

ANNUAL PROGRESS REPORT 2012-13

SUBMITTED TO

ZONAL PROJECT DIRECTOR
ZONAL PROJECT DIRECTORATE
ZONE V, HYDERABAD.



SUBMITTED BY
MANJARA CHARITABLE TRUST'S
KRISHI VIGYAN KENDRA,
VILASNAGAR, CHINCHOLIRAOWADI,
LATUR-413531 (MS)



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ANNUAL REPORT – 2012-2013 of KVK, LATUR (M.S.)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail
Krishi Vigyan Kendra Latur Addi.MIDC Plot. No - P-160 (B) Harangual (B) Tq.Dist.Latur	Office	FAX	kvklatur@yahoo.co.in
	02382- 267411,	02382- 267355	kvklaturms@gmail.com

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

Address	Telephone		E mail
Krishi Vigyan Kendra Latur Addi.MIDC Plot. No - P-160 (B) Harangual (B) Tq.Dist.Latur	Office	FAX	kvklatur@yahoo.co.in
	02382- 267411,	02382- 267355	kvklaturms@gmail.com

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Digrase S.S.	02382-208530	09423211384/ 9404957511	sachin_digrase@ yahoo.com sdigrase@gmail.com

1.4. Year of sanction: 2005

1.5. Staff Position (as on 31st March, 2013)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Band (Rs.)	Basic pay (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/OBC/Others)
1	Programme Coordinator	-	-	-	-	-	-	-	-
2	Subject Matter Specialist	Digrase S.S.	SMS & I/C PC	Horticulture	15600-39100+5400	25080	13.10.06	Permanent	Others
3	Subject Matter Specialist	Bedre S.B.	SMS	Agril. Extension.	15600-39100+5400	25080	11.07.06	Permanent	Others
4	Subject Matter Specialist	Mohite A.S.	SMS	Agronomy	15600-39100+5400	25080	11.07.06	Permanent	Others
5	Subject Matter Specialist	Deshmukh S.B.	SMS	Entomology	15600-39100+5400	25080	11.07.06	Permanent	Others
6	Subject Matter Specialist	Kawade S.C.	SMS	Agril. Engineering	15600-39100+5400	25080	09.10.06	Permanent	Others
7	Subject Matter Specialist	Smt.Gunjal A.A.	SMS	Home Science	15600-39100+5400	25080	13.10.06	Permanent	Others
8	Programme Assistant	Dr. Salunke S.B.	Prog.Asst.	Veterinary	9300-34800+4200	17260	01.10.06	Permanent	Others
9	Programme Assistant	Suryawanshi V.M.	Prog.Asst.	Computer	9300-34800+4200	15780	19.01.09	Permanent	Others
10	Farm Manager	Kokate S.L.	Farm Manager	-----	9300-34800+4200	17260	16.10.06	Permanent	O.B.C.
11	Assistant	Deshmukh A.J.	Assistant	-----	9300-34800+4200	17260	11.07.06	Permanent	Others
12	Steno	Smt.Adgaonkar M.M.	Steno	-----	5200-20200+2400	11790	01.04.06	Permanent	Others
13	Driver	Jadhav R.R.	Driver	-----	5200-20200+2000	9530	01.04.06	Permanent	Others
14	Driver	Pitale N.B.	Driver	-----	5200-20200+2000	9530	01.04.06	Permanent	Others
15	Supporting staff	Sagar O.K.	Supporting staff	-----	5200-20200+1800	8380	01.04.06	Permanent	O.B.C.
16	Supporting staff	Jadhav V.H.	Supporting staff	-----	5200-20200+1800	8380	01.04.06	Permanent	Others

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1.	Under Buildings	2.00
2.	Under Demonstration Units	0.15
3.	Under Crops	4.75
4.	Orchard/Agro-forestry	4.80
5.	Others (specify)	-

1.7. Infrastructural Development:

A) Buildings

S. 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	22.02.2012	550	65,00,000	---	--	---
2.	Farmers Hostel	ICAR	22.02.2012	305	42,70,000	--	--	--
3.	Staff Quarters (6)	ICAR	22.02.2012	400	50,00,000	--	--	--
4.	Demonstration Units (2)	ICAR	26.03.2009	80	5,00,000	--	---	---
5	Fencing	ICAR	31.03.2011	2800 Rgm	7,00,000	--	--	--
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
Tractor (MH-24-D-2876)	2006-2007	5,09,002	1120.5 h	Under Working
Jeep (MH-24-H-3000)	2006-2007	5,52,738	134030	Under Working
Motor Cycle (MH-24-Q-1404)	2006-2007	50,714	55551	Under Working
Motor Cycle (MH-24-Q-1405)	2006-2007	50,714	49523	Under Working

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Tractor with two bar sari plough	2006-07	5,09,002.00	Under working
Double palti plough	2006-07	42,019.00	Under working
Computer with projector	2006-07	1,21,900.00	Under working
04 row CRIDA Bullock drawn seed cum ferti planter	2006-07	15,225.00	Under working
06 row CRIDA tractor drawn seed cum ferti planter	2006-07	44,000.00	Under working
Spring type cultivator	2006-07	26,434.00	Under working
Sugarcane harrow	2006-07	961.00	Under working
V shape harrows (02 Nos.)	2006-07	1,860.00	Under workings
Genset (Generator)	2011-12	2,50,000.00	Under workings

1.8. A). Details SAC meeting* conducted in 07.07.2012

Sl.No.	Date	Name and Designation of Participants	Salient Recommendations	Action taken
1.	07.07.2012	- Shri.Dilipraoji D. Deshmukh President, Manjara Charitable Trust, Latur - Dr. A. S. Dhawan, Directorate of extension Education, MKV, Parbhani. - Dr. T. S. Mote, District Superintendent Agricultural Officer, Latur - Shri. Bhise Mohan, Agriculture Development Officer, Latur. - Shri. S. B. Pachpande, DGM, NABARD, Latur - Shri. Trimbakdasaji Zanwar, Technical Advisor, KVK, Latur - Shri. Balasaheb Pandhare, Farmer, Chincholirao, Latur - Prof. B. D. Thakur, Extension Agronomist, Latur - Shri. Misal G. M., Sericulture Officer, Latur - Shri. N. bhadreshwar, D.D. news representative, Latur - Mrs. Urmila Ayrekar, Female farmer, Babhalgaon.	- Conduct seed production programme at village level - Form commodity based farmers club in assistance with NABARD - Conduct soil test based field trials - Promote IPM in Soybean - KVK should demonstrate various varieties of mulberry at KVK farm - Promote cultivation of sugarcane on drip irrigation - Promote farmers through campaigning on sugarcane straw decomposition - Farm mechanization in sugarcane should be promoted - Establish public private partnership in potato seed production - Give training and technical support to farmers group formed at village level - Organize vocational trainings to rural youth - Establish liquid bio fertilizer and bio pesticide production laboratory - Establish group of organic producing farmers	- Seed production programme on soybean is taken - Commodity wise group formed - Efforts are being made in this respect - Demonstration on IPM in soybean is taken - Action will be taken in future - Efforts are being made in collaboration with sugar mills this respects - Efforts are being made in this respect - Started in collaboration with sugar mills - Action will be taken in future - Efforts are made in this respects - Efforts are being made in this respect - Bio fertilizer and bio pesticide production laboratory started - Action will be taken in future

2. DETAILS OF DISTRICT (2012-13)

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

S. No	Farming system/enterprise
1.	Dry land A. Single cropping system Sorghum (K), Soybean, Pigeon pea, Sunflower B. Inter-cropping system Sorghum + Pigeon pea (4:2/3:3), Soybean + Pigeon pea (4:2) C. Double cropping system Sorghum (K) – Bengal gram, Green gram – sorghum (R), Soybean – Bengal gram/Sorghum (R)/Safflower
2.	Irrigated Soybean – Sorghum (R)/ Groundnut/ Sugarcane
3.	Multiple cropping system Sorghum (K)- wheat – Green gram Soybean – Bengal gram – summer groundnut

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

S N	Agro-climatic Zone	Characteristics
1.	Assured rainfall zone	The assured rainfall zone comprises part of Ahmedpur, Chakur and udgir taluka with assured rainfall and light to heavy soil, with hilly track comes under this zones. Annual precipitation varies from 881 to 903 mm
2.	Moderate rainfall zone	Some part of Latur, Renapur Ausa, Nilanga, Shirur Antentpal, Deoni, Taluka is under moderate rainfall zone receiving rainfall 700 to 800 mm.

S N	Agro ecological situation	Characteristics
1.	AES-I (western part of Latur and central part of Ausa)	Low rainfall, light to medium soils with flat area
2.	AES-II (Renapur,northern part of Shirur Antanpal and east of Latur)	Low rainfall medium to heavy Soil with flat area
3.	AES- III (Nilanga,western part of Udgir, Chakuar and Deoni)	Moderate rainfall medium to heavy soil with hilly area
4.	AES-IV (Jalkot and western part of Ahemdpur north east of Chakur)	Moderate rainfall light to medium soil with area
5.	AES-V (Ahmedpur)	Moderate rainfall, light to medium soils with flat area
6.	AES-VI (Western part of Latur,central part of Sirur Antantpal)	Medium to heavy soils with command area

2.3 Soil types

S. No	Soil type	Characteristics	Area in ha
01	Light	0.75-25 cm depth	145079
02	Medium	25-50 cm depth	60274
03	Black Cotton	Above 50 cm depth	137288

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

S. No	Crop	Area (ha)	Production (Tones)	Productivity (Qtl /ha)
1	Jowar	125700	183500	1460
2	Bajri	4900	2500	509
3	Maize	4900	3800	950
4	Rice	6700	4200	625
5	Other cereal crops	700	-	-
	Total cereal crops	142900	190200	1331
6	Pigeon pea	93000	113600	1221
7	Green gram	26900	17000	632
8	Black gram	60200	44100	732
9	Other pulses	700	-	-
	Total pulses	180800	174700	966
10	Ground nut	2200	1300	608
11	Sunflower	6300	4200	663
12	Soybean	191500	431100	2251
13	Other oil seed crops	7900	1700	420
	Total oil seed crops	207900	438300	2108
14	Cotton	4600	11100	411
15	Sugarcane	41000	3485000	85
	Total cash crops	45600	3496100	496

Horticulture Fruit Crops

S. No	Crop	Area (ha)	Production (Tones)	Productivity (Qtl /ha)
1	Banana	113.80	6981.00	61.34
2	Sapota	66.95	2837.00	42.37
3	Guava	60.80	1109.00	18.24
4	Grape	822.00	17064.00	20.76
5	Mango	1069.00	4188.00	3.92
6	Mandarin	5.00	54.00	10.80
7	Sweet orange	24.40	411.00	16.84
8	Tamarind	92.50	541.00	5.85
9	Papaya	8	201	25.12
10	Anola	10.00	167.00	16.70
11	Fig	51.00	427.50	8.38
12	Watermelon	43.7	7591	-
13	Muskmelon	14	1490	-
	Total Fruit Crops	2381.15	43061.5	230.32

Vegetable Crops

S. No	Crop	Area .00 hec	Production .00 Qtl	Productivity
1	Tomato	1105.69	177541.4	-
2	Brinjal	782.78	96932.35	-
3	Ladyfinger	28.3	3047.0	-
4	Chili	1461.38	97981.37	-
5	Potato	678.75	173192.3	-
6	Capsicum	8.75	964	-
7	Onion	2564.45	208121.2	-
8	Garlic	758.7	49566.05	-
Total Vegetable Crops		9526.96	1241911.6	

Spices Crops

S. No	Crop	Area .00 hec	Production .00 Qtl	Productivity
1	Turmeric	145.55	16637	-
2	Ginger	345.2	54924.3	-
3	Coriander	761.34	111132	-
Total Spices Crops		1252.09	182693.3	

Floriculture Crops

S. No	Crop	Area .00 hec	Production .00 Qtl	Productivity
1	Marigold	19327	11812.64	-
2	Shevanti	29.87	1294.1	-
3	Mogara	2.2	133.5	-
4	Rose	25.14	4300.4	-
5	Gerbera	12.1	386.5	-
6	Lilli	4.25	1246	-
7	Nishigandh	10.25	434	-
8	Aster	19.25	568.1	-
9	Gyllardia	17.75	393	-
Total Floriculture Crops		19327	11812.64	

2.5. Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
April 2012	-	22.1	38.2	30
May 2012	-	24.2	38.9	28.7
June 2012	59.30	23.1	33.6	54
July 2012	179.80	21.9	29.5	74.7
August 2012	113.6	21.6	28.6	75
September 2012	123.3	21.5	28.3	71.2
October 2012	104.3	18.8	31.6	54
November 2012	-	18.7	30	40
December 2012	-	13.4	28.6	41.5
January 2013	-	12.6	27.6	42

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

Category	Population	Production	Productivity
Cattle			
Crossbred	32700	344.76 Lack Kg.	5.5 Litre
Indigenous	352263	282.95 Lack Kg.	1.8 Litre
Buffalo	240381	956.40 Lack Kg.	2.5 Litre
Sheep			
Crossbred	783	-	-
Indigenous	45852	26.406 MT (Wool)	0.5 Kg
Goats	235962	57.88 Lack Kg. (Milk) 113.26 MT (Meat)	0.20-0.80 Ml 12 Kg
Pigs			
Crossbred	1172	-	-
Indigenous	8159	-	-
Rabbits	520	-	-
Poultry			
Hens	128991	-	-
Desi	114626	124.85 Lack Kg (Eggs)	-
Improved	14365	46.11 Lack Kg (Eggs)	-
Ducks	104	-	-
Turkey and others	54	-	-

Category	Area	Production	Productivity
Fish	13696 Hector	3440 MT	258.84 Kg/hect
Marine	-	-	-
Inland	13696 Hector	3440 MT	258.84 Kg/hect
Prawn	-	-	-
Scampi	-	-	-
Shrimp	-	-	-

2.7 Details of Operational area / Villages (2012-13)

Sl.No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Latur	Latur	Chincholirao, Chincholiraowadi,	Oilseed & Pulses	• Low yield • Heavy incidence of pests	• Improved variety • Integrated Nutrient Management • IPM • Improved implements
2.	Latur	Latur	Chincholiraowadi , Babhalgaon, Chikurda, Dhanori	Post harvest technology	• Drudgery prone activity • Low output	• Processing and value addition
3.	Latur	Latur	Chincholirao, Chincholiraowadi, Chikurda and Dhanori	Farm implement	• Drudgery prone activity	• Location specific drudgery reduction among farm women
4	Latur	Latur	Chikurda Akarwaie and Chincholirao	Dairy	• Less availability of green fodder and low yield of green fodder • Low milk yield • Reproductive disorders • High incidence of mastitis • Infertility and repeat breeding	• Fodder management • Feed management • Nutritional management • Disease management
5	Latur AUSA	Latur AUSA	Chikurda Karjgaon	Onion	• Unavailability of seed material • Low yield	Planting on raised beds
6	AUSA Chakur	AUSA Chaku	AUSA Gharola	Mango	• Alternate bearing in mango	Integrated nutrient management
7	AUSA	AUSA	Karjgaon	Mango	• Fruit drop in mango	IPM INM
8	Latur	Latur	Chincholirao, Chincholiraowadi, Chikurda	Soybean	• Low yield • Heavy incidence of pests	Use of IPM techniques
9	Latur	Latur	Chincholirao, Chincholiraowadi, Chikurda	Pigeon pea	• Heavy infestation of pests & improper use of insecticides & fungicides	Use of IPM techniques
10	Latur	Latur	Chincholirao, Chincholiraowadi, Chikurda	Bengal Gram	• Heavy infestation of pests & Fusarium Wilting	Use of IPM techniques

11	Renapur	Renapur	Darji Borgaon, Yashwantwadi, Kolgaon	Pomegranate	• Stem borer and shot hole borer • Fusarium wilting	Use of IPM techniques
12	Latur	Latur	Chikurda, Gategaon and Chincholiraowadi	Brinjal	• Early shoot and fruit borer	Use of IPM techniques
13	Latur	Latur	Chincholirao, Chincholiraowadi, Chikurda	Sugarcane	• Less use of Biofertilizers for set treatment and spraying	Use of liquid biofertilizers for set treatment and spraying
14	Latur	Latur	Chincholirao, Chincholiraowadi, Chikurda, Dhanori	Farm implements	• Low level of mechanization • Use of improved implements • On farm conservation practices	Use of improved sowing/planting equipments BBF technology Improved farm equipments

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
• Soybean	• Integrated nutrient management & varietal demonstration, • IPM (Leaf eating caterpillars)& IDM
• Pigeon pea	• Integrated pest management & varietal demonstration
• Safflower	• varietal demonstration
• Bengal gram	• varietal demonstration • Pod borer & wilt management
• Rabi Jowar	• Early shoot fly management
• Sugarcane	• Insecticide formulation • Early top shoot borer management
• Mango	• Integrated nutrient management • Intercultural operations • Jassids & Powdery mildew management
• Pomegranate	• Use of proper intercultural operations • Preventive measures for diseases
• Crossbred cow, Buffalo,	• Feed and fodder management • Nutritional management • Disease management • Drought management
• Farm implement	• Drudgery reduction
• Value added product	• Sufficient nutritional diet
• Post harvest processing	• Post harvest technology and value addition
• Improved farm machinery	• Low level of mechanization
• Improved farm machinery	• Drudgery reduction
• Rural youth	• Capacity building • Entrepreneurship development • Information and communication support
• Horticultural crops /Commercial crops	• Commodity wise Interest Group formation

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2012-13

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
12	12	89	89	19	19	220	220

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	61	68	1525	1561	350	346	5000	4718
Rural youth	04	05	80	94				
Extn. Functionaries	05	07	125	232				
Total	70	80	1730	1887				

Seed Production (Qtl.)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
-	-	21500	24725

3.B. Abstract of interventions undertaken

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
1	Entrepreneurship development	Peddle operated potato peeler & slicer	Drudgery prone activity Low output	Assessment of pedal operated potato peeler & slicer	-	Use and operation of pedal operated potato peeler & slicer	-	-	-
2	Efficient notorious diet	Rajkeera weaning mix	Unware about supplementary food Weaning mix difficient in many nutrients	-	Low cost weaning food for combating malnutrition among infants	Preparation of rajkeera weaning mix	-	-	-
3	Integrated Pest Management	Bengal Gram	Heavy infestation of pod borer and wilting	-	IPM in Bengal Gram	IPM in Bengal Gram	-	Field day	Pheromone trap, Neem oil
4	Integrated Pest Management	Pomegranate	Orchards are mostly infested by Stem borer, Shot hole borer	-	Management of Pomegranate Stem borer, Shot hole borer by different physical and chemical practices	Management of Pomegranate Stem borer, Shot hole borer by different physical and chemical practices	-	News paper coverage	COC, Choloropyriphos, Neem oil

5	Integrated Disease Management	Ginger	Seedling mortality due to root rot	-	Seed Rhizomes Treatment for management of Rhizome rot and Bacterial wilt in Ginger	IPM and IDM in ginger	-	Group discussion	Streptocyclin, Carbendazim,
6	Integrated Pest Management	Water melon	Heavy infestation of fruit fly	-	Integrated Pest Management in Watermelon	Integrated Pest Management in Watermelon	-	News paper coverage Group discussion	Fruit fly trap
7	Improved farm implements	Improved farm implements	Uneven seed distribution, late sowing, labour availability		FLD on CRIDA bullock drawn & tractor drawn planter	Training on use and repair of improved sowing equipment			
8	soil and water conservation	Improved farm implements	Crop failure due to high rainfall/ drought condition, Reduced available soil moisture for rabi crops	On farm testing on tractor drawn BBF planter for BBF method of crop cultivation	FLD on Zero till-seed-cum-ferti drill	Training on operation, use and maintenance of improved tractor drawn BBF planter			

9	Improved farm implements	Improved farm implements	Occupational health hazards and low output	On farm testing on sugarcane bud chippers	Front line demonstration on seed treatment drum	Training programme on women friendly technologies Training programme on improved farm tools and equipment Training on use and operation of improved bud chippers			
10	Maintenance of micro irrigation system	Improved farm implements	Occupational health hazards and low output	-	FLD on drip lateral collector	Maintenance of drip irrigation system			
11	Fodder management	RBN-13 (Phule Jaywant)	Limited availability of green fodder Low yield of fodder	-	FLD on cultivation of Phule Jaywant fodder crop	Cultivation practices of different fodder crop	-	Field day	Cuttings of Phule Jaywant fodder crop
12	Feed management	Buffalo (Dairy)	Low milk yield, High cost of milk production	Feeding of azolla to increase milk production in buffaloes	-	Azolla production technology and importance of feeding to dairy animals	Included in management and feeding of livestock in scarcity condition	Method demonstration, Radio talk, folders distribution	Azolla production unit

13	Nutritional management	CB cow	Repeat breeding, anoestrous, low milk yield and mineral deficiency diseases and disorders	-	Feeding of mineral mixture to CB Cow	Importance of feeding mineral mixture to livestock	-	Demonstration	Mineral mixture
14	Disease management	CB cow	Mastitis	-	Spraying of disinfectant on teat after milking to reduce incidence of mastitis	-	-	Method demonstration	Disinfectant solution and hand spray

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	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation							01			01
Seed / Plant production										
Weed Management										
Integrated Crop Management						01				01
Integrated Nutrient Management		01		01						02
Integrated Farming System			01							01
Mushroom cultivation										
Drudgery reduction										
Farm machineries		01		01						02
Value addition										
Integrated Pest Management					01					01
Integrated Disease Management				01						01
Resource conservation technology										
Small Scale income generating enterprises									01	01
TOTAL		02	01	03	01	01	01		01	10

* 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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation										
Seed / Plant production										
Weed Management										
Integrated Crop Management										
Integrated Nutrient Management										
Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries				01						01
Post Harvest Technology										
Integrated Pest Management										
Integrated Disease Management										
Resource conservation technology										
Small Scale income generating enterprises										
TOTAL				01						01

* Technology that is refined in collaboration with ICAR/SAU Scientists for improving its effectiveness.

