn	8.65 million	7500.00	21500.00	
2.	Nursery and grow-out ponds	1985-86	4.276 ha	Indian major carps and exotic carps (catla, rohu, mrigal, calbasu, bata, silver carp, java punti, common carp)	1.Carp fry & fingerlings 2.Tablefish	1010.0 kg 2315.0 kg	61650.00 129300.00	126250.00 254650.00	
3.	Ornamental fish and catfish breeding cum rearing unit	1997-98	505.0	1.Ornamental fish (goldfish, angel, koi carp, milky carp, rosy barb, venus tetra, gourami, fighter, guppy, molly, swordtail, platy) 2.Catfish (*Clarias batrachus* - desi magur)	Fry & adult Fingerlings	32329 no. 16180 no.	6765.00 19845.00	12725.00 43270.0	
	Total							**458395.00**	

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	
Cereals									
Paddy	01.07.13	05.11.13	0.32	Swarna Sub-1	Foundation	430	6240	12900	
	07.06.13	05.12.13	0.13	NC-492	Foundation	300	2800	9000	
	01.07.13	15.11.13	0.44	Pratikha	Certified	1500	11880	37500	
	26.06.13	25.11.13	0.20	CR-1017	Foundation	410	4600	12300	
	20.06.13	25.11.13	0.28	CR-1017	Certified	700	6440	17500	
	20.06.13	25.11.13	0.35	CR-1009	Foundation	1000	8050	30000	
	20.06.13	25.11.13	0.22	CR-1009	Certified	530	5600	13250	
	20.06.13	25.11.13	0.13	IET-5656	TL	430	3200	8600	
	07.06.13	07.12.13	0.26	NC-492	T.L	730	5980	14600	
	07.06.13	20.11.13	0.05	Pankaj	T.L	100	1350	2000	
	07.06.13	02.12.13	0.13	Amal Mona	T.L	200	2400	4000	
	07.06.13	05.12.13	0.22	Gitanjali	T.L	340	5060	6800	
	07.06.13	22.11.13	0.08	Dudshwar	T.L	180	1840	3600	
	06.06.13	25.12.13	1.58	Barsha	T.L	2300	36340	46000	
	20.06.13	25.11.13	0.05	CR-1017	T.L	0.90	1300	1800	
	07.07.13	06.11.13	0.82	WGL-205471	T.L	2468	22140	49360	
Pulses Greengram	05.02.13	20.04.13	0.50	PDM-84-139	T.L	250	5250	12500	
Oilseeds									
Fibers									
cotton	25.12.12	22.05.13	0.13	Surabhi	Fiber	200	3500.00	8000	

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	*Metarhizium anisopliae*	122 kg	10980.00	17,700.00	
2	*Sl*NPV	6.8 litre	2380.00	2,720.00	
3	*Pseudomonas fluorescens*	314.00 kg	28260.00	33,900.00	
4	*Trichoderma viride*	322.00 Kg	28980.00	34,700.00	
5	*Trichoderma harzianum*	42.0 kg	3780.00	4,200.00	
6	*Trichogramma chilonis*	862 trichocards (Having 51.72 lakh *Trichogramma* wasp)	3448.00	4,310.00	

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.	Cows	J.C, HF. C, GIR Sahiwal C.	Milk	936 qnt	25.2lak	28.5 lak	
2.	Calves	-	-				
3.	Broilers	Hygrow	Meat	151qnt	30000.00	38000.00	
4.	Duals (broiler and layer)	RIR, Nirvik, Hitkari, Upkari	Meat and egg		-	-	
5.	Goat	Black Bengal	Meat	58 nos			
6.	Rabbit	White New Zealand	Ornamental	13 nos			
7.	Guinea pig	-	Ornamental	11 nos			
8.	Ornamental bird	Budgerigar, Cockatail	ornamental	259 nos			
9.	Indian major carps and exotic carps	Catla, rohu, mrigal, calbasu, bata, silver carp, java punti, common carp	Carp spawn	8.65 million	7500.00	21500.00	
10.	Indian major carps and exotic carps	Catla, rohu, mrigal, calbasu, bata, silver carp, java punti, common carp	Carp fry & fingerlings	1010.0 kg	61650.00	126250.00	
11.	Indian major carps and exotic carps	Catla, rohu, mrigal, calbasu, bata, silver carp, java punti, common carp	Tablefish	2315.0 kg	129300.00	254650.00	
12.	Ornamental fish	Goldfish, angel, koi carp, milky carp, rosy barb, venus tetra, gourami, fighter, guppy, molly, swordtail, platy	Fry and adult	32329 no.	6765.00	12725.00	
13.	Catfish	*Clarias batrachus*	Fingerlings	16180 no.	19845.00	43270.00	

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)
April 2013	414	716 (18)	-
May,2013	499	1578 (20)	-
June,2013	613	2402 (22)	-
July,2013	464	1087 (16)	-
August,2013	391	484 (14)	-
September,2013	592	1374 (16)	-
October, 2013	318	745 (12)	-
November,2013	571	854 (16)	-
December,2013	742	1549 (30)	-
January,2014	667	2620 (30)	-
February,2014	538	1876 (20)	-
March 2014	729	1884 (22)	-
Total	6538	17169	-

(For whole of the year)

6.5 Utilization of staff quarters

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

Occupancy details:

Months	Q I	QII	Q III	QIV	Q V	QVI
April, 2013	Full	Full	Full	Full	Full	Full
May,2013	Full	Full	Full	Full	Full	Full
June,2013	Full	Full	Full	Full	Full	Full
July,2013	Full	Full	Full	Full	Full	Full
August,2013	Full	Full	Full	Full	Full	Full
September,2013	Full	Full	Full	Full	Full	Full
October, 2013	Full	Full	Full	Full	Full	Full
November,2013	Full	Full	Full	Full	Full	Full
December,2013	Full	Full	Full	Full	Full	Full
January,2014	Full	Full	Full	Full	Full	Full
February,2014	Full	Full	Full	Full	Full	Full
March, 2014	Full	Full	Full	Full	Full	Full

7.FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
With Host Institute	-	-	-
With KVK	State Bank of India	Nimpith	11259497721

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

Item	Released by ICAR		Expenditure		Unspent balance as on 31.03.2014
	Kharif	Rabi	Kharif	Rabi	
Sunflower	-	Rabi	-	1.0 lakh	Nil

7.3 Utilization of funds under FLD on Pulses *(Rs. In Lakhs) N.A.*

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2013
	Kharif	Rabi	Kharif	Rabi	

7.4 Utilization of funds under FLD on Maize *(Rs. In Lakh) N.A.*

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2012
	Kharif	Rabi	Kharif	Rabi	
TOTAL					

7.5 Utilization of KVK funds during the year 2013 -14 (Not audited)

S. No.	Particulars	Sanctioned (in lakh)	Released (in lakh)	Expenditure (in lakh)
A. Recurring Contingencies				
1	Pay & Allowances	102.05	102.05	102.04955
2	Traveling allowances	1.50	1.50	1.49949
3	Contingencies	11.50	11.50	11.49820
A	Stationery, telephone, postage and office contingency			
B	POL, repair of vehicle , tractor and equipments	5.50	5.50	5.499
C	Training of farmers			
D	Training materials			
E	Training Extension Functioneries			
F	Training of Rural Youth	3.00	3.00	2.99953
G	Frontline Demonstration	1.5	1.5	1.49980
H	On Farm Testing	1.00	1.00	0.99978
I	Maintenance of building	0.5	0.5	0.49935
J				
TOTAL (A)		115.05	115.05	115.04724
B. Non-Recurring Contingencies				
1		0	0	0
2		0	0	0
3		0	0	0
4		0	0	0
TOTAL (B)		0	0	0
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		115.05	115.05	115.04724

7.6. 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)
2011-12	21.66063	6.50500	5.86400	22.30163
2012-13	22.30163	13.21855	12.20310	23.31708
2013-14	23.31708	20.46900	19.064	24.72208

7.6.(i) Number of SHGs formed by KVKs- 31 (ii) association of KVKs with SHGs formed by other organizations indicating the area of SHG activities - Strengthening, Skill development

7.7 Details of marketing channels created for the SHGs

7.8. Special programme on Food and Nutrition :

CELEBRATION OF NATIONAL NUTRITION WEEK
1st - 7th September 2013

September 1-7 has been observed as the National Nutrition Week in an attempt to spread awareness and make India healthy.

