

ANNUAL REPORT

October, 2009 to March, 2010

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	
Krishi Vigyan Kendra, Bongaigaon, P.O. : Kajalgaon, Dist.: Chirang, PIN-783 385	03664 – 243775	03664 – 243775	kvkbngn@gmail.com

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

Address	Telephone		E-mail
	Office	FAX	
Assam Agricultural University, Jorhat-785 013, Assam	0376 – 2340001	0376 – 2340001	–

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

Name	Telephone/Contact		
	Residence	Mobile	E-mail
Dr. S. K. Paul Krishi Vigyan Kendra, Bongaigaon, P.O. : Kajalgaon, Dist.: Chirang, PIN-783 385	–	9435120552	kvkbngn@gmail.com

1.4. Year of sanction : 2004

1.5. Staff Position (as on 31st August 2010)

Sl. No.	Sanctioned post	Name of the Incumbent	Designation	Discipline	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Permanent/ Temporary	Category (SC/ST/OBC/ Others)
1	Programme Coordinator	Dr. S. K. Paul	Programme Co-ordinator	Plant Breeding	37,000-67,000	61,910	23.09.04	Permanent	OBC
2	Subject Matter Specialist	Dr. C. K. Sarma	Subject Matter Specialist	Agronomy	15,600-39,100	35,270	29.12.05	Permanent	G
3	Subject Matter Specialist	Dr. G. Moral	Subject Matter Specialist	Soil Science	15,600-39,100	35,270	25.11.08	Permanent	G
4	Subject Matter Specialist	Mr. S. Kalita	Subject Matter Specialist	Entomology	15,600-39,100	22,920	04.01.10	On probation	SC
5	Subject Matter Specialist	Mr. A. Borah	Subject Matter Specialist	Horticulture	15,600-39,100	22,920	27.11.09	On probation	G
6	Subject Matter Specialist	Dr. P. Devi	Subject Matter Specialist	Animal science	15,600-39,100	22,920	15.11.08	On probation	G
7	Subject Matter Specialist	Dr. H. K. Baruahh	Subject Matter Specialist	Agril. Economics	15,600-39,100	21,600 (fixed)	07.11.08	On probation	G
8	Programme Assistant	–	–	–	–	–	–	–	–
9	Computer Programmer	Ms C. Nath	Programme Assistant	Computer Application	8000-35,000	15,350	12.11.08	On probation	OBC
10	Farm Manager	Ms. R. Brahma	Farm Manager	Agronomy	8000-35,000	15,350	12.01.09	On probation	ST
11	Accountant/superintendent	Mr. D. D. Mahanta	Accountant	–	8000-35,000	23,180	14.08.06	Permanent	G
12	Stenographer	Mr. M. Ghosh	Typist	–	5,200-20,200	10,300	22.02.06	Permanent	G
13	Driver	Mr. L. Brahma	–	–	–	5,000 (fixed)	–	–	ST
14	Driver	Mr. S. Boro	–	–	–	5,000 (fixed)	–	–	ST
15	Supporting staff	Mr. P. Ch. Roy	Supporting Staff	–	5,200-20,200	10,730	21.02.06	Permanent	MOBC

16	Supporting staff	Mr. L. Murmu	Supporting Staff	–	4560-15,000	7,430	20.02.06	Permanent	G
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1.6. Total land with KVK (in ha) : 12.0 ha

Sl. No.	Item	Area (ha)
1	Under Buildings	Under construction
2	Under Demonstration Units	NA
3	Under Crops	2.0
4	Orchard/Agro-forestry	2.0
5	Others	NA

1.7. Infrastructural Development:

A) Buildings

Sl. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m.)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m.)	Status of construction
1	Administrative Building	ICAR	NA	NA	NA	05.06.2008	400	More than 50 % is completed
2	Farmers Hostel	NA	NA	NA	NA	Not yet started	200	NA
3	Staff Quarters (6)	NA	NA	NA	NA	Not yet started	100	NA
4	Demonstration Units (2)	ICAR	NA	NA	NA	Not yet started	–	NA
5	Fencing	ICAR	NA	NA	NA	Not yet started	–	NA
6	Rain Water harvesting system	–	–	–	–	–	–	–
7	Threshing floor	–	–	–	–	–	–	–
8	Farm godown	–	–	–	–	–	–	–

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep	2005-06	4.90	40555 KM	Good

Tractor	2006-07	3.66	343 Hours	Good
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C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Copier Machine	2006-07	0.54	Good
Digital Camera	2007-08	0.20	Good
Fax Machine	2007-08	0.09	Good
Voltage stabilizer	2007-08	0.04	Good
Copier Machine	2009-10	1.20	Good
Computer-2nos	2009-10	0.63	Good
Computer UPS	2009-10	0.12	Good
LCD projector	2009-10	0.98	Good
Laser printer	2009-10	0.06	Good
Fax Machine	2009-10	0.15	Good
Ticker board	2009-10	-	Good
Scanner	2009-10	0.07	Good

1.8. A). Details SAC meeting* conducted in the year: NA (To be conducted in the month of October10)

Sl. No.	Date	Name and Designation of Participants	Salient Recommendations	Action taken
1				

* Attach a copy of SAC proceedings along with list of participants

2. DETAILS OF DISTRICT (2008-09)

2.1 Major farming systems/enterprises (based on the analysis made by the KVK)

S. No.	Farming system/enterprise
1.	Agriculture (crops) – Horticulture (Fruits & vegetables)
2.	Agriculture (crops) – Animal Husbandry (Dairy, Poultry, Piggery, Goatery, Duckery etc.)
3.	Agriculture – Animal Husbandry - Horticulture
4.	Agriculture – Horticulture - Fisheries
5.	Agriculture – Fisheries

(Source: SREP, Bongaigaon)

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

Description of Agro-climatic Zone (based on soil and topography)

Sl. No	Agro-climatic Zone	Characteristics
1	Lower Brahmaputra Valley Zone	The soil of the zone is mostly acidic in nature and soil P ^H gradually increases towards the river Brahmaputra. The soil is medium to high in organic carbon and available N, low in available P ₂ O ₅ and medium in K ₂ O status. Four orders of soils are found in the zone (i) Entisol, (ii) Inceptisol, (iii) Alfisol and (iv) Ultisol.

(Source: SREP, Bongaigaon)

Description of major agro ecological situations (based on soil and topography)

Sl. No.	Agro ecological situation	Characteristics
1	Foot hill old mountain valley alluvial plain	The northern part of the district comprising this situation contains old mountain valley alluvial soils (Alfisol & Ultisol). It is build up of alluvial materials washed down from the hill slops. The surface soil is light yellow to pale brown, compact, sticky and plastic. Generally, medium to heavy in soil texture. The elevation is higher towards foot hills which gradually slop towards south.
2	Flood prone recent riverine alluvial plain	Recent riverine alluvial (Entisol), sandy to sandy loam in soil texture. This situation is represented by an almost flat topography which often experiences flood hazard. Apart from some natural depressions, some riverine islands are also in existence.
3	Flood free riverine alluvial middle plain	Old riverine alluvial type (Inceptisol). The texture of the surface soils ranges from sandy loam to loam, silty clay loam, silty clay and clay. The topography is almost plain.
4	Char land	New alluvial plains, neutral in reaction, sandy-silty-clayee, sandy-silty and sandy in soil texture (Entisol). Chronically flood affected areas except the stable chars.
5	Hill and Hillock	Old alluvial type (Alfisol), sandy to sandy loam in texture and acidic in nature. The topography is undulating.
6	Beels	Entisols, usually peaty in nature and texturally these are silty and clay. Low lying waste land areas

(Source: SREP, Bongaigaon)

2.3 Soil type/s :

Sl. No.	Soil type	Characteristics	Area in ha
1	Light gray	Sandy loam to silly loam in texture	114490.07
2	Red soil (Mixed)	High in 'Fe' and 'Al' oxides. Fairly well drained soil	48349.33
3	Sandy soil	Light textured soil	27136.60
4	Sandy loam	Medium textured	106373.41

5	Clay loam	Heavy textured. Poor external as well as internal drainage	29329.99
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(Source: SREP, Bongaigaon)

2.4. Area, Production and Productivity of major crops cultivated in the district

Sl. No.	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1	Rice (Sali)	60754	709610	11.60
2	Rice (Ahu)	34112	322700	9.46
3	Rice (Boro)	9983	190970	19.13
4	Rapeseed & Mustard	13182	66040	5.01
5	Sesamum	572	2590	4.52
6	Black gram	2667	12030	4.51
7	Lentil	2417	13340	5.52
8	Wheat	5942	74280	12.50
9	Jute	2994	273620	16.45
10	Potato	3418	220600	64.54
11	Chilly	600	1084	18.07
12	Kharif vegetables	1650	19189	116.30
13	Rabi vegetables	2407	39475	164.00
14	Ginger	61	373	61.20
15	Turmeric	295	6342	214.98
16	Coriander	221	136	6.15
17	Black pepper	145	261	18.00
18	Garlic	195	787	40.36
19	Onion	257	3084	120.00
20	Pine apple	257	5334	185.85
21	Jack fruit	147	1312	89.25
22	Litchi	254	1895	74.61
23	Mango	95	498	52.42
24	Orange	98	8237	83.99
25	Areca nut	1771	2904	152 nuts per tree
26	Coconut	549	3788	74 nuts per tree
27	Banana	682	16721	245.17
28	Assam lemon	252	911	36.15
29	Medicinal and aromatic plants	124	611	49.27
30	Guava	52	1019	195.96

2.5. Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
October, 2009	238.8	33.2	20.9	95.4
November, 2009	0.00	28.0	12.4	98.0
December, 2009	0.00	26.6	8.9	96.2
January, 2010	0.00	26.4	9.3	88.0
February, 2010	0.00	28.2	11.0	80.9
March, 2010	159.8	30.0	15.5	78.3

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district

Category	Population	Production		Productivity
Cattle				
<i>Crossbred</i>	8,876	10404kg (meat)	6101046lit (milk)	687.36 lit/Animal
<i>Indigenous</i>	1,62,492	128448kg (meat)	18239247 (milk)	112.24 lit/Animal
Buffalo	3,948	18957 kg (meat)	3658769 (milk)	926.73 lit/Animal
Sheep				
<i>Indigenous</i>	36,814	17682 kg(meat)		
Goats	1,27,300	221743 kg(meat)	1096894(milk)	8.6 lit/Animal
Pigs				
<i>Crossbred</i>	11,375	-		
<i>Indigenous</i>	22,755	-		
Poultry				
Ducks	4,64,458	54,439 kg(meat)	63,76,833 eggs	
Turkey and others				

Category	Area	Production	Productivity
Fish	10,865.91ha	5,794.31 MT	2150 kg/ha (pond)

2.7 Details of Operational area / Villages (2009-10)

No	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Sidli	Sidli	Pub Enkorbari	<p>Major crops are rice, sesame, blackgram, rapeseed & mustard, areca nut, coconut, banana, pineapple, citrus, ginger, vegetables, bamboo etc.</p> <p>Major enterprises are cropping, , dairy, goatery, piggery etc.</p>	<ul style="list-style-type: none"> -Soil acidity -Yield gap in paddy, pulses, oilseeds, fruits and vegetables -Low rate of seed replacement and poor adoption of HYVs -Poor fertility management -Rainfed farming -Inadequate post harvest handling of fruits & vegetables -Un-organized marketing system -Low productivity of animals 	<ul style="list-style-type: none"> -Management of acid soil -Crop planning for rainfed area. -Commercial production of fruits and vegetables. -Increasing productivity of major field crops through improved crop management practices -Popularization of HYVs -Seed and planting material production -Adoption of INM and IPM technologies. -Live-stock management -Formation of SHGs and farmer's club -Post harvest processing, value addition and marketing
2	Bijni	Manikpur	Alengmari	<p>Rice, rapeseed & mustard, sesame, blackgram, lentil, kharif & rabi vegetables, jute , ginger etc. are important crops.</p> <p>Major enterprises included cropping, dairy, poultry, fishery etc.</p>	<ul style="list-style-type: none"> -Soil acidity -Low rate of seed replacement -Injudicious use of chemical fertilizers -Excessive use of chemical pesticides -Low production of fish per unit of water bodies. -Low productivity of animals 	<ul style="list-style-type: none"> -Soil acidity management - Popularization of HYVs - Seed and planting material production --Commercial production of fruits and vegetables. -Adoption of INM and IPM technologies. -Live-stock management -Composite fish culture -Formation of farm science club

3	Boitamari	Boitamari	Basbari	<p>Rice, rapeseed & mustard, vegetables, fruits etc.</p> <p>Cropping, dairy , poultry etc. are the major enterprises.</p>	<ul style="list-style-type: none"> -Soil acidity -Yield gap in paddy, pulses, oilseeds, fruits and vegetables. -Low rate of seed replacement and poor adoption of HYVs -Poor fertility management -Rain fed farming -Un-organized marketing system. --Low productivity of animals 	<ul style="list-style-type: none"> -Resource management in acid soil. --Crop planning for rainfed area --Popularization of HYVs of rice -Seed and planting material production -Higher productivity of major field crops through improved crop management practices -Appropriate nutrient management through integrated nutrient management and balance fertilization. -Adoption of integrated pest management technique. -Live-stock management -- Dairy, duckery, poultry etc. - Formation of SHGs and farmer's club
4	Bijni	Borobazar	Matiapara	<p>Rice, blackgram, lentil, toria, vegetables etc.</p> <p>Important enterprises are cropping, fishery, dairy etc.</p>	<ul style="list-style-type: none"> -Soil acidity -Yield gap in paddy, pulses, oilseeds, fruits and vegetables. -Low rate of seed replacement and poor adoption of HYVs -Poor fertility management -Rain fed farming -Un-organized marketing system. -Low productivity of animals --Low production of fish per unit of water bodies. 	<ul style="list-style-type: none"> -Resource management in acid soil. --Crop planning for rainfed area --Popularization of HYVs -Seed and planting material production -Higher productivity of major field and vegetable crops through improved crop management practices -Appropriate nutrient management through integrated nutrient management and balance fertilization. -Adoption of integrated pest management technique. -Live-stock management -Composite fish culture

2.8 Priority/thrust areas

Priority thrust areas (prioritized in sync with thrust areas identified and given above)

Rank	Thrust area
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1	Reduction of yield gap in major field crops such as rice, oilseeds and pulses through introduction of improved varieties and improved crop management practices
2	Production of seed and planting material
3	Commercial production of fruits and vegetables
4	Breed up gradation and scientific livestock management
5	Soil fertility management through Integrated approach of Plant Nutrient supply system and balance fertilization
6	Integrated Pest management
7	Post harvest processing and value addition
8	Marketing
9	Scientific pisciculture
10	Empowerment of women and reorientation of SHGs towards commodity based production & marketing system

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2009-10

OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Cotton, Other Crops/Enterprises)			
1				2			
Number of OFTs		Number of Farmers		Number of FLDs		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Crop production-2	6	6	17	Oilseeds-2	2	20	9
Plant protection - 2	2	7	7	Pulses-2	2	20	12
Horticulture- 2	1	6	3	Other than oilseed & pulse -5	Rice-4	7	13
Animal Husbandry- 2	2	6	6		Potato-1	4	8
					Maize-1	3	6
					Water melon-1	4	6
Soil Sc.-2	2	6	6		TPS-1	5	8

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers	37	37	925	1086	Field day-5	5	150	455
Rural youth	24	24	600	637	Method demonstration-1	3	30	82

Extn. Functionaries	4	4	100	152	Extn literature-6	18	-	-
					Advisory services-36	52	36	122
					Diagnostic visit-2	2	-	16
Seed Production (Qtl.)					Planting material (Nos.)			
5					6			
Target		Achievement			Target		Achievement	
Rice (Var. Ketekijoha) (20.0)		20.0 (in farmer's field)			Asparagus seedling (100)		100	
Rice (Var. Ranjit) (30.0)		60.0 (in farmer's field)						
Sesame (4.0)		1.40						
Toria (3.0)		1.50						
Buckwheat (6.0)		5.50						

3.B. Abstract of interventions undertaken during 2009-10

No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions (if any)					
				Title of OFT	Title of FLD	Title of Training	Title of training for extension personnel	Extension activities	Supply of seeds, planting materials
1	Reduction of yield gap in major field crops such as rice, oilseeds and pulses through introduction of improved varieties and improved crop management practices	Rice, oilseeds and pulses	Yield gap due poor adoption of improved package of practices	- Performance of integrated weed management in boro rice	- Performance of HYV of sesame with improved crop management - Performance of HYV of toria "TS-36" with improved crop management - Performance of HYV of blackgram "Pant U 19" with improved crop management - Performance of HYV of boro rice "Kanaklata" with improved crop management -Irrigation management in toria	-Integrated crop management in rice -Irrigation scheduling in major field crops -Production technology of boro rice	-System of rice intensification	i)) Publication of bulletins ii) Field day iii) Diagnostic & clinical services iv) Farmers-Scientist interaction v) Advisory services vi) Radio talk vii)) Popular articles	Seeds, Fertilizers, Pesticides etc.
2	Crop planning	All crops	Poor resource utilization	-	-	-Multiple cropping system	-Contingency planning under	i) Advisory services	-

						-Food sufficiency through crop diversification	adverse climatic condition	ii) Radio talk iii) Popular article	
3	Production of seed and planting material	Rice	-Low rate of seed replacement and poor adoption of HYVs	–	-Seed production technique in HYVs of ahu rice	-Seed production tech in rice -Plant propagation tech. in major fruit crops		i) Publication of bulletins ii) Method demonstrations iii) Field day iv) Advisory services v) Radio talk	Seeds, Fertilizers, Pesticides etc.
4	Commercial production of fruits and vegetables	Banana, Citrus, Pineapple, Tomato, Potato, Brinjal, Chilli, Cole crops	Low adoption of scientific methods of cultivation	–	-Improved cultivation technology of water melon -TPS cultivation	-Raising nursery for winter vegetable crops	-Off season vegetable production	i) Exposure visit ii) Publication of bulletins iii) Field day iv) Diagnostic & clinical services v) Farmers-Scientist interaction vi) Advisory services vii) Radio talk viii) Popular articles	Seeds, Planting material, Fertilizers, Pesticides etc.
5	Breed up gradation and scientific livestock management	Dairy, Piggery, Poultry, Goatery.	-Low productivity due poor adoption of scientific management practices	- Scientific feeding in goat - Rearing of upgraded goat	Scientific rearing of “Chara chambelli” duck	-Dairy farming for self employment -Scientific rearing of goat -Pig production and management in scientific way -Poultry rearing for self employment	–	i) Publication of bulletins ii) Field day iii) Diagnostic & clinical services iv) Farmers-Scientist interaction v) Advisory services vi) Radio talk vii) Popular articles	Upgraded breed, feed
6	Soil fertility	Cropping	-Injudicious use of	-Integrated	-Integrated nutrient	-Integrated nutrient	–	i) Publication of	Seed,

	management through Integrated Plant Nutrient supply system and balance fertilization		chemical fertilizer	nutrient management in Sali rice - Potassium management in lentil - Integrated nutrient management in toria	management in lentil	management in boro rice -Method of soil sample collection for chemical analysis		bulletins on IPNS ii) Publication of popular articles iii) Radio talk iv) Soil health camp	fertilizers, pesticides
7	Integrated Pest management	Rice, oilseeds, pulse and vegetables	-Injudicious use of chemical pesticides		-Performance of bio-agent “Trichogramma” in Sali rice	- Integrated pest and disease management in summer field crops -Biocontrol of pest and diseases of rabi vegetables		i) Awareness campaign on IPM ii) Publication of bulletin iii) Radio talk iv) Diagnostic & clinical services	seed, Fertilizers, Bio-Pesticides etc.
8	Post harvest processing, value addition and marketing	Fruits and vegetables	Inadequate post harvest handling, value addition and lack of knowledge on agricultural marketing	–	–	i). Value addition in horticultural produce ii). Preservation of orange for squash making	–) Publication of bulletins ii) Method demonstrations iii) Awareness campaign	–
9	Empowerment of women and reorientation of SHGs towards commodity based production & marketing system		Lack of commodity based production and marketing system	–	–	-Income generation activities for empowerment of rural woman -Entrepreneurship development in rural youths -Leadership development in villages for economic	–	i) Creating awareness on facilities available for marketing information system ii)Formation of CIGs and FOs for organized marketing	–

						development			
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3.1 Achievements on technologies assessed and refined

A.1 Abstract of the number of technologies assessed* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Live stock	Fruits	Spices	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation	4									4
Seed / Plant production										
Weed Management	1									1
Integrated Crop Management			2							2
Integrated Nutrient Management	1	1								2
High density planting										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Value addition										
Integrated Pest Management	2									2
Integrated Disease Management										
Resource conservation technology										
Small Scale income generating enterprises										
TOTAL	8	1	2							11

* Any new technology, which may offer solution to a location specific problem but not tested earlier in a given micro situation.