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								
Nutrition Management								
Disease of Management								
Value Addition								
Production and Management								
Feed and Fodder	01							01
Small Scale income generating enterprises								
TOTAL	01							01

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

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

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

A. Technology Assessment

Trial: 1

Discipline: Agronomy

- | | | | |
|---|---|---|--|
| 1 | Title | : | Cultivation of Pigeon pea by transplanting method |
| 2 | Problem
diagnose/defined | : | Low yield |
| 3 | Details of technologies
selected for assessment
/refinement | : | T1 – Farmers practice – Sole crop or intercrop by drill method
T2 – Technology Assessed- Transplanting of Pigeon pea (spacing
5x3ft) |
| 4 | Source of technology | : | Raichur University |
| 5 | Production system
thematic area | : | Crop production |
| 6 | Thematic area | : | Crop production |
| 7 | Performance of the
Technology with
performance indicators | : | Result showed that the recommend practice increases the yield by 28%
as compare to traditional practice. |
| 8 | Process of farmers
participation and
their reaction | : | Group discussion, training and demonstration. |

Title: Result of On Farm Trails:

Crop/ enterprise	0Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessment	Parameters	Data on the parameter	Results of Assessment	Feedback Assessment
1	2	3	4	5	6	7	8	9
Crop Production (Pigeon pea)	Low yield	Cultivation of Pigeon pea by transplanting method	05	Farmers practice : sole crop or inter crop by drill method	Yield q/ha	11.5	Result showed that the recommended practice increases the yield by 28% as compare to traditional practice	-
				Technology assessed: Transplanting of Pigeon pea (spacing 5x3 ft)	Yield q/ha	16		

Technology Assessed	Production per unit q/ha	Net Return (Profit) in Rs/ unit	BC Ratio
10	11	12	13
1. Farm practice	11.5	40250	1:5.09
2. Transplanting of Pigeon pea (Spacing 5x3 ft)	16	56000	1:6.29

Trial: 2

Discipline: Agronomy

- | | | | |
|---|---|---|--|
| 1 | Title | : | Application of Sulphur in Soybean |
| 2 | Problem
diagnose/defined | : | Low yield |
| 3 | Details of
technologies
selected for
assessment
/refinement | : | T1 – Farmers practice – DAP at 125 kg/ha
T2 – Technology Assessed- Application of DAP at 125 kg/ha +
Sulphur at 30 kg/ha |
| 4 | Source of technology | : | MAU, Parbhani |
| 5 | Production system
thematic area | : | Crop production |
| 6 | Thematic area | : | Crop production |
| 7 | Performance of the
Technology with
performance
indicators | : | Result showed that the recommend practice increases the yield by
9% as compare to traditional practice. |
| 8 | Process of farmers
participation and
their reaction | : | Group discussion, training and demonstration. |

Title: Result of On Farm Trails:

Crop/ enterprise	0Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessment	Parameters	Data on the parameter	Results of Assessment	Feedback Assessment
1	2	3	4	5	6	7	8	9
Crop Production (Soybean)	Low yield	Application of Sulphur in Soybean	05	Farmers practice: DAP at 125 kg/ha	Yield q/ha	25	Result showed that the recommended practice increases the yield by 34% as compare to traditional practice	-
				Technology assessed: Application of DAP at 125 kg/ha + Sulphur at 30 kg/ha	Yield q/ha	27.5		

Technology Assessed	Production per unit q/ha	Net Return (Profit) in Rs/ unit	BC Ratio
10	11	12	13
1. Farm practice	25	75000	1:3.40
2. Transplanting of Pigeon pea (Spacing 5x3 ft)	27.5	82500	1:3.65

Trial 3

Discipline: Horticulture

- 1) Title : **Use of improved varieties phule purple, phule violet and phule white of Aster**
- 2) Problem diagnose/defined : Low yield; low quality of flowers; availability of quality flowers
- 3) Details of technologies selected for assessment /refinement :
 - I. traditional method – use of locally available varieties
 - II. use of improved varieties- varieties phule purple, phule violet and phule white
- 4) Source of technology : MPKV, Rahuri
- 5) Production system : Ornamental plants
thematic area
- 6) Thematic area : Production technology
- 7) Performance of the Technology with performance indicators : The results indicate that there was increase in yield by 12% and keeping quality of flowers was good as compared to local varieties. Also the mixed flowers (purple, violet and white) fetched high market prices as compared to local varieties.
- 8) Final recommendation for micro level situation : The planting of improved varieties of aster with mixed colours may be beneficial looking to the keeping quality and market prices.
- 9) Constraints identified and feedback for research : -
- 10) Process of farmers participation and their reaction : Training, demonstration and group discussion

11). 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
Aster	Irrigated	Low yield; low quality of flowers; availability of quality flowers	Use of improved varieties phule purple, phule violet and phule white of Aster	05	Local varieties	Yield, lakh bunches/ha	1.10	The results indicate that there was increase in yield, as well as keeping quality of flowers as compared to local varieties.	the mixed flowers (purple, violet and white) fetched high market prices as compared to local varieties.
					Improved varieties	Yield, lakh bunches/ha	1.25		

Technology Assessed	*Production per unit	Net Return (Profit) in Rs / unit	BC Ratio
11	12	13	14
Local aster	1.10 lakh bunches/ ha	82500	1: 2.5
Improved aster	1.25 lakh bunches/ ha	99250	1: 2.74

Trial - 4

Discipline: Horticulture

- 1) Title : **Use of skirting bag banana**
- 2) Problem diagnose/defined : Heavy attack of insect and pest
- 3) Details of technologies selected for assessment : 1 –application of recommended pesticides
2 - use of skirting bag
/refinement
- 4) Source of technology : NRC Banana
- 5) Production system : Fruits
thematic area
- 6) Thematic area : Management of orchard
- 7) Performance of the Technology with performance indicators : Results showed that use of skirting bag reduced the attack of sucking pest and reduced the sprayings required for controlling sucking pests. Also the quality produced banana fetched 20% higher prices in the market.
- 8) Final recommendation for micro level situation : Needs to continue for next year
- 9) Constraints identified and feedback for research : -
- 10) Process of farmers participation and their reaction : Training, demonstration and group discussion

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	Irrigated	Heavy attack of insect & pests	Use of skirting bag for improving quality in banana	05	Application of recommended pesticides	Yield, T/ha	102	The results indicate that there was no significant increase in yield, but the fruits covered by skirting bag were found to be very less attacked by insect and pest. Also the harvested fruits were even in size and fetched high market price as compared to farmers practice.	Fruits covered with skirting bag fetched good market price due to attractive colour along with even size and were found to be less attacked by insect and pest.
					Skirting bag	Yield, T/ha	116		

Technology Assessed	*Production per unit	Net Return (Profit) in Rs / unit	BC Ratio
11	12	13	14
Application of recommended pesticides	102 T/ha	475000	1: 3.375
Skirting bag	112 T/ha	598750	1: 3.44

Trial – 5

Discipline: Plant Protection

- 1) Title : **Management of brinjal fruit and shoot borer by integrated pest management**
Techniques
- 2) Problem diagnose/defined :
 1. The main constraints to producing a good brinjal crop is feeding damage caused by the caterpillar stage of the brinjal shoot and fruit borer
 2. Many farmers try to deal with the problem by applying toxic insecticides to kill the caterpillars
 3. This solution is not very effective, partly because the borer has developed resistance to a range of insecticides.
 4. The practice is also harmful for farmers who apply the insecticides and for consumers who eat the contaminated vegetables
- 3) Details of technologies selected for assessment
T1 : Farmers practice : Practice Spraying of insecticides like Quinolphos / Cypermethrin @2.5 ml/lit)
T 2:
 1. Mechanical removal of affected shoots & fruits,
 2. Spraying of Azadaractin 1500 ppm @1500 ml/ha
 3. Installation of 20 traps per Acre for mass trapping of fruit and shoot borer adults starting from flower bud initiation (45 days old crop) till monthly intervals
- 4) Source of technology : MPKV, Rahuri
- 5) Production system : Irrigated/ soybean based production system
thematic area
- 6) Thematic area : Integrated Pest Management
- 7) Performance of the Technology with performance indicators : Results showed that 1. % shoot damage - 3.59 2. % fruit damage- 23.36
3. % protection over farmers practice - 25.47
- 8) Final recommendation for micro level situation : The integrated pest management techniques for management of shoot and fruit borer shows significant results it can be adopted for pest management in brinjal.
- 9) Constraints identified and feedback for research : The availability of water traps and Luci lures at critical stage is very inconvenient.
- 10) Process of farmers participation and their reaction : Farmers are participated through Group discussion, training and demonstration.

11). 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
1	2	3	4	5	6	7	8
Brinjal	Irrigated	1. The main constraints to producing a good brinjal crop is feeding damage caused by the caterpillar stage of the brinjal shoot and fruit borer 2. Many farmers try to deal with the problem by applying toxic insecticides to kill the caterpillars 3. This solution is not very effective, partly because the borer has developed resistance to a range of insecticides. 4. The practice is also harmful for farmers who apply the insecticides and for consumers who eat the contaminated vegetables	Management of brinjal fruit and shoot borer by integrated pest management Techniques	10	Farmers practice	1.% shoot damage	4.49 %
						2. % fruit damage	29.31 %
						3.Yield	14.30 tons
					Use of IPM technique in Brinjal	1.%shoot damage	3.59 %
						2. % fruit damage	23.36 %
						3. % protection over control	25.47 %
						4.Yield	15.60 Tons

* No. of farmers

Results of assessment	Feedback from the farmer	Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
9	10	11	12	13	14
Farmers practice		Farmers Practice – Farmers practice : Practice Spraying of insecticides like Quinolphos / Cypermethrin @2.5 ml/lit)	14.30 Tons/ha.	76297	1.4:1
Technology assessed	The IPM technique reduces pesticide spray and also less fruit and shoot damage. The cost of spraying is reduced. About 40-0 catches of adults are observed in traps in 07 days of interval.	1. Mechanical removal of affected shoots & fruits, 2. Spraying of Azadaractin 1500 ppm @1500 ml/ha 3. Installation of 20 traps per Acre for mass trapping of fruit and shoot borer adults starting from flower bud initiation (45 days old crop) till monthly intervals	15.60 Tons/ha.	83234	2.3:1

Trial – 6

Discipline: Plant Protection

- 1) Title : **Use of Liquid bio inoculants of Acetobactor and Phosphate solublising bacteria for set treatment & foliar spray in Sugarcane**
- 2) Problem diagnose/defined :
 1. The lignite based bio fertilizers are difficult to carry & use and possibilities of contamination with non beneficial micro organisms
 2. In lignite based bio fertilizers, there is need to maintain moisture at 35 to 40 % & storage life is very less as compare liquid based bio fertilizers
 3. The liquid based fertilizers can be used as for seed treatment, seedling treatment, drenching, foliar spray & through micro irrigation
 4. The results of spraying of liquid bio fertilizers are significance
- 3) Details of technologies selected for assessment :

T1 : Farmers practice : Less No, of farmers are treated set treatment with bio fertilizers

T2: The planting material of sugarcane should be dipped for 5min in lignite based Acetobactor and PSB each 1.25 kg in 100 Lits of water

T3: Technology Assessed: The planting material of sugarcane should be dipped for 5min in liquid bio-inoculants of Acetobactor and PSB each 1 Lit. In 100 Lits of water + Spraying of Liquid bio-inoculants of Acetobactor & PSB 1 Lit. each in 300 Lit. of water after 6-8 wk and 12-18 wk of planting respectively.
- 4) Source of technology : VSI, Pune
- 5) Production system : Irrigated/ Sugarcane based production system
thematic area
- 6) Thematic area : Integrated Crop Management
- 7) Performance of the Technology with performance indicators : Results showed that 1. Avg. No. tillers per plant 2. Percent Vigor 3. Yield/ ha
- 8) Final recommendation for micro level situation : Results awaited
- 9) Constraints identified and feedback for research : The availability of quality liquid bio fertilizers with proper microbial count is major constraint. Also need to isolate local microbial strains of different bio-fertilizers.
- 10) Process of farmers participation and their reaction : Farmers are participated through Group discussion, training and demonstration.

11) 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
1	2	3	4	5	6	7	8
Sugarcane	Irrigated	Less use of Bio-fertilizers for set treatment and spraying	Use of Liquid bio inoculants of Acetobactor and Phosphate solublising bacteria for set treatment & foliar spray in Sugarcane	10	Farmers practice	1. Avg. No. tillers per plant	Results awaited
						2. Percent Vigor	
						3. Yield/ ha	
					Use of Liquid bio inoculants of Acetobactor and Phosphate solublising bacteria for set treatment & foliar spray in Sugarcane	1. Avg. No. tillers per plant	Results awaited
						2. Percent Vigor	
						3. Yield/ ha	

* No. of farmers

Results of assessment	Feedback from the farmer	Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
9	10	11	12	13	14
Farmers practice		Farmers practice : Less No, of farmers are treated set treatment with bio fertilizers			
Technology assessed	After use of Trichoderma viridae (500 gm) and VAM 2-3 kg for mixing with coco-pith as rooting media the seedling vigor is significant and plants are totally disease free.	The planting material of sugarcane should be dipped for 5min in liquid bio-inoculants of Acetobactor and PSB each 1 Lit. In 100 Lits of water + Spraying of Liquid bio-inoculants of Acetobactor & PSB 1 Lit. each in 300 Lit. of water after 6-8 wk and 12-18 wk of planting respectively.	Results awaited	Results awaited	Results awaited

Trial – 7

Discipline: Plant Protection

- 1) Title : Management of fungal diseases of sugarcane nursery by using *Trichoderma viridae* and Vesicular Arbuscular Mycorrhiza (VAM) in coco-pith
- 2) Problem diagnose/defined : Heavy infection of fungus diseases at root zone at nursery condition
Farmers are using various fungicides for bud chip treatment and drenching but not getting results as expected
It was observed that about 15-20 % seedling damage at nursery condition due to fungal diseases
- 3) Details of technologies selected for assessment : T1 : Farmers uses various fungicides for bud chip treatment and
T 2 : Apply 1 kg *Trichoderma* sp. with decomposed FYM to nursery or
Spray Carbendazim 25 gm/10 lit water
T3 : Use of bio-agent *Trichoderma viridae* (500 gm) and Vesicular Arbuscular Mycorrhiza (VAM) 2-3 kg for mixing with coco-pith as rooting media. [VAM Fungus Species :*Glomus intraradices*]
- 4) Source of technology : MPKV, Rahuri
- 5) Production system thematic area : Irrigated/ Sugarcane based production system
- 6) Thematic area : Integrated Disease Management
- 7) Performance of the Technology with performance indicators : Result shows that average No. of Seedlings infected by fungus in each tray(50 cup) – Zero, % Mortality of Seedlings in tray (50 cup), - 03 and % control of seedling diseases over farmers practice is 62 %.
- 8) Final recommendation for micro level situation : The *Trichoderma viridae* and VAM used are need to mix in coco pith at 15 days prior to tray filling. Also need to maintain moisture of coco pith.
- 9) Constraints identified and feedback for research : The availability of quality *Trichoderma viridae* and VAM with proper microbial count is major constraint. Also there is need to isolate local microbial strain of *Trichoderma viridae* .
- 10) Process of farmers participation and their reaction : Farmers are participated through Group discussion, training and demonstration

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
1	2	3	4	5	6	7	8
Sugarcane	Irrigated	Heavy infection of fungus diseases at root zone at nursery condition Farmers are using various fungicides for bud chip treatment and drenching but not getting results as expected It was observed that about 15-20 % seedling damage at nursery condition due to fungal diseases	Management of fungal diseases of sugarcane nursery by using Trichoderma viridae and Vesicular Arbuscular Mycorrhiza (VAM) in coco-pith	10	Farmers uses various fungicides for bud chip treatment and drenching in nursery	Avg No. Seedlings infected by fungus in each tray	39
						% Mortality of Seedlings in tray	08
					Use of bio-agent Trichoderma viridae (500 gm) and Vesicular Arbuscular Mycorrhiza (VAM) 2-3 kg for mixing with coco-pith as rooting media. [VAM Fungus Species: Glomus intraradices.	Avg No. Seedlings infected by fungus in each tray	07
						% Mortality of Seedlings in tray	03
						No of tillers after transplanting	19

Results of assessment	Feedback from the farmer	Technology Assessed	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
9	10	11	12	13	14
Farmers practice		Farmers uses various fungicides for bud chip treatment and drenching in nursery	11500 seedlings*/ batch / 12500 buds	4250	1.22:1
Technology assessed	After use of Trichoderma viridae (500 gm) and VAM 2-3 kg for mixing with coco-pith as rooting media. The seedling vigor is significant and plants are totally disease free.	Use of bio-agent Trichoderma viridae (500 gm) and Vesicular Arbuscular Mycorrhiza (VAM) 2-3 kg for mixing with coco-pith as rooting media. [VAM Fungus Species :Glomus intraradices	12125 seedlings*/ batch/12500 buds.	5500	1.29:1

*Rate of seedlings- Rs. 2 per seedling

Trial - 8

Discipline: Agricultural Engineering

- 1) Title : **Assessment of tractor drawn BBF planter**
- 2) Problem diagnose/defined : Traditional crop sowing/cultivation methods are time consuming and labour intensive

Crop failure due to high rainfall or drought condition
Low output
- 3) Details of technologies selected for assessment :
 - i. traditional method – sowing on flat bed by using *tifan*
 - ii. TD seed drill
 - iii. Tractor drawn BBF planter
/refinement
- 4) Source of technology : 1. Dr. PDKV, Akola
- 5) Production system : Improved farm implements

thematic area
- 6) Thematic area : Improved farm implements
- 7) Performance of the Technology with performance indicators : The use of tractor drawn BBF planter for sowing soybean and Bengal gram crop recorded highest yield (27.2 & 13.8 q/ha) over the traditional sowing by bullock drawn *tifan* and tractor drawn seed-cum-ferti drill.
- 8) Final recommendation for micro level situation : The tractor drawn BBF planter is useful for sowing different dryland crops instead of bullock drawn *tifan* and tractor drawn seed drill.
- 9) Constraints identified and feedback for research : The fertilizer metering system delivers fertilizer unevenly, and requires adjustments frequently. Also, delivers fertilizer at the headlands too.
- 10) Process of farmers participation and their reaction : Training, demonstration and group discussion

11). 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
Improved Farm implements	Rainfed	Traditional crop sowing/cultivation methods are time consuming and labour intensive Crop failure due to high rainfall or drought condition Low output	Assessment of tractor drawn BBF planter	13	Bullock drawn tifan	Field capacity, ha/day	1.45	Results indicate that the use of TD BBF planter increased crop yield by 5-18% as compared to the traditional sowing practices.	The TD BBF planter delivered fertilizer unevenly.
						Field efficiency, %	54		
						Labour requirement, man-h/ha	11.0		
						Operating cost Rs/ha	618		
						Yield, q/ha Soybean Bengal gram	23.8 11.2		
					Tractor drawn seed drill	Field capacity, ha/day	4.2		
						Field efficiency, %	63		
						Labour requirement, man-h/ha	3.8		
						Operating cost Rs/ha	701		
						Yield, q/ha Soybean Bengal gram	25.8 11.7		

					Tractor drawn BBF planter	Field capacity, ha/day	3.5		
						Field efficiency, %	64		
						Labour requirement, man-h/ha	4.58		
						Operating cost Rs/ha	644		
						Yield, q/ha Soybean Bengal gram	27.2 13.8		

Technology Assessed	*Production per unit		Net Return (Profit) in Rs / unit		BC Ratio	
11	12		13		14	
	Soybean	Bengal gram	Soybean	Bengal gram	Soybean	Bengal gram
Bullock drawn tifar	23.8	11.2	36982	20632		1:2.57
Tractor drawn seed drill	25.8	11.7	41899	21779		1:2.64
Tractor drawn BBF planter	27.2	13.8	45581	28106		1:3.13

Trial - 9

Discipline: Agricultural Engineering

- | | | |
|---|---|---|
| 11) Title | : | Assessment of motor operated bud chipper |
| 12) Problem
diagnose/defined | : | High labour requirement
High energy requirement
Low capacity
Drudgery-prone activity |
| 13) Details of technologies
selected for assessment
/refinement | : | i. –traditional method- hand bud chippers
ii. – Motor operated bud chipper |
| 14) Source of technology | : | 1. ICRISAT, Hyderabad; 2. KVK, Latur |
| 15) Production system
thematic area | : | Improved farm implements |
| 16) Thematic area | : | Improved farm implements |
| 17) Performance of the
Technology with
performance indicators | : | The developed motor operated sugarcane bud chipper increased the output capacity of labourer by 65% and saves time and cost of operation. |
| 18) Final recommendation
for
micro level situation | : | The motor operated sugarcane bud chipper may be used for bud chipping for the production of sugarcane seedlings. |
| 19) Constraints identified
and
feedback for research | : | The cost of equipment is high. |
| 20) Process of farmers
participation and
their reaction | : | Training and demonstration |

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
Improved Farm implements	Irrigated	High labour requirement High energy requirement Low capacity Drudgery-prone activity	Assessment of motor operated sugarcane bud chipper	11	Hand bud chipper	Capacity, bud chips/h	452	The results indicate that the use of motor operated sugarcane bud chipper saves 65% labour and cost of operation apart from increasing the output of the labourer by three folds.	The tested motor operated sugarcane bud chipper saves labour, time & cost and suitable for raising the single bud sugarcane seedlings in the nursery on large scale.
						Labour requirement, man-h/10000 buds	22.2		
						Operating cost Rs/buds	0.082		
						Damage/split buds, %	2.5		
					Motor operated sugarcane bud chipper	Capacity, bud chips/h	1277		
						Labour requirement, man-h/10000 buds	7.8		
						Operating cost Rs/buds	0.029		
						Damage/split buds, %	3		

Technology Assessed	*Production per unit Bud chips/day	Net Return (Profit) in Rs. / unit/day	BC Ratio
11	12	13	14
Hand operated bud chipper	3254	82	1:1.08
Motor operated sugarcane bud chipper	9195	674	1:3.06

Trial - 10**Discipline: Home Science**

- 1) Title : Assessment of pedal operated potato peeler and slicer
- 2) Problem diagnose/defined : Low output in traditional method
Drudgery prone activity
- 3) Details of technologies selected for assessment
/refinement : T1-traditional method-farmers practice
T2-Technology assessed- pedal operated potato peeler and slicer-
Recommended practice
- 4) Source of technology : CIAE,Bhopal
- 5) Production system
thematic area : -
- 6) Thematic area : Income generation activities for empowerment of rural women
- 7) Performance of the
Technology with
performance indicators : Results showed that the equipment has maximum peeling
capacity(160kg/hr),
slicing capacity(160kg/hr),less requirement of labour for peeling and
slicing(0.53h/q) and only 4% losses are observed as compared to
traditional method
- 8) Final recommendation for
micro level situation : -
- 9) Constraints identified and
feedback for research : -
- 10) Process of farmers
participation and
their reaction : Training ,demonstration and group discussion

11). Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Parameters	Data on the parameter	Results of Assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Value addition equipment	-	Lack of skill to operate improved equipments Traditional method is a time consuming and has low output	Assessment of pedal operated potato peeler & slicer	10	Traditional method of potato peeling and slicing	Peeling capacity Kg /hr	08	Result showed that there is a less requirement of labour & also has more peeling capacity (180 kg/hr)& slicing capacity (180 kg/hr) than traditional method	Pedal operated potato peeler & slicer are usefull for making potato chips so they can increase there income on there potatoes immediately after harvest at village level only. It is easy to operate
						Slicing capacity Kg/hr	12		
						Labour requirement for slicing (man-h/q)	7.69		
						Labour requirement for peeling (man-h/q)	14.28		
						Peeling losses (%)	20		
					Pedal operated Potato Peeler and slicer	Peeling capacity Kg /hr	160		
						Slicing capacity Kg/hr	160		
						Labour requirement for slicing (man-h/q)	0.53		
						Labour requirement for peeling (man-h/q)	0.53		
						Peeling losses (%)	04		

Trial - 11**Discipline: Veterinary Science**

1	Title	: Assessment of Azolla feeding to increase milk production in Buffaloes
2	Problem diagnose/defined	: 1. Low milk yield 2. Underfeeding or imbalanced feeding due to high cost of concentrates 3. High cost of milk production
3	Details of technologies selected for assessment /refinement	: T1 – Farmers practice – Roughages + 1-2 Kg Concentrate T2 – Technology Assessed- T1 + 2 kg Azolla / buffalo / Day
4	Source of technology	: Vivekananda Kendra- Natural Resources Development Project (VK-NARDEP), Kanniyakumari district, Tamilnadu
5	Production system thematic area	: Irrigated, feed management
6	Thematic area	: Feed management
7	Performance of the Technology with performance indicators	: By feeding azolla along with the regular feeding of the farmer Milk yield is increased 17.39 % , gross income is increased by 17 % along with that there is improvement in the health of the animal
8	Final recommendation for micro level situation	: Feeding 2 Kg azolla per day per buffalo along with regular feed increases milk production by 15-20 %. Hence, may be used for feeding to buffaloes.
9	Constraints identified and feedback for research	: Cold season: Growth of the Azolla retards (Below 10 degree C) and colour changes green to red, or brick colour Summer: in the hot weather also the growth of the azolla is slow and colour changes to red or brown Nutrient deficiency: If fertilizers and minerals were not given timely the colour of the azolla changes to yellow at the border of the azolla plant.
10	Process of farmers participation and their reaction	: Farmers are participated through Group discussion, training, demonstration.