RAKVK observed this week with the following objectives involving the community members, ICDS workers, ASHA workers, health worker and adolescent girls .

Objectives:

- ✓ To raise awareness regarding food and nutrition.
- ✓ To sensitize the community for sharing the different Govt. services on food and nutrition security.
- ✓ To make aware the mothers for maintaining the nutritional status for themselves and their children.
- ✓ To bring the community members/peoples in the public health system for promoting maternal, new born and child health .

Theme: ***Use of locally available low cost less familiar food sources.***

Activities undertaken: The 7 days programme were scheduled with counseling of pregnant and lactating mothers, cooking demonstration, rally show and quiz contest for both mothers and also adolescent girls and Off & On campus training on demonstration of nutrient rich cooked foods from locally available foods etc.

A stall displaying model of nutrition garden with suitable crop patern for Sunderban region ,posters for promotion of proper breast feeding practices, special low cost menu from less familiar food sources etc was erected .

Rally

Quiz for mother

Awareness camp for mother

Counseling camp for mother

Counseling & quiz competition for adolescent girls

Cooking demonstration from less familiar food

Educative stall in Kishan Mela

Demonstration of food items from less familiar ingredient

Report on the Training programme on "Management of nutrition garden and application of gender friendly agricultural Implements for drudgery" for Womenfolk of Bali Island, South 24 pgs in Sundarbans Under TSP

Training programme on "**Management of nutrition garden and application of gender friendly agricultural Implements for drudgery"** reduction was organized by RAKVK, Nimpith in collaboration with ZPD, Zone –II, ICAR and CARI Port Blair, Andaman from 10th December to 14th December for 29 members of Farm Women of Bali Island of South 24-Parganas District.

The programme was inaugurated in presence of Sri S. Mondal GM, NABARD, Dr. Subhasis Battacharya, Principal Scientist, IVRI, ERS, Kolkata, Dr. N.J. Maitra, Programme Coordinator, RAKVK, Dr. Bijoy Kali Mahapatra, Principal Scientist, CIFE, Mr. B.K. Nanda CARI, Port Blair, Andaman, Mr. Sumit Chakraborty, Representative from All India Radio and representative of Chanel 10

Inaugural Session

The ice breaking session was designed by innovative approach. The name tags of participants are printed with different type of locally available six food groups. Each participant describes the picture of food in light of their taste, their use in the daily diet or cultural background and their nutritional quality as per their knowledge. It helps the facilitator to identify their knowledge about food group and also to discuss on balanced diet preparation from locally available food sources. It also helps to plan the crop pattern of the Nutrition Garden.

Icebreaking Session

Technical (training schedule) sessions were designed with lecture, group work and practical demonstration. The participants enjoyed the group work session and expressed that it would be helpful for their participatory learning and action. Technical sessions were facilitated by SMS (Home Science), SMS (Horticulture), SMS (Plant protection), Project Assistant of RAKVK and Nutritionists of Sri Ramkrishna Ashram and SMS (Agri Eng.) of CARI, Andaman.

Lecture demonstration in training programme

Group Activity

Practical Session

Farm visit

Demonstration of drudgery reducing agricultural implements

The participants also visited an adopted village, Mondalpara. The objective of the village visit was to showcase the best practices of Nutrition garden management and cooking demonstration from the produce of Nutrition Garden. It was a joyful experience to the participants.

Cooking demonstration from locally available nutrient rich foods in

Village visit for showcasing best practices

The final evaluation was also done by innovative method with the indicators fixed by the participants and represented through pictures.

After analyzing the evaluation sheet, it has been observed that 96 % of women expressed that they learned the crop pattern of Nutrition Garden and this new crop pattern would be applied in their backyard for attaining Food and Nutrition Security. 98% participants articulated that they learned the nutritional quality of different foods which are available in their locality and may be utilized through proper cooking to improve the nutritional status of family. 100% of participants communicated that more training programmes are required to enhance their knowledge as well as the quality of life.

Participatory monitoring and evaluation

Indicators for individual

Putting the remarks by the participants in the evaluation sheet

In the valedictory session the participants were supplied a booklet on "Nutrition Garden Management" and certificate. Seeds of Spinach, Coriander, Piring, Bengal gram, Cow pea, Fenugreek, Pea, Carrots, Raddish, seedling of Knol khol, Cabbage and flower seedling like Cosmos, Meri gold and Salvia, bio agent – *Ticoderma viridis*, *Pseudomonus* were distributed among them by the Programme Coordinator for demonstration of nutrition garden and flower garden in their backyard.

Valedictory session and distribution of seeds & planting materials

Group photo

\

Training of Anganwadi (115 no center.):

- Growth monitoring for health & nutritional status
- Proper plotting of WHO growth charts
- Innovative preschool educational tools
- Maintenance of register book
- Community Management of SAM & MAM children

Outcome

- Learnt about correct plotting in WHO graph (71.5%)
- Involve more community for SAM, MAM management (71%)

- Active feeding showing innovative teaching tools.(9.5 %)

Training of ASHA (13 nos.)

- Method of conducting mothers meeting with the help of IYCF caeds
- .Couseling of SAM MAM through NGO Idea Tool box
- Concept on HIV,AIDS,TB and their spread of infection & prevention

Outcome

- 1. Learnt about the wrapping process of newborn (100%)
- 2. Process of conducting mothers meeting through IYCF cards (100%)

- **Training of TBA(39)**

- 1.Maintanance of proper hygiene & santation at the time of delivery
- 2.6 steps of hand washing
- 3.New norn wrapping & child care practices

Outcome

- Safe 43 institutional & 98 home delivery by trained TBA in Joynagar II block in 3 panchayet

Tracking of SAM , MAM children by NGO ideas Tool box

Improved child rearing Practices among Mother

- ✓ Exclusive breast feeding
- ✓ preparation of supplementary food
- ✓ fequency of child feeding
- ✓ Hand washing with soap before taking meal & after using toilet
- ✓ Management of malnourished children

Community Score Card for monitoring and empowerment

Community Score Cards are qualitative monitoring tools that are used for local level monitoring and performance evaluation of services, projects and even government administrative units by the communities themselves. The CSC process is an instrument to exact social and public accountability and responsiveness from service providers. However, by including an interface meeting between service providers and the community that allows for immediate feedback, the process is also a strong instrument for empowerment.