A.2. Abstract of the number of technologies refined* in respect of crops/enterprises: NA

A.3. Abstract of the number of technologies assessed in respect of livestock /enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitary	Fisheries	TOTAL
Evaluation of Breeds				1				1
Nutrition Management								
Disease of Management								
Value Addition								
Production and Management								
Feed and Fodder				1				1
Small Scale income generating enterprises								
TOTAL				2				2

A.4. Abstract on the number of technologies refined in respect of livestock / enterprises:

Nil

B. Details of each On Farm Trial to be furnished in the following format

Technology Assessment

Trial 1

- Title : Evaluation of submergence tolerant rice variety “Jalkuwari”
- Problem diagnose/defined : Non availability of suitable submergence tolerant HYV of Sali rice
- Details of technologies selected for assessment/refinement :
 - i. Farmers’ practice- local variety “ Moinagiri”
 - ii. Submergence tolerant rice variety “Jalkuwari”
- Source of technology : RARS, AAU, Titabar
- Production system : Crop Production
- Thematic area : Varietal evaluation**
- Performance of the

- Technology with performance indicators : Submergence tolerant rice variety “Jalkuwari” recorded 15% higher yield than the traditional variety
- Final recommendation for micro level situation : Submergence tolerant rice variety “Jalkuwari” can suitably be grown in flood affected areas considering the duration of submergence.
 - Constraints identified and feedback for research : The yield is not satisfactory as compared to local varieties, if the crop is not submerged by flood water for 8-10 days
 - Process of farmers participation and their reaction : Farmers selected from flood affected areas in consultation with the Government officials, actively participated by rendering their service for various agricultural operations as suggested by the scientist as well as in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs and technical guidance were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rainfed low land	Non availability of suitable submergence tolerant HYV of Sali rice	Evaluation of submergence tolerant rice variety “Jalkuwari”	4	Submergence tolerant rice variety “Jalkuwari”	Grain yield	2550	Submergence tolerant rice variety “Jalkuwari” recorded 15% higher yield than the traditional variety grown in the flood affected areas	It is a good variety and suitable for flood affected areas

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Farmer's practice** -Local variety "Moinagiri"	2400	3000.00	1.14
Technology assessed** Submergence tolerant rice variety " Jalashree"	2550	4500.00	1.21
Technology refined**	NA	NA	NA

Trial 2

- Title : Evaluation of delayed planting rice varieties such as " Gitesh"
- Problem diagnose/defined : Poor crop yield due to delayed transplanting with old seedlings under adverse climatic conditions
- Details of technologies selected for assessment
/refinement : i) Farmers' practice- traditional variety "Moinagiri".
ii) Staggered planting rice varieties such as "Gitesh"
- Source of technology : RARS, AAU, Titabar
- Production system : Crop Production
- Thematic area : Varietal evaluation**
- Performance of the Technology with performance indicators : Staggered planting rice varieties "Gitesh" cultivated with 60 days old seedlings recorded 20 % higher yield than traditional variety "Moinagiri".
- Final recommendation for micro level situation : As the staggered planting rice variety "Gitesh" performed well as compared to traditional variety, therefore, this variety may be considered for cultivation with 60 days old seedlings under adverse climatic condition.

- Constraints identified and feedback for research : The crop was severely affected by Brown spot and Blast diseases. Poor emergence of panicle and chaffy grains were also observed when crop is grown late with higher seedling age.
- Process of farmers participation and their reaction : Farmers selected in consultation with the Government officials, actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rainfed low land	Poor crop yield due to delayed transplanting with old seedlings under adverse climatic conditions	Evaluation of delayed planting rice variety "Gitesh"	5	Staggered planting rice variety "Gitesh"	Grain yield	3600	Staggered planting rice varieties "Gitesh" cultivated with 60 days old seedlings recorded 20 % higher yield than traditional variety "Moinagiri"	i) Poor emergence of panicle ii) Severe infestation of brown spot disease.

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Farmer's practice** Traditional photosensitive variety "Moinagiri"	3000	9000	1.42
Technology assessed** Staggered planting rice varieties such as "Gitesh"	3600	15000	1.71
Technology refined**	NA	NA	NA

Trial 3

- Title : Potash management in Blackgram
- Problem diagnose/defined : Low soil potassium status
- Details of technologies selected for assessment /refinement :
 - i) Application of 15 kg N, 35 kg P and 0 kg K
 - ii) Application of 15kg N, 35 kg P and 15 kg K
- Source of technology : RARS, AAU, Shillongoni, Nagaon
- Production system : Crop Production
- Thematic area : Nutrient management
- Performance of the
- Technology with performance indicators :
 - Application of potassium @ 15 kg/ha along with recommended dose of N & P in blackgram resulted in 25% higher yield than farmers practice i.e. application of 15 kg N, 35 kg P and 0 kg K.
- Final recommendation for micro level situation :
 - As in most of the cases, soils are deficient in potassium, therefore application of potassium @ 15 kg/ha along with recommended dose of N & P may be recommended in blackgram.

- Constraints identified and feedback for research : Soil test based fertilizer recommendation may be more effective.
- Process of farmers participation and their reaction : Farmers are selected in consultation with the Government officials and they actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Black gram	Rainfed upland	Low soil potassium status and imbalance fertilization	Potash management in Blackgram	3	Application of 15kg N, 35 kg P and 15 kg K	Plant height Pest and disease infestation Crop yield	40cm Mild infestation of flea beetle and leaf spot was observed 750	Application of potassium @ 15 kg/ha along with recommended dose of N & P in blackgram resulted in 25% higher yield than farmers practice i.e. application of 15 kg N, 35 kg P and 0 kg K.	Potassium application showed differences in respect of crop yield and insect pest and disease infestation in blackgram

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Application of 15 kg N, 35 kg P and 0 kg K i	600	8200	1.84
Application of 15kg N, 35 kg P and 15 kg K	750	12,500	2.25

Trial 4

- Title : Performance of glutinous rice variety “ Aghoni” in the farmers’ field
- Problem diagnose/defined : Low yield of traditional glutinous rice varieties
- Details of technologies selected for assessment
/refinement : i) Farmers’ practice- local variety “ Nal Borni”
ii) Rice variety “ Aghoni”
- Source of technology : RARS, AAU, Titabor
- Production system : Crop Production
- Thematic area : Varietal evaluation
- Performance of the
Technology with performance indicators : Glutinous rice variety “Aghoni” recorded 25% higher yield than traditional glutinous rice variety “Nalbarni”.
- Final recommendation for
micro level situation : As glutinous rice variety “Aghoni” recorded higher yield than traditional glutinous rice variety, therefore
this variety can be recommended in the farmer’s field.
- Constraints identified and
feedback for research : As per the observation, rice variety “Aghoni” looked to be more responsive to the applied fertilizer. So,
research work in this direction may be useful. Further, crop was found to be severely infested by brown spot
disease.
- Process of farmers participation and
their reaction : Farmers are selected from those areas where farmers use to cultivate locally available glutinous rice varieties
whose yield has been declining gradually. Farmers actively participated by rendering their service for various
agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK
scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs

were provided by KVK, Bongaigaon. Farmers were found to be very positive about the new technology as this variety was most preferred because of its higher stickiness and yield.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rainfed	Low yield of traditional glutinous rice varieties	Performance of glutinous rice variety “Aghoni” in the farmers’ field	2	Rice variety “Aghoni”	Plant height	105cm	Glutinous rice variety “Aghoni” recorded 25% higher yield than traditional glutinous rice variety “Nal barni	It can be most preferred glutinous rice variety because of its higher yield and stickiness
						Days to 50% flowering	115days		
						No. of effective tillers /hill	8		
						Pest and disease infestation	Severe infestation of brown spot disease		
						Crop yield	3000kg		

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
i) Farmers’ practice- local variety “ Nal Borni”	2400	9000	1.43
ii) Rice variety “ Aghoni”	3000	16500	1.79

Trial 5

- Title : Rhizome rot management in ginger using Biofor-PF
- Problem diagnose/defined : Rhizome rot disease of ginger
- Details of technologies selected for assessment /refinement :
 - Farmer’s practice – use of FYM
 - Seed rhizome treatment + soil application of Biofor-Pf

- Source of technology : Dept. of Plant Pathology, AAU, Jorhat
- Production system : Crop Production
- Thematic area : Disease management
- Performance of the Technology with performance indicators : Application of Biofor Pf recorded 20% higher yield as compared to farmers practice
- Final recommendation for micro level situation : Biofor Pf can be utilized as a component of integrated disease management module
- Constraints identified and feedback for research : Although Biofor Pf gives moderate control over the rhizome rot disease but it is not easily available in the market and also labour and cost intensive. Moreover, compatibility study of Biofor Pf with chemical fungicides will make it more effective against rhizome rot of ginger.
- Process of farmers participation and their reaction : Selected farmers of the region usually grows ginger by applying FYM only and they never utilized any biocontrol agents against the rhizome rot of ginger. Farmers actively participated in the OFT plots rendering various agricultural operations as suggested by the scientist. Farmers were found to be very positive about the new technology and expresses willingness to adopt the technology, provided it is easily available in the market.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Ginger	Rainfed upland	Rhizome rot disease of ginger	Rhizome rot management in ginger using Biofor-PF	3	Seed rhizome treatment + soil application of Biofor-PF	Nos. of infected plant /sq. mt. at 1 months interval after germination	0.0 (30 DAP)	Application of Biofor Pf recorded 20% higher yield as compared to farmers practice	Biofor Pf gives moderate control over the disease
							0.0 (60 DAP)		
							0.0 (90 DAP)		
							1.0 (120 DAP)		
							2.0 (150 DAP)		
							2.0 (180 DAP)		
						2.3 (210 DAP)			
Crop Yield	156 qtl								

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
i). Farmer's practice – use of FYM	14000	250150	2.79
ii) Seed rhizome treatment + soil application of Biofor-Pf	15600	315450	3.07

Trial 6

- Title : High density cultivation of “Malbhog” Banana
- Problem diagnose/defined : Poor resource utilization.
- Details of technologies selected for assessment /refinement :
 - i) Farmer's practice- Normal density
 - ii) Plant population: 6520 plants per hectare; spacing: 1m X 1.2m X 2m
- Source of technology : Deptt. of Horticulture, AAU, Jorhat
- Production system : Crop Production
- Thematic area : High density cultivation
- Performance of the Technology with performance indicators : High density planting of Malbhog banana recorded 61% yield increase over the farmers practice
- Final recommendation for micro level situation : High density planting of Malbhog banana can be practiced in the farmers field considering other factors of banana cultivation are favourable
- Constraints identified and feedback for research :
 - Accommodation of other crops in between and weeding operation is a problem. Accommodation of banana plants in space direction needs to be reviewed.
- Process of farmers participation and their reaction :
 - Farmers actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon. Farmers were found to be very positive about the new technology

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Banana	Rainfed upland	Poor resource utilization	High density cultivation of “Malbhog” Banana	3	Plant population: 6520 plants per hectare ; spacing: 1m-1.2m X 2m	Pseudo stem height	315 cm	High density planting of Malbhog banana recorded 62.5% yield increase over the farmers practice	It is an innovative technology as it permits accommodation of more plants per unit area resulting in higher crop yield as well better utilization of resources
						Pseudo stem girth	75 cm		
						Bunch weight	13 Kg		
						Crop yield	65 t/ha		
						Total number of hands per branch	7		
Incidence of pests and diseases	Fruit scarring beetle and sigatoka leaf spot								

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
i) Farmer’s practice- Normal density	40 t/ha	291198	5.93
ii) Plant population: 6520 plants per hectare; spacing: 1mX1.2m X 2m	65 t/ha	502064	4.02

Trial 7

- Title : Bio-control of stem borer and leaf folder
- Problem diagnose/defined : Injudicious use of chemical pesticides
- Details of technologies selected for assessment /refinement : i) Farmer’s practice- use of chemical pesticide (once at 30 DAT)
ii) Release of bio-agent “*Trichogamma* sp” @ 50,000/ha/week for 6 weeks
- Source of technology : Department of Entomology, AAU, Jorhat
- Production system : Crop Production
- Thematic area : Biological control
- Performance of the Technology with

performance indicators : The egg parasitoid “Trichogramma sps.” was proved to be the best eco-friendly method in controlling the rice pests with an increased in yield 15.4% over control

- Final recommendation for micro level situation

: Considering the importance of eco friendly approaches of pest control, release of bio-agent “Trichogramma” @ 50,000/ha/week for 6 weeks may be recommended.

- Constraints identified and feedback for research : Source of the bio-agent is a problem in this region.
- Process of farmers participation and their reaction : Farmers selected actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK Scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rainfed	Injudicious use of chemical pesticides	Bio-control of stem borer and leaf folder	4	Release of bio-agent “Trichogramma” @ 50,000/ha/week for 6 release	Dead hearts (%) Leaf folder damage (damaged leaves/sq. m.) Crop yield	4.3 % 2.9% 4500	The egg parasitoid “Trichogramma sps.” was proved to be the best eco-friendly method in controlling the rice pests with an increased in yield 15.4% over control	It is an effective way of controlling rice stem bore provided there are easy sources nearby

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Farmer’s practice- use of chemical pesticide	3900	19,000	1.71
Release of bio-agent “Trichogramma” @ 50,000/ha/week for 6 weeks	4500	24,000	2.14

Trial 8

- Title : Performance of scented rice variety “Rajendra suhasini” in the farmers’ field
- Problem diagnose/defined : Low yield of traditional scented rice variety
- Details of technologies selected for assessment
/refinement : i) Farmer’s practice- local variety “Kola Joha”
ii) Rice variety “Rajendra suwasini”
- Source of technology : AICRP on Cropping System, AAU, Jorhat
- Production system : Crop Production
- Thematic area : Varietal evaluation
- Performance of the Technology with
performance indicators : Scented rice variety “Rajendra suwasini” recorded 20 % higher yield than local scented rice variety “Kola
Joha”
- Final recommendation for micro level situation
: This variety can be an alternative to the locally available scented rice varieties as it produces higher yield
- Constraints identified and feedback for research
: Whole rice recovery is less as compared to local varieties because of its higher kernel length
- Process of farmers participation and their reaction: Farmers selected actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rainfed	Low yield of traditional scented rice variety	Performance of scented rice variety “Rajendra suwasini” in the farmers’ field	3	Rice variety “Rajendra suwasini”	Plant height No. of effective tillers Crop yield and economics	108 6 2700	The scented rice variety “Rajendra suwasini” recorded 20% higher yield over local scented rice varieties	It is a good variety with higher yield potentiality with good aroma than the locally available scented rice varieties

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Farmer’s practice- local variety “Kola Joha”	2250	13,750	1.69
Rice variety “Rajendra suwasini	2700	24,000	2.14

Trial 9

- Title : Integrated weed management in boro rice
- Problem diagnose/defined : High cost of manual weeding and poor adoption of integrated weed management practices
- Details of technologies selected for assessment /refinement :
 - i) Farmers’ practice- manual weeding
 - ii) Pre-emergence application of Butachlor @ 1.0kg/ha followed by use of paddy weeder at 40 DAT
- Source of technology : AICRP on weed control, AAU, Jorhat
- Production system : Crop Production

- Thematic area : Weed management
- Performance of the Technology with performance indicators : Pre-emergence application of Butachlor @ 1.0kg/ha followed by use of paddy weeder at 40 DAT recorded 5.8 % higher yield than the farmers practice.
- Final recommendation for micro level situation : As the practice is effective not only in reducing weed density but also helps in increasing crop yield, so pre-emergence application of Butachlor @ 1.0kg/ha followed by use of paddy weeder at 40 DAT may be recommended for effective control of weeds in boro rice.
- Constraints identified and feedback for research :Some times application of herbicide is a problem when there is water stagnation
- Process of farmers participation and their reaction :Farmers are selected from those areas where farmers use to cultivate locally available glutinous rice varieties whose yield has been declining gradually. Farmers actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon. Farmers were found to be very positive about the new technology as this variety was most preferred because of its higher stickiness and yield.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Rice	Rainfed	High cost of manual weeding and poor adoption of integrated weed management	Integrated weed management in boro rice	3	Pre-emergence application of Butachlor @ 1.0kg/ha followed by use of paddy	Grain yield	5400	Pre-emergence application of Butachlor @ 1.0kg/ha followed by use of paddy weeder at 40 DAT recorded 5.8 % higher yield	It is cost effective technology for controlling weeds as manual weeding is time and labour expensive
						Weed density at 30 DAT(Nos/sqm)	105		

		practices			weeder at 40 DAT	Weed density at 60 DAT(nos/sqm)	86	than the farmers practice.	
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* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Farmers' practice- manual weeding	5100	18,250	1.91
Pre-emergence application of Butachlor @ 1.0kg/ha followed by use of paddy weeder at 40 DAT	5400	20,500	2.03

Trial 10

- Title : Potash management in Lentil
- Problem diagnose/defined : Low soil potassium status
- Details of technologies selected for assessment
/refinement : i) Application of 15 kg N, 35 kg P and 0 kg K
ii) Application of 15kg N, 35 kg P and 15 kg K
- Source of technology : RARS, AAU, Shillongoni, Nagaon
- Production system : Crop Production
- Thematic area : Nutrient management
- Performance of the Technology with performance indicators : Application of potassium @ 15 kg/ha along with recommended dose of N & P in lentil resulted in 13.6 % higher yield than farmers practice i.e. application of 15 kg N, 35 kg P and 0 kg K.