11). Results of On Farm Trials

Crop/Enterprise	Farming situation	Problem diagnosed	Title of OFT	No. of trials	Technology assessment	Parameters of assessment	Data on the parameter
1	2	3	4	5	6	7	8
Buffalo	Irrigated	Low milk yield, Imbalanced feeding Underfeeding due to high rate of concentrates	Assessment of Azolla feeding to increase milk production in buffalo	05	Farmers practice: Roughages + 1-2 Kg Concentrate	Milk production lit/day/buffalo	3.8
						Cost on concentrate feeding Rs/day/buffalo	20
						Gross income Rs/buffalo/day	114
						Cost of azolla production	Nil
						Cost on azolla feeding Rs/buffalo	Nil
					Technology assessed: T1 + 2 kg Azolla / buffalo / Day	Milk production lit/day/buffalo	4.6
						Cost on concentrate Rs/day/buffalo	20
						Gross income Rs/buffalo/day	138
						Cost of azolla Rs/kg	0.83
						Cost on azolla feeding Rs/buffalo	1.66

Result of assessment	Feedback from the farmers	Production per unit	Net returns(profit) in Rs/unit	CB ratio
9	10	11	12	13
Farmers practice: 1. Milk production per buffalo per day is 3.8 lit. 2.Gross income per buffalo per day is Rs 114/-	-	1330 lit/lact/buffalo	10080	1:1.41
Technology assessed: 1. Milk production per buffalo per day is 10.2 lit. 2.Gross income per buffalo per day is Rs 138/- 3.Milk yield is increased by 17.39 % 4. gross income is increased by 17 %	✓ The milk production is increased by feeding azolla with the regular concentrates/feed. ✓ The azolla production technology is very easy, requires less space and	1610 lit/lact/buffalo	16591	1:1.66

	maintenance and can be produced with minimum efforts with the regular work. ✓ The azolla feeding increases milk production, fat % and health of the animals. ✓ Azolla saves 20 % concentrates feed especially oilcakes.			
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3.2.2. Technology Refinement

Trial - 1

Discipline: Agricultural Engineering

- 1) Title : Refinement of hand operated Sugarcane Bud Chipper for raising nursery using single budded chips under SSI method of sugarcane cultivation
- 2) Problem diagnose/defined : Bud chipping is a labourious operation
Low output
- 3) Details of technologies selected for assessment : i. Traditional method – Bud chipping by using local chippers
ii. RRefined Bud Chipper
/refinement
- 4) Source of technology : 1. ICRISAT, Hyderabad
- 5) Production system : Improved farm implements
thematic area
- 6) Thematic area : Improved farm implements
- 7) Performance of the Technology with performance indicators : The refined hand operated sugarcane bud chipper increased the capacity of labourer by 50% and saves labour requirement by 37-50% as compared to the available bud chippers.
- 8) Final recommendation for micro level situation : The refined bud chipper is useful for sugarcane bud chipping, for raising sugarcane seedlings.
- 9) Constraints identified and feedback for research : -
- 10) Process of farmers participation and their reaction : Training, demonstration and group discussion

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT (R)	No. of trials*	Technology refined	Parameters of assessment	Data on the parameter	Results of refinement	Feedback from the farmer	Justification for refinement
1	2	3	4	5	6	7	8	9	10	
Improved Farm implements	Irrigated	Bud chipping is a labourious operation Low output ie 200-225 bud chips/h	Refinement of Sugarcane Bud Chipper for raising nursery using single budded chips under SSI method of sugarcane cultivation	13	Local sugarcane bud chipper	Bud chipping capacity, buds/h	206	Results indicate that the use of refined hand operated sugarcane bud chipper saves 54 & 37% labour, 54 & 44% cost of operation and increased the output of labourer by 54 & 45% as compared to traditional chippers.	The capacity of refined unit of hand operated sugarcane bud chipper is more than the present chippers and requires less efforts for harvesting bud chips.	The refined unit saves labour time and cost of operation over the conventional bud chippers. It may be used efficiently for bud chipping for raising the sugarcane nursery using single budded chips.
						Labour requirement, man- h/10000 buds	48.5			
						Operating cost Rs/10000 buds	1818.7			
					Sugarcane bud chipper	Bud chipping capacity, buds/h	248			
						Labour requirement, man- h/10000 buds	40.3			
						Operating cost Rs/10000 buds	1511.2			
					Refined sugarcane bud chipper	Bud chipping capacity, buds/h	448			
						Labour requirement, man- h/10000 buds	22.3			
						Operating cost Rs/10000 buds	836.2			

Technology Assessed	*Production per unit Bud chips/day	Net Return (Profit) in Rs. / unit/day*	BC Ratio
11	12	13	14
Local sugarcane bud chipper	1483.2	70.8	1.23
Sugarcane bud chipper	1785.6	146.4	1.46
Refined sugarcane bud chipper	3225.6	506.4	2.68

*Assuming bud chip cost as Rs. 0.25/bud

Photographs of OFT'S conducted during 2012-13



Assessment on Pigeon pea by Transplanting method



Assessment of Application of Sulphur in Soybean



Assessment on use of skirting bags in Banana



Assessment on Management of brinjal fruit and shoot borer by IPM techniques



Sugar cane Seedling tray photo with application of *Trichoderma viridae* and Vesicular Arbuscular Mycorrhiza (VAM) for mixed with coco-pith.



Farmers treated Sugar cane Seedling tray photo with mortality of Seedlings due to fungal infection

Photographs of OFT'S conducted during 2012-13



Assessment on pedal operated potato peeler



Assessment on pedal operated potato slicer



Testing of tractor drawn BBF planter



Broad-beds sown by BBF planter



Testing of motor operated sugarcane bud chipper



Azolla production unit at farmers field



Azolla production unit at farmers field



Testing of refined bud chipper



Testing of refined bud chipper

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 2012-13 and recommended for large scale adoption in the district

S. 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	Soybean	Integrated crop management	MAUS-71, Biofertilizer	Group discussion, Field Day	02	12	05
2	Pigeon pea	Integrated crop management	BSMR-736	Group discussion, Field Day	02	12	05
3	Bengal gram	Integrated crop management	Digvijay	Group discussion, Field Day	02	12	05
4	Ground nut (summer)	Integrated crop management	TAG-24	Group discussion, Field Day	02	05	02
5	Mango	Management of orchard	Keshar	Group discussion, Field Day	05	27	15
6	Watermelon	Off season vegetables	Sugar baby	Group discussion, Field Day	-	-	-
7	Soybean	IPM	IPM In Soybean	Field day, Trainings, Group discussion, Farnes rally	10	65	60
8	Bengal Gram	IPM	IPM & IDM in Bengal gram	Training, Group discussion, News paper Coverage	12	70	60
9	Rabi Jowar	Integrated Pest Management	Seed treatment	Group discussion	03	45	18
10	Mango	Pest Management	Spraying of Imidacloprid & Hexaconazole for control of Jassids and powdery mildew	Training, Group discussion, News paper Coverage	06	13	5.2

- b. Details of FLDs implemented during 2012-13 (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.**)

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	Soybean	Varietal evaluation	Varietal demonstration on MAUS-71	Kharif	05	05	01	11	12	-
2	Pigeon pea	Varietal evaluation	Varietal demonstration on BSMR-736	Kharif	05	05	01	11	12	-
3	Bengal gram	Varietal evaluation	Varietal demonstration on Digvijay	Kharif	05	05	01	11	12	-
4	Ground nut (summer)	Varietal evaluation	Varietal demonstration on Ground nut	Summer	02	02	01	04	05	-
5	Mango	Management of orchard	Use of cultar for regular bearing in mango	Rabi	10	10	01	09	10	-
6	Water melon	Off season vegetables	Use of polythene mulch	Summer	10	10	01	09	10	-
7.	Green Fodder crop	Fodder management	Phule Jaywant	Kharif 2011	0.4	0.4	02	08	10	-
8	Bengal Gram	IPM	IPM in Bengal Gram	Rabi 2012	05	05	01	12	13	-
9	Pomegranate	IPM	Management of Pomegranate Stem borer, Shot hole borer by different physical and chemical practices	Kharif 2012	05	05	-	13	13	-
10	Ginger	IDM	Seed Rhizomes Treatment for management of Rhizome rot and Bacterial wilt in Ginger	Kharif 2012	05	05	02	11	13	-
11	Water melon	IPM	Integrated Pest Management in Watermelon	Summer 2013	05	05	01	11	13	-

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					
Soybean	Kharif	RF	Medium black	Medium	Low	High	Bengal gram	2nd -3rd week of july	1st week of Nov.	-	-
Pigeon pea	Kharif	RF	Medium black	Medium	Low	High	Bengal gram	2nd -3rd week of july	4th – 1st week of Dec. & Jan.	-	-
Ground nut	Summer	IR	Medium black	Medium	Low	High	Pigeon pea	2nd-3rd week of feb	1st week of May	-	-
Bengal gram	Rabi	RF/IR	Medium black	Medium	Low	High	Soybean	1st -2nd week of November	4th – 1st week of Jan. & Feb.	-	-
Mango	Rabi	IR	Light	Medium	Low	High	-	-	1 st week of September	-	-
Watermelon	Summer	IR	Medium black	Medium	Low	High	Bengal gram	1 st week of March	-	-	-
Fodder crop	Kharif 2012	Irrigated	Medium black	Medium	Low	High	Bengal gram	July - Agust 2011	Perennial fodder crop	-	-
Bengal Gram	Rabi	RF	Medium	Low	Low	High	Soybean	Last week of Oct	Last week of Jan		
Pomegranate	Kharif	Irrigated	Light	Low	Low	High	Pomegranate	-	Last week of June		
Ginger	Kharif	Irrigated	Light to medium	Medium	Low	High	Bengal gram	Last week of june	Feb		
Water melon	Summer	Irrigated	Light to medium	Medium	Low	High	Bengal gram	Last week of Jan	First week of April		

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.	Soybean	Varietal demonstration of MAUS -71	MAUS-71	12	05	28	18	23	20.1	9.45	Yield- 23 q/ha	Yield-20.10 q/ha
2.	Pigeon pea	Varietal demonstration of BSMR-736	BSMR-736	12	05	14	08	10.12	9.0	11.06	Yield- 10.12 q/ha	Yield- 9.0 q/ha
3	Bengal gram	Varietal demonstration of Digvijay	Digvijay	12	05	16	10	14.5	12.5	15.02	Yield- 14.5 q/ha	Yield- 12.5 q/ha
4	Ground nut	Varietal demonstration of TAG-24	TAG-24	05	02	-	-	-	-	-	-	-
5	Mango	Use of cultar	Keshar	10	10	64	48	56	48	11.6	22000 fruits/ha	21000 fruits/ha
6	Watermelon	Use of polythene mulch	Sugar baby	10	10	-	-	-	-	-	-	-
7	Hybrid Napier fodder crop	Demonstration of Phule Jaywant	RBN-13	10	0.4	2350	2200	2275	1875	17.58	Green fodder yield-2275 Q/Ha No. of cuts/year-06	Green fodder yield-1875 Q/Ha No. of cuts/year-06
8	Bengal Gram	IPM in Bengal Gram	Vijay/Vishal	13	05	20	12	16	14.5	10.34	Yield – 16 Qt/ha.	Yield -14.5 Qt./ha
9		Management of	Bhagwa	13	05	65	93	79	68	16.17	No of plants infected by	No of plants infected by stem

	Pomegranate	Pomegranate Stem borer, Shot hole borer by different physical and chemical practices									stem borer -03 No. of plant wilted-04 Yield- 68 qtls/ ha	borer-01 No. of plant wilted-01 Yield-79 qtls/ ha
10	Ginger	Seed Rhizomes Treatment for management of Rhizome rot and Bacterial wilt in Ginger	Mahim	13	05	34	26	30	26	23.07	No. of plants fungal infect. / Sq. m - 02 No. of Bacterial infecte plants/ Sq.m – 01 Yield/ha – 30 Qtls/ha	No. of plants fungal infect. / Sq. m -05 No. of Bacterial infecte plants/ Sq.m - 01 Yield/ha – 26 Qtls/ha.
11	Water melon	Integrated Pest Management in Watermelon	Sugar baby	13	05	204	128	166	159		No of damaged Fruits per row - 04 Avg. No. of Catches per trap - 89 Yield per ha- 166 Qtls.	No of damaged Fruits per row - 14 Yield per ha – 159 Qtls.

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
23750	22750	50000	45000	26250	22250	2.1:1
17390	16230	64000	42000	46610	25770	3.68:1
24250	22750	53325	45315	29075	22565	2.19:1
-	-	-	-	-	-	-
32500	28000	200000	140000	167500	112000	6.1:1
-	-	-	-	-	-	-
85000	85000	227500	187500	142500	179000	2.67:1
18100	16250	41250	38500	23150	22250	2.28:1
87000	85500	355500	306000	270000	219000	4.08 :1
21800	20500	105000	91000	83200	70500	4.8 :1
45500	43500	116200	111300	70700	67800	2.5 : 1

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
Soybean	Kharif	Varietal demonstration of MAUS -71	Rainfed	22.2	20.1	9.45
Pigeon pea	Kharif	Varietal demonstration of BSMR-736	Rainfed / irrigated	10.12	9.0	11.06
Begal gram	Rabi	Varietal demonstration of Digvijay	Irrigated	14.5	12.5	15.02
Groundnut	Summer	Varietal demonstration of TAG-24	Irrigated	-	-	-
Mango	Rabi	Use of cultar	Irrigated	56	48	11.6
Watermelon	Summer	Use of polythene mulch	Irrigated	-	-	-
Fodder crop	Kharif	planting material	Irrigated	2275	1875	17.58
Bengal Gram	Rabi	IPM in Bengal Gram	RF	16	14.5	10.34
Pomegranate	Kharif	Management of Pomegranate Stem borer, Shot hole borer	Irrigated	79	68	16.17
Ginger	Kharif	Seed Rhizomes Treatment for management	Irrigated	30	26	23.07
Water melon	Summer	Integrated Pest Management in Watermelon	Irrigated	166	159	4.40

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Yield of soybean MAUS-71 was more than JS 335.
2	BSMR-736 is resistant to sterility mosaic and wilt. Due to more branching yield potential is more.
3	Use of cultar is usefull for regular and early bearing in mango.
4	Fodder yield of Phule Jaywant is more than the Phule yashwant.
5	Significant effect of IPM component was found on yield of Bengal gram.

6	Paste application on trunk for Management of Pomegranate Stem borer, Shot hole borer gives good results
7	Seed treatment with trichoderma gives less mortality in seedlings of sugarcane.
8	Traps are significant for management of fruit fly in watermelon.

Farmers' reactions on specific technologies

S. No	Feed Back
1.	MAUS 71 is resistant to shattering and matures 7-8 days earlier than JS 335.
2.	Due to seed treatment (Trichoderma & rhizobium) increases plant vigor & germination in pigeon pea.
3.	A mango fruit comes early in market so fetches good price, due to use of cultar.
4.	Leaf blade and surface of leaf of phule Jaywant is without hairs. So, it is easy to cut and handle. Also Stem is more juicy and soft as compared to other fodder varieties. Vary negligible wastage of fodder after feeding to the animals.
5.	Minimizes spraying cost considerably, due to use of IPM techniques in Bengal gram.
6.	Minimizes spraying cost considerably, due to use of IPM techniques in pomegranate.
7.	Maintained plant population, increases yield due to seed treatment in Ginger.

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	06	15.09.12; 28.12.12; 29.01.13; 02.02.13	150	-
2	Farmers Training	06	05.06.12; 06.06.12; 07.06.12; 18.7.12; 03.10.12; 19.11.12	109	-
3	Media coverage	02	16.09.12; 06.02.13	-	-
4	Training for extension functionaries	-	-	-	-

Details of FLD on Enterprises

(i) Farm Implements

Name of the implement	Crop	No. of farmers	Area (ha)	Performance parameters / indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	check		
Refined CRIDA bullock drawn planter	Soybean, Bengal gram	11	07	Field capacity, ha/day	2.0	1.48	26	The use of CRIDA bullock drawn planter saves time, labour and cost of operation and increase yield of crop considerably. Hence suitable for sowing dryland as well as irrigated crops.
				Field efficiency, %	70.0	57	18.6	
				Labour, man-h/ha	4	10.8	63	
				Operating cost, Rs/ha	350	607.5	49.8	
				Yield (Soy), q/ha	27.0	20.5	24	
				Yield(Bengalgram), q/ha	15.0	12.5	16.7	
Seed treatment drum	Soybean, pigeon pea, Bengal gram	17	-	Capacity, min/bag	13 (30 kg) 07 (05-10 kg)	40 (30 kg) 16 (05-10 kg)	67.5 56.2	The use of seed treatment drum for treating the seed was found to be very effective. Since it reduce the drudgery and promotes the farmer for treating the seeds.
Fertilizer crowbar	Sugarcane	11	09	Labour requirement, man-h/ha	10	05	-	Although the fertilizer crowbar required more labourer, the fertilizer is available to the crop for long duration than traditional practice of broadcasting. Also there was no drain off of fertilizer with the irrigation water
Tractor drawn zero till seed cum ferti drill	Bengal gram, wheat, rabi sorghum	14	20	Field capacity, ha/h	0.58	0.52	10.3	The use of zero till seed cum ferti drill allows early sowing and saves irrigation, required for seed germination, as in traditional sowing.
				Field efficiency, %	70	62	11.4	
				Labour requirement, man-h/ha	3.44	3.85	10.6	
				Operating cost, Rs./ha	789	864	8.7	
Drip lateral collector	Sugarcane, watermelon	14	10.2	Capacity, ha/day	1.6	0.8	50	The drip lateral collector collects the lateral efficiently &
				Labour	10	20	50	

	elon, ginger, turmeric			requirement, man-h/ha				uniformly. The collected lateral is easy to bundle and store in shed.
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(ii) Livestock Enterprises

Enterprise	Breed	No. of farmers	No. of animals , poultry birds etc.	Performance parameters / indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demonstration	Local check		
Dairy (Mineral mixture feeding)	CB cow	10	10	Milk yield lit/day/ animal	11.30	10.2	9.73	Feeding of mineral mixture increases the milk production and fat % by 9.73 % & 5.12 % respectively and improves the health condition of the animal and reduces the incidence of repeat breeding problem by 33 %
				Fat %	3.9	3.7	5.12	
				Incidence of repeat breeding	2	3	33	
Dairy (After milking Teat disinfection)	CB cow	10	10	Incidence of clinical mastitis	Results awaited			
				Incidence of subclinical mastitis				
				Incidence of septic pustules , crack and wound				

* Milk production, meat production, egg production, reduction in disease incidence etc.

(iii) Other Enterprises

Enterprise	Variety/ breed/ Species/ others	No. of farmers	No. of Units	Performance parameters / indicators	Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		
Weaning mix	Rajkera	10	01	Weight gain of the children	1210 gm	830 gm	31.40	- It is a low cost homemade nutritious supplementation - Mother can maintain hygienic condition during weaning food preparation
				Sign and symptoms	Minimizes sign and symptoms	Physically in active, frequent infections	40.00	

Photographs of FLD'S conducted during 2012-13



**Varietal demonstration of
Soybean MAUS-71**



**Varietal demonstration of
Pigeon pea BSMR-736**



FLD on IPM in Water Melon



FLD on Use of Mulching in Musk melon



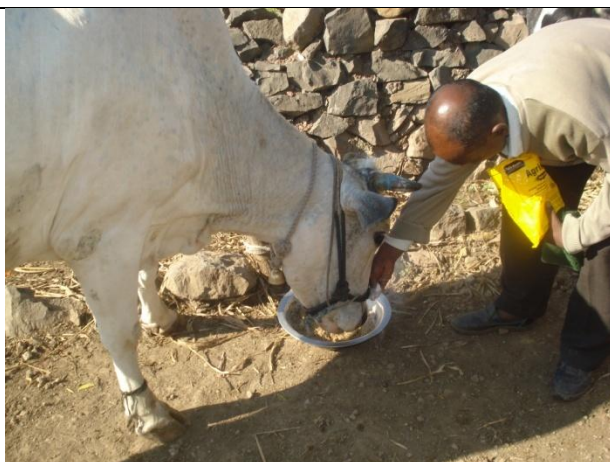
**FLD on Management of Pomegranate Stem borer, Shot hole borer
by different physical and chemical practices**



FLD on phule jaywant



FLD on spraying disinfectant solution on teat



FLD on mineral mixture feeding



FLD on Rajgira



Frontline demonstration of refined CRIDA bullock drawn planter



Frontline demonstration-cum training on seed treatment drum



Demonstration of fertilizer crowbar



Demonstration of hand operated drip lateral collector



Demonstration of tractor drawn zero till seed-cum-ferti drill



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

A) ON 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										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Water management										
Seed production										
Nursery management										
Integrated Crop Management										
Fodder production	1	18	0	18	3	0	3	21	0	21
Production of organic inputs										
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops										
Off-season vegetables										
Nursery raising										
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	1	16	0	16	2	0	2	18	0	18
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										
e) Tuber crops										
Production and Management technology										
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										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Soil and Water Testing										
IV Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Disease Management										
Feed management	1	12	0	12	2	0	2	14	0	14
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	1	0	9	9	0	7	7	0	16	16
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	3	54	0	54	10	0	10	64	0	64
Small scale processing and value addition										
Post Harvest Technology										
VII Plant Protection										
Integrated Pest Management	2	43	3	46	4	0	4	47	3	50
Integrated Disease Management	1	15	2	17	3	0	3	18	2	20
Bio-control of pests and diseases										
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	1	66	12	78	3	11	14	77	15	92
WTO and IPR issues										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
TOTAL	11	224	26	250	27	18	45	259	36	295
(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										
Repair and maintenance of farm machinery and implements										
Nursery Management of Horticulture crops	1	12	0	12	3	0	3	15	0	15
Training and pruning of orchards										
Value addition										
Production of quality animal products										

Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Para vets										
Para extension workers										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts	1	0	15	15	0	4	4	0	19	19
TOTAL	2	12	15	27	3	4	7	15	19	34
(C) Extension Personnel										
Productivity enhancement in field crops										
Integrated Pest Management	1	20	07	27	11	02	13	31	09	40
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Formation and Management of SHGs										
Group Dynamics and farmers organization	5	71	0	71	69	2	71	140	2	142

Information networking among farmers										
Capacity building for ICT application										
Care and maintenance of farm machinery and implements										
WTO and IPR issues										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Women and Child care										
Low cost and nutrient efficient diet designing										
Production and use of organic inputs										
Gender mainstreaming through SHGs										
TOTAL	6	91	07	98	80	04	84	171	11	182

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	2	28	0	28	10	0	10	38	0	38
Resource Conservation Technologies	1	16	0	16	2	0	2	18	0	18
Cropping Systems	2	21	0	21	7	0	7	28	0	28
Crop Diversification										
Integrated Farming										
Water management	1	13	0	13	3	0	3	16	0	16
Seed production	2	29	0	29	8	0	8	37	0	37
Nursery management										
Integrated Crop Management	3	41	0	41	12	0	12	53	0	53
Fodder production										
Production of organic inputs	1	12	0	12	4	0	4	16	0	16
II Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops										
Off-season vegetables	2	59	0	59	16	0	16	75	0	75
Nursery raising										
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	2	40	0	40	7	0	7	47	0	47
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										
e) Tuber crops										
Production and Management technology										
Processing and value addition	1	19	0	19	2	0	29	21	0	21
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	4	50	0	50	7	0	7	57	0	57
Soil and Water Conservation	1	20	0	20	7	0	7	27	0	27
Integrated Nutrient Management										
Production and use of organic inputs	1	21	0	21	4	0	4	25	0	25
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Soil and Water Testing										
IV Livestock Production and Management										
Dairy Management	3	47	0	47	7	0	7	54	0	54
Poultry Management										
Piggery Management										
Rabbit Management										
Disease Management										
Feed management	5	84	0	84	14	0	14	98	0	98
Production of quality animal products										
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	0	21	21	0	4	4	0	25	25
Design and development of low/minimum cost diet	1	0	17	17	0	3	3	0	20	20
Designing and development for high nutrient efficiency diet	2	0	37	37	0	6	6	0	43	43

Minimization of nutrient loss in processing										
Gender mainstreaming through SHGs										
Storage loss minimization techniques	1	0	16	16	0	2	2	0	18	18
Value addition	1	0	12	12	0	6	6	0	18	18
Income generation activities for empowerment of rural Women	3	0	34	34	0	16	16	0	50	50
Location specific drudgery reduction technologies	2	13	11	24	2	4	6	15	15	30
Rural Crafts										
Women and child care	1	0	17	17	0	3	3	0	20	20
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	1	16	0	16	8	0	8	24	0	24
Small scale processing and value addition										
Post Harvest Technology										
VII Plant Protection										
Integrated Pest Management	5	114	5	119	8	0	8	122	5	127
Integrated Disease Management										
Bio-control of pests and diseases										
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	1	22	0	22	4	0	4	26	0	26
Group dynamics	4	160	0	160	24	0	24	184	0	184
Formation and Management of SHGs	2	36	0	36	8	0	8	44	0	44

Mobilization of social capital	1	21	0	21	6	0	6	27	0	27
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
TOTAL	57	882	170	1052	170	44	241	1052	214	1266
(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										
Repair and maintenance of farm machinery and implements										
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Value addition	1	0	16	16	0	4	4	0	20	20
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										

Rabbit farming										
Poultry production										
Ornamental fisheries										
Para vets										
Para extension workers	1	15	0	15	2	0	2	17	0	17
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Small scale processing	1	18	0	18	5	0	5	23	0	23
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
TOTAL	3	33	16	49	7	4	11	40	20	60
(C) Extension Personnel										
Productivity enhancement in field crops	1	41		41	9		9	50		50
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Formation and Management of SHGs										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										

Care and maintenance of farm machinery and implements										
WTO and IPR issues										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Women and Child care										
Low cost and nutrient efficient diet designing										
Production and use of organic inputs										
Gender mainstreaming through SHGs										
TOTAL	1	41		41	9		9	50		50