Features of community Score card

Community Score Card
Unit - Commmunity Meant for local level Emphasis on immediate feedback and accountability, less on actual data Implementation time short (3-6 weeks) Information collected through focus group discussions

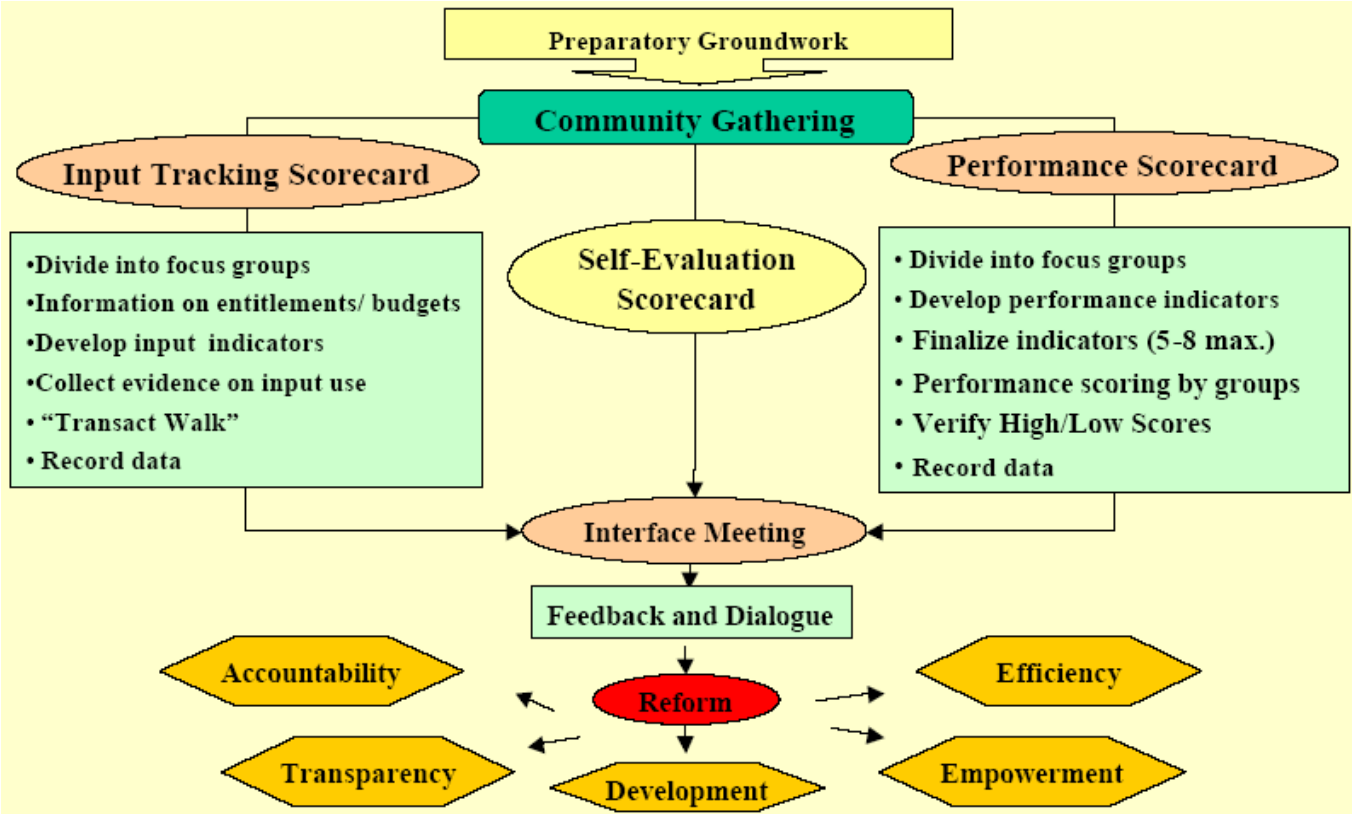
Advantage of Community Score card

- Inputs / expenditures tracking
- Community generated performance benchmarks
- Service quality monitoring over time
- Performance comparison across facilities
- Feedback mechanism between users and providers
- Community empowerment and citizen voice strengthening

CSC has six key steps:

1. **Preparatory Groundwork**
2. **Input-Tracking Scorecard**
3. **Performance Scorecard by Community**
4. **Self-Evaluation Scorecard by Service Providers**
5. **Interface Meeting**
6. **Institutionalization**

Flow chart of stages in CSC



COMMUNITY SCORE CARD
FOR ANGANWADI CENTER AT BAISHATA GP

Meeting with women group

Meeting with men group

Meeting with service provider

Interface meeting

Action plan matrix

S.No	Indicator	Action to be taken	By whom and when
1	Infrustructure facility	Procedings for parmanent AWC were in process. Require no objection letter from villagers.	Mr.Parbati,Mr.Dudhkumar, Annada Madol.Within a month
2	Quality of food	Nutritive quality of food should be improved by community participation	Supervisor will consult the matter with CDPO
3	Preschool eucation	AWW would aware the mothers about joyful learing in preschool education	AWW & beneficiery mothers.
4	Conduction of mothers meeting	Notice board should be present mentioning date & time	Mr.Arjun Dhara would aware mothers about scheduled date & time
5	Growth monitoring	Application to the CDPO for new weighing mechine	Mr.Parbati,Mr.Dudhkumar with AWW.Within 15 days
6	Communication system	All happening Should be communicated to PRI member by AWW & community people	PRI member, Aww & villagers.Within 2 months
7	Relation with CDPO	Representative from KVK would help the villagers to form liaison with concering CDPO of AWC	Manasi Chakraborty,Laskhi Ghosh.Within December
8	Meeting of 4th Saturday	PRI,Sub center staff, Health supervisor, ICDS supervisor should present in meeting	PRI member

7.9. Community Radio Station : - NA

7.10. Joint activity carried out with line departments and ATMA

Name of activity	**Season**	**With line department**	**With ATMA**	**Both**
Implementation of NWDPRA	Throughout the year	Deptt. of Agril, GOWB	-	-
Large Scale Cotton Demonstration	Rabi-Summer 2011-12	Deptt. of Agril, GOWB	-	-
IRM on Cotton	Rabi-Summer 2011-12	CICR Nagpur	-	-
AICRP on Sunflower	Kharif & Rabi - summer	DOR, Hyderabad	-	-
Nutritional Security	Throughout the year	SDB, WB	-	-
Poultry Feed Plant	Throughout the year	-	RKVY	-
Bengal Goat Conservation	Throughout the year	-	RKVY	-
Training to the headmasters of different farm schools	Throughout the year	-	ATMA, Howrah, Hoogly & Darjeeling	-
Activities coup up with Climate Resilient	Throughout the year	NICRA, New Delhi	-	-

Name of activity	Season	With line department	With ATMA	Both
Livelihood Security	Throughout the year	NAIP, New Delhi	-	-
IWMP	2011-16	Deptt. Of Agril, GOWB	-	
BGREI	2012-14	Deptt. Of Agril, GOWB	-	-
Training programme of Prani Bandhu	20113-14	Collaboration with PBGSBS	-	-
MGNREGA	2012-14	MGNREGA Cell	-	-
Conducting FOCT training programme	2013-14	Coconut Development Board, (Ministry of Agriculture, GOI), BJ-108,Sector-II,Salt Lke,Kolkata-700 091	-	-
Diploma in Agricultural Extension Service for Impute Dealers (DEASI)	2013-14	National Institute for Agricultural Extension Management (MANAGE) Hyderabad	-	-