- Final recommendation for micro level situation : As in most of the cases, soils are deficient in potassium, therefore application of potassium @ 15 kg/ha along with recommended dose of N & P may be recommended in lentil.
- Constraints identified and feedback for research : Soil test based fertilizer recommendation may be more effective.
- Process of farmers participation and their reaction :Farmers are selected in consultation with the Government officials and they actively participated by rendering their service for various agricultural operations as suggested by the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Lentil	Rainfed upland	Low soil potassium status and imbalance fertilization	Potash management in Lentil	3	Application of 15kg N, 35 kg P and 15 kg K	Plant height Crop yield	25cm 750	Application of potassium @ 15 kg/ha along with recommended dose of N & P in lentil resulted in 13.6% higher yield than farmers practice i.e. application of 15 kg N, 35 kg P and 0 kg K	Potassium application showed differences in respect of crop yield in lentil.

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Application of 15 kg N, 35 kg P and 0 kg K	660	23,000	3.3
Application of 15kg N, 35 kg P and 15 kg K	750	26,500	3.40

Trial 11

- Title : Integrated nutrient management in toria
- Problem diagnose/defined : Injudicious use of chemical fertilizer
- Details of technologies selected for assessment
/refinement : i) Farmers' practice- recommended dose of fertilizer i.e. 40:35:15 kg/ha of NPK
ii) Application of 45:25:22.5 kg/ha of NPK + Azotobacter and PSB
- Source of technology : RARS, AAU, Shillongoni, Nagaon
- Production system : Crop Production
- Thematic area : Nutrient management

- Performance of the Technology with
performance indicators : Application of 45:25:22.5 kg/ha of NPK + Azotobacter and PSB recorded 8.7 % higher yield of toria than
the farmers' practice.
- Final recommendation for micro level situation
: Use of integrated sources of plant nutrients helps in maintaining better soil health essential for sustainable crop
production. Therefore, although there is slight improvement in crop yield due to adoption of INM practice in
toria, however, this practice may be adopted in the farmer's field.
- Constraints identified and feedback for research
: Non availability of quality bio-fertilizer in the farmers field may be a constrain for its applicability.
- Process of farmers participation and
their reaction : Farmers are selected from those areas where farmers use only chemical fertilizers. The programme was carried
out with the active participation of farmers by rendering their services for various agricultural operations as suggested by

the scientist in their OFT plots. They also interacted with the KVK scientist time to time and received technical guidance from the scientist. All the necessary agricultural inputs were provided by KVK, Bongaigaon.

Results of On Farm Trials

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Toria	Rainfed	Injudicious use of chemical fertilizer	Integrated nutrient management in toria	3	Application of 45:25:22.5 kg/ha of NPK + Azotobacter and PSB	Grain yield	1060	Application of 45:25:22.5 kg/ha of NPK + Azotobacter and PSB recorded 8.7 % higher yield of toria than the framers' practice.	It may be a good technology in toria provided there is availability of bio-fertilizer in time

* No. of farmers

Technology Assessed	*Production per ha	Net Return (Profit) in Rs. / ha	BC Ratio
11	12	13	14
Farmers' practice- recommended dose of fertilizer i.e. 40:35:15 kg/ha of NPK	975	10500	2.16
Application of 45:25:22.5 kg/ha of NPK + Azotobacter and PSB	1060	12000	2.30

Trial 12

- Title : Rearing of upgraded goat
- Problem diagnose/defined : Low productivity of animals
- Details of technologies selected for assessment
/refinement : i) Farmer's practice- Local non-descript type
ii) Upgraded goat " Beetal Cross Bred"
- Source of technology : Goat Research Station, AAU, Byrnihut, Assam

- Production system : Livestock production
- Thematic area : Meat and milk production
- Performance of the Technology with performance indicators : On- going
- Final recommendation for micro level situation : NA
- Constraints identified and feedback for research : NA
- Process of farmers participation and their reaction : NA

Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Livestock (on going)	-	Low productivity of animals	Rearing of upgraded goat	3	Upgraded goat “Beetal Cross Bred”	Body conformation	Good	On going	NA
						Month wise weight gain	2.5 Kg		
						Disease incidence and health care	Nil		
						No. of kid obtained	2		

* No. of farmers

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
NA	NA	NA	NA

Trial 13

- Title : Scientific feeding in goat
- Problem diagnose/defined : Poor performance under low nutrient feeding system
- Details of technologies selected for assessment /refinement : i) Farmers' practice- Semi intensive grazing system
ii) Balanced feeding (200g concentrate feed/animal/day)
- Source of technology : Goat Research Station, AAU, Byrnihut, Assam
- Production system : Livestock production
- Thematic area : Meat and milk production
- Performance of the Technology with performance indicators : On- going
- Final recommendation for micro level situation : NA
- Constraints identified and feedback for research : NA
- Process of farmers participation and their reaction : NA

Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Livestock (on going)	-	Poor performance under low nutrient feeding system	Scientific feeding in goat	3	Balanced feeding (200g concentrate feed/animal/day)	Monthly weight gain	1.5 Kg	On going	NA
						Disease incidence and health care	Nil		
						No. of kid obtained	2		
						Age at first kidding	7 months		

						Milk yield	1 litre/day		
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* No. of farmers

Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
NA	NA	NA	NA

*Field crops – kg/ha, * for horticultural crops -= kg/t/ha, * milk and meat – litres or kg/animal, * for mushroom and vermi compost kg/unit area.

** Give details of the technology assessed or refined and farmer's practice

B. Technology Refinement : NA

3.2 Achievements of Frontline Demonstrations

a. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2009-10 and recommended for large scale adoption in the district

Sl. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization Methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Rice	Crop management	Improved crop management practices in boro rice	-Organizing training programme -Interaction with farmers -Providing information about the source of seed - Farmer's field visit - Advisory services -Distribution of bulletins	6	95	50
2	Toria	Crop management	Improved production technology of toria (TS-36)	- Farmer's field visit - Advisory services -Organizing training programme -Interaction with farmers -Distribution of bulletins -Providing information about the source of seed	5	45	25

3	Toria	Water management	Irrigation management in toria	- Farmer's field visit - Advisory services -Organizing training programme -Interaction with farmers -Distribution of bulletins - Information on source of seed	4	36	20
4	Lentil	Nutrient management	Integrated nutrient management in lentil	- Farmer's field visit - Advisory services -Organizing training programme -Interaction with farmers -Distribution of bulletins -Providing information about the source of seed	2	20	4
5	Potato	Crop management	Irrigation management inn potato (Var: Kufri Jyoti)	- Organizing field day - Farmer's field visit - Advisory services -Interaction with farmers -Distribution of bulletins -Providing information about the source of seed	10	50	75
6	Potato	Crop management	TPS cultivation	- Farmer's field visit - Advisory services -Organizing training programme -Interaction with farmers -Distribution of bulletins -Providing information about the source of seed	3	15	5

* Thematic areas as given in Table 3.1 (A1 and A2)

b. Details of FLDs implemented during 2009-10 (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

i) Oilseed Crop:

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Toria	Crop management	Improved crop management practices in toria	Rabi, 2009-10	4.0	4.0	-	7	7	NA
2	Toria	Water	Application of 6cm irrigation	Rabi,	1.0	1.0	-	2	2	NA

	(FPARP)	management	water at flowering or at siliqua development stage	2009-10						
3	Sesame	Crop management	Performance of kharif sesame with recommended package of practices	Kharif- 09	4.0	4.0	1	8	9	NA

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Toria	Rabi, 2009-10	Rainfed	Sandy loam	–	46.9 Kg/ha	33.5 Kg/ha	Rice	1 st to 3 rd week, Nov,2008	2 nd to 4 th week, Feb, 2009	0.0	0
Toria (FPARP)	Rabi, 2009-10	Irrigated	Sandy loam	–	–	–	Rice	1 st to 3 rd week, Nov, 2008	3 rd to 4 th week, Feb, 2009	0.0	0
Sesame	Kharif- 09	Rainfed	Sandy loam	–	–	–	Fallow, Summer vegetables	1st week of Sept, 2009	1st week of Dec. 2009	632.6	13

Performance of FLD

Sl. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Toria	Improved crop management practices in toria	TS-36	7	4.0	10.5	8.25	9.0	7.75	16.1	–	–
2	Toria	Application of 6cm irrigation water at flowering or at siliqua development stage	TS-36	2	1.0	–	–	12.0	9.0	33.3	–	–
3	Sesamum	Performance of <i>Kharif</i> sesame with recommended package of practices	ST-1683	9	4.0	7.5	4.5	6.0	5.1	17.6-	–	–

NB: Attach few good action photographs with title at the back with pencil

Economic Impact (continuation of previous table)

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	
14	15	16	17	18	19	20
8531	7500	18,086	15,500	9,555	8000	2.12
11,630	11,000	26,400	19,800	14,770	8,800	2.26
7121	6500	22621	19,227	15,500	12,727	3.2

ii) Pulse Crop:

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Lentil	Nutrient management	Integrated nutrient management in lentil	Rabi, 2009-10	5.0	5.0	4	8	12	NA
2	Black gram	Nutrient management	Performance of blackgram variety 'P U-19' under integrated nutrient management system	Kharif, 2009	4.0	4.0	-	7	7	NA

Details of farming situation

Crop	Season	Farming situation (RF/ Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Lentil	Rabi, 2009-10	Rainfed upland	Sandy loam	-	-	-	Rice	1 st week of Nov, 2009	1 st week to March, 2010	0.0	-
Blackgram	Kharif' 09	Rainfed upland	Sandy loam	-	38.3 Kg/ha	30.1 Kg/ha	Fallow, Summer vegetables	3 rd week of Sept, 2009	3 rd week of Dec, 2009	632.6	13

Performance of FLD

Sl. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Lentil	INM practices in lentil	B-77	12	5.0	8.25	6.0	7.5	6.0	25.0	-	-
2	Blackgram	INM practices in blackgram	PU-19	7	4.0	6.75	6.0	6.5	5.5	18.2	-	-

NB: Attach few good action photographs with title at the back with pencil

Economic Impact (continuation of previous table)

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	
14	15	16	17	18	19	20
9180	7600	24,786	19,800	15,606	12,200	2.70
9071	7500	26,500	22,385	17,429	14,885	2.90

iii) Cereal Crop

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Rice	Crop management	Seed production technique in sali rice variety "Keteki Joha"	Kharif, 09	0.39	0.39	-	3	3	NA
2	Rice	Crop Management	High yielding variety of Boro rice variety "Kanaklata"	Summer 09-19	1.0	1.0	-	4	4	NA
3	Rice	Water management	Irrigation management in summer rice (Var. Kanaklata)	Summer 09-19	2.0	2.0	-	3	3	NA

4	Maize	Crop management	Quality protein maize cultivation technology	Rabi,2009-10	1.0	1.0	2	6	8	NA
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Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Rice	Kharif, 09	Rainfed	Sandy loam to loam	-	-	-	Fallow	4 th week of June,2009	4 th week of Nov,2009	2850	63
Rice	Summer 2009-10	Irrigated	Sandy loam to loam	-	-	-	Sali rice	1 st week of January, 2010	3 rd week of June,2010	2516.6	56
Rice	Summer 2009-10	Irrigated	Sandy loam to loam	-	-	-	Sali rice	1 st week of January, 2010	3 rd week of June to 1 st week of July,2010	2590.3	60
Maize	Rabi, 2009-10	Rainfed	Sandy loam to loam	-	-	-	Fallow/ Sali rice	1 st week of January, 2010	2 nd week of May.2010	1531.8	40

Performance of FLD

Sl. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Rice	Seed production technique in sali rice variety “Keteki Joha”	Ketekijoha	3	0.39	30.0	25.5	27.8	24.0	15.8		
2	Rice	High yielding variety of Boro rice variety “Kanaklata”	Kanaklata	4	1.0	69.0	57.0	66.0	54.0	20.0		
3	Rice	Irrigation management in summer rice (Var. Kanaklata)	Kanaklata	3	2.0	61.5	58.5	60.0	51.0	17.7		
4	Maize	Quality protein maize cultivation technology	QPM	8	1.0	42.0	36.0	39.5	36.0	9.72		

NB: Attach few good action photographs with title at the back with pencil

Economic Impact (continuation of previous table)

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return/ Gross Cost)
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	
14	15	16	17	18	19	20
16,220	15,000	48,497	40,800	32,277	25,800	2.99
20,500	18,500	65,805	53,840	45,305	35,340	3.21
20,500	19,000	59,860	50,600	39360	31,600	2.92
23, 603	–	43,450	36,600	19,847	-	1.84

iv) Commercial Crop

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Potato	Water management	Application of 4 cm irrigation water at stolonization, tuberization and tuber development stage	Rabi, 2009-10	1.0	1.0	-	4	4	NA
2	TPS	Crop management	Production technology of TPS	Rabi, 2009-10	0.65	0.65	2	8	10	NA
3	Water melon	Crop management	Improved crop management practices of water melon	Rabi, 2009-10	0.4	0.4	–	6	8	NA

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Potato	Rabi, 2009-10	Irrigated	Sandy loam	-	-	-	Fallow	2 nd week of Nov,2009	1 st week of March,2010	159.8	7
TPS	Rabi, 2009-10	Rainfed	Sandy loam	-	-	-	Vegetables/rice/fallow	2 nd week of Nov,2009	1 st week of March,2010	159.8	7
Water Melon	Rabi, 2009-10	Irrigated	Sandy loam	-	-	-	Fallow	2 nd week of Dec,2009	1 st week of April,2010	162.6	9

Performance of FLD

Sl. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Potato	Application of 4 cm irrigation water at stolonization, tuberization and tuber development stage	Kufri Jyoti	4	1.0	-	-	299	280	6.90	-	-
2	TPS	Production technology of TPS	HPS II/67	10	0.65	-	-	244	-	-	-	-
3	Water Melon	Improved crop management practices of water melon	Sugar Baby	8	0.4	-	-	305	282.4	7.95	-	-

NB: Attach few good action photographs with title at the back with pencil

Economic Impact (continuation of previous table)

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	
14	15	16	17	18	19	20
60465	59203	210000	168000	149535	108797	3.47
26000	-	1,52,676	-	126676	-	5.87
51,580	46,000	1,52,450	1,41,154	1,01,097	95,154	2.96

**Analytical Review of component demonstrations (details of each component for rainfed / irrigated :
(Situations to be given separately for each season)**

Crop	Season	Component	Farming situation	Average yield (q/ha)	Local check (q/ha)	Percentage increase in productivity over local check
Rice	Kharif	1. Seed/Variety (Ranjit)	Medium upland	48.0	36.0	33.3%

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Higher yield of crops can be achieved with selection of suitable varieties and adoption of improved crop management practices
2	Timely control of insect pests and diseases can further increase crop yield
3	Irrigation scheduling at critical stages of crop growth is crucial for higher crop yield. So information on these aspects need to be disseminated in the farmer's field
4	Boro rice variety "Kanaklata" is a very good variety compared to the existing varieties in the farmers' field. However, harvesting time of boro rice is often coinciding with the rainy season and therefore, some short or medium duration varieties need to be evolved.
5	Scented rice variety "Keteki Joha" performed well compared to existing scented rice varieties, however, persistency of aroma declines with time. Therefore, some research work on this character need to be planned. Production of seed by the adoption of appropriate technique in scented rice will ensure supply of quality seed material.
6	Toria crop performed good with improved crop management practices but sowing of the crop is often delayed owing to cultivation of long duration Sali rice varieties in rice-toria sequence. Therefore, emphasis needs to be put on development of management practices for late sown toria.
7	Proportion of table purpose and seed tuber yield in TPS crop in the first year may vary according to the soil condition as some farmers obtained equal proportion of both these tubers.

8	Seeding rate of lentil (30 kg /ha) need to be reviewed as it leads to higher plant population as well as crop competition.
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Farmers' reactions on specific technologies

S. No	Feed Back
1	TPS results in good planting material for future with lower incidence of insect pest and diseases. Further, cost of cultivation is also less due to lower cost of planting material.
2	Irrigation scheduling at critical stages of crop growth is crucial for higher crop yield. So information on these aspects need to be disseminated in the farmer's field

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	5	11.02.2010	102	Field day programmes were organized as part of demonstration programmes under farmers' participatory action research programme.
			16.02.2010	100	
			27.03.2010	100	
			29.03.2010	102	
			31.03.2010	51	
2	Bulletin	6	–	–	Under FLD programme on Oilseed and pulse

c. Details of FLD on Enterprises

(i) Farm Implements: NA

(ii) Livestock Enterprises: NA

(iii) Other Enterprises: NA

Achievements on Training (Including the sponsored, vocational, FLD and trainings under Rainwater Harvesting Unit) :

A. ON Campus: NA

B.OFF Campus

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop Production										
Weed Management	1	22	6	28	0	0	0	22	6	28
Resource Conservation Technologies										
Cropping Systems	1	26	0	26	0	0	0	26	0	26
Crop Diversification	1	15	11	26	0	0	0	15	11	26
Integrated Farming										
Water management										
Seed production										
Nursery management										
Integrated Crop Management	3	79	7	86	1	0	1	80	7	87
Fodder production										
Production of organic inputs										
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops										
Off-season vegetables										
Nursery raising	1	20	5	25	0	0	0	20	5	25
Exotic vegetables like Broccoli										
Export potential vegetables										
Grading and standardization										
Protective cultivation (Green Houses, Shade Net etc.)										
b) Fruits										

Training and Pruning										
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										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
d) Plantation crops										
Production and Management technology										
Processing and value addition	1	0	26	26	0	0	0	0	26	26
e) Tuber crops										
Production and Management technology	1	29	0	29	0	0	0	29	0	29
Processing and value addition										
f) Spices										
Production and Management technology										
Processing and value addition										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
III Soil Health and Fertility Management										
Soil fertility management										
Soil and Water Conservation	1	5	5	10	18	0	18	23	5	28
Integrated Nutrient Management	1	0	0	0	27	0	27	27	0	27
Production and use of organic inputs										

Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Soil and Water Testing	1	22	5	27	0	0	0	22	5	27
IV Livestock Production and Management										
Dairy Management	1	25	5	30	0	0	0	25	5	30
Poultry Management										
Piggery Management										
Rabbit Management										
Disease Management										
Feed management										
Production of quality animal products										
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Income generation activities for empowerment of rural Women										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
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										
VII Plant Protection										
Integrated Pest Management	3	79	0	79	1	0	1	80	0	80
Integrated Disease Management										
Bio-control of pests and diseases	1	22	5	27	0	0	0	22	5	27
Production of bio control agents and bio pesticides										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
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										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Agril. Marketing	1	81	0	81	20	0	20	101	0	101
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
TOTAL	18	425	75	500	67	0	67	492	75	567
(B) RURAL YOUTH										
Mushroom Production										
Bee-keeping										
Integrated farming										
Seed production										
Production of organic inputs										
Integrated Farming										