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	2	28	0	28	10	0	10	38	0	38
Resource Conservation Technologies	1	16	0	16	2	0	2	18	0	18
Cropping Systems	2	21	0	21	7	0	7	28	0	28
Crop Diversification	0	0	0	0	0	0	0	0	0	0
Integrated Farming	0	0	0	0	0	0	0	0	0	0
Water management	1	13	0	13	3	0	3	16	0	16
Seed production	2	29	0	29	8	0	8	37	0	37
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Crop Management	3	41	0	41	12	0	12	53	0	53
Fodder production	1	18	0	18	3	0	3	21	0	21
Production of organic inputs	1	12	0	12	4	0	4	16	0	16
II Horticulture				0			0	0	0	0
a) Vegetable Crops				0			0	0	0	0
Production of low volume and high value crops	0	0	0	0	0	0	0	0	0	0
Off-season vegetables	2	59	0	59	16	0	16	75	0	75
Nursery raising	0	0	0	0	0	0	0	0	0	0
Exotic vegetables like Broccoli	0	0	0	0	0	0	0	0	0	0
Export potential vegetables	0	0	0	0	0	0	0	0	0	0
Grading and standardization	0	0	0	0	0	0	0	0	0	0
Protective cultivation (Green Houses, Shade Net etc.)	0	0	0	0	0	0	0	0	0	0
b) Fruits				0			0	0	0	0

Training and Pruning	0	0	0	0	0	0	0	0	0	0
Layout and Management of Orchards	0	0	0	0	0	0	0	0	0	0
Cultivation of Fruit	0	0	0	0	0	0	0	0	0	0
Management of young plants/orchards	3	56	0	56	9	0	9	65	0	65
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0	0	0
Micro irrigation systems of orchards	0	0	0	0	0	0	0	0	0	0
Plant propagation techniques	0	0	0	0	0	0	0	0	0	0
c) Ornamental Plants				0			0	0	0	0
Nursery Management	0	0	0	0	0	0	0	0	0	0
Management of potted plants	0	0	0	0	0	0	0	0	0	0
Export potential of ornamental plants	0	0	0	0	0	0	0	0	0	0
Propagation techniques of Ornamental Plants	0	0	0	0	0	0	0	0	0	0
d) Plantation crops				0			0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
e) Tuber crops				0			0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	1	19	0	19	2	0	2	21	0	21
f) Spices				0			0	0	0	0
Production and Management technology	0	0	0	0	0	0	0	0	0	0
Processing and value addition	0	0	0	0	0	0	0	0	0	0
g) Medicinal and Aromatic Plants				0			0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Production and management	0	0	0	0	0	0	0	0	0	0

technology										
Post harvest technology and value addition	0	0	0	0	0	0	0	0	0	0
III Soil Health and Fertility Management				0			0	0	0	0
Soil fertility management	4	50	0	50	7	0	7	57	0	57
Soil and Water Conservation	1	20	0	20	7	0	7	27	0	27
Integrated Nutrient Management	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	1	21	0	21	4	0	4	25	0	25
Management of Problematic soils	0	0	0	0	0	0	0	0	0	0
Micro nutrient deficiency in crops	0	0	0	0	0	0	0	0	0	0
Nutrient Use Efficiency	0	0	0	0	0	0	0	0	0	0
Soil and Water Testing	0	0	0	0	0	0	0	0	0	0
IV Livestock Production and Management				0			0	0	0	0
Dairy Management	3	47	0	47	7	0	7	54	0	54
Poultry Management	0	0	0	0	0	0	0	0	0	0
Piggery Management	0	0	0	0	0	0	0	0	0	0
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Disease Management	0	0	0	0	0	0	0	0	0	0
Feed management	6	96	0	96	16	0	16	112	0	112
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
V Home Science/Women empowerment				0			0	0	0	0
Household food security by kitchen gardening and nutrition gardening	1	0	21	21	0	4	4	0	25	25
Design and development of low/minimum cost diet	1	0	17	17	0	3	3	0	20	20
Designing and development for	2	0	37	37	0	6	6	0	43	43

high nutrient efficiency diet										
Minimization of nutrient loss in processing	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
Storage loss minimization techniques	1	0	16	16	0	2	2	0	18	18
Value addition	1	0	12	12	0	6	6	0	18	18
Income generation activities for empowerment of rural Women	4	0	43	43	0	23	23	0	66	66
Location specific drudgery reduction technologies	2	13	11	24	2	4	6	15	15	30
Rural Crafts	0	0	0	0	0	0	0	0	0	0
Women and child care	1	0	17	17	0	3	3	0	20	20
VI Agril. Engineering				0			0	0	0	0
Installation and maintenance of micro irrigation systems	0	0	0	0	0	0	0	0	0	0
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	4	70	0	70	18	0	18	88	0	88
Small scale processing and value addition	0	0	0	0	0	0	0	0	0	0
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
VII Plant Protection				0			0	0	0	0
Integrated Pest Management	7	157	8	165	12	0	12	169	8	177
Integrated Disease Management	1	15	2	17	3	0	3	18	2	20
Bio-control of pests and diseases	0	0	0	0	0	0	0	0	0	0
Production of bio control agents and bio pesticides	0	0	0	0	0	0	0	0	0	0
VIII Fisheries				0			0	0	0	0
Integrated fish farming	0	0	0	0	0	0	0	0	0	0

Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	0	0	0	0	0	0	0	0	0	0
Portable plastic carp hatchery	0	0	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Edible oyster farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Fish processing and value addition	0	0	0	0	0	0	0	0	0	0
IX Production of Inputs at site				0			0	0	0	0
Seed Production	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Bio-agents production	0	0	0	0	0	0	0	0	0	0
Bio-pesticides production	0	0	0	0	0	0	0	0	0	0
Bio-fertilizer production	0	0	0	0	0	0	0	0	0	0
Vermi-compost production	0	0	0	0	0	0	0	0	0	0
Organic manures production	0	0	0	0	0	0	0	0	0	0
Production of fry and fingerlings	0	0	0	0	0	0	0	0	0	0
Production of Bee-colonies and wax sheets	0	0	0	0	0	0	0	0	0	0
Small tools and implements	0	0	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	0	0	0	0	0	0	0	0	0	0
Production of Fish feed	0	0	0	0	0	0	0	0	0	0
X Capacity Building and Group Dynamics				0			0	0	0	0
Leadership development	1	22	0	22	4	0	4	26	0	26
Group dynamics	4	160	0	160	24	0	24	184	0	184
Formation and Management of	2	36	0	36	8	0	8	44	0	44

SHGs										
Mobilization of social capital	1	21	0	21	6	0	6	27	0	27
Entrepreneurial development of farmers/youths	1	66	12	78	3	11	14	69	23	92
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
XI Agro-forestry				0			0	0	0	0
Production technologies	0	0	0	0	0	0	0	0	0	0
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Farming Systems	0	0	0	0	0	0	0	0	0	0
TOTAL	68	1106	196	1302	197	62	259	1303	258	1561
(B) RURAL YOUTH										
Mushroom Production	0	0	0	0	0	0	0	0	0	0
Bee-keeping	0	0	0	0	0	0	0	0	0	0
Integrated farming	0	0	0	0	0	0	0	0	0	0
Seed production	0	0	0	0	0	0	0	0	0	0
Production of organic inputs	0	0	0	0	0	0	0	0	0	0
Integrated Farming	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Vermi-culture	0	0	0	0	0	0	0	0	0	0
Sericulture	0	0	0	0	0	0	0	0	0	0
Protected cultivation of vegetable crops	0	0	0	0	0	0	0	0	0	0
Commercial fruit production	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Nursery Management of Horticulture crops	1	12	0	12	3	0	3	15	0	15
Training and pruning of orchards	0	0	0	0	0	0	0	0	0	0
Value addition	1	0	16	16	0	4	4	0	20	20
Production of quality animal products	0	0	0	0	0	0	0	0	0	0
Dairying	0	0	0	0	0	0	0	0	0	0
Sheep and goat rearing	0	0	0	0	0	0	0	0	0	0

Quail farming	0	0	0	0	0	0	0	0	0	0
Piggery	0	0	0	0	0	0	0	0	0	0
Rabbit farming	0	0	0	0	0	0	0	0	0	0
Poultry production	0	0	0	0	0	0	0	0	0	0
Ornamental fisheries	0	0	0	0	0	0	0	0	0	0
Para vets	0	0	0	0	0	0	0	0	0	0
Para extension workers	1	15	0	15	2	0	2	17	0	17
Composite fish culture	0	0	0	0	0	0	0	0	0	0
Freshwater prawn culture	0	0	0	0	0	0	0	0	0	0
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Cold water fisheries	0	0	0	0	0	0	0	0	0	0
Fish harvest and processing technology	0	0	0	0	0	0	0	0	0	0
Fry and fingerling rearing	0	0	0	0	0	0	0	0	0	0
Small scale processing	1	18	0	18	5	0	5	23	0	23
Post Harvest Technology	0	0	0	0	0	0	0	0	0	0
Tailoring and Stitching	0	0	0	0	0	0	0	0	0	0
Rural Crafts	1	0	15	15	0	4	4	0	19	19
TOTAL	5	45	31	76	10	8	18	55	39	94
(C) Extension Personnel										
Productivity enhancement in field crops	1	41		41	9		9	50	0	50
Integrated Pest Management	1	20	7	27	11	2	13	31	9	40
Integrated Nutrient management	0	0	0	0	0	0	0	0	0	0
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Protected cultivation technology	0	0	0	0	0	0	0	0	0	0
Formation and Management of SHGs	0	0	0	0	0	0	0	0	0	0
Group Dynamics and farmers organization	5	71	0	71	69	2	71	140	2	142
Information networking among farmers	0	0	0	0	0	0	0	0	0	0

Capacity building for ICT application	0	0	0	0	0	0	0	0	0	0
Care and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
WTO and IPR issues	0	0	0	0	0	0	0	0	0	0
Management in farm animals	0	0	0	0	0	0	0	0	0	0
Livestock feed and fodder production	0	0	0	0	0	0	0	0	0	0
Household food security	0	0	0	0	0	0	0	0	0	0
Women and Child care	0	0	0	0	0	0	0	0	0	0
Low cost and nutrient efficient diet designing	0	0	0	0	0	0	0	0	0	0
Production and use of organic inputs	0	0	0	0	0	0	0	0	0	0
Gender mainstreaming through SHGs	0	0	0	0	0	0	0	0	0	0
TOTAL	07	132	7	139	89	4	93	221	11	232

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

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
07.04.12	PF	Measures to overcome drought situation	Agril. Extension	Resource conservation technology	01	Off	16	0	16	2	0	2	18	0	18
04.05.12	PF	To motivate the farmers towards analysis of soil	Agril. Extension	Mobilization of social capital	01	Off	21	0	21	6	0	6	27	0	27
25.04.12	PF	Capacity buildings & empowerment of the farmers group organization	Agril. Extension	Group Dynamics	01	Off	49	0	49	5	0	5	54	0	54
26.04.12	PF	Importance of soil & water testing in fruit crops	Horticulture	Soil & fertility management	01	Off	18	0	18	3	0	3	21	0	21
08.05.12	PF	Harvesting & post harvest handling in onion	Horticulture	Post harvest technology in tuber crops	01	Off	19	0	19	2	0	2	21	0	21
17.05.12	PF	Enrichment of soil by using Dhancha and Sunhemp	Agronomy	Weed management	01	Off	14	0	14	3	0	3	17	0	17
18.05.12	PF	Use of unconventional fodder in scarcity period	Veterinary	Feed and fodder management	01	Off	21	0	21	3	0	3	24	0	24
17.05.12	RY	Preparation of different tamarind products	Home Science	Value addition	01	Off	0	11	11	0	4	4	0	15	15
19.05.12	PF	Methods of soil sample collection	Agronomy	Soil fertility management	01	Off	13	0	13	2	0	2	15	0	15
27.05.12	PF	Capacity buildings & empowerment of the farmers group organization	Agril. Extension	Group Dynamics	01	Off	65	0	65	5	0	5	70	0	70
29.05.12	PF	Integrated Pest Management in Kharif crops	Plant Protection	Pest management	01	OFF	28	3	31	1	0	1	29	3	32
05.06.12	PF	Integrated pest and nutrient	Agronomy	Integrated crop	01	Off	16	0	16	4	0	4	20	0	20

		management in Soybean		management											
06.06.12	PF	Seed treatment in various kharif crops	Agronomy	Seed Production	01	Off	15	0	15	4	0	4	19	0	19
07.06.12	PF	Soybean-seed production	Agronomy	Seed Production	01	Off	14	0	14	4	0	4	18	0	18
08.06.12	PF	Operation, use and maintenance of different farm equipments	Agricultural Engineering	Repair and maintance of farm machinery	01	On	28	0	28	4	0	4	32	0	32
12.06.12	PF	Use of pre and post emergence weedicides for weed control	Agronomy	Weed management	01	Off	14	0	14	7	0	7	21	0	21
15.06.12	PF	Importance of soil & water testing in fruit crops	Horticulture	Soil & fertility management	01	Off	19	0	19	2	0	2	21	0	21
21.06.12	PFW	Establishment of nutritional garden	Home Science	Household food security by kitchen gardening & nutritional gardening	01	Off	0	21	21	0	4	4	0	25	25
22.06.20 12	PF	Integrated Pest and disease Management in Kharif crops	Plant Protection	Integrated Pest and Disease Management	01	On	25	3	28	2	0	2	27	3	30
26.12.12	PF	To motivate the farmers towards organic farming	Agril. Extension	Production and use of organic farming	01	Off	21	0	21	4	0	4	25	0	25
02.07.12	PF	Tractor drawn BBF planter: operation, adjustments and use	Agricultural Engineering	Soil & water conservation technologies	01	Off	20	0	20	7	0	7	27	0	27
11.07.12	PF	Azolla production technology and feeding to dairy animals	Veterinary	Feed management	01	On	12	0	12	2	0	2	14	0	14
11.07.12 to 12.07.12	EF	Orientation training programme under IWMP	Agril. Engg./Home Science	Group Dynamics	02	On	18	0	18	12	0	12	30	0	30
15.07.12	PF	Management of pest and diseases in brinjal and ginger	Plant Protection	Integrated Pest Management	01	Off	23	2	25	0	0	0	23	2	25
19.07.12	PF	Management of farmers group within the village	Agril. Extension	Formation & management of SHG	01	Off	18	0	18	5	0	5	23	0	23

07.08.12	PF	Use of cultar for regular bearing in mango	Horticulture	Production technology	01	Off	16	0	16	4	0	4	20	0	20
08.08.12	PF	Marketing skill development among the farmers	Agril. Extension	Group dynamic	01	Off	15	0	15	4	0	4	19	0	19
12.08.12	PF	Operation and use of sugarcane bud chippers	Agricultural Engineering	Repair and maintance of farm machinery	01	Off	16	0	16	8	0	8	24	0	24
20.07.12	PF	Management of fruit crops under drought condition	Horticulture	Management of young plants/orchards	01	On	16	0	16	2	0	2	18	0	18
17.07.12 to 21.07.12	EF	PRA training programme under IWMP	Agril. Engg./Home Science	Group Dynamics	05	On	17	0	17	11	0	11	28	0	28
18.07.12	PF	Cultivation practices of different fodder crops	Veterinary	Fodder production	01	On	18	0	18	3	0	3	21	0	21
18.07.12	PFW	Scientific storage techniques for food grains	Home Science	Storage loss minimization techniques	01	Off	0	16	16	0	2	2	0	18	18
01.08.12	PFW	Preparation of cherry from papaya	Home Science	Value addition	01	Off	0	12	12	0	6	6	0	18	18
06.08.12 to 10.08.12	EF	Detail project report under IWMP programme	Agril. Engg./Home Science	Group Dynamics	05	On	12	0	12	7	0	7	19	0	19
24.08.12	PF	Management of of soybean pests and diseases	Plant Protection	Integrated Pest Management	01	Off	21	0	21	3	0	3	24	0	24
28.08.12 to 29.08.12	RY	Empowerment of adolescent girls for quality	Home Science	Rural Craft	02	On	0	15	15	0	4	4	0	19	19
05.09.12	PF	Management of dairy animals	Veterinary	Dairy management	01	Off	18	0	18	3	0	3	21	0	21
06.09.12	PFW	Symptoms and causes for anemia in farm women	Home Science	Women and child care	01	Off	0	17	17	0	3	3	0	20	20
12.09.12	PF	Repair and maintenance of CRIDA planters	Agricultural Engineering	Repair & maintenance of farm machinery	01	On	14	0	14	3	0	3	17	0	17
13.09.12	PF	Group promotion for the farmers	Agril. Extension	Formation & management of SHG	01	Off	18	0	18	3	0	3	21	0	21

24.09.12	PF	Pest and disease management in Pomegranate	Plant Protection	Integrated Pest Management	01	Off	20	0	20	2	0	2	22	0	22
03.10.12	PF	Redgram-integrated crop nutrient management	Agronomy	Integrated crop management	01	Off	14	0	14	4	0	4	18	0	18
09.10.12	PF	Importance of azolla feeding to milking animals	Veterinary	Ffeed management	01	Off	16	0	16	2	0	2	18	0	18
10.10.12	PF	Water management with micro irrigation	Agronomy	Water management	01	Off	13	0	13	3	0	3	16	0	16
10.10.12	PF	Repair & maintenance of farm machinery	Agricultural Engineering	Repair & maintenance of farm machinery	01	On	12	0	12	3	0	3	15	0	15
10.10.12	PFW	Preparation of different weaning foods	Home Science	Designing and development of low/minimum cost diet	01	Off	0	17	17	0	3	3	0	20	20
10.10.12	PF	Use of skirting bag in banana	Horticulture	Management of young plant/orchards	01	Off	24	0	24	3	0	3	27	0	27
10.10.12	PF	Integrated pest and disease management in Bengal gram	Plant Protection	Integrated Pest Management	01	Off	22	0	22	3	0	3	25	0	25
15.10.12	PF	Introduction of new variety and production technology for bengalgram	Agronomy	Cropping system	01	Off	11	0	11	4	0	4	15	0	15
25.10.12	PF/P FW	Soybean seed production	Agril. Extension	Entrepreneurship development of farmers/youth	01	On	66	12	78	3	11	14	69	23	92
02.11.12	PF	Production technology of Rabbi Sorghum	Agronomy	Production of organic inputs	01	Off	12	0	12	4	0	4	16	0	16
03.11.12	PF	Fodder for milk production	Veterinary	Dairy management	01	Off	15	0	15	2	0	2	17	0	17
05.11.12	PF	Integrated crop management in wheat	Agronomy	Integrated crop management	01	Off	11	0	11	4	0	4	15	0	15
05.11.20 12	PF	Integrated pest and disease management in Rabi crops	Plant Protection	Integrated Pest Management	01	On	18	0	18	2	0	2	20	0	20
07.11.12	PF	Communication skill development among the	Agril. Extension	Leadership development	01	Off	22	0	22	4	0	4	26	0	26

		farmers													
19.11.12	PF	Production technology of summer groundnut	Agronomy	Cropping System	01	Off	10	0	10	3	0	3	13	0	13
19.11.12	PF	Improved bud chippers and establishment of sugarcane nursery	Agricultural Engineering	Drudgery reducing technology	01	Off	13	0	13	2	0	2	15	0	15
21.11.12	PFW	Preparation of different soybean products	Home Science	Designing and development for high nutrient efficiency diet	01	Off	0	21	21	0	4	4	0	25	25
11.12.12	PFW	Diet during different age group	Home Science	Designing and development for high nutrient efficiency diet	01	Off	0	16	16	0	2	2	0	18	18
11.12.20 12	PF	Pest and disease management in Mango and Fig	Plant Protection	Integrated pest and disease management	01	On	15	2	17	3	0	3	18	2	20
12.12/1 2	PF	Protective cultivation & vegetables	Horticulture	Off season vegetable protection	01	Off	18	0	18	7	0	7	25	0	25
13.12.12	RY	Small scale entrepreneurship development among the youths	Agril. Extension	Small scale processing	01	Off	18	0	18	5	0	5	23	0	23
18.12.12 to 22.12.12	EF	Project and financial management under IWMP programme	Agril.Engg/ Home Science	Group Dynamics	05	On	12	0	12	22	1	23	34	1	35
24.12.12	PFW	Candle making	Home Science	Income generation activities for empowerment of rural women	01	Off	0	10	10	0	7	7	0	17	17
01.01.13 to 05.01.13	EF	Project and financial management under IWMP programme	Agril.Engg/ Home Science	Group Dynamics	05	On	12	0	12	17	1	18	29	1	30
05.01.20 13	PF	Management of pests and diseases in vegetables	Plant Protection	Pest Management	01	Off	25	5	30	9	0	9	34	5	39
09.01.13 to	PFW	Mini Dal processing unit	Home Science	Income generation activities for	03	Off	0	12	12	0	6	6	0	18	18

11.01.13				empowerment of rural women											
10.01.13	PF	Importance of mineral mixture feeding to livestock	Veterinary	Feed management	01	Off	13	0	13	4	0	4	17	0	17
23.01.13	PF	Management of livestock during scarcity period	Veterinary	Dairy management	01	Off	14	0	14	2	0	2	16	0	16
24.01.20 13	EF	Use of Bio-fertilizers and Bio pesticide in Agriculture	Plant Protection	Bio-pesticide use for Eco-friendly pest management	01	On	20	7	27	11	2	13	31	9	40
24.01.12	EF	Care & management of summer vegetables	Horticulture	Off season vegetables	01	EF	41	0	41	9	0	9	50	0	50
30.01.12	RY	Process of vegetable export through group dynamic	Agril. Extension	Para extension workers	01	Off	15	0	15	2	0	2	17	0	17
13.02.13	PF	Women friendly tools and equipments	Agricultural Engineering	Drudgery reducing technology	01	Off	0	11	11	0	4	4	0	15	15
07.02.20 13	PF	Management of bacterial blight disease in pomegranate	Plant Protection	Disease Management	01	off	25	0	25	6	0	6	31	0	31
07.02.13	PF	Group promotion among the farmers	Agril. Extension	Group Dynamics	01	Off	25	0	25	3	0	3	28	0	28
07.02.13 to 09.02.13	PFW	Pulse processing through mini Dal mill	Home Science	Income generation activities for empowerment of rural women	03	Off	0	12	12	0	3	3	0	15	15
08.02.13	PF	Azolla production technology	Veterinary	Feed management	01	Off	15	0	15	2	0	2	17	0	17
11to20 Feb 13	RY	Establishment of Sugarcane Nursery	Agricultural Engineering	Nursery Management	10	On	12	0	12	3	0	3	15	0	15
12.02.13	PF	Urea treatment on wheat straw	Veterinary	Fodder management	01	Off	16	0	16	3	0	3	19	0	19
14.02.13	PFW	Use and operation of pedal operated potato peeler & slicer	Home Science	Income generation activities for empowerment of rural women	01	On	0	9	9	0	7	7	0	16	16

(D) Vocational training programmes for Rural Youth

Crop / Enterprise	Date	Training title*	Thematic Area	Duration (days)	No. of Participants			Self employed after training			Number of persons employed else where
					Male	Female	Total	Type of units	Number of units	Number of persons employed	
Enterprise	07.01.13 to 09.01.13	Pulse processing through mini dal mill	Income generating activities for empowerment of rural women	03	-	18	18	Dal Mill	01	08	-
Enterprise	07.02.13 to 09.02.13	Pulse processing through mini dal mill	Income generating activities for empowerment of rural women	03	-	15	15	Dal Mill	01	10	-
Sugarcane	11.02.13 to 20.02.13	Establishment of Sugarcane nursery	Nursery Management	10	15	-	15	Sugarcane Nursery	02	08	-

(E) Sponsored Training Programmes

Sl.No	Date	Title	Discipline	Thematic area	Duration (days)	Client (PF/RY/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.	11.07.12 to 12.07.12	Project orientation training programme	Agril. Engg/ Home Science	Group Dynamics	02	EF	01	18	-	18	12	-	12	30	-	30	YASHDA , Pune	-		
2.	17.07.12 to 21.07.12	PRA training programme under IWMP	Agril. Engg/ Home Science	Group Dynamics	05	EF	01	17	-	17	11	-	11	28	-	28	YASHDA , Pune	-		
3.	06.08.12 to 10.08.12	Detail project report under IWMP programme	Agril. Engg/ Home Science	Group Dynamics	05	EF	01	12	-	12	07	-	07	19	-	19	YASHDA , Pune	-		
4.	Oct.12	Soybean seed production	Agril. Exten.	Entrepreneurship development of farmers/youth	01	PF/PFW	01	66	12	78	03	11	14	77	15	92	Department of Biotechnology, New Delhi	-		