8. Other information

8.1. Prevalent diseases in Livestock/Crops

Name of the disease	Crop/animal	Date of outbreak	Number of death/ % crop loss	Number of animals vaccinated
FMD	Cattle	No outbreak, only sporadic death	-	-
Anthrax	Cattle		-	-
Coccidiosis	Poultry		-	-
Epizootic ulcerative syndrome	Fish	No outbreak intermittant mortality during winter months	-	-

8.2. Nehru Yuva Kendra (NYK) Training - N.A.

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

8.3. PPV & FR Sensitization training Programme

Date of organizing the programme	Resource Person	No. of participants	Registration (crop wise)	
			Name of crop	No. of registration
08.01.2014	1. Dr. S.K.Roy, Principle Scientist, ZPD, Zone-II, ICAR, Kolkata. 2. Dr. N. J Maitra, PC, RAKVK, Nimpith 3. Mr. S. K. Samui, SMS (AG), RAKVK 4. Dr. C. K. Mondal, SMS (Hort.), RAKVK 5. Mr. P. K. Garain, SMS (PP), RAKVK 6. Mr. S. S. Lakshman, Jr. Breeder, AICRP on Sunflower, Nimpith	130 farmers of South 24 Parganas and North 24 Parganas	Rice	70 (Seventy) Farmer's Paddy Variety

8.4. KMAS /SMS Portal

KISAN MOBILE ADVISORY SERVICE

No. of calls	No. of farmers covered	No. of messages	Types of messages (No.)					
			Crop	Livestock	Weather	Marketing	Awareness	Other
140	7514	34	21	4	2	0	4	3

8.5. SMS PORTAL

Date of start of functioning of SMS portal 19.12.2013

No. of messages	No. of calls	No. of farmers covered	Types of messages (No.)					
			Crop	Livestock	Weather	Marketing	Awareness	Other
31	125	6175	16	1	2	0	8	4

8. 6.Programme with Seema Suraksha Bal (BSF) - NA

Title of Programme	Date	No. of participants

8.7. a. Utilization of HRD fund (Rs 0.50 Lakh provided to KVKs) - NA

Training programme/ Seminar/ Symposia/ Workshop etc attended	Duration	Name of the participants	Designation	Organizer of the training Programme	Amount spent for the purpose (Rs.)

b. HRD fund utilized for other purposes- NA

Head	Amount (Rs.)

8.8. 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

8.9. IPNI Trail (**Applicable for KVKs identified under IPNI trial)**

I Name of Crop
II No. of farmers involved
III Area (ha.)
IV Date of sowing
V Crop Season
VI Result of trial with photographs however detailed results/observation should be sent as per performance after crop harvest
VII Amount Spent

8.10. a. Achievement under TSP Project (* Through AICRP-Sunflower Programme)

* Tribal Sub-Plan programme on Sunflower

I Name of Crop: Sunflower
II No. of farmers involved: 560
III Area (ha.) : 80 ha
IV Date of sowing: 1st week of November,2013 – Last week of December, 2013
V Crop Season: Rabi/Spring
VI Result of trial with photographs however detailed results/observation should be sent as per performance after crop harvest:
VII Amount Spent: Rs 14,80,390.00

Achievement under TSP Project (Tribal Sub-Plan Project on Sunflower)

Name of the village adopted under TSP	Block	Population of the village			ST Population of the village			Percentage of ST population to total population
		M	F	T	M	F	T	
Chackdobakunre	Block: Sonamukhi, Dt: Bankura	49	42	91	49	42	91	100%
Ganrerdanga,		23	20	43	23	20	43	100%
Nonardanga,		18	17	35	18	17	35	100%
Sukasole,		26	22	48	26	22	48	100%
Sidhantadanga,		23	24	47	23	24	47	100%
Komorganj,		21	19	40	21	19	40	100%
Narayansundari,		28	23	51	28	23	51	100%
Bhula & Pathra		31	22	53	31	22	53	100%
Nakrakonda,		27	21	48	27	21	48	100%
Matikata,		17	14	31	17	14	31	100%
Narasinghapur,	Block: Chatna, Dist: Bankura	21	17	38	21	17	38	100%
Banrshi,		31	25	56	31	25	56	100%
Gursukra,		39	32	71	39	32	71	100%
Shibsol,		17	14	31	17	14	31	100%
Malbedeya,		31	27	58	31	27	58	100%
Dundapahari,		17	15	32	17	15	32	100%
Brindyabanpur		15	13	28	15	13	28	100%
Barikoncha,		21	17	38	21	17	38	100%
Bamundiha	Block:Gangajalghanti Dist: Bankura	41	36	77	41	36	77	100%
Jharagarea	Block : Jhargram Dist: West Medinipur	23	22	45	23	22	45	100%
Tukuria		17	16	33	17	16	33	100%

Details of Activities under TSP Project on Sunflower under AICRP

Activities	Area /No.	No. of participants			Approx. expenditure (Rs.)
		M	F	T	
No. of on-farm trials	-	-	-	-	-
Frontline demonstrations	80 ha	153	47	200	9,83,910.00
Farmers trained		289	117	406	56,278.00
No of extension activities –Field day	7	206	83	289	14,672.00
Input made available	-`	-	-	-	-
Seed (q)	6				1,80,500.00
Planting material (No)	-	-	-	-	-
Livestock strains and finger lings	-	-	-	-	-
No of poultry, duck, pig, goat provided	-	-	-	-	-
No of farm implements provided					
a. Spade	332				42,960.00
b. Irrigation Delivery pipe	112				197,120.00
c. Sprayer	108				105,840.00
d. Diesel Pump set	4				42,000.00
e. Sunflower thresher	118				108,560.00
Others, if any, please specify					
Fertilizers and Bio inoculants:					3,21,780.00
Varmicompost					2,00,480.00
Pesticides:					96,280.00
Boron					14,940.00
Exposure visit	6 Nos.				98,980.00
Exhibition	-	-	-	-	-
Kisan Mela	-	-	-	-	-

Details of Activities under TSP Project uder CARI, Andaman

Activities	Area/No.	No. of participants			Approx. expenditure (Rs.)
		M	F	T	
No. of on-farm trials					
Frontline demonstrations	60	3	66	69	0.01 lakh
Farmers trained	175	53	191	244	20.0 lakh
No of extension activities					
Input made available	Chicks, goats, feed, cryo can and accessories	125	20	145	20.0 lakh
Seed (q)	-	-	-	-	-
Planting material (No)	-	-	-	-	-
Livestock strains and finger lings	-	-	-	-	-
No of poultry, duck, pig, goat provided	Poultry-6000, Goat-150				12.0 lakh
No of farm implements provided					
Others, if any, please specify	Animal Health Camp-3				1.8 lakh
Exposure visit		-	-	-	-
Exhibition	1				
Kisan Mela	-	-	-	-	-

8.11 PROGRESS REPORT OF NICRA KVK (Technology Demonstration component) 2013-14
(**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
Raising of Land Embankment	24	24	7.26	24	

Crop Management

Name of intervention undertaken	Area (ha)	No of farmers covered / benefitted	Remarks
Flood tolerant varieties	1.06	12	
Salt tolerant varieties	4.8	36	