Planting material production										
Vermi-culture										
Sericulture										
Protected cultivation of vegetable crops										
Commercial fruit production	1	20	6	26	2	0	2	22	6	28
Repair and maintenance of farm machinery and implements										
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Value addition	2	18	38	56	0	0	0	18	38	56
Production of quality animal products										
Dairying	1	26	0	26	0	0	0	26	0	26
Sheep and goat rearing	2	21	31	52	0	0	0	21	31	52
Quail farming										
Piggery	1	1	0	1	16	12	28	17	12	29
Rabbit farming										
Poultry production	1	10	17	27	0	0	0	10	17	27
Ornamental fisheries										
Para vets										
Para extension workers										
Composite fish culture										
Income generating activities	3	26	42	68	0	9	9	26	51	77
Leadership development	1	4	14	18	0	8	8	4	22	26
Information Networking										
Self Help Group formation										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										

TOTAL	12	126	148	274	18	29	47	144	177	321
(C) Extension Personnel										
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	1	50	4	54	19	2	21	69	6	75
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										
TOTAL	1	50	4	54	19	2	21	69	6	75
Grand Total	31	601	227	828	104	31	135	705	258	963

C) Consolidated table (ON and OFF Campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(A) Farmers & Farm Women										
I Crop Production										

Weed Management	1	22	6	28	0	0	0	22	6	28
Resource Conservation Technologies										
Cropping Systems	1	26	0	26	0	0	0	26	0	26
Crop Diversification	1	15	11	26	0	0	0	15	11	26
Integrated Farming										
Water management										
Seed production										
Nursery management										
Integrated Crop Management	3	79	7	86	1	0	1	80	7	87
Fodder production										
Production of organic inputs										
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops										
Off-season vegetables										
Nursery raising	1	20	5	25	0	0	0	20	5	25
Exotic vegetables like Broccoli										
Export potential vegetables										
Grading and standardization										
Protective cultivation (Green Houses, Shade Net etc.)										
b) Fruits										
Training and Pruning										
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										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
d) Plantation crops										
Production and Management technology										
Processing and value addition	1	0	26	26	0	0	0	0	26	26
e) Tuber crops										
Production and Management technology	1	29	0	29	0	0	0	29	0	29
Processing and value addition										
f) Spices										
Production and Management technology										
Processing and value addition										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
III Soil Health and Fertility Management										
Soil fertility management										
Soil and Water Conservation	1	5	5	10	18	0	18	23	5	28
Integrated Nutrient Management	1	0	0	0	27	0	27	27	0	27
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Soil and Water Testing	1	22	5	27	0	0	0	22	5	27
IV Livestock Production and Management										
Dairy Management	1	25	5	30	0	0	0	25	5	30

Poultry Management										
Piggery Management										
Rabbit Management										
Disease Management										
Feed management										
Production of quality animal products										
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Income generation activities for empowerment of rural Women										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
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										
VII Plant Protection										
Integrated Pest Management	3	79	0	79	1	0	1	80	0	80
Integrated Disease Management										
Bio-control of pests and diseases	1	22	5	27	0	0	0	22	5	27
Production of bio control agents and bio pesticides										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
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										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Agril. Marketing	1	81	0	81	20	0	20	101	0	101
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
TOTAL	18	425	75	500	67	0	67	492	75	567
(B) RURAL YOUTH										
Mushroom Production										
Bee-keeping										
Integrated farming										
Seed production										
Production of organic inputs										
Integrated Farming										
Planting material production										
Vermi-culture										
Sericulture										
Protected cultivation of vegetable crops										
Commercial fruit production	1	20	6	26	2	0	2	22	6	28

Repair and maintenance of farm machinery and implements										
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Value addition	2	18	38	56	0	0	0	18	38	56
Production of quality animal products										
Dairying	1	26	0	26	0	0	0	26	0	26
Sheep and goat rearing	2	21	31	52	0	0	0	21	31	52
Quail farming										
Piggery	1	1	0	1	16	12	28	17	12	29
Rabbit farming										
Poultry production	1	10	17	27	0	0	0	10	17	27
Ornamental fisheries										
Para vets										
Para extension workers										
Composite fish culture										
Income generating activities	3	26	42	68	0	9	9	26	51	77
Leadership development	1	4	14	18	0	8	8	4	22	26
Information Networking										
Self Help Group formation										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
TOTAL	12	126	148	274	18	29	47	144	177	321
(C) Extension Personnel										
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	1	50	4	54	19	2	21	69	6	75
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										
TOTAL	1	50	4	54	19	2	21	69	6	75
Grand Total	31	601	227	828	104	31	135	705	258	963

Note: Details of above training programmes are given in Annexure

3.4. Extension Activities (including activities of FLD programmes)

Sl. No.	Nature of Extension Activity	Purpose/ topic and Date	No. of activities	Participants											
				Farmers (Others) (I)			SC/ST (Farmers) (II)			Extension Officials (III)			Grand Total (I+II+III)		
				Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Field Day	Irrigation management in Potato : 11.02.10	1	83	11	94	1	7	8	-	-	-	84	18	102
	Field Day	Irrigation management in Toria : 16.02.10	1	71	24	95	5	-	5	-	-	-	76	24	100
	Field day	Irrigation management in Boro rice : 27.03.10, 29.03.10	2	194	5	199	3	-	3	-	-	-	197	5	202

	Field Day	Production technology of Water melon : 31.03.10	1	38	13	51	-	-	-	-	-	-	38	13	51	
	Total		5	386	53	439	9	7	16	-	-	-	395	60	455	
2	Kisan Mela		-													
	Total		-	-	-	-	-	-	-	-	-	-	-	-	-	
3	Kisan Gosthi		-													
4	Exhibition	Exhibition on Technology Week : 09 – 11 Jan' 10														
		Exhibition on Kisan Mela: 18 – 19 Feb' 10	3	346	2	348	109	-	109	-	-	-	455	2	457	
		Exhibition on Kisan Mela : 11 – 12 Mar' 10														
5	Film Show		-													
6	Method Demonstrations	Preservation of Jam, Jelly, Squash and Sauce : 20.02,23.02 & 13.03.10)	3	18	64	82	-	-	-	-	-	-	18	64	82	
7	Farmers Seminar	January (11.01.10)	2	136	2	138	28	-	28	-	-	-	164	2	166	
		February (18 – 19, 10)														
8	Workshop	Zonal Workshop, Kokrajhar : 23.12.09	1	-	-	-	-	-	-	19	1	20	15	5	20	
	Workshop	Zonal Workshop, Kokrajhar : 15.02.10	1	-	-	-	-	-	-	23	1	24	18	6	24	
	Total		2	-	-	-	-	-	-	42	2	44	33	11	44	
9	Group meetings															
10	Lectures delivered as resource persons	Oct'09 (7, 10, 16, 28, 30)	23													
		Nov'09 (10, 12, 13)														
		Feb' 10 (19,18,23)														
		Mar' 10 (11,26,27,30)														
11	Newspaper coverage	Mar' 10 (1)	2													
		Feb' 10 (1)														
12	Radio talks															
13	TV talks															

14	Popular articles	Dec'09 (1 No.) Jan'10 (2 Nos.) Mar'10 (3 Nos.)	6												
15	Extension Literature-Bulletin	Oct'09 (2 Nos.)	18												
		Nov'09 (4 Nos.)													
		Dec'09 (3 Nos.)													
		Jan'10 (1 No.)													
		Feb'10 (2 Nos.)													
		Mar'10 (6 Nos.)													
16	Advisory Services	Oct,09 (12,16,22,28)	25												
		Nov,09 (10,13,20,25)													
		Dec,09 (4,9,15,21,30)													
		Jan,10 (6,7,8,19)													
		Feb'10 (1,6,9,21)													
		Mar'10 (19,20,28,30)													
17	Scientific visit to farmers field	Oct,09 (1,6,13,14,16,24,28)	31												
		Nov,09 (4,10,13,20,25,30)													
		Dec,09 (7,9,13,16,19,21,)													
		Jan,10 (6,7,8,19)													
		Feb'10 (1,2,6,8,9)													
		Mar'10 (19,20,30)													
18	Farmers visit to KVK	Oct,09 (39)	137												
		Nov,09 (25)													
		Dec,09 (25)													
		Jan,10 (25)													
		Feb'10 (10)													
		Mar'10 (13)													
19	Celebration of Technology Week	09–11 Jan'10	1	136	2	138	28	–	28	–	–	–	164	2	166
	Grand Total		261	1022	123	1145	174	7	181	42	2	44	1238	132	1370

3.5 Production and supply of Technological products:

NA

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

(A) KVK News Letter ((Date of start, Periodicity, number of copies distributed etc.): NA

(B) Literature developed/published

Item	Title	Authors name	Number of copies
Research papers	Ecology and Biology of Aquatic Snails and their control V: Ecology of snails in Deepor Beel Wetland, Assam”	Pallabi Devi , Saidul Islam and Monoranjan Das (2009)	Journal of Veterinary Parasitology , 23(1) :17-22
Total	1	-	-
Technical reports	FLD report on kharif oilseeds,09-10	Dr. C.K. Sarma, Dr. S.K. Paul	1
	FLD report on kharif Pulses,09-10	Dr. C.K. Sarma, Dr. S.K. Paul	1
	FLD report on rabi oilseeds,09-10	Dr. C.K. Sarma, Dr. S.K. Paul	1
	FLD report on rabi Pulses,09-10	Dr. C.K. Sarma, Dr. S.K. Paul	1
	Report on FPARP,08-09	Dr. C.K. Sarma, Dr. S.K. Paul, Mr. S. Kalita, Mr. A. Borah	1
	ZREAC, 2009-10 Report	Dr. C.K. Sarma, Dr. S.K. Paul, Mr. S. Kalita, Mr. A. Borah	1
	A brief report on activities of KVK, Bongaigaon, 2009-10	Dr. C.K. Sarma, Dr. S.K. Paul, Mr. S. Kalita, Mr. A. Borah	1
	A report on Technology week celebration, 2009-10	Dr. C.K. Sarma, Dr. S.K. Paul, Mr. S. Kalita, Mr. A. Borah	1
	Annual Report, 2009-10(April-March)	Dr. S.K. Paul, Dr. C. K. Sarma, Mr. S. Kalita	1
	Annual Report, 2009-10(Oct,09-March,10)	Dr. S.K. Paul, Dr. C. K. Sarma, Mr. S. Kalita, Mr. A. Borah, Dr. P. Devi, Dr. H. K. Baruah, Ms. C. Nath, Ms. R. Boro	1
	Annual Action Plan	Dr. S.K. Paul, Dr. C. K. Sarma, Mr. S. Kalita, Mr. A. Borah, Dr. P. Devi, Dr. H. K. Baruah, Ms. C. Nath, Ms. R. Boro	1
	Contingency crop planning	Dr. C. K. Sarma, Dr. S.K. Paul, Mr. S. Kalita, Mr. A. Borah, Dr. P. Devi	1
Total	12	-	12
Popular articles	Rearing of Broilar rabbit as a source of Unconventional source of meat	Dr. P. Devi	Namonir Asom, Dec 11 th , 2009.

	Unconventional Source of Meat:	Dr. P. Devi	Asomiya pratidin March 3 rd , 2010
	Disease and their management in dairy cow-I	Dr. P. Devi	Ghore pothare, Feb 2010
	Disease and their management in dairy cow-II	Dr. P. Devi	Ghore pothare, March, 2010
	Good agricultural practices	Dr. C.K. Sarma	The Assam Tribune, January 8, 2010
	Deficiency and disease related problems in tomato cultivation	Mr. S. Kalita	Ghore Pothare, January 2010
Total	6	-	6
Leaflets/folders	Improved method of brinjal cultivation	Mrs. P. Das, Dr. S.K. Paul, Dr. C.K. Sarma	200
	Insect pest and disease management in brinjal	Mrs. P. Das, Dr. S.K. Paul, Dr. C.K. Sarma	200
	Duck rearing for self employment	Dr. P. Devi, Dr. S.K. Paul, Dr. C.K. Sarma	200
	'Poor man's cow' - Goat rearing and management	Dr. P. Devi, Dr. S.K. Paul, Dr. C.K. Sarma	200
	SHG formation and their management	Dr. H.K. Baruahh, Dr. S.K. Paul, Dr. C.K. Sarma	200
	Care and management of dairy cow	Dr. P. Devi, Dr. S.K. Paul	200
	Diseases in dairy cow and their control	Dr. P. Devi, Dr. S.K. Paul	200
	Important point in industrialization for rural development	Dr. H. K. Baruahh, Dr. S.K. Paul, Mr. K.K. Das	200
	<i>Trichogramma japonicum</i> - biocontrol agent of rice tallow stem borer	Mr. S. Kalita, Dr. S.K. Paul and Dr. C.K. Sarma	-
	Management of broiler chicken in commercial basis	Dr. P. Devi	-
	Cultivation technique of Oyster Mushroom	Dr. H.K. Baruah, Mr. S. Kalita and Dr. S.K. Paul	200
	Seed treatment	Mr. S. Kalita, Dr. S.K. Paul and Dr. C.K. Sarma	200
	Insect pest of black gram and green gram and their control	Mr. S. Kalita, Dr. S.K. Paul and Dr. C.K. Sarma	200
	Management of backyard poultry	Dr. P. Devi, Dr. S.K. Paul	200
	Production technology of fertilizer & pesticides for organic agriculture	Ms. R. Brahma, Dr. S.K. Paul, Dr. C.K. Sarma	200
Mineral mixture and its use in animal husbandry	Dr. P. Devi, Dr. S.K. Paul, Dr. C.K. Sarma	200	
Production technology of pointed guard	Ms. R. Brahma, Dr. S.K. Paul, Dr. C.K. Sarma	200	
Scientific rearing of cow for self employment	Dr. P. Devi, Dr. S.K. Paul	200	

Total	18	-	3200
Grand Total	38	-	3218

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

(C) Details of Electronic Media Produced : NA

3.7. Success stories /case studies, if any

A. Mr. Sarbeswar Roy, an example of motivation towards progressive farming

Mr. Sarbeswar Roy, a middle aged resident of 1 No. Chapaguri village of newly formed Chirang district of Assam inherited agricultural land from his family and engaged him in agricultural activities with traditional system of cultivation, in addition to some contractual works. Major portion of his area is medium land in situation, therefore, he preferred monocropping of rice cultivation during kharif season as rainfed crop and the field became fallow during winter season. Similar was the case with the entire area, although a natural stream passes through the crop field and keeps the entire field wet which debarred him as well as other farmers to grow some other upland rabi crops. It was indeed very much painful for him looking at the vacant field during winter season as he couldn't opt out suitable cropping sequence because of poor knowledge. Moreover, he could realize that unless farmers were organized, they were unable to harness the potentiality of the natural stream passing through the crop area. It was in 2008; he came to know about the newly established Krishi Vigyan Kendra of Bongaigaon district and visited the organization along with some of his farmer friends. He expressed his ignorance on how best he could utilize the area and asked for scientific guidance. KVK scientists visited the entire field and advised them to cultivate summer rice under irrigated condition in community basis as there is a natural source of water for irrigation. Encouraged by the suggestion, he organized the farmers and formed a working group to cultivate summer rice in an area of 6.5 ha. KVK Bongaigaon also arranged a demonstration programme in 2.0 ha on "Scientific production technology of summer rice (var. Joymoti)" in their field by providing all necessary critical inputs for the programme. Supply of quality seed of summer rice (var. Joymoti) was also arranged for other areas at their own cost. Farmers were trained up with new technologies such as nursery management technique, land preparation, transplanting, fertility management, weed management, pest management etc. After receiving full assistance for the programme as well as guidance, they paid full attention to their crop and could raise a very good crop during winter season at almost zero cost of irrigation water. Finally, they harvested a bumper rice crop with average productivity of 5.5 t/ha which is much higher than their kharif rice crop, that too from an area which used to be lying vacant

during winter season and earned a net profit of Rs-2,47,000. Inspired by the success and after getting additional economic benefit, he cultivated summer rice in 2009-10 in another area also and harvested in an average 6.6t per hectare. Motivation of the farmers and leadership played an important role in the whole process of success. He possesses good leadership quality and has proved himself as true leader. He has been playing an important role in transferring summer rice cultivation technology in the district and becomes an inspiration for KVK, Bongaigaon as well as for many farmers. He gave full credit to KVK, Bongaigaon for his transformation to a successful farmer. We the scientists of K.V.K., Bongaigaon are also proud of him and wish him all success.

B. Mr. Dalim Choudhary – most successful rice seed grower of the district

Rice is the most important crop of the district; however, seed replacement rate is very low due to non availability quality seed material of HYVs of rice which is resulting in gradual decline in rice productivity. State dept of agriculture, Govt. of Assam initiated a move in this direction by establishing seed villages; however, it could hardly get success. Krishi Vigyan Kendra, Bongaigaon, a six years old organization has been trying sincerely to engage rural youth in income generating activities in the agricultural sector and has identified seed production in the farmer's field as one of its thrust areas.

Mr. Dalim Choudhary, a resident of vill.: Nowagaon under Bongaigaon sub-division of Bongaigaon district and also a progressive cultivator, aged around 35years came forward to produce quality seed of rice with the assistance and guidance from KVK, Bongaigaon. In 2008, KVK, Bongaigaon arranged breeder seed of kharif rice (var. Ranjit) and conducted a demonstration programme on seed production technology. He carefully raised the crop in 1.0 ha with full guidance from KVK scientists and Assam Seed Certifying Agency, Assam certified the produce as per norms. Fortunately, there is heavy demand of quality seed of rice in the district and he could sell 30.0qintol of his foundation seed in no time at higher price prior to the coming season. Encouraged by the success, he opted out quality seed production of rice as the main enterprise in 2009 and started producing seed of HYVs of rice namely 'Ranjit' and scented rice variety 'Ketekijoha' with expansion of area up to 2.5. He also adopted 'System of rice intensification' technology for producing quality seed as it requires lesser seed than the normal practice. With the achievement, he has been putting sincere effort mainly on this technology and producing quality seed every year. He earned Rs. 50,000 and Rs. 1,50,000 by selling seed in 2008 and 2009, respectively and expecting approximately

Rs2,50,000 in 2010. Now, he is a brand name for quality seed of rice in the district, even in other district also and has become the most successful rice seed grower of the district.

Mr. Dalim Choudhary is now a happy man with a secured future through agriculture especially with seed production technology of rice and also becomes an inspiration for many farmers. He always acknowledges the helps received from KVK, Bongaigaon and gives full credit to KVK scientists for his transformation to a successful seed grower. We the scientists of K.V.K., Bongaigaon are also proud of him and wish him all success.