5.	18.12.12 to 22.12.12 and 01.01.13 to 05.01.13	Project and Financial manageme nt under IWMP programme	Agril. Engg/ Home Scienc e	Group Dynamics	10	EF	02	24	-	24	39	02	41	63	02	65	YASHD A , Pune	-
6.	09.01.13 to 11.01.13 & 07.02.13 to 09.02.13	Pulse processing through dal mill	Home Scienc e	Income generating activities to rural women	03	PFW	02	-	24	24	*-	09	09	-	33	33	Departm ent of Biotechn ology, New Delhi	-
Tota l					26		8	137	36	173	72	22	94	217	50	267		

Photographs of Trainings conducted during 2011-12



Off Campus Training on Pest & Disease management in Vegetables



EF training on IPM in Soybean



RY Trainings on Group Dynamics



Training –cum demonstration of rotary tiller



On campus Training on azolla production



Training on Pulse Processing by Mini Dal Mill



On campus training for Fodder crops



Sponsored training programme on Soybean Seed Production



Training for Farm women on Value addition



DBT sponsored Training on Back Yard Poultry



Training on use of bio-fertilizers in organic farming



Off Campus training on Tractor drawn BBF planter

3.4. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	Date	Title/topic	No. of activities	Participants											
				Farmers (Others)			SC/ST (Farmers)			Extension Officials			Grand Total		
				I			II			III			(I+II+III)		
				Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	15.09.12	Field day on Phule Jaywant	01	42	-	42	05	-	05	02	-	02	49	-	49
	15.09.12	On Soybean (MAUS-71)	01	42	-	42	05	-	05	02	-	02	49	-	49
		On Bengal gram (Digvijay)	01	21	-	21	02	-	02	01	-	01	24	-	24
	28.12.12	Pigeon pea	01	15		15	04		04	01		01	20		20
	29.01.13	Cultivation practices in Bengal gram	01	11		11	04		04				15		15
	02.02.13	Improved cultivation practices in Bengal gram	01	13		13	04		04				17		17
Kisan Mela	26.11.12	Soil & water conservation	01	137		137	41		41				178		178
Kisan Ghosthi															
Exhibition	26.05.12	Sugarcane production technology	01	297	0	297	15	0	15	0	0	0	312	0	312
Film Show															
Method Demonstrations	17.04.12	Urea treatment on wheat straw	01	20	0	20	04	0	04	0	0	0	24	0	24
	19.04.12	Sugarcane bud chippers	01	50	-	50	13	-	10	02	-	02	65	-	65

	19.04.12	Tractor drawn BBF planter	01	22	-	22	04	-	04	02	-	02	28	-	28
	26.05.12	Sugarcane bud chippers	01	53	0	53	0	0	0	00	0	0	53	0	53
	08.06.12	Tractor drawn BBF planter	01	68		68	12		12				80		80
	18.06.12	Seed treatment in cotton	01	07		07	01		01				08		08
	11.09.12	Azolla production unit	01	14		14							14		14
	06.10.12	Azolla production unit	01	06		06	02		02				08		08
Farmers Seminar															
Workshop															
Group meetings	07.04.12	Management of onion breeder seed production	01	21	0	21	05	0	05	0	0	0	26	0	26
	18.04.12	Draught management	01	23	0	23	08	0	08	0	0	0	31	0	31
	26.05.12	Sugarcane production tech by SSI method	01	27	0	27	0	0	0	0	0	0	27	0	27
	08.06.12	Operation & use of farm implements	01	44	-	44	03	-	03	02	-	02	49	-	49
	20.06.12	Mechanization of sugarcane	01	37	-	37	05	-	05	-	-	-	42	-	42
	22.06.12	Improved cultivation	01	25		25	04		04				29		29

		practices in soybean													
	19.07.12	Soybean: pest & disease management	01	61		61	11		11				72		72
	21.09.12	Strengthening of SHG's	01		17	17	0	03	03				0	20	20
	06.10.12	Vegetable production technology	01	08		08	04		04				12		12
	08.10.12	Pomegranate production & marketing	01	06		06	02		02				08		08
	17.10.12	Promotion of entrepreneurs development	01		07	07		02	02					09	09
	25.10.12	Capsicum cultivation in shade net	01	15		15	05		05				20		20
	02			30	-	30	08	-	08	-	-	-	38	-	38
	06.11.12	Role & importance of FC at village level	04	132		132	23		23				155		155
	06.11.12	Soybean seed production	01	19		19	02		02				21		21
	07.11.12	Role & importance of FC at village level	03	151		151	24		24				175		175
	25.12.12	Group formation	01	12		12	02		02				14		14
	25.02.13	Pomegranate production	01	11		11	01		1				12		12
	26.02.13	Pomegranate	01	08		08							08		08

		production													
Lectures delivered as resource persons	16.04.12	Water management	01	50	-	50	20	-	20	10	-	10	70	10	80
	14.05.12	Importance & needs of group organization	01	401	0	401	49	0	49	0	0	0	450	0	450
	16.05.12	SSI method in sugarcane cultivation	01	99	0	99	16	0	16	0	0	0	115	0	115
	14.06.12	Soil & water conservation	01	35	0	35	05	0	05				40	0	40
	22.06.12	Pest & disease management in soybean	01	27		27	02		02				29		29
	09.07.12	Pest & disease management in pigeon pea	01	47	0	47							47	0	47
	20.07.12	Soybean & sugarcane production technologies	01	130		130	25		25				155		155
	29.07.12	Risium nursery using SSI method	01	210		210	38		38				248		248
	12.08.12	Improved sugarcane production techniques	01	45		45	15		15				60		60
	24.09.12	Soybean seed production technology	01	74		74	17		17	02		02	93		93
	01.11.12	Management of pest &	01	39		39	07		07				46		46

		diseases in pigeon pea and chick pea													
	26.11.12	Water management	01	151		151	27		27				178		178
	28.11.12	Improved sugarcane cultivation practices	01	132		132	25		25				157		157
	29.11.12	Improved sugarcane cultivation practices	01	153		153	28		28				181		181
	25.12.12	Women empowerment	01		40	40		05	05					45	45
	18.01.13	Woment empowerment	01		38	38		07	07					45	45
	08.01.13	Sunflower cultivation in summer	01	99		99	11		11				110		110
	29.01.13	Feeding & management of livestock during scarcity condition	01	69		69	11		11				80		80
Newspaper coverage	04.04.12	Insect attack decreased banana yield	01												
	26.04.12	CUG leads to effective bargain power: T. Zanwar	02												
	11.09.12	Scientist on	01												

		farmers field													
	11.09.12	Wilt attack on soybean	01												
	16.09.12	Field day by KVK	01												
	27.10.12	Agriculture business- way towards economic upliftment: Dr. Ninawe	01												
	09.11.12	Economic upliftment through Farmers club	01												
	25.12.12	Farmers visit to DSR, Indore	01												
	25.12.12	Farmers visit to CIAE, DSR national research institute	01												
	29.12.12	Inauguration of Agricultural Technology week	02												
	30.12.12	Sugarcane cultivation using Drip system	01												
	31.12.12	Gain benefits through planning and	01												

		group farming													
	01.01.13	Implement agriculture schemes sincerely	01												
	07.01.13	Sugarcane management, export quality grapes & vegetables: Guidance in agriculture technology week	01												
	05.02.13	Agriculture allied business-helpful for farmers	01												
	06.02.13	Field day by KVK	01												
Radio talks	25.07.12	SSI techniques in sugarcane production	01	-	-	-	-	-	-	-	-	-	-	-	-
	25.07.12	Pest & disease management in soybean	01												
	25.07.12	Azolla-sustainable feed for livestock	01												
TV talks															
Advisory Services															

Scientific visit to farmers field	28.04.12	Pomegranate production	02	06	0	06							06	0	06
	04.05.12	Onion seed production	01	03	0	03							03	0	03
	1-31.05.12		07	07	0	07							07	0	07
	1-30.06.12		05	05		05							05		05
	1-31.07.12		02	19		19							19		19
	04.09.12, 05.09.12	Soybean; pigeon pea pest & disease	2	40		40				02		02	42		42
	06.10.12	Soybean	01	06		06	03		03				09		09
	08.10.12	Bacterial blight in pomegranate	01	08		08							08		08
	16, 18.10.12	Sugarcane fields	02	06		06	01		01				01		07
	01.11.12	Sugarcane nursery	01	03		03							03		03
	19.11.12	Pest & diseases in vegetables	01	02		02							02		02
	24.11.12	Sugarcane field	01	04		04							04		04
	27.12.12	Pigeon pea, Bengal gram	02	08		08							08		08
	02.01.13	SSI sugarcane crop	01	02		2							2		02
	16.01.13	Azolla production technology; backyard poultry	01	05		05							05		05

	18.01.13	Disease management in pomegranate & watermelon	02	13		13	02		02				15		15
	25.01.13	Pest & disease management in brinjal & muskmelon	01	03		03							03		03
	28.02.13	Cucumber cultivation under mulching; vermicompost unit	01	02		2							2		02
	01.02.13	Incidence of sigatoka in banana	01	03		03	01		01				04		04
	02.02.13	Incidence of wilt in pomegranate	01	05		05							05		05
	02.02.13	Incidence of FMD in goat	01	13		13	04		4				17		17
	12.02.13	Azolla production technology & poultry farming unit	01	05		05	02		02				07		7
	04.02.13	Sugarcane nursery	01	09		09	01		01				10		10
	22.02.13	Sugarcane seedling plantation	01	03		03							03		03
Farmers visit to KVK	1-30 .04.12		67	67	0	67							67	0	67

	1-31.05.12		56	56	0	56							56	0	56
	1-31.10.12		07	91		91	08		08				99		99
	1-30.11.12		91	205		205	45		45				250		250
Diagnostic visits	03.05.12	Stem borer in sugarcane	01	03	-	03							03	0	03
	28.05.12	Flower drop in cucumber	01	01		01							01		01
	26.01.13	Azolla unit-problem in growth	01	03		03							03		03
Exposure visits	25.09.12	Improved dairy unit	01	05	-	05	-	-	-	-	-	-	05	-	05
	16-23.12.12	CIAE, Bhopal; DSR, Indore	01	16		16							16		16
	03.01.13	MKV, Parbhani	01		08	08		02	02					10	10
Ex-trainees Sammelan															
Soil health Camp															
Animal Health Camp															
Agri mobile clinic															
Soil test campaigns															
Farm Science Club Conveners meet	07.02.13	Pomegranate production & management practices	01	123		123	18		18				141		141
Self Help															

Group Conveners meetings															
Mahila Mandals Conveners meetings															
Celebration of important days (specify)															
Total			346	3959	110	4069	604	19	620	26	0	26	4573	139	4718

Photographs of Extension Activities



Scientific Advisory Committee Meeting



Method demonstration on Seed treatment in Cotton



Method Demonstration on Azolla Production Technology



Diagnostic visit of under CROP SAP Soyabean



Field Day on Phule Jaywant Fodder



Diagnostic visit to pomegranate orchard



Field day on Soyabean MAUS-71



Dignostic visit with State Agriculture Dept.



Exposure visit to CIAE, Bhopal



Vocational training on establishment of Sugarcane Nursery



KVK stall at Krishi Tantrdnyan Mahotsav



Reason Person in Line dept. Training

Kisan Mobile Advisory Services

Major Group	Category	Crop / enterprise	Thematic Area	Date	Name of the message	No. of Messages	No. of Farmers								
							Other s			SC/ST			Total		
							Male	Female	Total	Male	Female	Total	Male	Female	Total
Agronomy	Crop	Seed purchase	Seed production	14.06.12	Care to be taken while purchasing seeds	01	506	0	506	52		52	558		558
Plant prot	Crop	Oilseeds	Seed treatment	21.06.12	Seed treatment of Rhizobium, PSB	01	509		509	48		48	557		557
Agronomy	Crop	Oilseed, pulse	Cropping system	21.06.12	Training program	01	150	0	150	47		47	197		197
Agronomy	Crop	Pigeon pea	Crop production	26.06.12	Improved pigeon pea cultivation	01	511		511	78		78	589		589
Plant prot	Fruit crop	Pomoegranate	Pest management	21.07.12	Bordo paste application in pomoegranate	01	42		42				42		42
livestock	dairy	Cattle	Animal disease management	21.07.12	Gochid control in	01	658		658				658		658

			ement		animal										
Agronomy	Crop	Soybean	Crop production	25.08.12	Control leaf eating caterpillar by spraying neemark 5% or quinolphos 20 ml/ 10 l water	01	506	0	506	52		52	558		558
Agronomy	Crop	Pigeon pea	Crop production	13.10.12	Control of leaf roller by spraying Dimethi ate 30%, 10 ml or Monoch rotophos 36%, 8.5 ml or Quinolp hos 25 EC 16 ml	02	509		509	48		48	557		557
Agronomy	Crop	Pigeon pea	Crop production	25.10.12	Pigeon pea	01	550		550	45		45	595		595

Plant protec tion	Fruit crop	Pom oegra nate	Pest manag ement	11.02.13	Spray Emidac hloprid 03 ml or Thimith okzam 3 g or Dimethi ate 10 ml per 10 lit of water to control fruit sucking moth	01	112		112				112		112
Agron omy	Crop	Sorg hum	Croppi ng system	12.02.13 , 21.02.13	Sorghu m manage ment	02	219	-	219	80	-	80	299	-	299
livesto ck	dairy	Cattl e	Feed and fodder manag ement	26.02.13	draught Feed/fo dder manage ment	01	200		200	30		30	230		230
livesto ck	dairy	Cattl e	Feed and fodder manag ement	02.03.13 , 07.03.13, 08.03.13	draught Feed/fo dder manage ment	03	589	12	601	235	05	240	824	17	841

Details on Technology Week Celebrations*

Types of Activities	Title/topic/technology	Date	No. of Activities/quantity	No. of participants/beneficiaries		
				Male	Female	Total
Gosthies						
Lectures organized	Sugarcane Management in Adverse Situation	29.12.12	01	957	00	957
	Export Quality Grape and Vegetable Production	30.12.12	01	875		875
	Empowerment of Farmer Groups	31.12.12	01	1025	100	1125
Exhibition	Micro-irrigation systems Farm mechanization Pest & disease management Honey bee production	29-31 Dec 2012	05	2917	100	3017
Film show						
Fair						
Farm Visit	Sugarcane nursery Crop production Azolla production unit Vegetable production in shednet	29-31 Dec 2012	04	2917	100	3017
Diagnostic Practical's						
Distribution of Literature (No.)	2500					
Distribution of Seed (q)						
Distribution of Planting materials (No.)	1200					
Bio Product distribution (Kg)	250					
Bio Fertilizers (q)						
Distribution of fingerlings (No)						
Distribution of Livestock specimen (No.)						

** Details enclosed in Annexure*

3.5 Production and supply of Technological products

SEED MATERIALS

Major group/class	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS					
OILSEEDS					
PULSES					
VEGETABLES					
FLOWER CROPS					
OTHERS (Specify)					

*An example for guidance only

SUMMARY

Sl. No.	Major group/class	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
1	CEREALS			
2	OILSEEDS			
3	PULSES			
4	VEGETABLES			
5	FLOWER CROPS			
6	OTHERS			
TOTAL				

PLANTING MATERIALS

Major group/class	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS					
	Mango	Keshar	349	12975	15
	Guava	L-49,Lalit	104	4140	3
	Fig	Dinkar	244	7320	2
	Pomegranate	Bhagwa	67	1675	3
	Tamarind	Pratisthan	3	195	1
SPICES					
VEGETABLES					
FOREST SPECIES					
ORNAMENTAL CROPS					
PLANTATION CROPS					
Others (specify)					
	Fodder Crop	Phule jaywant	10475	9637.50	19
		Baif-10	3575	2187.50	7
	Azolla	Pinata	175	17500	74
	Pigeon pea	BSMR-736	10500	21000	5

SUMMARY

Sl. No.	Major group/class	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUITS	767	26305	24
2	VEGETABLES			
3	SPICES			
4	FOREST SPECIES			
5	ORNAMENTAL CROPS			
6	PLANTATION CROPS			
7	OTHERS	24725	50325	105
	TOTAL			

BIO PRODUCTS

Major group/class	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
BIOAGENTS						
BIOFERTILIZERS						
1. Acetobacter	Acetobacter	Acetobacter aceti	100	100	Free supply under DBT Project	50
2. PSB	PSB	Bacillus megaterium	100	100		50
3. Rhizobium	Rhizobium	Rhizobium leguminosarum	100	100		50
BIO PESTICIDES						
1. Trichoderma	Trichoderma	Trichoderma viridae	300	300	30,000.	59

SUMMARY

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	(kg)		
1	BIOAGENTS	-	-	-	-	-
2	BIO FERTILIZERS	Acetobacter aceti	100	100	Free supply under DBT Project	50
		Bacillus megaterium	100	100		50
		Rhizobium leguminosarum	100	100		50
3	BIO PESTICIDE	Trichoderma viridae	300	300	30,000.00	59
	TOTAL		600	600	30,000.00	209

LIVESTOCK

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos)	Kgs		
Cattle						
SHEEP AND GOAT						
POULTRY						

FISHERIES						
Others (Specify)						

SUMMARY

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
1	CATTLE					
2	SHEEP & GOAT					
3	POULTRY					
4	FISHERIES					
5	OTHERS					
	TOTAL					

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

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

Date of Start	Periodicity	Number of Copies distributed
2007	Yearly	100
2008	Yearly	100
2009	Yearly	100
2010	Yearly	100
2011	Yearly	100
2012	Yearly	100

(B) Literature developed/published

Item	Title	Authors name	Number of copies
Research papers	-	-	-
Total	-	-	-
Technical reports	Annual Progress Report	KVK ,Latur	03
	Monthly Progress Report	KVK ,Latur	12
	ZREAC Report	KVK, Latur	06
	Quarterly Report	KVK, Latur	04
	Extension Education Council Report	KVK,Latur	10
	ATMA Reports	KVK,Latur	04
	APR DBT-RBRC Project	KVK,Latur	16
Popular articles	Care & management of Soybean	Deshmukh S.B. SMS (PP)	-
	Azolla: Sustainable feed for livestock	Dr. S.B. Salunke Prog.Assist.(Vet.Sci.)	-
	PPP- in sustainable sugarcane production	Kawade S.C./ Digraze S.S. SMS (A.Engg.), (Hort.)	-
	Improved varieties of green fodder production for round the year	Dr. S.B. Salunke Prog.Assist.(Vet.Sci.)	
	Wilting in pomegranate	Deshmukh S.B. SMS (PP)	
Folders	Azolla production technology	Deshmukh S.B. SMS (PP)	1000
	CRIDA planters	Kawade S.C. SMS (Agril.Engg.)	1000
Total			2000
GRAND TOTAL			4055

(C) Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number
1	CD	Production and feeding azolla to dairy animals	100
2	CD	Cultivation of vegetables under shednet	100
3	CD	Production of seedlings of sugarcane	100

3.7. Success stories

Success Story on LARGE SCALE ADOPTION OF AZOLLA PRODUCTION AND FEEDING TECHNOLOGY IN LATUR DISTRICT

Background about case or problem (Reasons, problems leading to its development as a success story/case, existing farming system and agro-ecological situation)

I Background about case or problem:

Feeding and management practices are very important in successful dairy farming. For optimum milk production from animals, feeding of balanced diet is required. In Latur district of Maharashtra state Cows (Indigenous and Crossbred) are reared for milk and bullock production and buffalo for milk production. These animals are generally reared by traditional method with some exceptions. Due to shortage of green and dry fodder throughout year, poor quality fodder, high cost of concentrates feed and crop residue based feeding system, farmers does not offer sufficient and balanced diet to their animals. Some farmers use high quantity of concentrates to alleviate feed deficiencies. This leads to the increased cost of milk production. Also some farmers are using milk boosters to achieve milk production without proper feeding. This type of animal rearing yields less profit and poor animal health also.

Existing farming system and agro-ecological situation:

Livestock rearing for milk production is an important occupation of rural poor people ,marginal and sub marginal farmers, landless and land owners of Latur district. Common practices of animal rearing in Latur district are discussed below:

Farmers are rearing indigenous and crossbred cows and buffaloes for milk production. For feeding green fodder they cultivate only monocot fodder crop like maize, and Napier fodder crops like Phule Jaywant and Phule Yashwant on some land. Farmer's rare indigenous cows and buffaloes traditionally. They left their animals for grazing during day time in the open field or on the farm bund or where grass for grazing is available. Generally green fodder is not available for animals after rabi season. Hence, in summer season farmers fed there animals only dry fodder like kadabi, straw and dried sugarcane tops etc. Due to high cost of concentrates their feeding is limited and is not as per recommendations. In general all the animals are fed whatever the crop residues available with farmers. The diet of milking animals is protein deficient and unbalanced. Due to traditional rearing following problems are arised:

- Low milk production in terms of quantity and quality
- Low milk productivity
- Low weight gain in growing heifers
- Increased inter-calving period
- Increased cost of production and less returns
- Health problems and reduced immunity

Reasons, problems leading to its development as a success story:

Looking to the current problems in dairy farming, the use of Azolla in feed of dairy animals was intervened on the farmer's farm. Since this could alleviate problems substantially, and could also help to improve health and longevity of animals apart from minimizing the cost of production. It is a very chief source of protein, easy to cultivate and having tremendous production potential.

The cost effective method of mass multiplication of azolla on farmers homestead and feeding technology developed by National Resources Development Project (NARDEP), Vivekananda Kendra, Kanyakumari was identified and assessed on the farmers field by Krishi Vigyan Kendra, Latur in Latur District. The results of assessment of this technology were found promising during field trials. There was no any harm observed by feeding azolla to the dairy animals. The production of azolla is very easy, requires very less labours to maintain the production. On an average from a pit of 4.6 m X 1.8 m X 0.9 Inch 1.3 kg azolla produced

daily.

Looking to the benefits of azolla feeding to dairy animals more than 75 farmers adopted this technology and using successfully.

II Technology/process which was intervened for its success

- Azolla production unit is a critical intervention for production of azolla
- On Farm Testing on Production of Azolla and feeding to dairy animals
- Training and method demonstration on cultivation and maintenance of production of Azolla.
- Follow up guidance and popular articles and newspaper coverage in local language (Marathi) in newspapers,
- Delivered talk on azolla production on radio
- Prepared folder in Marathi and distributed to the farmers etc.

III Effect of the technology/process on

• Production

Tha farmers are using azolla production unit for production of azolla. They feed 1.5 to 2 kg of azolla per animal per day along with regular feed. Farmers preferred to it with concentrates after washing. Some farmers feed 1.5 to 2 kg azolla per day per animal by reducing 20 % regular feed. It gives 10-15 % increase in milk production in case of CB cow and 15 to 20 % increase in milk production in case of ND cow and buffaloes. Also it saves 20 % concentrates specially oilcakes without affecting milk production. Along with milk production it also enhances milk quality and general body condition of the animals, as reported by farmers.

• Productivity

On an average from one pit (size 4.6 m x 1.8 m x 9.0 inch) daily azolla production was 1.5 kg. On an average milk productivity was increased by 15 %.

• Economic gains (per unit expenditure, gross income, net income, C:B ratio)

Economics of azolla production for one unit

SN	Particulars	Amount (Rs.)
1	Cost of 120 gauge Silpauline plastic paper For 8.28 sq.m area pit size (Production in 1 sq.meter / day is 300 grams) same plastic used minimum for 2 years (700 Rs./2 years = 350)	350
2	Labour Charges For pit Preparation	100
3	Cow-dung 2 kg per wk*	00
4	Superphosphate 2.5 kg X 5 Rs (50 gms per wk)	13
5	Mineral mixture 2.5 kg x 65 (50 gms per wk)	162
6	Azolla culture 1 kg	100
7	Total cost of production	725
8	Azolla production 2.5 kg per day x 350 day= 875 kg/ year	875 kg
	Unit cost of production (Rs./kgs) (725/875)	0.83 Rs/kg

- The cost of cow dung is nullified against the soil/water/dung mixture (fertile mixture) available from pit per month.