Livestock and fisheries

Name of intervention undertaken	Number of animal covered	Number of units	Area (ha)	No of farmers covered / benefitted	Remarks
Fodder production	-	48	0.53	48	Converge with landshaping and land embankment beneficiaries

Institutional interventions

Name of intervention undertaken	No of units	Area (ha)	No of farmers covered / benefitted	Remarks
Seed bank	1	-	27	

Capacity building

Thematic area	No. of Courses	No. of beneficiaries		
		Males	Females	Total
Integrated farming for the NICRA farmers of East Singbhum district of Jharkhand	1	16	-	16
Natural resource management	4	81	18	99
Crop management	6	89	46	135
Pest and Disease management	7	122	35	157
Livestock management	4	70	32	102
Fishery	5	123	43	166
Nursery raising	3	56	14	70

Extension activities

Thematic area	No. of activities	No. of beneficiaries		
		Males	Females	Total
Awareness	6	133	54	187
Field Day	21	262	79	341
Group discussion	9	94	30	124
Diagnostic .visit	7	37	22	59
Field Visit	23	51	28	79

Detailed report should be provided in the circulated Performa

8.12. National Initiative on Fodder Technology Demonstration (NIFTD)
(**Applicable for KVKs identified under NIFTD)**

Name of the fodder crop	Date of sowing	Area (ha)	No. of farmers involved	Demonstration Yield (q/ha)			Check Yield			% increase
				H	L	A	H	L	A	
Horti-pasture-Oat-mango	January 2014	0.2	Instructional farm							
Horti-pasture-Ricebean-citrus	January 2014	0.2	Instructional farm							
Berseem	January 2014	1950 sq m	Instructional farm							
Hybrid Napier	December 2014	700 sq m	Instructional farm							

Economic of Demonstration

Name of the fodder crop	Demonstration Cost/Rs/ha			Check Cost (Rs/ha)		
	Gross cost	Gross return	BC ratio	Gross cost	Gross return	BC ratio
The BC ratio and other cost will be calculated after complete harvesting						

8.13. Awards/Recognition received by the KVK

Sl. No.	Name of the Award	Year	Conferring Authority	Amount	Purpose
1	Best Krishi Vigyan Kendra Award (National),ICAR	2013	Indian Council of Agricultural Research	12,00,000.00	Outstanding contribution in Extension Education
2	**"**Krishi Vigyan Kendra Samman" in the Mahindra Samriddhi India Agri Award	2014	Mahindra & Mahindra Ltd.	2,11,000.00	This is in recognition to a "Krishi Vigyan Kendra for its purposeful and noteworthy contribution to the field of Agriculture, having a positive impact on the farming communities, thus enabling them to RISE.

Award received by Farmers from the KVK district

Sl. No.	Name of the Award	Name of the Farmer	Year	Conferring Authority	Amount	Purpose
1	Best fish farmer of Joynagar –II Block	Netai Mondal	2014	BDO, Joynagar – II block, Govt. of West Bengal	-	Adoption of improved methods in fresh water fish culture
2	Krishi Ratna	Ratan Chhatui*	2014	Govt. of West Bengal	Rs.25000.00	Development of integrated fish farming in the area
3	Prosperous Farmer-2014	Prasun Halder	2014	ATC, RKMission Ashrama, Narendrapur	-	Development of ornamental fish farming in the locality

ANNEXURE - I

TITLE OF PROJECT : Promotion of Nutrition and Medicinal Garden aiming towards Health Security of backward Women folk of Sundarbans with an emphasis on economic empowerment

TARGET AREA : Battala village under Joynagar II Block

Mondol Para village under Mathurapur II Block

Kamarhat village under Kakdwip Block

Activity : The project activities was implemented according to the action plan.

Sl. No.	Activity Schedule	No
A	Demonstration on Nutrition garden	66
B	Demonstration on mushroom	42
C	Demonstration on nutrient rich diet	6
D	Awareness camp in village	3
E	Motivation Camp for SHGs	6
F	Skill training on income generation activity	3
G	Evaluation & monitoring	1
H	Scientist visit to Farmers' field	9
I	Field Day	3

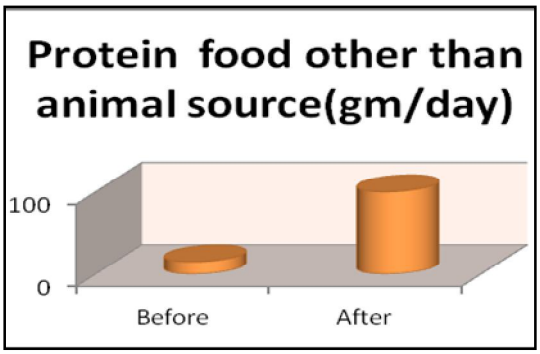
Outcome

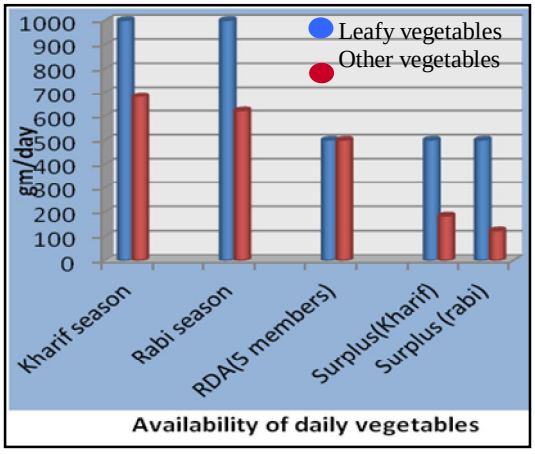
Constant monitoring is being done by the project team to track the project activities in positive direction. Mid-term evaluation was conducted through participatory approach to assess the progress of the project by the beneficiary themselves in presence of the KVK experts. The evaluation report reveals the following outcomes .

Mid term Evaluation

- ❖ **Changing food Habit**
- ✓ **Increased intake of protein (From Mushroom):**

Mushroom is a rich source of protein. Increase in mushroom demonstration as well as production of a good volume of mushroom by the beneficiaries themselves has increased the intake of mushroom in their daily diet. It in turn increased protein intake from 15g/head/day to 96g/head/day.