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)

Sl. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1	Rice	Use of perches in the paddy field so that predatory birds sit on it and can trap insect pests.	Control insect pests.
2	Citrus, Paddy	Application of some weeds and outer coat of citrus fruit in the standing water of paddy field to control case worm.	Control case worm
3	Paddy	Use of dead frog and crab in the paddy field to repel Gandhi bug.	Repel Gandhi bug
4	Paddy	Spraying of fresh cow dung solution in paddy crop to control bacterial leaf blight.	Control bacterial leaf blight.
5	Paddy	Application of kerosene oil in the standing water of paddy field to control case worm infestation.	Control case worm infestation.
6	Brinjal	Application of ashes over the leaves of some cucurbits and brinjal to reduce insect infestation.	Reduce insect infestation.
7	Bottle gourd	Splitting of base of bottle gourd plant and piercing with catfish spine to induce fruit setting.	Induce fruit setting.
8	Vegetable crops	Spraying of solution of one part of cattle urine and six part of water in vegetable crops to protect against insect pests.	Protect against insect pests.
9	Seed preservation	Use of neem leaves for controlling storage pests.	Controlling storage pests.
10	Rice	Beating the upper half of standing rice crop with thorny branches of trees	Controlling leaf folder

3.10 Indicate the specific training need analysis tools/methodology followed for

- *Identification of courses for farmers / farm women*
 - Need based training courses are being identified after collecting necessary information from the farmer's field in a participatory way.
 - Some training courses are identified after interacting with the extension functionaries of various departments and members of NGOs as well as farmer's organizations.
 - Training courses are also decided considering farmer's demand on a particular subject matter.
- *Rural Youth*
 - Need based training courses are identified after interacting with youth organizations, SHGs NGOs, Govt. Depts. etc.
 - Some training courses are planned after knowing scope and prospects of income generating activities in the rural areas.
 - Through people's participation.
- *In-service personnel*
 - Interaction with the extension functionaries of agriculture and allied departments, NGOs, SHGs etc.
 - Based on the discussion in ZREAC meeting and on latest technological development.

3.11 Field activities

i.	Number of villages adopted	:	2
ii.	No. of farm families selected	:	12
iii.	No. of survey/PRA conducted	:	2

3.12. Activities of Soil and Water Testing Laboratory NA

4.0 IMPACT

- **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)
Early flowering of citrus var. Assam Lemon through root exposure, irrigation, balance fertilization followed by black polythene mulching	25	60	90,000.00/ha	1,50,000.00/ha
Commercial cultivation of Banana, Var. Malbhog through 'corm' as planting material along with recommended doses of fertilizer, treatment of planting material and all plant protection measures	125	50	52,000.00/ha	87,500.00/ha
Selection of suitable variety of Potato, seed treatment, balance fertilization, irrigation and plant protection measures for late blight and wilt	50	40	48,000.00/ha	94,000.00/ha
Introduction of HYV of <i>Sali</i> rice var. Ranjit with modern cultivation technology viz. time of sowing & transplanting, seed treatment, fertility management, water management and plant protection measures	100	60	21,600.00/ha	34,200.00/ha
Introduction of HYV of Boro rice var. Joymoti and Kanaklata with modern cultivation technology viz. time of sowing & transplanting, seed treatment, fertility management, water management and plant protection measures	125	60	27,000.00/ha	38,125.00/ha
Seed production technique in <i>Sali</i> rice	55	50	28,000.00/ha	76,000.00/ha
TPS cultivation technology	27	30	1,69,000.00/ha	3,97,000.00/ha

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

4.2. Cases of large scale adoption

(Please furnish detailed information for each case)

1. Summer rice is cultivated in some areas of the district with some intruded varieties like BR-8, BR-9 etc which yield 4.0-4.5 t/ha under irrigated condition. However, there are some areas in the district with natural source of water, where fields remain fallow after harvesting of Kharif rice and can be exploited for cultivation of summer rice and KVK, Bongaigaon has been consistently trying to popularize summer rice in those areas for efficient utilization of resources to attain at least 200% cropping intensity.

FLD and training programme on “Improved production technology of summer rice” have been organized regularly for last four years in the farmer’s field and owing to continuous effort in this direction, there has been gradual increase in area under summer rice cultivated with natural sources of water, which has gone up to approximately 100ha in 2009-10. Yield potentiality of summer rice varieties are much higher than *Kharif* rice and therefore, many farmers have shown their interest to utilize fallow land after *Sali* paddy by growing summer rice where there is irrigation facility.

2. *Kharif* rice is the most important crop of the district which occupies more than 70% of the total rice growing areas. Adoption of improved production technology of *Kharif* rice in the farmers’ field is not yet satisfactory and KVK, Bongaigaon is trying hard to popularize improved technology through various activities like training, front line demonstration, on farm testing, advisory service etc. Effort has also been made to make quality seed available in the district by encouraging seed production in the farmer’s field. Because of the sincere effort, farmers have started adopting improved production technology of *Sali* rice especially in respect of quality seed, fertility management and pest management. At present HYV of *Kharif* rice is cultivated more than 40% of rice growing areas of the district. Considering the high yield potential of HYVs of *Sali* rice, it is expected that more farmers will come forward to adopt these varieties in near future.
3. Potato is an important vegetable crop of the district and necessary technologies required for obtaining higher yield has been initiated by the scientists of KVK, Bongaigaon. Many farmers have adopted scientific cultivation practices of potato after receiving necessary helps and guidance from the scientists of KVK, Bongaigaon and could harvest higher crop yield. KVK, Bongaigaon has been demonstrating irrigation management technology in potato since 2007-08 which has become a popular technology among the potato growing farmers of KVK operational areas.

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Improved cultivation technology of summer rice	100	60	27,000.00/ha	38,125.00/ha
Seed production technique in <i>Sali</i> rice	50	50	28,000.00/ha	76,000.00/ha
TPS cultivation technology	25	28	1,69,000.00/ha	3,97,000.00/ha

5.0 LINKAGES

5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
1. State Department of Agriculture, Veterinary Science, Fishery, and Sericulture etc. of Bongaigaon and Chirang district.	<ul style="list-style-type: none"> • Identification of training needs and target group for various extension activities. • Involvement in various state extension activities like Technology Mission, District Level Implementation and Monitoring etc. • Planning and implementation of ATMA. • Exchange of resource persons in various training programmes
2. Civil Administration, DRDA, SIRD, Block Development Offices, Banks of Bongaigaon and Chirang district.	<ul style="list-style-type: none"> • Participation in departmental programmes. • Formation and functioning of SHGs, NGOs etc. • Entrepreneurship development.
3. Farmer's Organizations like Field Management Committee, All Bodoland Farmer's Association (DuBAA), NGOs (Disha, ANT, Luther World Service India etc.	<ul style="list-style-type: none"> • Identification of need based training courses and beneficiaries for various extension activities. • Organizing training programmes. • Entrepreneurship development.

NB The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

- **List special programmes undertaken by the KVK, which have been financed by State Govt./Other Agencies**

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Farmers awareness programme on Commodity Future Market	26-27 March, 2010	Forward Market Commission, Govt. Of India, Mumbai	12,500.00

5.3 Details of linkage with ATMA

a) Is ATMA implemented in your district: Yes

S. No.	Programme	Nature of linkage	Remarks
1	Training	Participation as resource person	Involvement in the training programmes as resource person.

5.4 Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Constraints if any
1	Technology Mission	1. Providing technical guidance	Lack of cooperation while selecting beneficiaries and demonstration sites
		2. Monitoring of farmers field	
		3. Participated as resource person in the training programme	

5.5 Nature of linkage with National Fisheries Development Board: NA

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm): NA

6.2 Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Buck wheat	10.11.09	23.02.10	1.5	Local	Seed	5.5	3872	11000	Yet to be sold
Oilseeds (Sesamum)	01.09.09	20.11.09	1.0	ST-1683	Seed	1.4	4652	5600	Yet to be sold
Toria	30.10.09	04.02.10	1.0	TS-36	Seed	1.5	5939	6000	Yet to be sold
Spices & Plantation crops									
Floriculture									
Fruits									

Vegetables									
Others (specify)									

- Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.) : NA
- Performance of instructional farm (livestock and fisheries production) : NA

6.5 Rainwater Harvesting : NA

6.5 Utilization of hostel facilities: NA

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	BRPL Complex, Dhaligaon	AAU Gen. Fund a/c No. 10266315899

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2010
	Kharif 2009	Rabi 2009 -10	Kharif 2009	Rabi 2009-10	
Inputs					
Extension activities	-	0.19	-	0.17162	0.01838
TA/DA/POL etc.					
TOTAL	-	0.19	-	0.17162	0.01838

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2010
	Kharif 2009	Rabi 2009 -10	Kharif 2009	Rabi 2009-10	
Inputs	-	0.23750	-	0.22800	0.0095
Extension activities					

TA/DA/POL etc.					
TOTAL	-	0.23750	-	0.22800	0.0095

7.4 Utilization of funds under FLD on Cotton (Rs. In Lakhs): NA

7.5 Utilization of KVK funds during the year 2008 -09 and 2009 -10 (year-wise separately) (current year and previous year)

April, 2008 to March, 2009

Sl. No.	Particulars	Sanctioned (in lakhs)	Released (in lakhs)	Expenditure (in lakhs)
A. Recurring Contingencies				
1	Pay & Allowances	26.50	23,53,989	20,78,608
2	Travelling allowances	1.25		1,07,260
3	Contingencies	5.00		3,97,651
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)			
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		32.75		25,83,519
B. Non-Recurring Contingencies				
1	Works			
2	Equipments including SWTL & Furniture			
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
TOTAL (B)				

C. REVOLVING FUND			
GRAND TOTAL (A+B+C)	32.75		25,83,519

April, 2009 to March, 2010

Sl. No.	Particulars	Sanctioned (in lakhs)	Released (in lakhs)	Expenditure (in lakhs)
A. Recurring Contingencies				
1	Pay & Allowances	24.00	39,67,090.00	33,31,798.00
2	Travelling allowances	1.00		1,24,288.00
3	Contingencies	6.00		5,51,004.00
<i>A</i>	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)			
<i>B</i>	POL, repair of vehicles, tractor and equipments			
<i>C</i>	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			
<i>D</i>	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
<i>E</i>	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
<i>F</i>	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
<i>G</i>	Training of extension functionaries			
<i>H</i>	Maintenance of buildings			
<i>I</i>	Establishment of Soil, Plant & Water Testing Laboratory			
<i>J</i>	Library			
TOTAL (A)		31.00		39,67,090.00
B. Non-Recurring Contingencies				
1	Works			
2	Equipments including SWTL & Furniture			
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
TOTAL (B)				
C. REVOLVING FUND				

GRAND TOTAL (A+B+C)	31.00		39,67,090.00
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7.5 Status of revolving fund (Rs. in lakhs) for the three years: NA

8.0 Please include information which has not been reflected above (write in detail).

8.1 Constraints

(a) Administrative

- Frequent bandh called by various organizations often disturbs functioning of KVK
- Lack of permanent office building and other infrastructure facilities hinders smooth functioning of KVK activities

(b) Financial

- Procedure for release of fund for various activities is time consuming and delays smooth conduct of the programme
- Allocation of fund for trainee's meal and training material is not sufficient.

(c) Technical

- Shortage of Programme Assistant creates problems in proper implementation of the programmes
- Information in respect of recent technology or technology in the pipeline for various OFT and FLD programmes are lacking.

ANNEXURE

District Profile - I

INCLUDE THE DETAILS OF BONGAIGAON DISTRICT

General census

The total population of the district is 6,04,660 as per 2001 Census, out of which 5,13,000 live in rural areas. The population density per sq.km. are 316 with sex ratio 1000: 945 (Male: Female).

General statistics

Table 1: General information

Block	General					Population (As per the 2001 Census)				
	Villages		No. of Revenue Villages	Area (ha)	No. of G.P.s	Male	Female	Total	S.C.	S.T.
	In-habitated	Un-inhabitated								
Dangtal	101	-	101	24121	16	48523	46911	95434	6616	8301
Boitamari	142	25	167	24080	13	112089	57670	54419	16993	2785
Srijangram	112	-	112	20317	13	104173	53527	50646	7666	1130
Tapattari	100	-	100	14329	11	98026	50726	47300	12030	914
Manikpur	85	-	85	28038	12	87012	82937	169949	18348	8811
Total	540	25	565	110885	65	449823	291771	417748	61653	21941

Source: 2001 census.

Demographic Profile of the District

Total population ('000)	604.66
Male population ('000)	311.46
Female population ('000)	293.20
Rural population ('000)	513.00
Urban population ('000)	91.00
Total household (nos)	168556
Rural Household (nos)	145300
Total Literacy (%)	59.33
Literate male (%)	67.67
Literate female (%)	50.44
SC population ('000)	0.66
ST population ('000)	0.13

BPL Household (nos)	54045
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Source: Agricultural Statistics 2004-05

Agricultural and allied census

Agriculture is the back bone of Indian Economy and therefore, occupies a prominent place in the economy of Assam. According to census 2001, the state possesses substantial number of rural population (87.10%) with 3730773 nos. of cultivators (14%) and 1263532 nos. of agricultural labours (4.7%). The diverse topography and ago climatic conditions of the region has made it vary conducive for cultivation of wide varieties of agricultural and horticultural crops.

Bongaigaon is one of the major districts of Assam situated at the Northern part of Brahmaputra River under Lower Brahmaputra Valley Zone of Assam. Agriculture plays an important role in the economy of the district and about 70% of the rural population directly involve in agriculture as their livelihood. Rice is the major crop of the district which occupies 57% and 43% of cropped area during Kharif and Rabi seasons, respectively. The other important crops of the district are wheat, rape & mustard, jute, black gram, green gram, sesame, sugar cane, Rabi & kharif vegetables, ginger, turmeric, coconut, areca nut, pineapple, banana, citrus etc. The district has plentiful of natural resources, however, the process of harnessing and judicious utilization of these resources is not yet well defined. Therefore, there is need to design and formulate situation specific need based strategies by taking into account agronomic, climatic and socio-economic conditions as well as available resources worthiness of farmers.

Table 2 : Land Holdings (Agriculture Census 2001)

(Holdings in numbers and area in ha)

Block	Marginal Farmers		Small Farmers		Semi-med. Farmers		Landless farmers		Large farmers		Total	
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
Dangtal	5527	4922	1679	3233	-	-	1682	651	1023	3113		
Boitamari	8621	7674	2791	5380	-	-	2456	366	1410	3476		
Srijangram	7071	6295	2290	4413	-	-	1613	368	1088	2792		
Tapattari	5027	4477	1286	2474	-	-	2917	499	640	1696		
Manikpur	7064	4041	2700	5204	-	-	4041	809	1355	4611		

Table G. Landless – up to 0.4 Ha, 0.4 -1 Ha - marginal farmers, 1-2 Ha - small farmers, above 2 Ha - large farmers Source: Agril. Statistics 2004-05.

Land Use:

Table 3. Information on land use pattern in the Bongaigaon District. (Area in Ha)

Sl. No	Name of the block	Geographical area	Cultivable Area	Cultivated Area	Cultivable Waste	Cultivated Fallow
1	Manikpur	28038	18905	17273	713	919
2	Dangtol	24121	12433	11364	580	489
3	Boitamari	24080	15974	15497	627	350
4	Srijangram	20317	11386	12234	741	418
5	Tapattari	14329	7995	7312	629	397
	Total	199045	68693	62780	3340	2573

Table 4. Information on Land use pattern in the Bongaigaon District (Area in Ha)

Sl. No	Name of the block	Forest	Pasture	Land put to Non agri. use	Land under misc. plantation	Barren & unculturable land (waste land)
1	Manikpur	313	2750	3046	531	2493
2	Dangtol	2967	3358	3230	990	1143
3	Boitamari	379	3218	1269	876	2364
4	Srijangram	315	3015	1127	973	1501
5	Tapattari	227	2672	1499	811	1125
	Total	4201	15013	10171	4181	8626

Table 5. Information on land use pattern in different soil types in Bongaigaon District (Area in Ha).

Sl. No.	Name of Block	Light Grey area	%	Red soil (Mixed) area	%	Sandy soil area	%	Sandy loam area	%	Clay loam area	%
1	Manikpur	19626.6	70	8411.4	30	4766.46	17	17383.56	62	5887.98	21
2	Dangtol	15678.65	65	8442.35	35	2894.52	12	15919.86	66	5306.66	22
3	Boitamari	14688.8	61	9391.20	39	3852.8	16	15411.2	64	4816	20
4	Srijangram	14831.41	73	5485.59	27	3047.55	15	13409.22	66	3860.23	19

5	Tapattari	10316.88	72	4012.12	28	3099.09	21	9600.43	67	1719.18	12
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Soil types:

The soils of the district are mostly red, alluvial and mixed red. The soil texture is sandy loam to clay loam

Sl. No.	Soil type	Characteristics
1	Light gray	Sandy loam to silty loam in texture
2	Red soil (Mixed)	High in 'Fe' and 'Al' oxides. Fairly well drained soil
3	Sandy soil	Light textured soil
4	Sandy loam	Medium textured
5	Clay loam	Heavy textured. Poor external as well as internal drainage

Water Resources & Management:

Bongaigaon district has a good number of rivers, flowing from the mountainous region of Bhutan to its south which offers a good source of flow and lift irrigation and the total irrigation potential created is estimated at 5336 ha. Beels, tanks and ponds are also being utilized for lift irrigation covering an area of about 2500ha. These resources are also utilized for production of fish. To support the phased development of the potential, certain basic infrastructural facilities identified are as follows

- A nodal agency to coordinate the various minor irrigation development project and to provide technical support
- Provision for maintenance of existing MI structure
- Adequate budgetary allocation

Table 6. Information on water resources

Categories of Water resources	Area (Ha)
1. Tanks & Ponds	994.64
2. Beel	1859.15
3. Swamp/Derelict	623.30

4. River	5336.20
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Major crops & varieties in the District

Table 7. Information on major crops and varieties grown in the district

Major Crops	Varieties
1. Rice (Sali)	Ranjit, Mahsuri, Swarna Mahsuri, IR-36, Baismuthi, local varieties
2. Rice (Ahu)	Local varieties, Luit, Lachit, IR-36, Mala, Komal
3. Rice (Boro)	BR-8, BR-9, Joymoti, MTU 1001, IR-36
4. Rapeseed & Mustard	M-27, TS-36, Local varieties
5. Sesamum	Local varieties, AST-1
6. Black gram	Local varieties, PU-19
7. Lentil	Local varieties, B-77
8. Wheat	Sonalika, Molla gom, local varieties
9. Jute	JRC 212, JRC 321, JRO524, JRO 632
10. Potato	Kufri Jyoti, Kufri Pokhraj, Desi alu,
11. Chilly	Local varieties, Pusa Jwala,
12. Kharif Vegetables	Hybrid , high yielding and local varieties
13. Rabi vegetables	Hybrid , high yielding and local varieties
14. Areca Nut	Local
15. Coconut	Assam tall, Bengal Hazari, Kamrupa
16. Banana	Malbhog, Dwarf Cavendish, Chenichampa, Bheem kal
17. Assam Lemon	Local improved varieties
18. Ginger	Local varieties, Moran, Nadia

Input management:

Management and timely supply of agricultural inputs such as seed, fertilizers, pesticides, farm machineries, implements, livestock feed etc is very much essential for agricultural development in the district. Several private agencies like input dealers and retailers as well as public sector organizations such as Assam Seed Corporation, Assam Agro Industries Development Corporation and concerned govt. departments have been rendering their services in managing various inputs. Information on input and service providers in the district Bongaigaon are given in Table19.

Table 8. Information on input and service providers (no of outlet) in the agricultural sector

Nos. of fertilizer, seed and pesticide outlet	146
Nos. of plantation / horticultural nurseries	5
Nos. of fish seed farms / hatcheries	6
Nos of artificial insemination centre	10

Table 9. Information on Agricultural Input

Total N/P/K consumption	56 kg/ha
Nos. of agricultural tractors	174
Nos. of agricultural pump sets	10377
Nos. of Agri-engines/ thresher/ cutters	Na

Agro processing:

Agro processing along with related post harvest technology play a key role in value addition, income and employment generation in rural areas. The market potentiality for processed fruits is growing with improvement in processing technology, leading to export of processed fruit. Fruit crops like pineapple, citrus banana etc. are mostly consumed in raw and only 1% of the produce are processed at present. Since the demand for ready to serve beverages and fruit juice concentrates are constantly rising, this sector has the potential to be one of the main industries of the district in the years to come.