Economics of feeding 2 kg azolla to CB cow

SN	Parameter	Feeding		% Change in parameter
		Technology demonstrated	Farmers practice	
1.	Milk production lit/day/cow	10.7	9.2	14.01
2.	Cost on concentrate feeding Rs/day/cow	45	45	--
3.	Gross income Rs/cow/day	182.00	156.00	14.28
4.	Cost of azolla Rs/kg	0.83	--	--
5	Cost on azolla feeding Rs/cow	1.64	--	--
6	Total milk production Lit/lactation /cow	3210	2760	14.01
7	Gross profit Rs/Lactation	54570	46920	--
8	Net profit Rs/lactation	22578	15420	31.70
9	C:B ratio	1:1.70	1:1.48	--

Economics of feeding 2 kg azolla to Buffaloes

SN	Parameter	Feeding		% Change in parameter
		Technology demonstrated	Farmers practice	
1.	Milk production lit/day/buffalo	4.6	3.8	17.39
2.	Cost on concentrate feeding Rs/day/buffalo	20	20	--
3.	Gross income Rs/buffalo/day	138.00	114.00	17.39
4.	Cost of azolla Rs/kg	0.83	--	--
5.	Cost on azolla feeding Rs/buffalo/day	1.64	--	--
6.	Total milk production Lit/lactation /buffalo	1610	1330	-
7.	Gross profit Rs/Lactation	41665	34580	17.00
8.	Net profit Rs/lactation	16591	10080	-
9.	C:B ratio	1:1.66	1:1.41	--

• Suitability in the existing farming /cropping systems

The demand for milk production has been increasing and milk production as a profitable occupation, is expanding. However, there is a substantial decline in fodder production, owing to the increasing area under cash crops and other agronomical crops to cope up the increasing demand of the grain for increasing population and decreasing area under forest and grasslands. But, fodder is an important requirement for animals. Even if the animals are fed

with the commercial feeds from the marked fresh green fodder and dry fodder is essential for them. Also feeding leguminous green fodder which is rich in protein is not followed in the Latur district. Apart from shortage of green fodder cost of concentrates feed increases day by day, this leads to unbalanced and deficient feeding. Success of a dairy plant depends largely on increasing milk production without escalation in feeding cost. All these factors lead to drop in milk production, increase in production cost and less returns to the farmers along with decreased body condition of the animals. Hence there is need for economic, alternative to commercial feed and chief source of protein rich diet. Azolla is now available as alternative to concentrates or as a sustainable feed substitute for livestock. By feeding azolla to the dairy animals, enhances milk yield, improves quality and quantity of milk, improves health condition of the animal and reduces cost of production by replacing concentrates by some extent.

- **Acceptance of technology/process in terms of views of the farmers**

- ✓ The milk production is increased by feeding azolla with the regular concentrates/feed.
- ✓ The azolla production technology is very easy, requires less space and maintenance and can be produced with minimum efforts with the regular work.
- ✓ The azolla feeding increases milk production, fat % and health of the animals.
- ✓ Azolla saves 20 % concentrates feed especially oilcakes.

- **Horizontal spread: 50**

Animal Husbandry commissioner of Maharashtra state, Shri. Eknath Dawale visited the azolla production unit at KVK, Latur on 12 January 2012. Also, he has visited KVK farmer Shri. Shrimant Kadam A/P Akharwaie Tq. And Dist. Latur producing azolla and using in the regular feed. Looking to the farmer's interest and economic benefits, he directed the Animal husbandry officers of Latur district to focus on large scale extension/ promotion of azolla production technology. Also, he requested KVK, Latur to work with Department of Animal husbandry for technology promotion and work as a resource institute. Recently department of Animal Husbandry initiated promotion of azolla production technology under the scheme "Dattak Kamdhenu Yojana".

Along with farmers of Latur district adjoining district farmers also visiting the production unit at KVK, Latur and initiated azolla production and feeding to their animals.

- **Substitution or replacement of commodities:**

- By feeding 2 kg azolla to dairy animals 15-20 % concentrates specially oilcakes can be replaced.
- Azolla can be used as protein source and replace leguminous green fodder

- **Social impact (formation of clubs, groups, federations, etc.): NA**

- **Marketing channels**

Presently KVK, Latur producing 10 Kg azolla/Day and is being provided to the needy farmers as culture to start azolla production unit.

- **Establishment of process/units:NA**

- **Linkage with technology/development organizations: NA**

- **Models/CDs developed, if any:**

01 Audio video CD on production and feeding Azolla to dairy animals

- **Publications/papers printed: Folder on azolla production technology**

Action Photographs



On campus training of farmers



On campus training of farmers



Training – cum – demonstration of Azolla production technology A/P Bhosa, Tq. Latur



All SAC members Visit to demo unit



Visit of Dr. V.M. Mayande, the then VC, PDKV, Akola



Visit of Shri, Eknath Dawale Saheb, Commissioner, Animal Husbandry Department, Maharashtra State



Azolla Production unit At Farmers field
Farmer: Shri. Shrimant Kadam, A/p Akharwaie, Tq: Latur, Dist: Latur



Azolla Production unit At Farmers field
Farmer: Shri. Dinakar Mande, A/p Bhosa, Tq: Latur, Dist: Latur



Mixing of Azolla in Concentrate feed



Feeding Azolla to Cow

3.8 Give details of innovative methodology/technology developed and used for Transfer of Technology during the year

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

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

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

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

3.11 Field activities

- i. Number of villages adopted: 03
- ii. No. of farm families selected: 75
- iii. No. of survey/PRA conducted: 03

3.12. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Working

1. Year of establishment : 2011
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1.			
2.			
3.			
4.			
Total			

4.

5. 3. Details of samples analyzed so far :

6.

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	1389	1302	259	
Water Samples	34	34	24	
Plant Samples	-	-	-	
Petiole Samples	-	-	-	
Total	1423	1336	283	

3.13. Activities under rainwater harvesting (for those KVKs

Date	Nature of Activity	Title	Client (PF/RY/EF)	No. of Courses	No. of Participants including SC/ST			No. of SC/ST Participants			Total Participants		
					Male	Female	Total	Male	Female	Total	Male	Female	Total

4.0 IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)

4.2. Cases of large scale adoption

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

5.0 LINKAGES

5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
Department of Bio-Technology, Govt of India	contribution received for infrastructural development, conducting training programmes and demonstration
State Department of Agriculture, Latur	Conducting training programs, Joint meeting, Diagnostic team visit, Training Programmes, Monthly district workshop, Field Visit
MAU, Parbhani, College of Agri., Latur.	Joint diagnostic team visit, Supply of seed material
Agricultural Development Office. Zilla Parishad, Latur	Participation in meeting
Dept. of Animal husbandry , Latur	Joint Implementation of vaccination camp, Conducting training programmes and source for data regarding animals
MPKV, Rahuri	Source for seeds and root cuttings of Phule Jaywant fodder crop for OFT
News paper	Publicity of KVK activities and publication of popular articles
Mahabeej	Supply of seed material for FLD
CRIDA, Hyderabad	Source for improved technology in farm implements and machinery's
Rohit Steel Industry, Pune	Manufacturing farm implements
Oilseeds Research Station, Latur	Weather data collection
State Agricultural Department TAO, Ausa	Conducting training programmes
State Agricultural Department TAO, Chakur	Conducting training programmes
CRIBHCO - Latur	conducting demonstration and training programme
BAIF, Pune	Source of fodder seeds
ZREAC , Aurangabad	Participation in meetings
YASHDA,Pune	IWMP training programme & participation in meeting
ATMA	conducting demonstrations, Participation in meeting & extension programmes
NABARD	Training programme, Farmers club formation
DOGRG, Rajgurunagar, Pune	Source for seed material
VSI, Manjri, Pune	Source for seeds and biofertilizers
Vikas, Manjara, Rena Cooperative Sugar Factories	Production technology of sugarcane
AGSRI, Hyderabad	Production technology of sugarcane

5.2 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.)
Establishment of Bio-resource complex for bio-entrepreneurship development at Rural Latur District	June 2012	Department of Bio-technology	4196100/-
Assessment on use of different type of mulching paper ginger & turmeric cultivation	June 2012	ATMA	180000/-
Assessment on sugarcane cultivation by SSI method	Aug 2012	ATMA	1,50,000/-
Protocol management of bacterial blight disease in pomegranate	Dec 2012	ATMA	140000/-
Literature publication (folders)	Oct 2012	ATMA	131000/-
Electronic media (CD Production`)	Nov 2012	ATMA	40000/-
Azolla feeding to milching animals	May 2012	ATMA	180000/-
Capacity building of CIG	Nov 2012	ATMA	418500/-
Agriculture Technology Week on Sugarcane, Grape & Banana production and management technology	Jan .2012	ATMA	1,80,000/-
Exposure visit	Dec 2012	ATMA	114000/-
Training of farmers	Dec 2012	NHM	31550/-
Training for grape farmers	Dec 12	DSAO, Latur	88800/-
Skill development training programme for agriculture allied business	Feb 2013	DSAO, Latur	135000/-
Workshop on nutritional cereals (Bharad dhanya)	March 2013	DSAO, Latur	30000/-
Cropsap	August 2012	DSAO, Latur	10000/-

5.3 Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

S. No.	Programme	Nature of linkage	Remarks
1)	Assessment on use of different type of mulching paper ginger & turmeric cultivation	Assessment	
2)	Assessment on sugarcane cultivation by SSI method	Assessment	
3)	Protocol management of bacterial blight disease in pomegranate	Assessment	
4)	Literature publication (folders)	Extension	
5)	Electronic media (CD Production`)	Extension	
6)	Azolla feeding to milching animals	Assessment	
7)	Capacity building of CIG	Training	
8)	Agriculture Technology Week on Sugarcane, Grape & Banana production and management technology	Extension	

9)	Exposure visit	Extension	
----	----------------	-----------	--

5.4 Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Constraints if any
1)	Training of farmers	Conducting training programmes	-

5.5 Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Remarks

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit	Year of estt.	Area	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	

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									
Rice									
Pulses									
Pigeonpea	9.7.12	10.01.13	0.10	BSMR-736	Bulk	01.23	925	4805	
Oilseeds									
Soybean	5.7.12	10.10.12.	0.60	MAUS-71	Bulk	11.41	3350	35540	
Fibers									
Spices & Plantation crops									
Turmeric	2.7.12	1.4.13	0.15	Selum	Seed	30	15000		To be sale in May-13
Ginger	4.7.11	13.3.13	0.20	Mahim	Bulk	8.45	7000	25323	
Floriculture									
Fruits									
Guava	5.8.10	-	0.20	L-49	Grafts	1000	8500		
	28.8.12	-	0.20	Lalit	Grafts		13500		
Fig	20.9.10	-	0.40	Dinkar, Pune fig	Grafts		11500		
Mango	13.10.10	-	1.00	Keshar	Grafts		12575		
Anola	10.8.10	-	0.40	Na-7, Chakayya, Kanchan	Bulk		6500		
Custard Apple	10.8.10	-	0.40	Purandar, Balanagar, Hyderabad Selection	Bulk				
Pomegranate	25.8.11	-	1.00	Bhagwa	Air layer		17500		

	9.11.12	-	0.40	Bhagwa	Air layering		13500		
	10.2.13	-	1.20	Bhagwa	Air layering		40500		
Vegetables									
Others (specify)									
Sugarcane	6.8.11	19.12.12	1.40	Com-265	Seed	31.40	19800		
	15.11.11	19.12.12		Coc-671	Bulk	115.0			
	10.2.12	19.12.12		Co-86032	Bulk			260528	
	10.2.12	22.12.12	0.30	Co-86032	Bulk		4750		
Sugarcane	3.1.12		0.80	Co-86032	Seed		29000		To be harvesting in Nov-13&April , 2014
	6.2.13		1.20	Com-265	Seed & bulk		43500		

Photographs of KVK, Latur Instructional Farm



Kharif Crop Cafeteria



Rabi Crop Cafeteria



Breeder Sugarcane C0-86032



Sugarcane COM-265



Anola plantation



Pomegranate plantation



Mango mother orchard



Fodder crop Jaywant



Mango nursery



Azolla production unit



Demonstration plot of Pigeon pea



Use of mulching in Turmeric

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1)					
2)					

6.4 Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	

6.5 Rainwater Harvesting

Training programmes conducted by using Rainwater Harvesting Demonstration Unit

Date	Title of the training course	Client (PF/R Y/E F)	No. of Courses	No. of Participants including SC/ST			No. of SC/ST Participants		
				Male	Female	Total	Male	Female	Total

6.5 Utilization of hostel facilities

Accommodation available (No. of beds):

Months	Title of the training course/Purpose of stay	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2012				
Total				
May 2012				
Total				
June 2012				
Total				
July 2012	IWMP	30	60	
	IWMP	28	140	
Total		58	200	
August 2012		19	95	
Total		19	95	
September 2012				
Total				
October 2012				
Total				
November 2012				
Total				
December 2012	GramPanchayat Training Center	20	20	
	IWMP	30	150	
	MAVIM	36	36	
	GramPanchayat Training Center	20	20	
Total		106	226	
January 2013	GramPanchayat Training Center	40	40	
	MAVIM	12	24	
	IWMP	30	150	
Total		82	214	
February 2013				
	MAVIM	44	88	
	MAVIM	53	106	
Total		97	194	
March 2013				
Total				
Grand total		362	929	

5 X 25= 125 (Duration of the training course X No. of trainees)

7. FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
With Host Institute	LDCC Bank	Tilak Nagar,Latur	00232
With KVK	SBI Bank	Adarsh Colony,Latur	30029035891

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2013
	Kharif 2012-13	Rabi 2012-13	Kharif 2012-13	Rabi 2012-13	
Inputs	NA	NA	NA	NA	NA
Extension activities					
TA/DA/POL etc.					
TOTAL					

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2013
	Kharif 2012-13	Rabi 2012-13	Kharif 2012-13	Rabi 2012-13	
Inputs	NA	NA	NA	NA	NA
Extension activities					
TA/DA/POL etc.					
TOTAL					

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

Item	Released by ICAR	Expenditure	Unspent balance as on 1 st April 2013
	Kharif 2012-13	Kharif 2012-13	
Inputs	NA	NA	NA
Extension activities			
TA/DA/POL etc.			
TOTAL			

7.5 Utilization of KVK funds during the year 2011-12 and 2012-13 (upto March, 2013) (year-wise separately) (current year and previous year)

Utilization of KVK funds during the year 2011-12

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	70,00,000	70,00,000	64,96,300
2	Traveling allowances	1,00,000	1,00,000	90,952
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	3,40,000	3,40,000	1,36,926
B	POL, repair of vehicles, tractor and equipments			2,03,074
	Technical Programme			
C	Meals/refreshment for trainees (ceiling up to Rs.40/day/trainee be maintained)	3,60,000	3,60,000	27,220
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			7,480
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			62,515
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			1,19,687
G	Training of extension functionaries			0
H	Maintenance of Farm			1,41,319
I	Establishment of Soil, Plant & Water Testing Laboratory			0
J	Library			1,779
TOTAL (A)		78,00,000	78,00,000	72,87,252
B. Non-Recurring Contingencies				
1	Works	37,70,000	37,70,000	37,69,600
2	Equipments including SWTL & Furniture	11,50,000	11,50,000	11,50,000
3	Vehicle (Four wheeler/Two wheeler, please specify)	0	0	0
4	Library (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		49,20,000	49,20,000	49,19,600
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		1,27,20,000	1,27,20,000	1,22,06,852

Utilization of KVK funds during the year 2012-13

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	67,00,000	67,00,000	66,51,237
2	Traveling allowances	1,25,000	1,25,000	50,186
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	4,50,000	4,50,000	2,49,673
B	POL, repair of vehicles, tractor and equipments			1,95,175
	Technical Programme			
C	Meals/refreshment for trainees (ceiling up to Rs.40/day/trainee be maintained)	3,50,000	3,50,000	3,680
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			25,225
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			1,51,808
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			1,52,976
G	Training of extension functionaries			0
H	Maintenance of Farm			10,527
I	Establishment of Soil, Plant & Water Testing Laboratory			0
J	Library			5,720
TOTAL (A)		76,25,000	76,25,000	74,96,207
B. Non-Recurring Contingencies				
1	Works	0	0	0
2	Equipments including SWTL & Furniture	0	0	0
3	Vehicle (Four wheeler/Two wheeler, please specify)	0	0	0
4	Library (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		0	0	0
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		76,25,000	76,25,000	74,96,207

7.5 Status of revolving fund (Rs. in lakhs) for the three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2010 to March 2011	1,52,984	1,21,426	1,95,366	79,044
April 2011 to March 2012	79,044	4,82,925	2,13,251	3,48,718
April 2012 to March 2013	3,48,718	7,63,790	4,71,120	6,41,388

1.0. Traning/Capacity building programme attended by the KVK staff during the year under report (01.04.2012 to 31.03.2013)

S.No.	Name of the training programme	Name of the Institute	Duration		Name of the staff along with designation
			From	To	
1)	Information and Communication Technologies for Agricultural Information Management and Networking	MANAGE, Hyderabad	16.07.12	20.07.12	V.M. Suryawanshi, Prog Asst (Computer)
2)	Integrated livestock farming in scarcity condition	MPKV, Rahuri	29.11.12	01.12.12	Dr. S.B. Salunke, Prog Asst (Veterinary)
3)	Agribusiness promotion for ATMA agency under MACP	MACP, Pune	27.02.13	28.02.13	Dr. S.B. Salunke, Prog Asst (Veterinary)
4)	ToT on entrepreneurship development	Ni-msme, Hyderabad	06.08.12	10.08.12	Mrs. A.A. Gunjal, SMS (HSc)
5)	Orientation on MACP programme	MPKV, Rahuri	01.03.13	02.03.13	Mrs. A.A. Gunjal, SMS (HSc)
6)	Formation & management of CIG groups & federation	MANAGE, Hyderabad	06.08.12	09.08.12	S.B. Bedre, SMS (Ag Extn.)

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

9.1 Constraints

- (a) Administrative
- (b) Financial
- (c) Technical

Annexure

District Profile

Latur district is located between 18.050 to 18.70 North latitudes and 73.250 to 77.250 East longitude in the Deccan plateau zone. It comprise ten tahasils i.e. latur, Ausa, Nilanga, Sirur Anantpal, Renapur, Udgir, Jalkot, Deoni, Ahmedpur & Chakur with 945 Villages. Latur district is situated 636 metres above the sea level.

The Manjara is the main river flowing from west to south east along with other subrivers Tavarja, Terna, Manyad & Dev.

1.General Census

According to the 2001 census the general census of the Latur district are as follows.

Total number of house holds	-	381600
Total population	-	2080285
Total Male Population	-	1075257
Total Female Population	-	1005028
Sex Ratio		
Urban Population	-	490261
Rural Population	-	1590024
Percentage of Urban Population to total population	-	23.56 %
Percentage of Rural population to total population	-	76.44 %
Population density	-	290 per sq.m.
Literacy rate	-	71.54%
Male literacy rate	-	82.90%
Female Literacy rate	-	59.40%

2.Agricultural and allied Census

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

S. No	Crop	Area (ha)	Production (Tones)	Productivity (Qtl /ha)
1	Jowar	125700	183500	1460
2	Bajri	4900	2500	509
3	Maize	4900	3800	950
4	Rice	6700	4200	625
5	Other cereal crops	700	-	-
	Total cereal crops	142900	190200	1331
6	Pigeon pea	93000	113600	1221
7	Green gram	26900	17000	632
8	Black gram	60200	44100	732
9	Other pulses	700	-	-
	Total pulses	180800	174700	966
10	Ground nut	2200	1300	608
11	Sunflower	6300	4200	663
12	Soybean	191500	431100	2251
13	Other oil seed crops	7900	1700	420

	Total oil seed crops	207900	438300	2108
14	Cotton	4600	11100	411
15	Sugarcane	41000	3485000	85
	Total cash crops	45600	3496100	496

Area, Production and Productivity of major Horticultural Crops in the district

Horticulture Fruit Crops

S. No	Crop	Area (ha)	Production (Tones)	Productivity (Qtl /ha)
1	Banana	113.80	6981.00	61.34
2	Sapota	66.95	2837.00	42.37
3	Guava	60.80	1109.00	18.24
4	Grape	822.00	17064.00	20.76
5	Mango	1069.00	4188.00	3.92
6	Mandarin	5.00	54.00	10.80
7	Sweet orange	24.40	411.00	16.84
8	Tamarind	92.50	541.00	5.85
9	Papaya	8	201	25.12
10	Anola	10.00	167.00	16.70
11	Fig	51.00	427.50	8.38
12	Watermelon	43.7	7591	-
13	Muskmelon	14	1490	-
Total Fruit Crops		2381.15	43061.5	230.32

Vegetable Crops

S. No	Crop	Area .00 hec	Production .00 Qtl	Productivity
1	Tomato	1105.69	177541.4	-
2	Brinjal	782.78	96932.35	-
3	Ladyfinger	28.3	3047.0	-
4	Chili	1461.38	97981.37	-
5	Potato	678.75	173192.3	-
6	Capsicum	8.75	964	-
7	Onion	2564.45	208121.2	-
8	Garlic	758.7	49566.05	-
Total Vegetable Crops		9526.96	1241911.6	

Spices Crops

S. No	Crop	Area .00 hec	Production .00 Qtl	Productivity
1	Turmeric	145.55	16637	-
2	Ginger	345.2	54924.3	-
3	Coriander	761.34	111132	-
Total Spices Crops		1252.09	182693.3	

Floriculture Crops

S. No	Crop	Area .00 hec	Production .00 Qtl	Productivity
1	Marigold	19327	11812.64	-
2	Shevanti	29.87	1294.1	-

3	Mogara	2.2	133.5	-
4	Rose	25.14	4300.4	-
5	Gerbera	12.1	386.5	-
6	Lilli	4.25	1246	-
7	Nishigandh	10.25	434	-
8	Aster	19.25	568.1	-
9	Gyllardia	17.75	393	-
Total Floriculture Crops		314.08	20568.3	

LIVESTOCK

Production and productivity of Livestock, poultry, fisheries etc. in the Latur district

Category	Population	Production	Productivity
Cattle			
Crossbred	32700	344.76 Lakh Kg.	5.5 Liter
Indigenous	352263	282.95 Lakh Kg.	1.8 Liter
Buffalo			
Sheep			
Crossbred	783	-	-
Indigenous	45852	26.406 MT (Wool)	0.5 Kg.
Goats	235962	57.88 Lakh kg. (Milk) 113.26 MT (Meat)	0.20-0.80 ml 12 Kg.
Pigs			
Crossbred	1172	-	-
Indigenous	8159	-	-
Rabbits	520	-	-
Poultry			
Hens	128991	-	-
Desi	114626	124.85 Lakh (Eggs)	-
Improved	14365	46.11 Lakh (Eggs)	
Ducks	104	-	-
Turkey and other	54	-	-

Fishery

Category	Area (ha)	Production (MT)	Productivity (kg/ha)
Fish	13696	3440	258.84
Marine	-	-	-
Inland	13696	3440	258.84
Prawn	-	-	-
Scampi	-	-	-
Shrimp	-	-	-

Land Utilization Statistics of the Latur district

Geographical Area	-	7157
Gross Cropped Area	-	7243
Cultivable Area	-	6523
Forest	-	213
Net Area	-	5188
Permanent Pasture	-	213
Area Sown more than once	-	2055
Cultivable Waste Land	-	241

Meteorological Data of the Latur district

District	Av. Rainfall	Humidity		Temperature	
	(mm)	AM	PM	Maxi. °C	Mini. °C
Latur	959.5	62	48	40	17

Soil Fertility Index of Latur District

Sr. No.	Taluka	Fertility Index					
		N	Availability	P	Availability	K	Availability
1	Latur	1.76	Medium High	1.18	Low	2.91	Very High
2	Renapur	1.41	Medium	1.05	Low	2.83	Very High
3	Ausa	1.68	Medium	1.13	Low	2.87	Very High
4	Nilanga	1.61	Medium	1.11	Low	2.91	Very High
5	Udgir	1.86	Medium High	1.26	Medium	2.88	Very High
6	Ahmedpur	1.89	Medium High	1.24	Low	2.89	Very High
7	Chakur	1.34	Medium	1.1	Low	2.86	Very High
	Average	1.65	Medium	1.15	Low	2.88	Very High

Agro Climatic Zones

The Latur district falls under Assured rainfall zone and Moderate rainfall zone.

Sr. No.	Characteristics
Assured rainfall zone	It comprises part of Ahemadpur, Chakur, Jalkot, Udgir Talukas with light to heavy soils with hilly area. (881-900 mm)
Moderate rainfall zone	Some part of Latur, Renapur, Ausa, Nilanga, Sirur Anantpal, Deoni Taluka is under moderate rain fall zone with annual rainfall 700 mm & heavy soils.

3. Agro Ecosystems

Latur District is divided into six zones according to Agro ecological situations prevailing in different parts of the district. These situations are based on rainfall, topography, soil type etc.