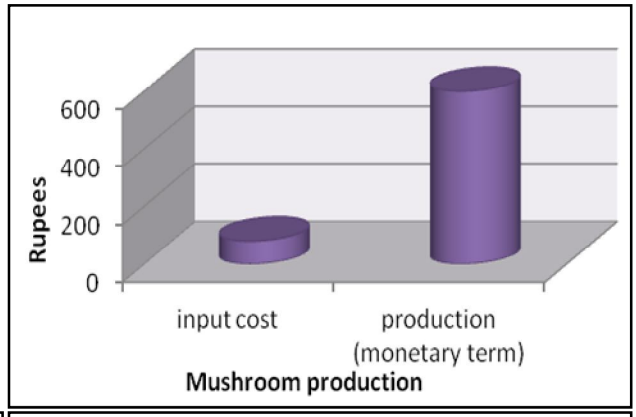


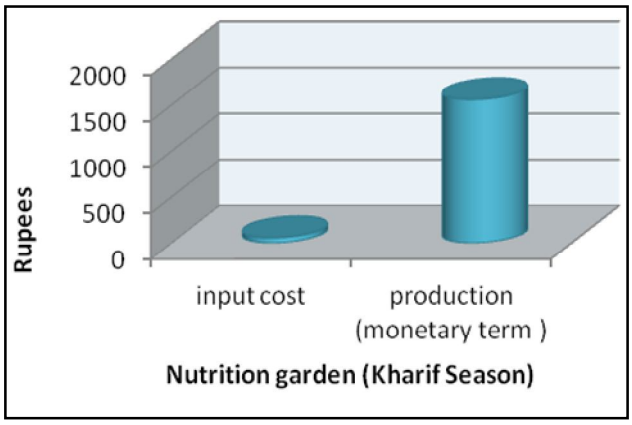


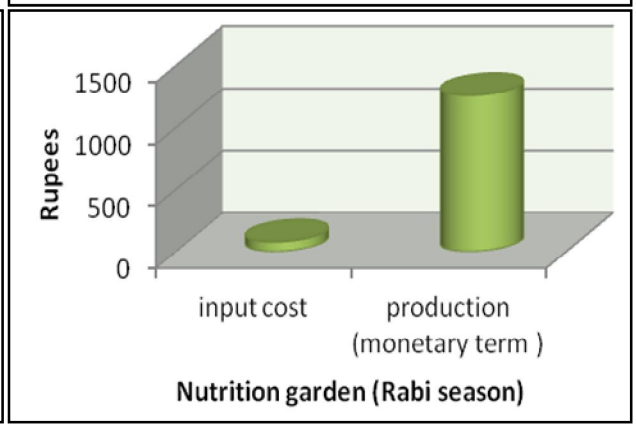
- ✓ **Increased intake of Leafy vegetables:** It is clear from the mid-term evaluation that availability of leafy vegetables, which are rich source of minerals and vitamins, as well as other vegetables have increased than the Recommended Dietary Allowance (as per ICMR). Their daily intake of vegetables has also increased.

❖ **Increased income through nutrition garden and Mushroom cultivation**

After household consumption of their produce, they used to sale the surplus vegetables and mushroom to their neighbours as well as in the local market. This created an income generating avenue for these poor women and becoming an economic partner of her family.

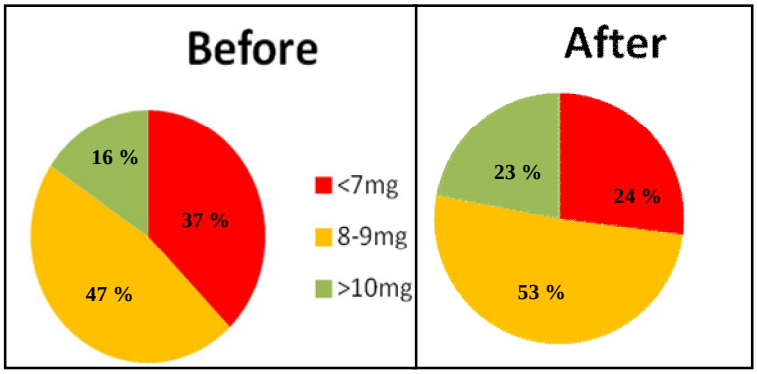






❖ **Improved Health Status**

After increased intake of iron rich leafy vegetables along with protein from mushroom and other vegetables, the haemoglobin status of target population have increased to satisfactory level.



Hemoglobin content among women

ANNEXURE - II

All India Coordinated Research Project on Sunflower, RAKVK, NIMPITH

List of major research programmes undertaken by the center:

PLANT BREEDING

- **Management of Genetic Resources**

  i) A total of 14 CMS and 12 Restorer lines and 85 germplasm lines are maintained. Among the inbred lines the best seed yielder are GMU - 376, 389, 386, 419,445, 454, 462, 486, 535,579, ,569,and 1019, AKSFI-197.

- **Heterosis Breeding and Its exploitation**

  - **Best entries/hybrids for Seed yield** are 207A X AK-345(2606 kg/ha),249AXRHA-6D-1(2425 kg/ha),607A X AK-345(2417 kg/ha) are the highest seed yielder hybrid in this trial in comparison to the check hybrids KBSH-44 and DRSH-1 which recorded seed yield of 2289 kg/ha and 2142 kg/ha respectively .

  - **Best entries/hybrids for Oil content (%)** : 16A XR-83(2042,42.5%), DSF-2A X AK-345(1933 kg/ha,41.7%), 16A X R-5294 (1958 kg/ha,41.2%),PET-2-7-A X R-273 (2175 kg/ha, 42.6%) observed the good performing hybrids at **Nimpith** region in respect to seed yield and oil content in comparison to KBSH-44(2289 kg/ha, 32.3%)and DRSH-1(2142 kg/ha, 41.5%) respectively.

  - During *rabi-summer* 2012-13 about 30 new single experimental hybrids were being developed utilizing 10 CMS lines and 17 Restorer lines for further testing during next year 2013-14.Similarly the promising hybrids advanced from single cross hybrid trial to station hybrid trial were also multiplied and evaluated for different yield attributing traits for the year(2013-14) in *rabi-summer* season at Nimpith.

- **Coordinated Varietal Hybrid Trial *:*** *(Rabi- Summer)*: Initial/ Advanced Hybrid Trial (IAHT): Best Entry : Entry No.IHT-195 (2305 kg/ha) , IHT-196 (2132 kg/ha), IHT-208 (2205 kg/ha),IHT-209(1989 kg/ha), IHT-210 (2257Kg/ha).

- **Advanced Hybrid Trial of Sunflower Pre-released and Pipelines Hybrids collected from different AICRP centers :**

  - Best Promising are (According to farmer's choice): LSFH--171 (Good head, Drooping head), KBSH-68 & KBSH-69 (semi dwarf & medium duration).

  - KBSH-69 (Dwarf & Early but good head and good seed yielder).

  - SMLHT-03 & 04(Dwarf, Medium duration, good Head)

- **Multi-location Trial of Promising Sunflower Hybrids**

  i) A total of 32 hybrids including the three check hybrids, KBSH-44 and DRSH-1, KBSH-1 were evaluated in two locations Viz. **Nimpith and Radhakantapur**. The

best hybrids are RSFH-1887(2261kg/ha), KBSH-68(2253 kg/ha),RSFH-10-600(2228 kg/ha) and LSFH-171(2128kg/ha). The hybrids developed from Nimpith Centre, CMS-607 A X R-83, CMS-607 A X R 273 , CMS-207A XR-83 significantly out yielded the best check KBSH-44(708 kg oil /ha) in respect to **oil yield** (kg/ha)by recording oil yield of 874 kg/ha, and 828 kg/ha and 790 kg/ha respectively. The hybrids **SMLHT-KH-12-03, SMLHT-KH-12-04,LSFH-171**, **RSFH-1887, CMS-207A X R-83, CMS-607A X R-83, CMS-607A X R-83** were the voted hybrids by the farmers of the neighbouring villages of Nimpith region. These sunflower hybrids were at par with the best check hybrid i.e. KBSH-44 in respect to seed yield but the hybrids were semi-tall in nature and matured 7-10 days earlier than the KBSH-44 or DRSH-1 and oil yield (Kg/ha) also significantly higher than the best check hybrids.

ii) **Preliminary evaluation of new single cross hybrids:** The sunflower hybrids were collected from AICRP on sunflower, UAS, GKVK, Bangalore for evaluating their performance in West Bengal climatic Situation for the *rabi-summer* season. A total of 115 hybrids along with the two check hybrids, KBSH-44 and DRSH-1 were evaluated. The field observation reveals that the hybrid **PSCHT-26** was the highest seed yielder hybrid in this trial which recorded the **seed yield of 2533 kg/ha** which was **22.5% higher** than best check hybrid **KBSH-44** and **33.6%** higher than second check hybrid **DRSH-1.** The hybrids Viz. **SAHT-27(2461kg/ha),PSCHT-42(2389kg/ha),SAHT-18(2367kg/ha),SAHT-21(2333kg/ha),PSCHT-36 (2333 kg/ha) and PSCHT - 68 (2300kg/ha)** also significantly out yielded the best check **hybrid KBSH-44(2067 kg/ha)** with respect to seed yield.