Table 10 . Information on Agro process facility

Sl. No.	Location	Name of the centre	Commodity processed
1	Bongaigaon	District Community Canning and Training Centre, Bongaigaon (Govt.)	Fruits and Vegetables
2	Abhayapuri	Community Canning and Training Centre, Abhayapuri (Pvt.)	Fruits and Vegetables

Sericulture:

Sericulture has an old traditional existence in Bongaigaon District since time immemorial. It plays a significant role in the socio- economic development of the weaker section. Most of the Seri culturist of this district still prefers sericulture as their subsidiary income source of their off agricultural season. It is mentioned that the eri practice in the district is traditional among some cast and community, but the muga culture is becoming more popular from last few years. Climatic conditions are favourable for cultivation of crops like eri, muga and mulberry for silk worm rearing. Most of these activities, except growing of plantation and rearing are basically non farm activities. There is tremendous scope and prospect for expansion of sericulture in rural areas through increasing food plants especially for muga culture. There is also scope to spread the sericultural activities to the people of char areas especially in eri culture though proper organization.

Table 11 . Existing activities of sericulture:

Sl. No.	Activities	No of families involved (2007-08)	Nos. of seri. village	Area under silk worm food plants (2007-08)
1	Eri silk industry	1873	59	185.33 ha
2	Muga silk industry	1537		218.6 ha
3	Mulberry silk industry	159		2.5 ha

Table 12 : Production in sericulture sector

Sl. No.	Activities	Item	Production (2008-09 up to December, 08)
1	Eri silk industry	Eri Dfs	1,20,000 Dfs
		Eri cut cocoon	11500 kg
2	Muga silk industry	Raw silk	250 kg
		Reeling cocoon	12,50,000 nos.

Govt. Farm/Institution under Department:

- Nayagaon V. G. R., Nayagaon
- Khagarpur collective mulberry garden, Khagarpur
- North Boitamari collective mulberry garden, Dewangaon

Animal Husbandry:

It is need less to mention that livestock plays a pivotal role in the livelihood of the rural population. Agriculture and livestock rearing are culturally and traditionally bonded and act as back bone of the rural economy. Important livestock of the district are cattle, goat, pig, sheep, poultry, ducks etc. Rearing of improved breed of livestock is not a common practice and majority of livestock species are indigenous and non descriptive type. Therefore, it is noticed that the productivity level of the livestock population often goes to sub optimum level which contributes to far below per capita availability of livestock produces as compared to the ICMR recommendation. This might be due to low genetic potential, improper utilization of available resources, non adoption of scientific rearing of livestock and lack of awareness about scientific advancement. Dairy is an important allied activity in the district. The sector is characterized by a large population of non-descript animals. The per capita milk availability of milk is very low as compared to that at the state level. Total milk production in the district during 2007-08 was 24536 tonnes as against the demand of 49453 tonnes. Poultry is still taken up as a traditional backyard activity on as mall scale and commercialization is yet to take pace in the district. With the increasing demand for poultry meat and egg, there is a good scope for commercialization. Duckery is popular as an integrated component of other activities among the rural population. Since commercial farms are very few in the district, there is substantial scope for development of this sector through bank credit. Piggery and goatery are other popular activities under animal

husbandry. Sheep rearing is a low profile activity and goatery is more popular among the rural masses. A picture of the livestock status in the district has been given in Table 29

Table 13. Information on input and service providers (No of outlet) in the agricultural sector

Name of the block	Animal feed & poultry feed	Veterinary medicines
Manikpur	1	2
Dangtol	5	4
Boitamary	2	1
Tapattary	2	1
Srijangram	1	2
Total	11	10

Fisheries development:

Bongaigaon district is endowed with fishery resources in the form of ponds, tanks, beel, swamp, low lying areas, derelict water bodies and a diverse network of river and rivulets. During 2007-08, fish production from the above resources was about 4951.2 MT as against demand of 5986 MT for the entire district at the recommended rate of 11 kg per capita per annum assuming 98 % of the human population consumes fish. Information on water resources, production and requirements are given in Table 33

Table 14. Water resources, production and requirement in Bongaigaon district

Ponds and Tanks	8421 nos.	803.1 ha
Community Tanks	201 nos	102.58 ha
Hatchery	3 nos	-
Fish seed farm (Govt.)	1 no.	-
Water logged areas/ beels	84 nos.	1850.00 ha
Pvt. Water logged area	14 nos	33.20 ha
Fish production	4951.2 MT	-
Seed production	11.30 MT	-
Fish requirement	6318.66 MT	-
Fish seed requirement	72.45 lakhs	-
Nos of seed producer	4	-
Nos of fish seed grower	30	-

Social forestry:

Bongaigaon District is endowed with some of the magnificent flora and fauna of the state. Among them, Sal and Gamari plants are found predominantly in the moist deciduous forests along with Golden Langur, a highly endangered primate adorn these forests. The district has very low forest cover, only 0.008% as against states average of 30% of total geographical area. With curving out of Chirang District from Bongaigaon the forest area has thus reduced considerably.

Status of JFMCs:

To arrest further degradation, Joint Forest Management Committees have been constituted covering the fringe villages of Forest areas under Aie Valley Forest Development Agency, Bongaigaon, for which the National Afforestation & Eco Development Board, Ministry of Environment and Forests, New Delhi provided grants to 17 such JFMCs during X-Plan (2004-05 to 2006-07) under National Afforestation Programme to take up plantation in the degraded forest areas covering an area of 340 ha. Further, during XI-Plan another 51 JFMCs received grants-in-aid from the NAEB to take up 1020ha of plantation (including Chirang Dist).The above target achieved by the JFMCs. Altogether, 92 Nos of JFMCs have been constituted for protection and regeneration of degraded forest areas of the district.

There is a wide gap in the demand and supply of fuel wood, fodder, fibre, bamboo and fertilizers need of the farmer. This calls for an urgent remedial measure to void the gap. Social Forestry wing of Forest Department has been actively engaged to meet the requirement of the above needs of the farmers and presently implementing the following scheme/programme to achieve the goal.

Agro-climatic zones

The district has a Plain Topography, however, it is also having some hillocks and hilly areas in some parts of the district. The climate of the district is sub-tropical in nature with warm and humid summer followed by dry and cool winter. The average annual rainfall is about mm per annum of which 75% is received during monsoon month (June to September). The monsoon months are wet and winter is dry. Both pre and post monsoon months have unpredicted and erratic rainfall. The mean maximum and minimum temperature varies from 33 to 38⁰C and 9 to 10⁰C, respectively. The average radiation is the highest during March – April, while overcast sky reduces the solar radiation to the least during July.

The four orders of soils are found in the district namely (i) Entisols (recent alluvium), (ii) Inceptisols (old alluvium), (iii) Alfisols (Mountain valley) and (iv) Ultisols (Laterised red). The soil of zone is mostly acidic nature and P^H increases near the river Brahmaputra. The organic carbon and available Nitrogen of the soil mostly varies from medium to high, low in available P₂O₅ and medium in K₂O status.

Agro-ecosystems

On the basis of information on physiography, soils, farming systems, crop and cropping systems and hydrological information, the district Bongaigaon has been classified in to 6(six) agro-ecological situations, which are as follows –

1. Foot hills old mountain valley
2. Flood free riverine old alluvial plain
3. Flood prone riverine alluvial plain
4. Hills and hillocks
5. Beels
6. Char land

Major and micro-farming systems:

Table 15. EXISTING FARMING SYSTEMS IN THE IDENTIFIED AES

Sl. No.	AES-I	AES -II	AES -III	AES -IV	AES -V
1	Agri-Horti	Agri-AH-Fishery	Agri-Horti	Agri-AH	Agri-Horti
2	Agri-Horti AH	Agri-AH	Agri-Seri	Horti-AH-Fishery	Agri-AH
3	Agri-Horti-Forestry	Agri-Fishery	Horti-AH		Agri-Horti-AH

Major production systems like rice based (rice-rice, rice-green gram, etc.), cotton based, etc.

Rice Production System in the district

Rice is the most important cereal crop of Bongaigaon district cultivated in medium land to low land either as rainfed crop or under irrigated condition. Rice crop is grown in three different seasons and based on the harvesting time, this crop is classified as summer rice (Boro), autumn rice (Ahu) or winter rice (Sali). Sali rice occupies major portion (60,754 ha) of the rice growing areas, followed by ahu (34,112 ha) and boro rice (9,983 ha). Sali rice is the most important rice crop of the district cultivated during kharif season under medium land to low land condition mostly as rainfed crop. Seeds are sown in the nursery bed during May-June and transplanting operation is carried out during June-July. Traditional low yielding rice varieties such as 'Phulpakhri', 'Moinagiri' etc., scented rice variety 'Kolajoha', local glutinous rice variety are mostly cultivated by the farmers, however, high yielding varieties like 'Ranjit', 'Pankaj', 'Mahsuri', 'Baismuthi' (local name), Ketekijoha, etc. are also prevalent in the farmer's field. Among the HYVs, 'Ranjit' is the most popular variety in the farmer's field owing to its higher yield potential.

Some important features of rice production system

- i. Seed replacement rate is very low and mostly traditional low yielding rice varieties are prevalent in the farmer's field.
- ii. Productivity level of both high yielding and traditional varieties is gradually declining owing to poor knowledge on seed production technology.
- iii. Sali rice is mostly grown as rainfed crop during kharif season owing to which sowing and/or transplanting operation is often delayed when there is no rain. Moreover, moisture stress condition at the later stages of crop growth is more common in Sali rice field resulting in chaffy grains and lower crop yield.
- iv. Sali crop is often affected by flood water in some chronically flood affected areas where farmers resort to cultivation of some traditional photo-sensitive varieties after recession of flood water. In some low lying areas, where flood water remains in the field till the transplanting time is over, farmers use to cultivate boro rice under irrigated condition.
- v. Transplanted ahu rice and boro rice cultivation under medium land to low land condition are being practiced under assured supply of irrigation water, however, some typical low lying beel areas are also available for boro rice cultivation under rainfed.
- vi. Imbalance use of fertilizers is a common practice in rice production system. Application of potassic fertilizer is often neglected because of ignorance of the farmers. In some boro rice growing areas, application of over doses of fertilizers is also seen. Integrated Nutrient Management technology is not yet popularized in the farmer's field.
- vii. Under irrigated condition, water is applied without considering time of water application, method and quantity of water needed. In some areas, application of excess amount of irrigation water than the recommended is also observed.
- viii. Generally, in transplanted rice, weed growth is not favoured due to puddle condition and continuous submergence, however, weed causes severe damage and yield reduction in direct seeded ahu rice grown under upland condition. Hand weeding and mechanical weed control methods are usually applied to control weeds and use of low land paddy weeder is most common in transplanted rice where line planting is practiced. In direct seeded ahu rice, hand weeding and use of an implement 'Bindha' are practiced in the farmer's field. Use of herbicide is limited to certain boro rice growing areas, although, farmer's do not have adequate knowledge on this aspect.
- ix. Rice crop is often infested by various insect pests such as stem borer, case worm, leaf folder, gall midge, brown plant hopper, mealy bug, gandhi bug etc. as well as diseases like blast, brown spot, sheath blight, sheath rot, stem rot, bacterial leaf blight, tungro etc. Mostly chemical method of pest control is applied by the farmers and injudicious use of chemicals is often noticed owing to inadequate knowledge of the farmers.

Table 17 Area, Production and Productivity of Rice crop cultivated in Bongaigaon district

Sl. No.	Crop	Area (ha)	Production (qtl)	Productivity (qtl /ha)
1	Rice (Sali)	60,754	7,09,610	11.60
2	Rice (Ahu)	34,112	3,22,700	9.46
3	Rice Boro)	9,983	1,90,970	19.13

Pulse Production System

Pulse is the integral component of our diet which is a rich source of protein, vitamins, minerals etc. Apart from the human diet, pulses form an important fraction of cattle feed and fodder as hay, green fodder and concentrates. Being leguminous, pulse crops play an important role in maintaining and restoring soil fertility.

Important pulse crops cultivated in Bongaigaon district are black gram, green gram and arahar during kharif season and lentil and pea during rabi season. These are mainly grown under rainfed condition and very limited area is brought under irrigation. Although, soil and climatic conditions are favourable for pulse production and despite of numerous efforts made to increase the production of pulses, productivity level still far below the national average and therefore, there has been no perceptible change in per capita availability and thus, the problem of imbalance diet due to short supply of pulses remains unsolved. Poor adoption of high yielding varieties and improved agronomic practices, lack of irrigation facility etc. are some important factors contributing towards lower yield.

Some Important features of pulse Production system in Bongaigaon district:

- i. Pulses are mainly grown as rainfed crops and therefore crops often suffer from moisture stress condition, especially during rabi season and crops become poor resource based rainfed crops.
- ii. Growing season of kharif pulses coincide with rainy season. Rain is often erratic, uncertain and unevenly distributed because of which there is water logging in the crop field during kharif season.
- iii. Rabi pulses are mainly cultivated in the medium land situation after harvesting of Sali rice. Cultivation of long duration rice varieties often delays timely sowing of pulse crops and crops suffer from moisture stress condition as well as low temperature.
- iv. Pulses are mostly grown in neglected conditions as provisions for efficient drainage, better tilth, nutrient management, water management, weed management etc. are not made properly.
- v. Suitable high yielding varieties of pulse crops are not yet popularized in the farmer's field and cultivation of locally available varieties having lower yield potential is in practice. Seed replacement rate is very low.

Table 3.10 Area, Production and Productivity of major pulse crops cultivated in Bongaigaon district

Sl. No.	Crop	Area (ha)	Production (qtl)	Productivity (qtl /ha)
1	Black gram	2,667	12,030	4.51
2	Lentil	2,417	13,340	5.52

Oilseed Production System

Important oilseed crops grown in the district are sesame during kharif season and rapeseed & mustard, niger and linseed during rabi season. Rapeseed and mustard is the most important oilseed crop of Bongaigaon district grown during rabi season which occupies an area of 13,182 ha with a total production of 66,040 qtl. (Table 3.11). Productivity level of all the oilseed crops grown in the district is far below the national average which is mainly attributed to non adoption of high yielding varieties and improved agronomic practices, lack of irrigation facility etc. Some of the important features of oilseed production system are described below.

Some Important features of oilseed Production system in Bongaigaon district:

- i. About 90 per cent area under oilseed crops grown in the district remains rainfed and absence of rain at critical stages of crop growth causes significant reduction in production and oil content.
- ii. Growing season of kharif oilseed crop such as sesame (July to 1st fortnight of August) coincides with the rainy weather. So water logging immediately after sowing or at the initial stages of crop growth often causes mortality of seedlings and resulted in lower plant population.
- iii. Rapeseed & Mustard is mainly cultivated in rice-toria sequence in medium land situation in most part of the district. Growing of long duration Sali rice varieties delays sowing of toria. Late sown toria often suffers from moisture stress condition at the time of siliqua formation or siliqua development stage causing severe yield reduction and oil content. Aphid infestation is also seen to be higher in late sown crop due to favourable weather condition late in the season.
- iv. Majority of oilseed growers are small and marginal, adopt low standard of management technology viz. sub standard seed, imbalance use of fertilizers, injudicious use of agro chemicals for pest control etc.
- v. Suitable high yielding varieties are not available in the farmer's field due to inadequate arrangement for seed supply and cultivation of old varieties is in practice.
- vi. Farmer's are not aware of appropriate post harvest technology to prevent loss and deterioration of quality and often face storage, grading and marketing problems.

Major agriculture and allied enterprises

EXISTING FARMING SYSTEMS AND PREDOMINANT ENTERPRISES IN EACH AES

AES-I		AES-II		AES-III		AES-IV		AES-V	
EFS	DE	EFS	DE	EFS	DE	EFS	DE	EFS	DE
Agri-Horti	Agri	Agri-AH-Fish	Agri	Agri-Horti	Agri	Agri-AH	Agri	Agri-Horti	Agri
Agri-Horti-AH	Agri	Agri-AH	Agri	Agri-Seri	Agri	Horti-AH-Fish	Hort (Veg)	Agri-AH	AH
Agri-Horti-For	Agri	Agri-Fish	Fish	Horti-AH	AH			Agri-Horti-AH	Hort (Frt.)

- DE-Dominant enterprise

Agro-ecosystem Analysis of the focus/target area - II

Include

1. Names of villages, focus area, target area etc.:

Sl. No.	Name of the village	Name of the block	Enterprises	Focus areas
1	Pub Enkorbari	Sidli	Crop production system	-Improvement of productivity of major field crops -Production of quality seed/planting materials -Crop planning for rainfed areas for higher production -Expansion of area under oilseeds and pulses -Maintenance of soil health through integrated nutrient management technology and balance fertilization -Adoption of eco friendly approach like integrated pest management, etc. -Crop diversification
			Horticulture production system	-Commercial production of major fruits, vegetables, spices etc --Resource management for sustainable production -Adoption of appropriate IPM technology in vegetable production
			Livestock production system	-Up gradation of breed - Improving feeding, housing, sanitation & health care for livestock -Fodder cultivation

			Fish production system	-Composite fish culture -Seed production
2	Alengmari	Manikpur	Crop production system	-Improvement of productivity of major field crops -Production of quality seed/planting materials -Expansion of area under oilseeds and pulses -Maintenance of soil health through integrated nutrient management technology and balance fertilization -Adoption of eco friendly approach like integrated pest management, etc. - Crop diversification
			Horticulture production system	-Commercial production of rabi and kharif vegetables -Productivity improvement through irrigation management in rabi vegetables -Adoption of appropriate IPM technology in vegetable production
			Livestock production system	-Up gradation of breed - Improving feeding, housing, sanitation & health care for livestock -Fodder cultivation
			Fish production system	-Composite fish culture
3	Bashbari	Boitamari	Crop production system	-Improvement of productivity of major field crops -Production of quality seed/planting materials -Crop planning for rainfed areas for higher production -Expansion of area under summer rice -Resource management for sustainable production -Maintenance of soil health through integrated nutrient management technology and balance fertilization -Adoption of eco friendly approach like integrated pest management, etc.
			Horticulture production system	-Reduction of yield gaps -Commercial production of major fruits, vegetables, spices etc -Commercial floriculture -Preservation of locally available fruits and vegetables -Adoption of appropriate IPM technology in vegetable production
			Livestock production system	-Up gradation of breed - Improving feeding, housing, sanitation & health care for livestock -Fodder cultivation -Dairy, duckery, goatery etc.
4	Matiapara	Borobazar	Crop production system	-Improvement of productivity of major field crops -Production of quality seed/planting materials -Crop planning for rainfed areas for higher production

			<ul style="list-style-type: none"> -Expansion of area under oilseeds and pulses -Resource management for sustainable production -Maintenance of soil health through integrated nutrient management technology and balance fertilization -Adoption of eco friendly approach like integrated pest management, etc.
		Horticulture production system	<ul style="list-style-type: none"> -Reduction of yield gaps -Commercial production of major vegetables, spices etc -Adoption of appropriate IPM technology in vegetable production -Crop diversification
		Livestock production system	<ul style="list-style-type: none"> -Up gradation of breed - Improving feeding, housing, sanitation & health care for livestock -Dairy, poultry etc.