Sr. No.	Agro ecological situations	Rainfall	Soil Type	Area covered
1	CMP – I	Low rainfall	Light to medium soil with flat area	Western part of Latur & central part of Ausa
2	CMP – II	Low rainfall	Medium to heavy soil with flat area	Renapur, Northern part of S. Anantpal & east of Latur
3	CMP – III	Moderate rainfall	Medium to heavy soil with flat area	Nilanga, Western part of Udgir, East of Chakur & Deoni
4	CMP – IV	Moderate	Light medium	Jalkot & Western part of

		rainfall	soil	Ahemadpur north east of Chakur
5	CMP – V	Moderate rainfall	Light medium soil	Ahemadpur
6	CMP – VI	Moderate rainfall	Medium to heavy soil	Central part of Latur & Central part of Sirur Anantpal

4. Major and Micro-farming systems

S. No	Farming system/enterprise
1.	Dryland D. Single cropping system Sorghum (K), Soybean, Pigeon pea, Sunflower E. Inter-cropping system Sorghum + Pigeon pea (4:2/3:3), Soybean + Pigeon pea (4:2) F. Double cropping system Sorghum (K) – Bengal gram, Green gram – sorghum (R), Soybean – Bengal gram/Sorghum (R)/Safflower
2.	Irrigated Soybean – Sorghum (R)/ Groundnut
3.	Multiple cropping system Sorghum (K)- wheat – Green gram vaishakhi Soybean – Bengal gram – Summer groundnut

Irrigation potential in Latur district

Sr. No.	Particulars	Command area ha.
1	Major Projects (2)	42126
2	Medium Projects (12)	32909
3	Minor Irrigation Projects (20)	10000

5. Major Production Systems in Latur District

Major System

SN	Kharif	Rabi	Summer
1	Jowar	Bengalgram	Sugarcane
2	Soybean	Wheat, B.gram	-
3	Soybean	Sugarcane	-
4	Jowar	Safflower	-
5	Green gram/ Black gram	R.Jowar, Wheat, Safflower	Sugarcane
6	Jowar	Sunflower	-

Redgram is taken as a intercrop

Minor System

Sr. No.	Kharif	Rabi	Summer
1	Cotton	Wheat, B. gram	-
2	Cotton	-	Sunflower

6. Major agriculture and allied enterprises.

Sr. No.	Particulars / Enterprises	Existing Units
1	Dairy Units	254
2	Fisheries	78
3	Sericulture	119
4	Api-culture	
5	Agro-industries -	
	a) Ginning & pressing cotton mills	4
	b) Oil mill	65
	c) Dal mills	140
	d) Spinning mill	4
	e) Sugar co-operative factories	10
	f) Fruit processing units	5
	g) Cashew nut processing units	13
	h) Cold storage	11
	i) Solvent extraction units	5

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

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

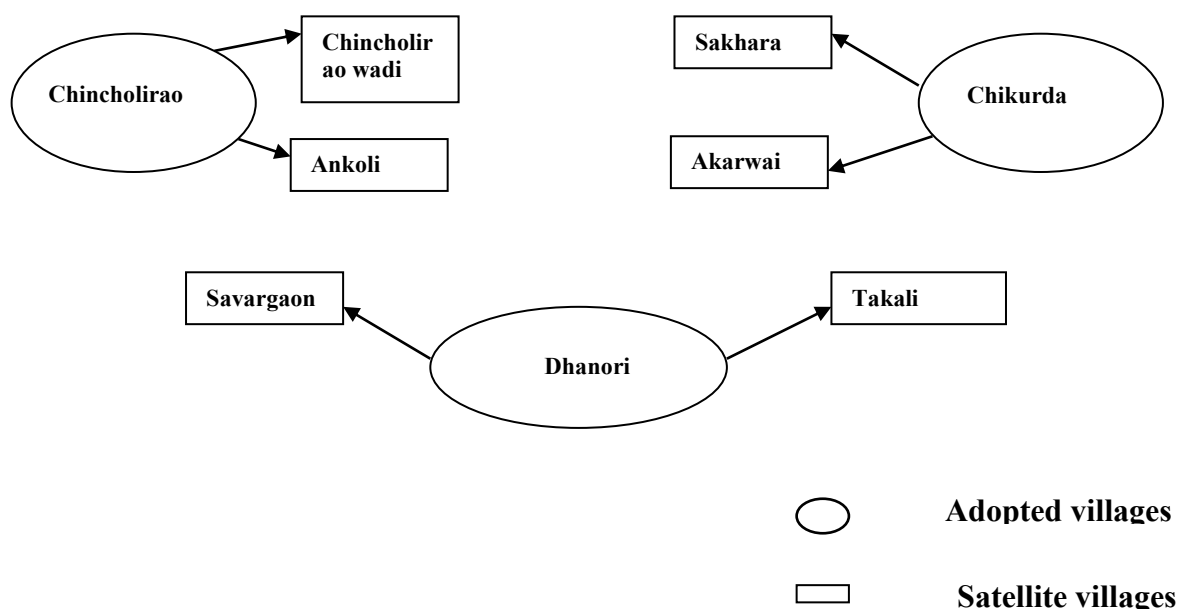
On the basis of primary survey following three villages have been adopted by KVK,

Latur

- 1) Chikurda
- 2) Dhanori
- 3) Chincholirao

SN	Name of village	Geographical area (Ha)	Area (Ha)		
			Kharif	Rabi	Summer
1	Chikurda	1637.65	1372	975	110
2	Dhanori	551	480	290	88
3	Chincholirao	532.60	462	253	60

Adopted and satellite villages of KVK, Latur



1. Survey methods used

The survey of the adopted villages was conducted by using **questionnaire** method with individual contact to each and every family in the villages.

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

PRA survey of the village Shivani & Sirashi was conducted by applying various techniques such as Social mapping, Resource mapping, Land use pattern, Time line analysis and seasonality, along with the participation of the farmers as informers.

3. Analysis and conclusions

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

Include

1. Names of villages, focus area, target area etc.
2. Survey methods used (survey by questionnaire, PRA, RRA, etc.)
3. Various techniques used and brief documentation of process involved in applying the techniques used like release transect, resource map, etc.
4. Analysis and conclusions
5. List of location specific problems and brief description of frequency and extent/intensity/severity of each problem

Discipline/Thrust area	Problem	Severity
Crop production		
Plant population	Low plant population Lack of seed treatment	P
Irrigation	Lack of protective irrigation Scattered and untimely rains	P
Low yield	Lack of knowledge Lack of awareness	P
Use of fertilizers	Indiscriminate use of chemical fertilizers and pesticides leading to increasing cost of production Micro-nutrient application	P
Horticulture		
Planting material	Unavailability of good quality planting material	F
Post harvest technology	Harvesting and farm level processing in fruit crops	F
	Lack of technical knowledge of post harvest technology	F
Floriculture	Less area under floriculture	P
Plant protection	Loss in yield due to low plant protection	P
Fruit crops	Use of special horticultural practices	P
Use of fertilizers	Indiscriminate use of chemical fertilizers and pesticides leading to increasing cost of production Micro-nutrient application	P
Plant protection		
Pigeon pea	Heavy infestation of pod borer	F

	complex & sterility mosaic	
Black gram	Heavy infestation of powdery mildew & sucking pest complex	F
Green gram	Heavy infestation of powdery mildew & sucking pest complex	F
Soybean	Leaf minor and stem fly	P
Groundnut	Leaf minor	P
Gram/Chick pea	Pod borer & wilt	F
Sugarcane	Early shoot borer , wooly aphids & Pokka boeing	F
Agriculture Engineering		
Improved farm Implements and Machines	Labour availability	P
	Delay in operation	F
	Uneven application of inputs	F
	Drudgery prone activities causing health problems especially in farm women	F
	Occupational health hazards & accidents	F
	Availability of improved hand tools and equipment	F
Soil & water conservation	Heavy erosion of cultivable land	F
	Excess use of available water sources	F
	Improper water management	P
	Insitu moisture conservation	F
PHT & value addition	Storage of fresh fruits and vegetables	F
	scale processing & value addition	F
Pressurized irrigation system	Maintenance of micro irrigation system	F
Home Science		
Income generating activities	Lack of knowledge about enterprise development	F
	Unavailability of market facility	F
Drudgery reduction	Drudgery prone activities at home and farm	F
	Lack of skill to operate improved implements	F
Foods and Nutrition	Common nutritional deficiency diseases	P
	Infectious diseases due to poor hygiene	P
	Nutritional losses during cooking process	P
	Food fats and fallacies	P
	Lack of knowledge of nutritional care during early childhood, adolescent years, pregnancy and lactation period	P
Value addition	Spoilage of fresh vegetables and fruits due to lack of storage techniques	F
	Seasonal wastage	P

Veterinary:

Sr.No.	Location specific problem	Frequency	Extent / intensity / severity
1	Low milk yield	Observed frequently	70% of cattle owners
2	Mastitis(Clinical & Sub clinical)and Cracks , pustules , wound on teat	Observed frequently in CB cow	60 % of animals are facing these type of problems
3	Less Fodder availability	- Frequently observed - Severe problem in summer season	60 % of the farmers are not having green fodder round the year. Crop residue specially wheat straw is not used as fodder
4	Outbreak of infectious diseases	Seasonally sometimes	About 30 % of the farmers not vaccinate their animal due to any reason
5	Reproductive problems and mineral deficiency diseases and disorders	Observed frequently	70% of the animal are having reproductive problems (like repeat breeding, anoestrous, watery estrus discharge, metritis, retention of placenta, Infertility etc.), 50 % animals are showing mineral deficiency symptoms (like Pica, Milk fever etc.)
6	Poor health condition and slow growth	Observed frequently	Problem is with 60 % growing animals

6. Matrix ranking of problems
7. List of location specific thrust areas

Crop production

- Integrated Nutrient Management (INM)
- Resource conservation technologies
- Weed management
- Irrigation management
- Sugarcane productivity, recovery and varietal planning

Horticulture

- Unavailability of good quality planting material
- Use of special horticultural practices
- Harvesting and farm level processing
- Low productivity due to low plant protection measures
- Rejuvenation of old and unproductive orchards
- Minor use of protective structures for vegetable and flower production
- Less use of improved and hybrid varieties

Plant protection

- Integrated Pest Management (IPM)
- Integrated Nutrient Management (INM)
- Awareness about seed treatment

- Implementation of bio pesticide use
- Awareness about technical knowledge regarding insecticidal and fungicidal formulation
- Judgement building about selection and use of insecticide and fungicide
- Integrated pest and disease management
- Bee keeping

Agricultural Engineering

- Soil and water conservation
- Improved farm machinery
- Drudgery reducing technology
- Production of small tools and equipment
- Small scale processing and value addition
- Post harvest technology

Veterinary Science

- Fodder management
- Feed management
- Disease management
- Dairy management
- Nutrient management

Home Science

- Food and nutritional security
- Use of gender friendly tools and technologies
- Promotion for income generating activities
- Value addition
- Women and child care

8. List of location specific technology needs for OFT and FLD

Sr no	Needs	Technology
Agronomy		
1	Low productivity of crop	- Use of micronutrient - Use of high yielding varieties - Irrigation at critical growth stages - Use of recommended chemical fertiliser at proper stages
2	Less plant population	- Maintain recommended seed rate - Gap filling and thinning
3	Labour scare city for weed management	Use of pre & post emergence herbicide
4	Organic farming	- Use of bio fertilizer & bio pesticide - Use of vermicompost & vermi wash
Horticulture		
1	Good quality planting material	Demonstration on use of good planting material
2	Use of special horticultural practices	Demonstration on Use of special horticultural practices to increase the yield.
Veterinary		
1	Feeding green fodder along with dry fodder for better milk yield	- Introduction of new varieties of fodder crops - Silage making
2	Increasing milk production and reproduction	- Use of mineral mixture in cows and buffaloes - Feeding Azolla to the cows and buffalo
3	Minimise problems of repeat breeding ,long inter calving period and low conception rate	- Use of cryscope to determine right time of AI in cattle and buffalo - Use of mineral mixture in cattle and buffaloes
4	Minimise incidence of infectious and non infectious diseases	- Use of dewormer in cattle and buffalo - Dusting and spraying of ectoparasiticides
5	Minimise calf mortality	- Use of dewormer in calf - Use of calf starter
6	Minimise fodder losses	- Use of chaff cutter for cutting fodder - Use of feed alley for feeding fodder to the animals
7	Mastitis in crossbred cattle	- CMT testing for prevention of mastitis - Use of 'Teat Dip' for dipping teat after milking
8	Backyard poultry	Improved birds for backyard poultry
9	Proper weight gain in goat	- Concentrate feeding to the goat - Kid fattening by Kid ration
10	Improving quality and utilisation of poor quality roughages	Treatment of poor quality roughages
Home Science		
1	Increasing income generating activities Drudgery reduction	- Demonstration and promotion on income generating activities - Use of gender friendly tools and technologies
2	Value addition	- Value addition in fruits and vegetables - Introduction of improved value addition equipment
Plant Protection		

1	Resistant varieties	• Demonstration on pest and disease resistant varieties
2	Seed treatment for prevention of diseases	• Demonstration on seed treatment
3	Use of biopesticides for ecofriendly pest management	• Implementation of spraying of biopesticides
4	Insecticidal and fungicidal formulations	• Aware about technical knowledge of Insecticidal and fungicidal formulations • Demonstration about importance of Insecticidal and fungicidal formulations
5	Selection and use of Insecticide and fungicide	• Judgement awareness for selection and use of Insecticide and fungicide
6	IPM techniques	• Demonstration for IPM techniques for different crops
7	Identification of pest , diseases and biocontrol agents	• Demonstration for identification of pest , diseases and biocontrol agents
Agricultural Engineering		
1	Even seed distribution Timely sowing To overcome the problem of labour availability Increase output per unit area Drudgery reduction	▪ Introduction of improved seed drills ▪ Use of improved farm tools and equipment ▪ Use of women friendly improved tools and equipment
2	Arrest erosion of cultivable land In-situ moisture conservation	▪ Adoption of soil & water conservation techniques ▪ Use of dry land technology and contour cultivation
3	On farm storage of fresh fruits and vegetables	▪ Use of low cost cool chamber
4	Maintenance of micro irrigation system	▪ Work planning and Maintenance of micro irrigation system scheduling

9. Matrix ranking of technologies

10. List of location specific training needs

Capacity building and Skill enhancement training Programme

Technical knowledge gain training Programme for reducing gap in communication and information

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
Agronomy					
1.	MAUS-71	Soybean	2001-02	MAU, Parbhani	AIRCP on Soybean, MAU, Parbhani
2.	Pre-emergence weedicide	Soybean	2009	MKV, Parbhani	University Diary, 2009
3.	BSMR-736	Pigeon pea	2001-02	MAU, Parbhani	-
4.	Transplanting Method	Pigeon pea	2009	Raichur University	Advoc recommendation
Horticulture					
1.	Use of new variety Aster	Aster	2001	MPKV, Rahuri	Research Recommendations in Horticulture
2.	Use of Cultar	Mango	2000	KKV Dapoli	Research Recommendations in Horticulture
3.	Use of growth regulator	Mango	-----	MAU Parbhani	-
4	Use of skirting bag in banana	Banana			-
Plant protection					
1.	Management of brinjal fruit and shoot borer by integrated pest management techniques	Brinjal	2001	MPKV, Rahuri	Research Recommendations in Horticulture
2.	Use of Liquid bio inoculants of Acetobactor and Phosphate solublising bacteria for set treatment & foliar spray in Sugarcane	Sugarcane	2005	VSI, Pune	Oos Sheti Dnyanyag VSI, Pune 2008
3.	Management of fungal diseases of sugarcane nursery by using Trichoderma viridae and Vesicular Arbuscular Mycorrhiza (VAM) in coco-pith	Sugarcane	2010	MPKV, Rahuri	Training manual of
4.	Integrated Pest & Disease	Bengal	2008	MAU, Parbhani	Pg no. 05

	Management in Bengal Gram	gram			Inventory of Technologies for Marathwada, MAU, Parbhani 2008
5.	Management of Pomegranate Stem borer, shot hole borer by different physical and chemical practices	Pomegranate	2009	MPKV, Rahuri	National workshop on Pomegranate at MPKV, Rahuri. 2009
6.	Seed Rhizomes Treatment for management of Rhizome rot and <u>Bacterial wilt</u> in Ginger	Ginger	2008	MAU, Parbhani	05 Inventory of Technologies for Marathwada, MAU, Parbhani 2008
7.	Integrated Pest Management in Watermelon	Watermelon	2005	MAU, Parbhani	Extension publication of DBSKKV Dapoli, 2005
Home Science					
1	Pedal operated potato peeler and slicer	Value addition equipment	2004	CIAE, Bhopal	Women friendly improved tools and Equipments-SP Singh, LPGite, Nagrwal, J Mujumdar T B No CIAE/2007/128
2	Weaning mix for infants	Value added product	2009	MAU Parbhani	Folder Foods & Nutrition Dept, College of Home-Science, MAU Parbhani
Animal Science					
1	Azolla feeding to dairy animal	Dairy	2007	Vivekananda Kendra- Natural Resources Development Project, Kanyakumari, Tamilnadu	Dr. P. K. Pillai, S. Premalatha and S. Rajamony-Leisa India, march, 2002; ICAR bulletin - 2007 TNAU-Agricultural portal
2	Disinfection of teats and udder of cow by dip cup and spray method to reduce incidence of mastitis	Dairy	2006	NDDB	-
3	New high yielding hybrid napier variety with less oxalate content Phule	Fodder crop	2006	Forage crop research project, MPKV, Rahuri	Krishi Darshani, MPKV, Rahuri 2007 p: 70,

	Jaywant (RBN-13)				Anarse et.al,2007 Journal of Maharashtra Agricultural University, 32 (2); 242-244
4	Mineral Mixture feeding to CB cow	Dairy	1992	NDRI, Karnal IVRI, Izzatnagar	-
5	Cultivation of Lucerne (RL-88)	Fodder	1995&19 96	University of agricultural sciences, Banglore	University of agricultural sciences, Banglore
6	Urea treatment on wheat straw	Dairy	1998	PKV- Akola	MAFSU-website, Krishi Darshani, MPKV, Rahuri 2009 p: 234
Agricultural Engineering					
1.	Tractor drawn BBF planter	Improved farm implements	2010	Dr. PDKV, Akola	-
2.	CRIDA tractor drawn multi-crop planter-cum- ferti drill	Improved farm implements	-	CRIDA, Hyderabad	Improved sowing/planting equipments – VM Mayande, I Srinivas, RV Adke
3.	Hand operated Sugarcane Bud Chippers	Improved farm implements	March 2009	ICRISAT, Hyderabad ICRISAT-WWF Project	SSI, Improving Sugarcane Cultivation in India – Dr. Bhiksham Gujja, N. Loganandan, V. Vinod Goud, Manisha Agarwal, Srasan Dalai
4.	Motor operated sugarcane bud chipper	Improved farm implements	2011	KVK, Latur	-
5.	CRIDA bullock drawn multi-crop planter-cum- ferti drill	Improved farm implements	-	CRIDA, Hyderabad	Improved sowing/planting equipments – VM Mayande, I Srinivas, RV Adke
6.	Seed Treatment Drum	Improved farm implements /Drudgery Reducing Technolog y	-	CIAE, Bhopal	Women friendly improved tools & Equipments – SP Singh; LP Gite, N agarwal, J. Mujumder T.B. No. CIAE/2007/128

7.	Crowbar for fertilizer application	Improved farm implements	-	CSRC, Padegaon, VSI, Pune	Us sheti dhyanyag – NM Pant, RS Hapse, S. Shinde 2009
8.	Drip lateral collector	Improved farm implements	-	-	-

3. Activity Chart

Crop/Animal/ Enterprise	Problem	Cause	Solution	Activity	Reference of Technology
Agronomy					
Soybean	Low productiv ity	Growing JS 335 on large scale every year Heavy infestation of weeds	Use of improved varieties Use of pre- emergence weedicide	FLD on MAUS-71 FLD on pre- emergence weedicide	SI Mo 01 of TE SI No 02 of TE
Pigeon pea	Low productiv ity	Use of traditional varieties High plant population Heavy infestation of pests	Improved variety BSMR 736 Transplanting of saplings on the onset of monsoon	FLD- varietal demonstration BSMR 736 OFT on transplanting of pigeon pea	SI No 03 of TE SI No 04 of TE
Bengal gram	Heavy infestation due to pod borer Mortality of early seedling due to wilt	Heavy infestation of wilt Lack of seed treatment	Adopt seed treatment Use of IPM tools	Multipal component FLD to demonstrate effect IPM Techniques	SI. No. 13 of TE
Horticulture					
Mango	Irregular bearing Fruit drop Low moisture availability during fruit developme nt. Severe flower drop	Age of trees Imbalanced fertilizer use	Use of cultural for regular bearing in mango Use of NAA to avoid fruit drop	OFT FLD TRAINING	KKV Dapoli research publications
BANANA	Inadequate nutrition Heavy attack of insect and pest Supply of fertilizers less than recommend ed Non availability of irrigation water during	Heavy attack of insect pest Imbalanced fertilizer use	Use of skirting bag for improving quality in banana	OFT	MPKV Rahuri research publications

	summer. Less use of drip irrigation. Timely availability of tissue culture plants and their high costs. Incidence of Sigatoga.				
Aster	Low yield Low quality of flowers Availability of quality seed material	Planting on ridges and furrow use of local varieties Low yield	Use of improved variety	OFT	MPKV Rahuri research publications
Plant Protection					
Brinjal	Heavy infestation of brinjal fruit and shoot borer	Lack of timely plant protection measure Resistance to newer insecticides	Mechanical Clipping of dropped shoots & fruits, Spraying of Azadirachtin 1500 ppm Installation of 20 Pheromone traps per Acre	OFT on Management of brinjal fruit and shoot borer by integrated pest management techniques Training and demonstration	Recommendation of Joint Agresco 1998-2005, MCEAR, Pune 2006
Sugarcane	Less seed treatment with bio fertilizers	In lignite based bio fertilizers, there is need to maintain moisture at 35 to 40 % & storage life is very less as compared to liquid based bio fertilizers	The liquid based fertilizers can be used as for seed treatment, seedling treatment, drenching, foliar spray & through micro irrigation	OFT on Use of Liquid bio inoculants of Acetobacter and Phosphate solubilising bacteria for seed treatment & foliar spray in Sugarcane	Oos Sheti Dnyanyag VSI, Pune 2008
Sugarcane	15-20 % seedling damage at nursery condition due to fungal diseases	Heavy infection of fungus diseases at root zone at nursery condition	Use of Trichoderma viridae (500 gm) and Vesicular Arbuscular Mycorrhiza (VAM) 1-2 kg for mixing with coco-pith as rooting media	OFT on Management of fungal diseases of sugarcane nursery by using Trichoderma viridae and Vesicular Arbuscular Mycorrhiza (VAM) in coco-pith	Training manual of