- **Major crop production technology developed and recommended :**

- Seed treatment with Bio-inoculants like *Trichoderma viride (10g/kg of seed)* + *Pseudomonas fluorescens(10g/kg of seed) for controlling seed borne disease of sunflower.*

- Seed treatment with Bio-inoculants/Bio-fartilizer like (*Azatobactor* & PSB) (10g/kg of seed)

- 0.2% Boron spray at the ray floret stage for increasing seed yield.

- Proper thinning (single plant/hill) before 1st irrigation (21-25 DAS).

- Emphasis on application of organic manures / vermicompost for enhancement of soil fertility and seed yield of sunflower.

- Use of bio-fungicides like *Trichoderma viride* (10 g/L) & *Pseudomonas flurescens* (10g/L) for spraying at crown region before 1st & 2nd irrigation for the control of Sunflower wilt .

- Use of IPM based pesticides for management of the Sunflower boll warm.

Other extension activities for popularizing the Technology Developed

TRIBAL SUBPLAN PROGRAMME ON SUNFLOWER

On the whole 14 villages covering two blocks (Sonamukhi and Chatna)of Bankura district were brought under sunflower cultivation in *rabi* season *in 2012-13* in 100 acres of land in the tribal belts. In the year 2013-14, 200 acre of land covering three blocks (Sonamukhi and Chatna and Gangajalghanti) of Bankura district , Raghunathpur –II block of Purulia District and jhargram block of West Medinipur district were brought under sunflower cultivation in *rabi* season.

- On the Farm innovator's Day on 28th February, 2014, The Directorate of Oilseed Research, Hyderabad presented awards to two tribal farmers for their Innovative ideas in cultivation sunflower and sunflower oil preservation.
- Existing practice: Mustard (seed yield 420kg/acre, Net Return – Rs.2393.00 / acre B:C ratio - 1.19) comparison to the cultivation of sunflower with hybrid DRSH-1, the seed yield was recorded 900kg/acre, net return Rs.12330.00 /acre and B: C ratio 1.75.

ANNEXURE - III

National Agricultural Innovation Project (NAIP)

The project titled "Strategies for sustainable management of degraded coastal land and water for enhancing livelihood security of farming communities" under NAIP, Component-3, funded by GEF is implemented in 3 blocks of Sundarban by Ramkrishna ashram Krishi Vigyan Kendra, Nimpith, a consortia partner of CSSRI,RRS, Canning Town, West Bengal with the specific objectives i) Sustainable enhancement of the productivity of degraded land and water resources of the coastal region through integrated approaches ii) Enhancement of livelihood security and employment generation for the poor farming communities of the coastal region and iii) Empowerment through capacity building and skill development of stakeholders. To address the objectives of the project, technical interventions like Land shaping (farm pond, ridge & furrow, multi-tier cropping), desiltation of farm pond/re-excavation of pond, paddy-cum- fish including *Ail* cultivation, diversification of crops including horticultural crops with the improved varieties, crop nutrient management and promotion of composting including vermi-composting were given more thrust to overcome the critical gaps of the farming communities.

From the project, **141.24 ha of mono-cropped** land has been converted to double even triple crops by raising land with creation of rain water harvesting structure including nutrient management practices and varietal replacement of crops. **111.98 ha rice fallow** has been covered by introducing new crops like cotton, sunflower and moong. Besides the NRM activities, livestock health management including development of **parasitological map**, raising of plant and vegetable nursery, rearing of ornamental fish and bird, vermi-composting, mushroom cultivation and small scale poultry layer bird and goat rearing were also given emphasis to uplift the socio economic conditions of the villagers. For knowledge up-gradation, number of hand holding On and Off campus trainings ware organized. Within a span of four and half years i.e. Sept, 2009 to March, 2014, 2509 numbers (43.50%) farm families out of 5767 have been covered under this project. Out of 3097 ha of total cultivable land, 8.17% has been converted to second or triple cropped by harvesting **4960.80 acre inch** rain water. Besides, additional **864.37acre inch** rain water is harvested from the two numbers of re-excavated sweet water canals (Sakir khal at kultali block and Natun jhil at patharpratima block) and expected 500 families will be benefited by using this water for second crop cultivation. Regarding the restoration /reclamation of degraded land, in the intervention area in 141.24 ha area soil salinity has been reduced from 3-5 mmos/dS to 0.35 -

1.17 mmos/dS, organic carbon content increases 0.02 to 0.04% and soil nitrogen status increased **(6-28 kg/ha)** by applying vermicompost and cultivation of green manure. It also helped to reduce the use of organic fertilizer up to 10-12% in the project area. Through Land Shaping, Desiltation and Paddy cum fish culture, over a period of four years, gross revenue has been generated approx **516.00 lakh** against the capital invest of RS. 390.00 lakh from the project resulting to enhance the family income from **Rs.20000.00 – 44500.00** against the base line Rs. 12701.00.

304358 man days has been created inside the villages through earth work and about **108000 man** days/year is being generated through different crop cultivation resulting to reduction of seasonal migration and **1722112 Kcal** non productive energy per day (992 heads) has been converted to productive one which is otherwise lost through travelling for migration to city area. In the project area incremental employment generated (person days/year/household) 474 against the baseline data of 135. Innovations like parasitological mapping and ornamental fish catching device have been identified in the project area. Through PPV&FR Authority, New Delhi, 68 numbers of farmers have been nominated individually or in group against their traditional variety/land races of paddy. **Rs. 74.36882 lakh** have generated as sustainable fund for post project sustainability.

The technology like Land Shaping & rain water harvesting, Paddy cum fish culture including *'Ail'* cultivation, Re-excavation of farm pond/Desiltation and Vermi-composting etc. have been up scaled through different Govt. sponsored scheme like ATMA, BGREI, Mahatma Gandhi NREGA, NHM and IWMP etc. for better extrapolation throughout the district and neighboring district having same type of agro-ecological situation. Marketing channel in PPP mode had also been developed for better marketing of the farmers produce with reasonable price. Observing the good effects of the technologies, at present, the farmers who can bear the initial cost are implementing the technology by their own even outside the project area.