2. Survey methods used (survey by questionnaire, PRA, RRA, etc.) : Surveyed by questionnaires and PRA

3. Various techniques used and brief documentation of process involved in applying the techniques used like release transact, resource map, etc. :

For collecting village level information required for identification of resources, strength, weaknesses, opportunities, needs and associated problems for organizing various extension activities like On Farm Trials, Front Line Demonstrations, training needs and also for formulating extension strategies a series of survey were conducted in four representative villages and the information were collected by exercising participatory rural appraisal method such as resource mapping, social mapping, transact walk, matrix ranking, Venn diagram, trend analysis. The secondary data were collected from the allied departments. After collection of village level data, problems, needs and thrust areas were identified and accordingly, extension strategies were formulated.

4. Analysis and conclusions

Analysis and conclusions of problems with regard to different enterprises in representative villages

Sl. No.	Type of enterprises	Specific problem with each enterprise	Proposed solution	Reasons for non adoption of proposed solution	Proposed strategies	Relevance to villages			
						Pub Enkorbari	Alengmari	Bashbari	Matiapara
1	Rice	<ul style="list-style-type: none"> -Low yield of existing varieties -Poor crop yield due to low adoption of improved crop management practices 	<ul style="list-style-type: none"> -Seed replacement -Improved crop production technique -Adoption of IPM practices -Adoption of INM 	<ul style="list-style-type: none"> -Lack of awareness - Lack of knowledge -Lack of resources 	<ul style="list-style-type: none"> -Awareness campaign -Training -Demonstration on specific technology and critical inputs -Credit linkage 	Yes	Yes	Yes	Yes

		<ul style="list-style-type: none"> -Poor knowledge on HYVs and adoption -Poor knowledge on insect pest and disease management -Poor fertility management 	<ul style="list-style-type: none"> technique -Increasing the area under HYVs of rice, oilseed and pulse crops 		-Seed village				
2	Pulse	<ul style="list-style-type: none"> -Yield gap due to poor adoption of improved crop management practices -Poor fertility management -Yield loss due to insect pest and disease infestation -Non availability of suitable varieties in the farmer's field 	<ul style="list-style-type: none"> -Adoption of IPM -Use of balanced fertilizer -Adoption of INM -Seed production of HYVs -Use of certified and quality seed 	<ul style="list-style-type: none"> -Lack of awareness -Lack of skill and knowledge -Lack of resources 	<ul style="list-style-type: none"> -Awareness campaign -Training - Demonstration on specific technology and critical inputs 	Yes	Yes	Yes	Yes
3	Oilseed	<ul style="list-style-type: none"> -Low yield -Infestation of pest and diseases --Non availability of suitable varieties in the farmer's field -Lack of knowledge on suitable varieties -Poor knowledge on INM 	<ul style="list-style-type: none"> -Use of certified and quality seed -Adoption of IPM -Varietal selection -Adoption of INM 	<ul style="list-style-type: none"> -Lack of skill and knowledge -Lack of resources -Lack of availability of seed in time -Lack of availability of quality seed -Lack of suitable variety 	<ul style="list-style-type: none"> -Training -Demonstration -On Farm Trial -Awareness campaign 	Yes	Yes	Yes	Yes

4	Animal Husbandry	-Non descriptive breed -Feeding -Sanitation -High mortality -Breeding	-Breed upgradation -Scientific and balanced feeding -Vaccination -Scientific sanitation	-Poor knowledge on breed upgradation and breed -Lack of knowledge in feeding -Lack of knowledge of diseases - Poor knowledge on sanitation	-Training -Demonstration -On Farm Trial -Awareness campaign	Yes	Yes	Yes	Yes
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5. List of location specific problems and brief description of frequency and extent/ intensity/severity of each problem

Location	Problem identified	Extent/severity of each problem
Pub Enkorbari	Loss of organic matter from soil	High
	Soil acidity	Medium
	Yield gap in paddy, pulses, oilseeds, horticultural crop etc. due to technological gap.	High
	Low rate of seed replacement and poor adoption of HYVs	High
	Imbalance use of fertilizer	High
	Injudicious use of chemicals	Medium
	Low productivity in livestock	High
Alengmari	Heavy soil erosion due to rain drop impact and excess run off	Medium
	Soil acidity	Medium
	Yield gap in paddy, pulses, oilseeds, horticultural crop etc. due to technological gap.	Medium
	Low rate of seed replacement and poor adoption of HYVs	Medium
	Imbalance use of fertilizer	Medium
	Injudicious use of chemicals	Medium
	Slow rate of adoption and diffusion of upgraded breed in livestock	High
	Low productivity in livestock due to poor adoption of scientific management practices like	Medium
	Balance feeding, health care, sanitation etc.	Medium
Low productivity of fish per unit area of water body	High	

Bashbari	Loss of vegetative cover	Medium
	Loss of organic matter from soil	Medium
	Soil acidity	Medium
	Yield gap in paddy, pulses, oilseeds , horticultural crop etc. due to technological gap.	High
	Low rate of seed replacement and poor adoption of HYVs	Medium
	Imbalance use of fertilizer	High
	Injudicious use of chemicals	Medium
	Slow rate of adoption and diffusion of upgraded breed in livestock	High
	Low productivity in livestock due to poor adoption of scientific management practices like balance feeding, health care, sanitation etc.	High
	Unorganized market causing distress sale of vegetables	Medium
Matiapara	Soil erosion	Medium
	Loss of vegetative cover	Medium
	Loss of organic matter from soil	High
	Soil acidity	Medium
	Yield gap in paddy, pulses, oilseeds , horticultural crop etc. due to technological gap.	High
	Low rate of seed replacement and poor adoption of HYVs	Medium
	Imbalance use of fertilizer	High
	Injudicious use of chemicals	High
	Slow rate of adoption and diffusion of upgraded breed in livestock	Medium
	Low productivity in livestock due to poor adoption of scientific management practices like balance feeding, health care, sanitation etc.	High
	Low productivity of fish per unit area of water body	High
	Unorganized market causing distress sale of vegetables	Medium

6. Matrix ranking of problems

i) Poor rate of seed replacement:

Crop Criteria	Rice	Oilseed	Pulse	Vegetables
Non availability of seed in time	000	000	0000	00
Poor knowledge on crop production technique	000	000	000	000
Non availability of certified seed	000	0000	0000	00
Availability of local seed	00000	000	00	00
Poor storage of seed	00	00	00000	000
Rank	II	III	I	IV

ii) Poor adoption of HYVs

Crop Criteria	Rice	Oilseed	Pulse	Vegetables
Non availability of HYVs	000	000	0000	00
Poor knowledge on HYVs	000	000	0000	000
Poor knowledge on seed production technique	0000	0000	0000	00000
Poor storage of seed	00	00	00000	000
Rank	II	II	I	III

iii) Yield gap due to poor adoption of improved crop management practices

Crop Criteria	Rice	Oilseed	Pulse	Vegetables
Poor adoption of HYVs	000	000	0000	00
Poor adoption of scientific cultural practices like land preparation, sowing, transplanting, weeding etc.	000	00	0000	00
Poor knowledge on INM	000	000	0000	000
Poor adoption of irrigation management practices	000	000	000	00
Poor knowledge on IPM	000	000	000	000
Rank	II	III	I	IV

7. List of location specific thrust areas/ List of location specific technology needs for OFT and FLD

Sl. No.	Location	Critical issues, problems and opportunities	Thrust areas	Programmes
1	Pub Enkorbari, Bashbari,	Considerable yield gap in paddy due to poor adoption of improved crop management practices	-Scientific method of cultivation	Front Line Demonstration,
2	Pub Enkorbari, Allengmari, Matiapara	Low yield of pulses & oil seeds due to technological gap.	-Popularization of improved method of cultivation of pulses & oil seeds. -Screening of suitable varieties	Front Line Demonstration,
3	Pub Enkorbari, Allengmari, Matiapara, Bashbari	Low yield of the existing varieties & Low rate of seed replacement in paddy, oilseeds and pulses	- Seed production of high yielding varieties	On Farm Testing, Front Line Demonstration
4	Pub Enkorbari, Allengmari, Matiapara	Soil fertility management	-Popularization of integrated nutrient management technology in lentil -Balance fertilization in blackgram	Front Line Demonstration, On Farm Testing
6	Allengmari,	Proper utilization of resources in banana cultivation	-Higher yield and more income per unit area	On Farm Testing
7	Pub Enkorbari	Breed up gradation and supply of quality feed in goat	-Improving productivity through balance feeding and breed up gradation	On Farm Testing

8. Matrix ranking of technologies :

Oilseed :

Technologies *Criteria	High yielding varieties	Improved crop management practices like tillage, sowing, fertility management, weed management and water management	Integrated pest management
Availability of technology	0000	0000	00
Knowledge on technology	00	000	0
Cost of technology	000	00	0000
Ranking	II	I	III

*High cost = Less score, More availability= High score, More Knowledge = High score

Pulse:

Technologies *Criteria	High yielding varieties	Integrated nutrient management practice	Integrated pest management
Availability of technology	00	0000	0
Knowledge on technology	00	000	0
Cost of technology	000	00	0000
Ranking	II	I	III

*High cost = Less score, More availability= High score, More Knowledge = High score

Rice:

Technologies *Criteria	High yielding varieties	Improved crop management practices like tillage, sowing, fertility management, weed management and water management	Integrated pest management
Availability of technology	000	000	00
Knowledge on technology	00	00	0
Cost of technology	000	00	0000
Ranking	I	II	II

*High cost = Less score, More availability= High score, More Knowledge = High score

9. List of location specific training needs

Sl. No.	Location	Training needs
1	Pub Enkorbari	-Seed production technique in Sali rice -Integrated crop management in field crops -Crop diversification -Integrated pest management -Livestock management
2	Bashbari	-Seed production technique in Sali rice --Integrated crop management in field crops -Integrated pest management -Livestock management
3	Allengmari	--Seed production technique in Sali rice -Commercial fruit production -Crop diversification -Integrated pest management -Livestock management
4	Matiapara	--Seed production technique in Sali rice -Integrated crop management in field crops -Water management

Technology Inventory and Activity Chart - III

Include

1. Names of research institutes, research stations, regional centres of NARS (SAU and ICAR) and other public and private bodies having relevance to location specific technology needs

2. Inventory of latest technology available *

Sl. No.	Technology	Crop/enterprise	Year of release or recommendation of technology	Source of technology	Reference/citation
1	Application of 15kg N, 35 kg P and 15 kg K	Black gram	Under pipeline	RARS, AAU, Shillongoni, Nagaon	Agricultural Technology Inventory for North Eastern Region-published by AAU and ZCU, Zone-III,ICAR
2	Rice variety “ Aghoni”	Rice	2005	RARS, AAU, Titabor	-do-
3	Rice variety “ Jalkuwari”	Rice	Under pipeline	RARS, AAU, Titabor	-do-
4	Rice variety “ Gitesh”	Rice	Under pipeline	RARS, AAU, Titabor	-do-
5	Seed rhizome treatment + soil application of Biofor-PF	Ginger	2004	Deptt. Of Plant Pathology, AAU, Jorhat	-do-
6	Plant population: 6520 plants per hectare ; spacing: 1m X 1.2m X 2m	Banana	2004	Deptt. of Horticulture, AAU, Jorhat	-do-
7	Release of bio-agent “Trichogamma” @ 50,000/ha/week for 6 weeks	Rice	2003	Deptt. Of Entomology, AAU, Jorhat	-do-
8	Rice variety “ Rajendra suwasini”	Rice	In the pipeline	AICRP on Cropping System, AAU, Jorhat	-do-
9	Upgraded goat “ Beetal Cross Bred”	Live stock	2005	Goat Research Station	-do-
10	Balanced feeding (200g concentrate feed/animal/day)	Live stock	2008	Goat Research Station	-do-
11	Integrated nutrient management in toria	Toria	In the pipeline	RARS, AAU, Shillongoni, Nagaon	-do-
12	Potash management in lentil	Lentil	In the pipeline	RARS, AAU, Shillongoni, Nagaon	-do-

3. Activity Chart

Details of training programmes:

Date	Clientele	Title of the training programme	Discipline	Thematic area	Duration in days	Venue (Off / On Campus)	Number of other participants			Number of SC/ST			Total number of participants		
							Male	Female	Total	Male	Female	Total	Male	Female	Total
23.10.09	RY	Awareness on income generation activities for rural women	Agricultural Economics	Income generation activities for empowerment of rural women	1	OFF (2 No. Hulmagaon)	0	23	23	0	2	2	0	25	25
26-27.10.09	RY	Scientific rearing of goat	Animal Science	Sheep and goat rearing	2	OFF (Kasarpara)	21	4	25	0	0	0	21	4	25
16.11.09	PF	Biocontrol of pest and diseases of rabi field crops	Plant protection	Biocontrol of pest and diseases	1	OFF (Kasarpara)	22	5	27	0	0	0	22	5	27
17.11.09	PF	Method of soil sample collection for chemical analysis	Soil science	Soil and water testing	1	OFF (Siponsila)	22	5	27	0	0	0	22	5	27
20-21.11.09	RY	Dairy farming for self employment	Animal Science	Dairying	2	OFF (Birhang gaon)	26	0	26	0	0	0	26	0	26
23.11.09	RY	Awareness on rural women income generation activities	Agril. Econ.	Income generation activities for empowerment of rural women	1	OFF (Dharingaon)	0	19	19	0	7	7	0	26	26
27-28.11.09	PF	Irrigation scheduling in major field crops	Crop production	Water management	2	OFF (Pub Khamarpara)	22	6	28	0	0	0	22	6	28
30.11.09	PF	Raising nursery for winter vegetable crops	Horticulture	Nursery raising	1	OFF (Tulungiya)	20	5	25	0	0	0	20	5	25

21.12.09	RY	Entrepreneurial development in rural youth in villages for economic development	Agril. Econ.	Income generation activities	1	OFF (Dholagaon)	26	0	26	0	0	0	26	0	26
22.12.09	PF	Integrated nutrient management in Boro rice	Crop production	Integrated crop management	1	OFF (Salbari)	22	7	29	0	0	0	22	7	29
28.12.09	PF	Production technology in Boro rice	Crop production	Integrated crop management	1	OFF (Sakla)	30	0	30	0	0	0	30	0	30
29-30.12.09	RY	Pig production and management in scientific way	Animal Science	Piggery	2	OFF (New Dimapur)	1	0	1	16	12	28	17	12	29
22.01.10	RY	Leadership development in villages for economic development	Agril. Economics	Leadership development	1	OFF (Basugaon)	4	14	18	0	8	8	4	22	26
23-24.01.10	PF	Food sufficiency through crop diversification	Crop management	Crop diversification	2	OFF (Dakuwapara)	15	11	26	0	0	0	15	11	26
25.01.10	PF	Integrated pest and disease management in summer field crops	Plant Protection	Integrated pest management	1	OFF (Bashbari)	24	0	24	1	0	1	25	0	25
27-28.01.10	RY	Poultry rearing for self employment	Animal Science	Poultry production	2	OFF (Khamarpara)	10	17	27	0	0	0	10	17	27
03.02.2010	PF	Enhancing productivity of production factors in field crops	Crop production	Integrate crop management	1	OFF (Kasarpara)	27	0	27	1	0	1	28	0	28
13-14. 02.10	PF	Feeding and disease management in diary cow	Animal Science	Dairy management	2	OFF (Pub-Enkorbari)	25	5	30	0	0	0	25	5	30

19.02.10	RY	Commercial fruit production	Horticulture	Commercial fruit production	1	OFF (Alengmari)	20	6	26	2	0	2	22	6	28
20.02.10	RY	Value addition of horticultural produce	Horticulture	Value addition	1	OFF (Bongaigaon Dist. Agri. Office)	2	25	27	0	0	0	2	25	27
22-23. 02.10	PF	Preservation of orange for squash making	Horticulture	Processing and value addition	1	OFF (Siponsila)	0	26	26	0	0	0	0	26	26
24.02.2010	PF	Nutrient management in boro rice	Soil Science	Integrate nutrient management	1	OFF (Goyabari)	0	0	0	27	0	27	27	0	27
27.02.2010	PF	Integrated pest and disease management in rice crop	Plant Protection	Integrated pest management	1	OFF (North Boitamari)	28	0	28	0	0	0	28	0	28
13.03.2010	RY	Value addition of horticultural produce	Horticulture	Value addition	1	OFF (Kokila Mazpara)	16	13	29	0	0	0	16	13	29
22.03.2010	RY	Scientific rearing of goat	Animal science	Sheep and goat rearing	1	OFF (Kamarpara, Siponsila)	0	27	27	0	0	0	0	27	27
23.03.2010	PF	Soil and water conservation for sustainable agriculture	Soil science	Soil and water conservation	1	OFF (Ghilaguri)	5	5	10	18	0	18	23	5	28
24-25. 03.10	PF	Multiple cropping system	Crop production	Cropping systems	2	OFF (Pub-Enkorbari)	26	0	26	0	0	0	26	0	26
26.03.2010	PF	Scientific production technology of Black pepper	Horticulture	Production and management technology	1	OFF (Monakocha)	29	0	29	0	0	0	29	0	29
28.03.2010	PF	Use of bioagents for management of pest and diseases	Plant protection	Biocontrol of pest and diseases	1	OFF (Raghunandan pur)	27	0	27	0	0	0	27	0	27

Vocational training programmes for Rural Youth : NIL

*training title should specify the major technology /skill transferred

Sponsored training Programme:

Sl. No.	Date	Title	Discipline	Thematic area	Duration (days)	Client (PF/R/Y/EF)	No. of courses	No. of Participants									Sponsoring Agency	Amount of fund received (Rs.)
								Others			SC/ST			Total				
								Male	Female	Total	Male	Female	Total	Male	Female	Total		
1	26-27.03.2010	Farmers Awareness Programme on Commodity Future Market	Agril. Economics	Agricultural Marketing	2	RY	2	81	0	81	20	0	20	101	0	101	Forward market Commission, Govt. of India, Mumbai	12,500.00

Collaborative Training Programmes (only technical assistance)

Sl. No.	Date	Title	Discipline	Duration (days)	Client (PF/R/Y/EF)	No. of courses	No. of Participants								
							Others			SC/ST			Total		
							Male	Female	Total	Male	Female	Total	Male	Female	Total
1	25.02.2010	One day training cum awareness programme on Protection of Plant varieties and Farmers Right	WTO and IPR issues	1	PF/R/Y	1	50	4	54	19	2	21	69	6	75

Activity Chart:

Crop	Problem	Cause	Solution	Activity	Reference of Technology
Rice	-Low yield of rice due to poor adoption of scientific method of cultivation	- Poor adoption of improved crop management practices	-Popularization of high yielding varieties.	On Farm Testing on - Rice variety “ Aghoni”	-Sl. No. 7 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			- Seed production in the farmer’s field	- Rice variety “ Jalkuwari”	-Sl. No. 5 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
		- Poor adoption of HYVs and low rate of seed replacement	- Adoption of improved crop management practices	- Rice variety “ Gitesh”	-Sl. No. 9 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
				- Rice variety “ Rajendra suwasini	AICRP on cropping system, AAU, Jorhat-13
		-Injudicious use of chemical pesticide	-Integrated Pest Management.	- Release of bio-agent “Trichogramma@ 50,000/ha/week for 6 weeks”	-Sl. No. 31 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
		- Imbalance fertilization		Integrated weed management in summer rice	-Sl. No. 36 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			-Adoption of appropriate Integrated Nutrient Management	Front Line Demonstration on - Performance rice (var. Kanaklata) in the farmer’s field with improved crop management practices -Seed production technique in scented rice variety “Ketekijoha” -Irrigation management in Toria. Training on: -Bio control of pest and diseases in rabi field crops -Integrated Nutrient Management in Boro rice -Production techniques of boro rice -Nutrient management in boro rice -Integrated Pest and Disease management in summer field crop - Integrated Pest and Disease management in rice -Use of bio-agent for management of pest and diseases	

Black gram	Low soil potassium status	Imbalance fertilization	-Application of recommended dose of fertilizers.	On Farm Testing on Potassium management in blackgram(Application of 15kg N, 35 kg P and 15 kg K)	-Sl. No. 11of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			- Adoption of HYV and scientific management practices	Front Line Demonstration on - Performance of blackgram variety 'P U-19'under integrated nutrient management system	
Lentil	Low yield of the crop	Low adoption of INM practices	Balance fertilization	On Farm Testing -Potassium management in Lentil(Application of 15kg N, 35 kg P and 15 kg K)	-Sl. No. 12of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			-Adoption of appropriate Integrated Nutrient Management	Front Line Demonstration on - Integrated nutrient management in lentil	
Torja	Yield gap	Lack of suitable varieties & poor adoption of appropriate crop management practices in the farmers field.	Adoption of scientific nutrient management technology	OFT on Integrated nutrient management in toria	-Sl. No. 14of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			- Adoption of HYV and scientific management practices	FLD on: -Improved crop management practices in toria (var. TS-36) - Irrigation management in toria (Var. TS-36) Training on: -Irrigation scheduling in major field crops -Crop diversification -Enhancing productivity of production factors in field crops	
Sesame	Low yield	- Poor adoption of appropriate crop management practices - Poor adoption of HYVs	- Adoption of HYV and scientific management practices	FLD on: -Performance of kharif sesame(var. ST-1683) with recommended package of practices.	