Bengal gram	Heavy infestation due to pod borer Mortality of early seedling due to wilt	Heavy infestation of wilt and pod borer Lack of seed treatment	Adopt seed treatment Use of IPM tools	Multipal component FLD to demonstrate effect IPM and IDM	Sl. No. 37 of technology inventory 2008
Pomegranate	Infestation of stem borer & shoot hole borer	Lack of timely plant protection measures	Soil drenching with chlorpyriphos 20EC 5 ml/litre or lindane 20 EC 5 ml/litre near the collar region of the stem. Examine branch forholes/excreta/gummosis. If detected, inject with dichlorvos @ 10 ml/lit. in holes and seal the hole with mud	OFT on Management of Pomogranate Stem borer, shot hole borer by different physical and chemical practices	National workshop on Pomegranate at MPKV, Rahuri. 2009
Ginger	Seedling mortality	Infestation of Rhizome rot and Bacterial wilt	Treatment of seed rhizomes with mancozeb 0.3% & Streptocycline 200ppm for 30 minutes before storage and once again before planting	FLD on Seed Rhizomes Treatment for management of Rhizome rot and Bacterial wilt in Ginger	Sl. No. 37 of technology inventory 2008
Water melon	Fruit damage	Infestation of powdery mildew and fruit fly	Collect & destroy infested and fallen fruits Spray of 0.2% Carbaryl Use attractants like citronella oil to trap flies. Use fly trap @ 25 /acre	FLD on Integrated Pest Management in Watermelon	Extension publication of DBSKKV Dapoli, 2005
Veterinary					
Buffalo	Low milk yield, Unbalanced diet	Under feeding of concentrates due to high cost	Feeding azolla along with regular feed	Training Oft(Assessment)	Sl. No. 14 of TE
Crossbred Cow	Mastitis	Unhygienic condition in the farm, Improper milking technique, No use of teat disinfectants after milking	Disinfection of teats and udder of cow by dip cup and spray method to reduce incidence of mastitis	FLD	Sl. No. 15 of TE
Fodder	Shortage of	No cultivation	Cultivation of high	Training	Sl. No. 16 of TE

	fodder, Poor quality fodder, Low fodder yield	of improved varieties, Improper cultivation methods, Water scarcity	yielding new hybrid napier variety Phule Jaywant (RBN-13)	FLD	
Crossbred Cow	Repeat breeding, anoestrous, low milk yield and mineral deficiency diseases and disorders	No feeding of mineral mixture, Deficiency of minerals in the fodder, stress of milk production on animals	feeding of mineral mixture daily to the animals	Training FLD	Sl. No. 17 of TE
Fodder	No leguminous green fodder available for the milking animals, Poor quality green fodder	No area under cultivation of Lucerne fodder crop High cost of seed and seed not locally available	Cultivation of Lucerne for green fodder Supply quality seed material to the farmers	Training	Sl. No. 18 of TE
Wheat straw	Inspite of fodder scarcity in the summer and early manson season farmers burnt available wheat straw	Animal cannot like wheat straw as it is, because of no taste and smell, Poor quality roughage, Unconvention al fodder	Wheat straw treatment with urea Feeding by mixing with available green fodder Soaking in water	Training and Method demonstration	Sl. No. 19 of TE
Agricultural Engineering					
Improved farm implements	Uneven seed distribution , late sowing, labour availability	1) Manual dibbling 2) Use of traditional drills 3) Availabilit y of skilled labour for seed dropping 4) Low output per unit area	1) Introduction of improved seed cum ferti drill/planter 2) Introduction of improved tractor drawn seed cum ferti drill/planter	1) Training on use and repair of improved sowing equipment 2) Front line demonstration of CRIDA bullock drawn planter 3) Front line demonstration of CRIDA tractor drawn	Sl No. 01, 02, 05 of Technology Inventory Sl No. 05 of technology inventory Sl No. 02 of technology inventory

		5) Availability of improved sowing equipment 6) Availability of animate power			
Improved farm implements/ soil and water conservation	Crop failure due to high rainfall/ drought condition, Reduced available soil moisture for rabi crops	1) Sowing on flat surface using traditional drills for sowing 2) Improper land management practices	1) Introduction of BBF method of crop cultivation	4) On farm testing on tractor drawn BBF planter for BBF method of crop cultivation 5) Training on operation, use and maintenance of improved tractor drawn BBF planter	Sl. No. 01 of technology inventory
Improved farm implements	Occupational health hazards and low output	1) Use of traditional equipment /methods 2) Use of traditional equipment by farm women primarily developed for male workers 3) Use of low output/ quality equipments 4) Lack of skill to operate equipment	1) Introduction of improved equipment 2) Introduction women friendly technologies	1) On farm testing on sugarcane bud chipper 2) Front line demonstration on seed treatment drum 3) Training programme on women friendly technologies 4) Training programme on improved farm tools and equipment 5) Training on use and operation of improved bud chipper	Sl. No. 03, 04 of technology inventory Sl. No. 06 of technology inventory Sl. No. 03, 04, 06, 07 of technology inventory Sl. No. 01, 02, 05, 08 of technology inventory

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

Crop Production

Detail of OFT: Assessment

1. Application of Sulphur in Soybean

Sulphur application

2. Cultivation of Pigeon pea by transplanting method

Transplanting of pigeon pea

Detail of FLD: Frontline demonstration:

1. MAUS-71 (Samrudhi)

Purple colored flower and bold grains

Pod remains unbroken for 10 to 12 days after maturity

Suitable for inter crop

2. TAG-24

Dormancy of 15 days

Suitable for Rabi and Summer season.

3. BSMR-736

Medium duration (170-175 days)

White bold seeded

Wilt and sterility mosaic resistant

Red colored flowers

Suitable for inter crop between soybean and black gram

4. Digvijay-

Suitable for dry land and irrigated cultivation

Bold grains

Plant Protection

OFT: Management of brinjal fruit and shoot borer by integrated pest management techniques

- Timely Mechanical removal of affected shoots & fruit from the field at weekly interval
- Installation of pheromone traps @ 75 per ha., starting from flower bud initiation (45 days old crop) till monthly intervals
- Mass trapping involves catching the insects in a baited trap. In this case the bait is the female-produced sex pheromone used to catch the adult male moth. .
- Spraying of Azadirachtin 1500 ppm (Neem based botanicals) @ 1500 ml/ha. gives repellent role for oviposition

OFT: Use of Liquid bio inoculants of Acetobacter and Phosphate solubilising

Bacteria for set treatment & foliar spray in Sugarcane

- The planting material of sugarcane should be dipped for 5min in liquid bioinoculants of Acetobacter and PSB each 1 Lit. in 100 Lits of water
- Spraying of Liquid bioinoculants of Acetobacter & PSB 1 Lit. each in 300 Lit of water after 6-8 wk and 12-18 wk of planting respectively.

OFT: OFT on Management of fungal diseases of sugarcane nursery by using

Trichoderma viridae and Vesicular Arbuscular Mycorrhiza (VAM) in

Coco-pith

- VAM imparts disease and pest resistance to plants.
- It Improves uptake of phosphorus and micronutrients.
- It Imparts greater drought tolerance to plants.
- It Improves nitrogen fixation and pH balancing.

FLD: IPM in Bengal gram

- Early sowing
- Use of optimum seed rate.
- Removal of infested plants.
- Seed treatment with *Trichoderma Viridae*
- Need base spray application

FLD: Management of pomegranate Stem borer, shot hole borer by different physical and chemical practices

- Soil drenching with chlorpyrifos 20EC 5 ml/litre or lindane 20 EC 5 ml/litre near the collar region of the stem.
- Examine branch for holes/excreta/ gummosis. If detected, inject with dichlorvos @ 10 ml/lit. in holes and seal the hole with mud
- Paste application of Chlorpyrifos 20 EC @ 5 ml + Neem oil 1 ml + Caw (geru) @ 400 g + COC 2.5 g in one litre of water. application in a year, preferably in June-July

FLD: Seed Rhizomes Treatment for management of Rhizome rot and Bacterial wilt in Ginger

- Treatment of seed rhizomes with mancozeb 0.3% & Streptocycline 200ppm for 30 minutes before storage and once again before planting

FLD: IPM in Water melon

- Collect infested and fallen fruits and burn in deep pits.
- Expose the pupae by ploughing and turning over soil after harvest.
- Spray of 0.2% Carbaryl
- Use attractants like citronella oil, eucalyptus oil, vinegar (acetic acid), and lactic acid to trap flies.
- Use fly trap @ 25 /acre

Veterinary

OFT (Assessment):1

Azolla feeding to improve milk yield in Buffaloes

Azolla:

Azolla is very rich in protein, essential amino acids, vitamins (Vit. A, Vit. B12 and Beta Carotene), growth promoter intermediates and minerals like calcium, phosphorus, potassium, ferrous, copper, magnesium etc. On a dry weight basis azolla is constituted of protein content 25-35 %, mineral content 10-15 %, and combination of amino acids, bioactive substances, and biopolymers 7-10 %. Carbohydrate and oil content in azolla is very low. Due to that it is economic and efficient feed for animals. Moreover, azolla can be easily digested by livestock owing to its high protein and low lignin content.

Animal: Buffalo- 05

No. of farmers: 05

Critical input: Azolla production unit

FLD 1:

Demonstration of application of disinfectant on teats to reduce incidence of mastitis

Animal: Crossbred cow

No. of farmers: 10

No of animals: 10

Disinfectant to be used: Depol (Delaval): 0.71 % w/v contains Iodine, Glycerine and Sorbitol

Dose & Method of application:

For spraying on teats and udder: Diluted 1:9 with water for spraying on teat and udder after milking

Critical inputs supplied: Iodine disinfectant, plastic hand spray pump

FLD 2:

Feeding of mineral mixture to CB cow

Animal: Crossbred cow

No. of farmers: 10

No of animals: 10

Critical inputs: Mineral mixture

Dose of feeding: 40 gms /day/cow for 60 days

FLD 3:

Hybrid Napier fodder crop Phule Jaywant (RBN-13)

- Perennial forage crop

- Less oxalic acid content (1.21 %)
- Profuse growth after cutting
- Leaf are smooth, large and having good width
- Planting: 90x90 cm
- Cutting/years-06
- Production- 200-250 T/ha
- No. of farmers : 10
- Area (ha) : 0.4
- Critical inputs: sett cuttings of Phule Jaywant

Home Science

OFT (Assessment):2

Assessment of pedal operated potato peeler & slicer

Potato peeler is a batch type pedal operated equipment for peeling outer skin of potatoes of any size for further processing to produce value added products like chips, wafers etc. The peeler consists of two rotating drums having inside abrasive surface and water spraying unit. Potato slicer is also pedal operated equipment suitable for slicing of potato of varied size. These slices are used for production of chips, wafers etc. The overall dimension of machine are 1050*600*1300 mm and weight of the machine is 46 kg.

No. of Equipment : 01

FLD:1

Weaning period is a very crucial phase in the child's development stage, which if not done properly, leads to malnutrition and other complications. Rajkeera weaning mix is a low cost weaning mix for 9 to 12 months growing children. The 100 gm Rajkeera weaning mix provides 399 kcal energy, 20.6 gm protein, 183 mg calcium, 6.0 fat and 1.5 mg iron.

Agricultural Engineering

Technology Assessment

Tractor drawn BBF planter: It is 45 or more hp tractor operated equipment. It consists of four rows and two ridgers on either side of the equipment. It sows four rows, and, simultaneously makes ridges on either side of the rows. It is suitable for sowing soybean, pigeon pea, bengal gram, sorghum, etc crops. It consists of a main frame, peg type drive wheel, furrow openers (04), adjustable ridger (02), seed and fertilizer metering mechanism & hopper, guide wheels etc. It makes ridges of 30 to 60 cm wide and has provision of depth adjustment. Field capacity: 0.3 ha/h

Motor operated sugarcane bud chopper: It is single phase motor operated equipment, suitable for sugarcane bud chipping. It consists of a main frame, single phase motor, flywheels, clutch, hemi-spherical cutting knife, pedal etc. The sugarcane bud needs to be placed below the cutting knife, over a wooden platform. By the actuation of pedal downwards, the shaft connects with the rotating flywheel, rotates and and cut the bud. capacity: 1500 buds/h

Technology Refinement

Refined sugarcane bud chopper: The device consists of a platform, handle, a shaft, compression spring, handle, hemi spherical cutting knife. The knife is attached below the shaft.

The sugarcane bud needs to be placed below the cutting knife, over a wooden platform. By the actuation of handle downwards, the shaft actuated downwards and cut the bud. After releasing the pressure on handle, the compressed spring released and shaft comes to its original position.

Capacity: 400-450 buds/h

Front Line Demonstration

CRIDA bullock drawn planter: It is an animal drawn equipment with inclined plate metering mechanism for planting soybean, pigeon pea, sorghum, bengal gram, maize, ground nut, pea etc. crops. It consists of seed & fertilizer boxes, drive wheel, ground depth control wheel, furrow opener and chain & sprocket drive system. Capacity: 2.0 ha/day

CRIDA tractor drawn planter: It is a 30 or more hp tractor operated equipment, suitable for planting soybean, pigeon pea, bengal gram, sorghum, green gram, black gram, maize, groundnut etc crops. It consists of a main frame, peg type drive wheel, furrow openers, seed and fertilizer metering mechanism & hopper, guide wheels etc. Field capacity: 0.5 ha/h

Seed treatment drum: It consists of frame, handle and cylindrical drum. The cylindrical drum is mounted on a tripod angle frame. Three pieces of mild steel flat are welded inside the drum for helping in uniform mixing. A batch of 20 kg seeds requires about 5-6 min to complete operation ie filling seeds, treating and emptying. Capacity: 2 q/h

Fertilizer crowbar: It consists of handle, pointed end and a stopper. The operator hit the equipment in the soil nearer to the sugarcane hill, to get approx 15 cm hole. The drilled hole is filled with fertilizer and covered with the soil by following labour.

Drip lateral collector: It consists of a frame, handle and cross-bar. The operator fix the one end of lateral and rotates the handle. Thus lateral is collected on the frame. After collecting approx 100 m lateral, needs to be removed and tagged on the farm bund.

Proceedings of Scientific Advisory Committee (SAC) Meeting of KRISHI VIGYAN KENDRA, LATUR

The Scientific Advisory Committee (SAC) meeting of Manjara Charitable Trust's, Krishi Vigyan Kendra, Latur was held on 07th July 2012 in the presence of Hon. President, Manjara Charitable Trust, Latur. Other SAC members present for the meeting are as follows:

- Dr. A.S.Dhawan, Director, Directorate of Extension Education, Marathwada Agricultural University, Parbhani.
- Dr. Mote T.S., DSAO, Latur
- Shri. Bhise Mohan, ADO, Zillha Parishad, Latur.
- Shri. S.B. Pachpinde, DGM, NABARD, Latur
- Shri. Trimbakdasji Zanwar, Technical Advisor, KVK, Latur.
- Shri. Balasaheb Pandhre, Representative Farmer, Chincholirao, Latur.
- Prof. B.D. Thakur, Extension Agronomist, Agricultural College, Latur
- Shri. N Bhadreshwar, D.D. News Representative, Latur
- Shri. Misal G.M., Sericulture Officer, Latur
- Mrs. Urmila Ayrekar, Representative Female Farmer

In the beginning, Digraze S.S., Programme Co-ordinator I/C, welcomed all the SAC members/dignitaries. He presented the progress report of the year 2011-12. The report includes the results of On Farm Testing, Front Line Demonstrations, Trainings, Other extension activities and farm development activities. Further, he presented the action plan for kharif 2012-13. Finally he has requested all the SAC members to give valuable suggestions.

The suggestions given by SAC members for efficient working of KVK are as follows:

Shri. Pachpinde S.B., DGM, NABARD, Latur

- Seed production through farmers club at village level.
- Formation of farmers club based on commodity in assistance with NABARD.

Shri. Bhise Mohan, ADO, Z.P. Latur

- KVK should conduct soil test based field trails.

Shri. B.D. Thakur, Extension Agronomist, CA, MAU, Parbhani

- Promote IPM in soybean to reduce cost of cultivation.

Shri. Misal G.M. Sericulture Officer, Latur

- KVK should demonstrate various varieties of mulberry at kvk farm.
- Train the rural youths for establishing nursery of mulberry plants.

Shri. N Bhadreshwar, News Representative Dist. Doordarshan, Latur

- Irrigation scheduling in sugarcane to reduce water requirement.
- Prepare success stories.

Shri. Balasaheb Pandhre, Farmers Representative

- Arrange trainings on marketing management for the organic producers.

Dr. T.S. Mote, DSAO, Latur

- Promote farmers through massive campaigning on sugarcane straw decomposition.
- Demonstrate on farm mechanization in sugarcane production.
- Establish Public Private Partnership in potato seed production
- Give trainings and technical support to farmers groups formed at village level.

8. Dr.Dhawan A.S., DEE, MAU, Parbhani

- Reporting of feedback on tested technologies on the farmers field to Agril. University.
- Reduce cost of cultivation.
- Organise seasonwise farmers rallys.
- Organise vocational trainings for rural youths.
- Establish liquid bio-fertilizer and bio-pesticide production unit.

9. Hon.Shri. Dilipraoji Deshmukh, President,MCT,Latur

- Establish group of organic producing farmers.
- Check and certify kvk bio-fertilizer products from SAU and Sale them in the District.
- Scheduling of crop planning from chemical towards organic farming.
- Accounting of farming expenditure by the farmers.

At last the meeting was concluded with vote of thanks.

Report on
Celebration of
“Agriculture Technology Mahotsav 2012-13”
At KVK, Latur (MS)

For wider extension of needful technologies among the farmers from the Latur District ,Krishi Vigyan Kendra,Latur organized three day “**Agriculture Technology Mahotsav 2012-13**” in collaboration with State Agriculture Department (ATMA), Latur. This mahotsav was conducted during dated 29 – 31st of Dec.2012 at KVK premises.

During these three days, the farmers from Latur District were technically guided on production and manajement practices in Sugarcane, Grape and Vegetable crops. Also technical information was given on various aspects related to empowerment of commodity interest groups formed at village level by KVK in assistance of NABARD and farmer groups formed under ATMA by State Agri. Department, Latur District. Varietal demonstration plots of different agronomical and horticultural crops at kvk farm was also visited by the dignitaries and the farmers during the farm visit.

For the three day technical session, the experts from following research institute and private agencies were invited.

1. Vasantdada Sugar Institute(VSI), Manjri, Pune.
2. National Research Centre (Grape), Manjri ,Pune.
3. Marathwada Krishi Vidyapeeth , Parbhani.
4. Abhinav Farmers Club, Mulsi, Pune.
5. Devnari Valley Agricultural Producer Co., Nasik.
6. Vaijinath Krushi Vikas Manch,Shirsala,Beed.

During the three day programme,technical session was organized on following different topics.

1. Sugarcane Management in Adverse Situation
2. Export Quality Grape and Vegetable Production and
3. Empowerment of Farmer Groups

1. “Sugarcane Management in Adverse Situation” dated 29th Dec. 2012.

On first day i.e. 29th Dec. 2012 of celebration of Agriculture Technology Mahotsav 2012-13, prior to inaugural programme by the auspicious hands of Honorable MLA, Shri. Diliprao Deshmukh, Former Minister for State and President of Manjara Charitable Trusts, Latur in presence of Adv. Trimbakdas Zawar Member, MCAER, Pune and Dr. A.S. Dhawan, Director of Extension, MKV, Parbhani, the technical session on “Sugarcane Management in Adverse Situation” was conducted for the Sugarcane growing farmers from the Latur District.

In his technical address Dr. Sampatrao Jadhav, Former Director, VSI, Pune and Sugarcane specialist said that the farmers should produce Sugarcane by ratoon method during the adverse situation. He also explained in detail about various practices such as use of bio-fertilizer like Acetobactor, spraying of macro and micro nutrients and trash mulching being followed for high yield in ratoon crop.

Dr. Prakash Hapase, Senior Scientist VSI, Pune in his technical address explained in detail about various new Sugarcane varieties like VSI 434, COVSI 3102, CO 94012 etc. tolerable for adverse condition. He also informed on various pest and disease management in Sugarcane crop. At last hours of the session, farmers – scientist interaction was arranged for overcoming solutions for the problems asked by the farmers related to ratoon sugarcane management. 957 farmers and extension officers participated in the first day technical programme on sugarcane.

Photographs of First Day technical session on Sugarcane Production in Adverse Situation dated 29th Dec.2012



Inaugural Ceremony of Agri. Technology Mahotsav 2012-13 in presence of Hon'ble MLA Mr. Diliprao Deshmukh dated 29th Dec. 2012.



Hon'ble MLA and President, Manjara Charitable Trust, Mr. Diliprao Deshmukh addressing the farmers during his inaugural speech



Dr. Sampatrao Jadhav, Former Director, VSI, Pune. addressing during technical session on Sugarcane Production in Adverse Situation.



Dr. Prakash Hapase, Senior Scientist, VSI, Pune. addressing the farmers during his technical session on Sugarcane Production in Adverse Situation.



2. “Export Quality Grape and Vegetable Production” dated 30th Dec. 2012

On Second day of the Technology Mahotsav i.e. on 30th Dec.2012, technical session was organized on “Export quality grape and vegetable production” for the farmers growing grape and vegetables in groups.

During the first session held on export quality vegetable production, the ideal farmer and President , Abhinav Farmers Club, Mulsi, Pune Mr. Dyaneshwar Bodke said that proper planning and management of various group can solve the problems related to farming and marketing. He also stated that along with demand driven production the farmers should maintain records of cost of production of their farms. Mr. Tatyarao Hirwe, Marketing Representative, Abhinav Farmers Club Mulsi, Pune urged the farmers grow vegetables according market demands by adopting new farm technologies. He said that sustainable farming is possible only through group farming. Mr. Gautam Londhe, ideal farmer, Barshi Dist. Solapur expressed his opinion about marketing management during the session.

In the afternoon session held on export quality grape production, Dr. S.D. Sawant, Senior Scientist, NRC Grape, Pune in his technical address to grape growers expressed that by proper planning and management through groups an export quality grape can be produced. He also explained in detail on powdery mildew disease occurred on grape in Latur district and its management practices. He urged the farmers to apply fungicides and pesticides as per the recommendation of the institute. Dr. Dipendra Yadav, Senior Scientist, NRC Grape, Pune in his technical address explained in detail on various pest and diseases controlling measures in grape. Mr. Kamlakar Patil, Lab Scientist, NRC Grape, Pune urged the farmers to test their 2 to 3 grape samples for free chemical residues for export purpose.

Mr. Govind Hande, Technical Officer, Commiiossiner Office of Agriculture, Pune addressed the farmers in detail on various Govt. Schemes (Central /State Govt.) like Grape.net, Veg.net etc. and explained in detail on Direct Marketing Concept and Registration procedure for export quality Grape/Vegetable producing farmer or a group. He also urged the farmers to use Label Claimed chemicals and fertilizers in their fields. For the second day technical session 875 farmers along with extension officers were participated.

Photographs of Second Day technical session on Export Quality Vegetable Production dated 30th Dec.2012



Mr. Dyaneshwar Bodke , Ideal Farmer and President , Abhinav Farmers Club, Mulshi, Pune addressing the farmers during his technical session on Export quality Vegetable Production dated 30th Dec.2012.



Ideal Farmer and Marketing Representative, Abhinav Farmers Club Mulshi, Pune Mr. Tatyrao Hirwe addressing the farmers



Mr. Gautam Londhe, ideal farmer, Barshi Dist. Solapur addressing the farmers on marketing management

Photographs of Second Day technical session on Export Quality Grape Production dated 30th Dec.2012



Dr. S.D. Sawant, Senior Scientist, NRC Grape, Pune during his technical address on export quality grape production dated 30th Dec.2012



Dr. Dipendra Yadav, Senior Scientist, NRC Grape, Pune during his technical address on Pest and Disease Management.



Mr. Govind Hande, Technical Officer, Commissioner office of Agriculture, Pune during his technical session.

3. “Empowerment of Farmer Groups” dated 31st Dec. 2012

On the last day of the Agri. Technology Mahotsav 2012-13, a technical session on “Empowerment of Farmer Groups” was organized dated on 31st Dec. 2012 for the farmer groups established under NABARD by KVK, Latur and under ATMA by State Agriculture Dept. Latur District.

During this session Mr. Sunil Pote, Ideal farmer and President, Yuva Mitra, Sinnar and Marketing Member, Devnari Valley Agricultural Producer Co. Nasik in his addressed said the farmers to produce good quality Vegetables through various groups by applying proper water management practices. He explained in detail on functioning of Devnari Valley Agricultural Producer Co. Nasik and its management through Agri Mall established by the company. Mr. Vajinath Karad , Ideal Farmer and President, Vaidyanath Krushi Vikas Manch, Sirsala, Dist. Beed in his guidance said that group farming is today’s need and the farmers should produce Vegetables like Chilli, Tomato, Cucumber etc. as per the need and demand of the market . He also urged the farmers to increase soil fertility by maintaining organic carbon through use of various green manuring crops. 1125 farmers and extension officers participated this session.

The valedictory programme of Agri. Technology Mahotsav 2012-13 concluded on 31st Dec. 2012 in presence of Respected MLA (Latur Rural) Mr. Vaijinath Shinde , Mr. Dattatrai Bansode, President, Zilla Parishad ,Latur, Dr. B.B. Bhosale, ADP, Bio-Technology College (MKV, Parbhani), Latur, Mr. Chandrakant Madde , Krushi Sabhapati, Zilla Parishad, Latur and Dr. T.S. Mote , DSAO, State Agriculture Dept., Latur.

Photographs of Third Day technical session on Empowerment of Farmer Groups dated 31st Dec. 2012



Mr. Sunil Pote, Ideal farmer and President, Yuva Mitra, Sinnar and Marketing Member, Devnari Valley Agricultural Producer Co. Nasik addressing the farmers on Empowerment of farmer groups dated 31st Dec.2012



Mr. Vajinath Karad , Ideal Farmer and President, Vaidyanath Krushi Vikas Manch, Sirsala, Dist. Beed addressing the farmers



Respected MLA (Latur Rural) Mr. Vaijinath Shinde addressing the farmers during the concluding programme of the Agriculture Technology Mahotsav 2012-13 dated 31st Dec. 2012