ANNEXURE - IV

Integrated Watershed Management Programme (IWMP)

Objectives of IWMP

- Conservation, development and sustainable management of natural resources
- Enhancement of agricultural productivity and production in sustainable manner
- High water use efficiency
- Livestock, Pisciculture, other household production/ development
- Development/ conservation of waste land
- Reduction in regional disparity between irrigated and rainfed areas
- Creation of sustained employment opportunities for the rural community including the landless

Scenario of Sankijahan IWMP-6 & Binodpur Maa Sarada IWMP-7/2011-12

Name of Watershed	No. of mouzas	Name of Mouza	Gram Panchayat	Name of Block	Geographical area (ha)	Effective project area (ha)
Sankijahan IWMP	5	Kaikhali, Gopalganj, Dakshin Garankati, Madhududanpur & Sankijahan	Gopalganj	Kultali	3695	3280
	4	Katamari, Madhabpur, Dakshin Durgapur, Deulbari	Deulbari Debipur	-Do-	2545	2120
Total	**9**		**-**	**-**	**6240**	**5400**
Binodpur Maa Sarada IWMP	4	Purba Gurguria, Madhya Gurguria, Debipur Gurguria & Bhubenaswari	Gurguria Bhubenaswari	-Do-	3485	2463
	5	Maipith, Binodpur, Baikuntapur, Kishorimohanpur & Bhubeneswari Char	Maipit Baikuntapur	-Do-	3007	2037
Total	**9**		**-**	**-**	**6492**	**4500**

a) **Entry point activity:**

i) Culverts: 18 Nos. (17 Nos. in 8 villages of IWMP-6 and one in IWMP-7)

ii) Solar street light: 28 Nos. (in 3 villages namely, Debipur Gurguria, Madhya Gurguria & Debipur Gurguria under IWMP-7)

iii) Guard Wall: 1 (at Purba Gurguria F.P. school of IWMP-7)

iv) School benches: 150 sets (52 sets in12 schools of 6 villages under IWMP-6 and 98 sets in 10 schools of 5 villages under IWMP-7)

a) Detail Project Report (DPR):

DPR of IWMP-6 & IWMP-7 will be completed by the end of April, 2014.

b) Formation of SHGs & UGs under Sankijahan IWMP-6/2011-12

Sl. No.	Name of Mouza	No. of User Group	No. of beneficiary		No. of Self help group	No. of beneficiary		No. of Female group
			Male	Female		Male	Female	
1	Kaikhali	5	63	11	6	49	22	1
2	Gopalganj	6	82	7	9	118	5	-
3	Dakshin Garankati	5	71	20	8	32	85	6
4	Madhududanpur	3	44	-	6	42	34	2
5	Sankijahan	4	46	7	8	67	61	2
6	Katamari	4	48	4	7	29	81	5
7	Madhabpur	4	32	7	1	10	2	-
8	Dakshin Durgapur	2	31	-	7	67	38	-
9	Deulbari	2	25	5	7	110	9	-
Total		**35**	**442**	**61**	**59**	**524**	**337**	**16**

Formation of SHGs & UGs under Binodpur Maa Sarada IWMP-7/2011-12

Sl. No.	Name of Mouza	No. of User Group	No. of beneficiary		No. of Self help group	No. of beneficiary		No. of Female group
			Male	Female		Male	Female	
1	Purba Gurguria	4	48	9	6	37	42	2
2	Madhya Gurguria	4	48	8	5	20	48	3
3	Debipur Gurguria	4	45	11	6	41	40	2
4	Bhubenaswari	4	52	5	5	36	37	2
5	Maipith	5	54	13	6	53	26	1
6	Binodpur	4	47	6	5	22	45	3
7	Baikuntapur	4	47	8	5	22	45	3
8	Kishorimohanpur	4	38	15	6	31	47	3
9	Bhubeneswari Char	1	14	-	2	14	12	1
Total		**34**	**393**	**75**	**46**	**276**	**342**	**20**

c) Formation of Watershed Association:

- 4 Nos. of micro watershed have been formed under IWMP-6 namely, Nabipukur Micro Watershed, Piyali Micro Watershed, Thakurani Micro Watershed & Matla Micro Watershed
- 4 Nos. of micro watershed have also been formed under IWMP-7 namely, Sundarban Micro Watershed, Oriyan Nala Micro Watershed, Makri Micro Watershed & Dipanchal Micro Watershed

d) Institution and Capacity Building:

IWMP-6	Activities	No. of Programme	IWMP-7	Activities	No. of Programme
	Awareness meeting	9		Awareness meeting	7
	SHG & UG (group formation meeting & Training)	5		SHG & UG (group formation meeting & Training)	4
	WDT Level	2		WDT Level	2
	Watershed Committee level (meeting)	8		Watershed Committee level (meeting)	7

ANNEXURE – V

Project on Insecticide Resistance Management (IRM), under MM II of TMC, ICAR

Target Area: **600 farmers of 11 villages covering 200 acre of land under cotton cultivation**

To combat the increasing insecticide resistance problems in Cotton, Ramkrishna Ashram KVK, with financial support from CICR-Nagpur, started the Insecticide Resistance Management (IRM) project, in the year 2004-05. The year 2013-14 was the 10th consecutive year of the project.

Project activities:

(a) **Laboratory study on insecticide resistance:** The most important activity is monitoring of the level of resistance of cotton pests, mainly of American bollworm (*Helicoverpa armigera)* to different groups of insecticides. The insect showed maximum level of resistance (upto 32%) against the organo-phosphorus and synthetic pyrethroids group, among the seven groups of insecticides studied. New generation insecticides (Novaluron, Emamectin benzoate and Flubendiamide) were found most effective against American bollworm.

(b) **Development of IRM strategies:** Based on the pest incidence pattern and insecticide resistance study, an integrated pest management schedule is developed with the use of environmentally benign insecticides, botanical pesticides and biocontrol agents for the following crop stages:

Window 1: Early sucking pests incidence up to 60 DAS and incidence of *Earias* and *Spodoptera* at 60 – 75 DAS

Window 2: Incidence of American bollworm (*Helicoverpa armigera*) at 75 – 90 DAS

Window 3: Incidence of Jassid at 90 – 120 DAS

(c) **Dissemination of IRM strategies:** Through various extensional activities like group meeting, training, field visits, field days, TV shows, etc., the IRM strategies were disseminated among the farmers.

Consequence IRM strategies on pest incidence:

(a) Year wise insect pest incidence on cotton

It was observed that there were fewer incidences of sucking pests and boll worms and a marked increase in the activities of natural enemies in the IRM fields in comparison to other fields. The prevalence of sucking pests like aphids, jassids and thrips were less in IRM villages in comparison to that in non- IRM villages. Similarly, more or less the same decreasing trend in incidence pattern of bollworm complex like *Helicoverpa armigera, Earias sp.* and *Spodoptera litura* were observed due to effective dissemination of IRM strategies.

(b) Year wise spray status in IRM and non IRM villages

The farmers of IRM villages applied fewer numbers of sprays than those in non IRM villages. It was reduced from 2.60 during 2007 to 1.70 during 2013 in IRM villages whereas in non IRM villages it varied from 3.91 during 2007 to 3.25 during 2013. This accounts for a sizeable profit per unit area in the IRM villages than in non IRM ones.

(c) Productivity and net return of cotton:

As an impact of dissemination and implementation of IRM strategies, those farmers are now fetching a better yield as well as net return compared to the farmers of non-IRM villages.

The average yield was 9.6 q/ha in IRM villages compared to 7.78 q/ha in non-IRM villages. With regards to total expenditure and net return/ha, IRM farmers spent less and earned more net profit than non-IRM farmers. The cost of cultivation is increasing over the last two years due to the increased cost of labour, fertilizers and pesticides. But due to application of judicious amount and less number of sprays in the IRM villages, the farmers always obtained a better net profit over the non-IRM farmers.