Spices	Problem of rhizome rot in ginger.	Inadequate disease management	-Application of bio-pesticide for controlling rhizome rot	OFT on: -Seed rhizome treatment + soil application of Biofor-PF	-Sl. No. 33 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
	Low productivity	Poor adoption of scientific technology	Adoption of scientific production technology	Training on: -Scientific production technology of black pepper	
Fruits, Vegetables	Poor resource utilization in fruit crops	Proper utilization of land in space direction	Adoption of scientific technology	On Farm Testing -High density cultivation of banana(-Plant population: 6520 plants per hectare ; spacing: 1m-1.2m X 2m)	- Sl. No. 27 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
	High pesticide residue in vegetables	Injudicious use of chemical pesticide	-Integrated Pest Management.	FLD: -Production technology of water melon	
			-Improved crop management	Training on: -Nursery raising of winter vegetables - Commercial fruit production -Value addition of horticultural produce -Preservation of orange for squash making	
Dairy	Low productivity	Poor adoption of scientific management practices	-Scientific Dairy Farming	Training on: -Dairy Farming for self employment and economic upliftment -Feeding and disease management in dairy crops	
Piggery	Low productivity	Poor adoption of scientific management practices	-Scientific Pig rearing.	Training on: -Pig production and management in scientific way	

Poultry	Low productivity	Poor adoption of scientific management practices	-Scientific management of poultry	Training on: - Poultry rearing for self employment	
Goatery	Low productivity	Poor adoption of scientific management practices	-Breed upgradation.	OFT on: -Upgraded goat “ Beetal Cross Bred”	-Sl. No. 54 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			-Feed management	- Balanced feeding (200g concentrate feed/animal/day)	-Sl. No. 50 of Agricultural Technology Inventory for NE Region Published by AAU and ZC Unit, Zone-III
			-Scientific goatery.	Training on: -Scientific rearing of goat - Scientific rearing of goat	
Potato	Yield gap	Poor adoption of appropriate production technology	-Adoption of scientific production technology.	FLD on: -TPS cultivation	
			-Irrigation scheduling.	FLD on: -Irrigation management in potato	
			-Nursery management.	Training on: - Nursery raising of vegetable crops	

Details of each of the technology under Assessment, Refinement and demonstration Include

a. Detailed account on varietal/breed characters for each of the variety/breed selected for FLD and OFT

Variety/Breed	Characteristics
Jalkuwari	Semi dwarf , 150-155 days duration, tolerant to 15 to 18 days at submergence condition
Gitesh	Semi dwarf , 150-160 days duration, 30-60 days old seedling can be transplanted if needed.
Keteki Joha	Semi dwarf, 150-160 days
Aghoni Borah	Semi dwarf, 150-155 days
Kanaklata	Semi dwarf/ medium tall, 165-175 days, suitable at irrigated condition

Rajendra Suwasini	Suitable at rainfed medium land, photo insensitive, scented , 130-135 days duration
Beetal crossbred	Dual purpose breed, brown or black coat colour with or without white patches, ears are long and drooping
TS-36	Duration 90-95 days, oil content 44%, yield 10-12 q/ha
Pant U -19	Duration 80-95 days, , yield 10-12 q/ha, tolerant to YNV and cercospora leaf spot
B-77	Duration 110-120 days, seeds medium sized, plant erect ,yield 8-12 q/ha
ST-1683	Duration 90-95 days, yield 5-9 q/ha, seed colour brown
HQPM	High in protein content
Sugar Baby	Fruit oblong, small to medium, duration 85 days, fruit weight 3-5 kg

b. Details of technologies that may include formulation, quantity, time, methods of application of nutrients, pesticides, fungicides etc., for technologies selected under FLD and OFTs

Technology	Details of the technology	
Rice variety “ Gitesh”	Plant height Duration Grain Character Sowing time Seed rate Spacing Harvesting time Fertilizer	Semi dwarf 150-155 days Medium slender June 40 kg /ha 20 x 20 cm normal planting and 20 x15 cm delayed planting November/December 40:20:20 kg (N:P ₂ O ₅ :K ₂ O) per ha
Rice variety “ Jalkuwari”	Plant height Duration Grain Character Sowing time Seed rate Spacing Harvesting time Fertilizer	Semi dwarf 150-155 days Bold June 40 kg/ha 20 x 20 November 40:20:20 kg (N:P ₂ O ₅ :K ₂ O) per ha

Rice variety “ Aghoni”	Plant height Duration Grain Character Sowing time Seed rate Spacing Harvesting time Fertilizer	:Semi Dwarf :150-155 days :Medium Bold :June :40 kg/ha :20 x 20 cm :November :40:20:20 kg (N:P ₂ O ₅ :K ₂ O) per ha
Rice variety “ Rajendra suwasini”	Plant height Duration Grain Character Sowing time Seed rate Spacing Harvesting time Fertilizer	:90-100 cm :132-135 days :Long slender :May-June :45 kg/ha :20 cm x 20 cm :November-December :80:40:40 kg (N:P ₂ O ₅ :K ₂ O) per ha
Release of bio-agent “Trichogamm @ 50,000/ha/week for 6 weeks in rice	Release days from starting Method of application	:6-8 T Japonicum and T Chelonis @ 50,000 per ha per week. The release of Trichogamm should be coincided with egg laying activities of the pest, as they are egg parasitoid. :30 days after transplanting. :Each Trichocard should be cut into 6 – 12 pieces and distributed over the entire field by fixing them to the plants by using a stapler or quick fix. Before and after application of the card the chemical pesticides should not be used.
Seed rhizome treatment + soil application of Biofor-PF in Ginger	Seed treatment Soil application	:Seed treatment of rhizomes with + soil application of Biofor-PF. :Biofor-PF can be used as seed rhizome and soil application for management of rhizome rot of Ginger.
Application of 15kg N, 35 kg P and 15 kg K in Black gram	Variety Nutrient Method of application Sowing time Duration Land preparation Spacing	:Pant U-19 :15:35:15 kg NPK per ha :Basal application during land preparation :Mid August- Mid September :80-90 days :3 – 4 ploughing followed laddering :30 cm x 10cm

Plant population: 6520 plants per hectare ; spacing: 1m- 1.2m X 2m in Banana	Variety Planting time Plant population Spacing Manure & fertilizer Pesticide and fungicide application	;Malbhog :March-May :6250 plant per ha :1m – 1.2 m x 2 m :Each split of 45 cm x 45 cm x 45cm is filled up with a mixture of 12 kg FYM and top soil. NPK are applied @ 110 gm, 33gm and 330 gm to each plant in two split dose :Carbofuran (Furadon 3g) @ 40gm per plant and Bavistin 2% (4 minutes) for management of nematodes.
Application of 15kg N, 35 kg P and 15 kg K in lentil	Variety Nutrient Method of application Sowing time Duration Land preparation Spacing	:B-77 :15:35:15 kg NPK per ha :Basal application during land preparation :Mid Oct - Mid November :110-120 days :3 – 4 ploughing followed laddering :30 cm x 10cm
Application of 45:22.5:22.5 kg (N:P:K) per ha and bio fertilizer Azotobacter and PSB in toria	Variety Nutrient Method of application Sowing time Duration Land preparation Spacing	:TS-36 : 45:22.5:22.5 kg (N:P:K) + Azotobacter + PSB :Basal application during land preparation :Mid Oct - Mid November :90-95 days :3 – 4 ploughing followed laddering :30 cm x 10cm
Upgraded goat “ Beetal Cross Bred”	A beetal crossbred buck (adult, breedable) will be provided. The farmer will provide two female doe (one at its first lactation and one matured female, not breed earlier), for breed upgradation and two female doe (one at its first lactation and one matured female, not breed earlier) as control. The buck and the first two female will be reared in intensive techniques with 200 gm of compounded concentrated feed and ad-libitum green fodder in a shed having raised floor. The control animal will be reared in traditional semi intensive system of rearing with little or no concentrated feed and traditional system of breeding.	
Balanced feeding (200g concentrate feed/animal/day)	A beetal adult buck and two female local non descript doe (one female goat at first lactation and one mature female goat not breed earlier), will be provided with 200 gm of concentrated feed (100 gm in forenoon and 100 gm afternoon) and ad-libitum green fodder in intensive system of feeding with health coverage. Another two female goat, (one female goat at first lactation and one mature female goat not breed earlier), will be kept as control, without any concentrated feed and in semi intensive system of rearing.	

High yielding variety of Scented rice “Keteki Joha”	Plant height Duration Grain Character Sowing time Seed rate Spacing Harvesting time Fertilizer	Medium tall 155-165 days Short slender June 40 kg /ha 20 x 20 cm November 40:20:20 kg (N:P ₂ O ₅ :K ₂ O) per ha
High yielding variety of Boro rice “Kanaklata”	Plant height Duration Grain Character Sowing time Seed rate Spacing Harvesting time Fertilizer	:Semi dwarf/medium tall :165-175 days :Medium slender :November :40 kg/ha :20 x 15 cm :May :60:30: 30 kg (N:P ₂ O ₅ :K ₂ O) per ha
Improved crop management practices in toria	Sowing of toria variety “TS-36” at recommended rate of seedling i.e. 10kg per ha, fertilizers @ 40:35:15 kg N, P and K per ha. Use of chemical pesticides for controlling aphid.	
Application of 6cm irrigation water at flowering or at siliqua development stage	Application of recommended rate of seeding i.e. 10kg per ha, fertilizers @ 40:35:15 kg N, P and K per ha. Use of chemical pesticides for controlling aphid. Application of 6cm irrigation water at flowering or at siliqua development stage by flooding.	
Performance of kharif sesame with recommended package of practices	Sowing of sesame variety “SP-1683” at recommended rate of seedling i.e. 4 kg per ha, fertilizers @ 30:20:20 kg N, P and K per ha.	
Integrated nutrient management in lentil	Application of 10:35:0 kg NPK per ha along with use of rhizobium culture.	
Performance of blackgram variety ‘P U-19’ under integrated nutrient management system	Sowing of Blackgram variety “PU-19” @ 25 kg per ha along with application of 10:35:0 kg NPK per ha and use of rhizobium culture.	
Seed production technique in scented rice variety “Ketekijoha	Seed selection, seed treatment, recommended management practices for seed production.	
Application of 4 cm irrigation water at stolonization, tuberization and tuber development stage	Application of recommended doses of fertilizers @ 60:100:100 kg N, P and K per ha. Application of 4 cm irrigation water at stolonization, tuberization and tuber development stage. Use of fungicides for controlling late blight of potato.	
Production technology of TPS	Use of true potato seeds for seedling raising, transplanting before 25 days of age, application of fertilizer @ 120:100;100 NPK per ha, application of irrigation water at critical stages of crop growth, and use of fungicides for late blight control.	

c. Details of location/area specificity of recommended technology viz., for each of the variety/breed/technology selected for FLD and OFT

Technology	Location specificity
Rice variety “ Gitesh”	Transplanting of rice seedlings during kharif season is often delayed due to adverse climatic condition in some areas of the district. There are some traditional varieties which are being grown by the farmers with old seedlings; however, these varieties are often low yielding. Therefore, some new high yielding varieties were tested in those localities.
Rice variety “ Jalkuwari”	The programme was conducted in flood affected areas where there are no suitable submergence tolerant rice varieties.
Rice variety “ Aghoni”	The glutinous rice variety “Aghoni “ was tested in those areas where farmers used to cultivate traditional glutinous rice varieties which are generally low yielder.
Rice variety “ Rajendra suwasini”	The local joha rice varieties are photoperiod sensitive, long duration, low yielding and are not suitable for inclusion in multiple cropping systems. The “Rajendra Suwasini” a newly identified aromatic rice variety which is photoperiod insensitive, 130 -135 days in duration.
Release of bio-agent “Trichogamm@ 50,000/ha/week for 6 weeks in rice	Among the different species of rice pest, rice stem borer (<i>Scripophaga incertula</i>) and leaf folder (<i>Cnaphalocrosis medinelis</i>) are very serious pest of rice which causes more than 20 per cent of yield loses in Bongaigaon district. Farmers are mostly overreliance on pesticide and due to over used or indiscriminate used of chemical pesticide causes health hazards to human being and their livestock, residual toxicity, environmental problems, pest outbreak and drastic effect on beneficial insects. Besides the chemical pesticides are very expensive. Most of the farmers spray pesticide more than they need to and these unnecessary application can be very costly. Therefore, to combat the disadvantage of chemical pesticide, bio-control (using of Trichogamma) is one of the holistic system which is more economical, economically viable and socially acceptable for the farmers.
Seed rhizome treatment + soil application of Biofor-PF in Ginger	Ginger is the most successful spice crop in Assam. The biggest constraint for ginger production across the North Eastern Region is rhizome rot. <i>Phythium myriotylum</i> is the most dominant and aggressive species that is responsible for rhizome rot in Assam. For controlling of this disease the farmers are mainly dependent on fungicide which is costly and toxic to human being and their livestock. Therefore, to reduce the cost of chemical and bad effect of fungicide, bio-agent, Biofor-Pf is tried.
Application of 15kg N, 35 kg P and 15 kg K in Black gram	Blackgram is an important pulse crop of the district. Considering the importance of potassium in plant growth and development and low soil potassium status, the On Farm Testing was conducted in some localities with the application of potassium along with the recommended doses of Nitrogen and Phosphorus.
Plant population: 6520 plants per hectare ; spacing: 1m- 1.2m X 2m in Banana	Banana is an important fruit crop of the district, however, in most of the banana growing areas, poor utilization of resources like land is often observed. Therefore, the OFT was conducted with some spatial adjustment so that, more plants were accommodated with proper utilization of resources.
Application of 15kg N, 35 kg P and 15 kg K in lentil	Lentil is an important pulse crop of the district. Considering the importance of potassium in plant growth and development and low soil potassium status, the On Farm Testing was conducted in some localities with the application of potassium along with the recommended doses of Nitrogen and Phosphorus.
Application of 45:22.5:22.5 kg (N:P:K) per ha and bio fertilizer Azotobacter and PSB in toria	Toria is the most important oilseed crop of the district and injudicious use of only chemical fertilizers is most common which may deteriorate the soil health. Integrated nutrient management system will look after this aspect and will lead to better soil health.
Upgraded goat “ Beetal Cross Bred”	Most of the goat population of the area are of indigenous non descript animal, known for low body weight, low milk production and slow

	growth. Improved breed like beetal and their cross produces upto two crops per year and are known for rapid weight gain and high milk yield so beetal cross breed is used for upgradation of the local goat for improved milk and meat production
Balanced feeding (200g concentrate feed/animal/day)	Feeding is the most neglected aspect in goat production in the region which is a major cause for low productivity. Goat plays a major role in rural economy and provides the livelihood security specially for the landless and marginal farmers because of its ability to survive and produce under extreme climatic condition. Improved nutrition is essential for increased economic returns in terms of milk and meat production.
Improved crop management practices in toria	Scientific crop management practices are not yet in practice.
Application of 6cm irrigation water at flowering or at siliqua development stage	The toria crop is often grown at moisture stress condition and farmers are not aware of application of irrigation water at its critical stages. Therefore, this FLD was demonstrated in this locality.
Performance of kharif sesame with recommended package of practices	Scientific crop management practices are not yet in practice.
Integrated nutrient management in lentil	Lentil is an important pulse crop and injudicious use of only chemical fertilizers is most common which may deteriorate the soil health. Integrated nutrient management system will look after this aspect and will lead to better soil health
Performance of blackgram variety 'P U-19' under integrated nutrient management system	Blackgram is an important pulse crop of the locality. Farmers are mostly used chemical fertilizers but not in proper dose and injudicious application of chemical fertilizers may deteriorate the soil health. Integrated nutrient management system will look after this aspect and will lead to better soil health
High yielding variety of Scented rice " Keteki Joha"	Scented rice varieties are cultivated in the locality; however, these are traditional and are generally low yielder. Therefore, there is need to popularize high yielding varieties of scented rice in the farmers field.
High yielding variety of Boro rice " Kanaklata"	After harvesting of Sali rice, fields remain fallow up to next kharif season, although, there is natural source of water. Considering the importance of crop intensification in this locality, high yielding variety of Boro rice "Kanaklata" was introduced after harvesting of Sali rice.
Seed production technique in scented rice variety "Ketekijoha	The low seed rate replacement and repetitive cultivation of same seed often leads to low yield in the locality. Therefore, there is need to demonstrate seed production technology.
Application of 4 cm irrigation water at stolonization, tuberization and tuber development stage	The potato crop is grown under irrigated condition in some areas, however, unscientific irrigation scheduling in potato leads to higher cost of production and lower crop yield in these areas.
Production technology of TPS	TPS cultivation has been gaining importance in recent years and this technology need to be demonstrated in some potato growing areas.

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